

ANTELOPE VALLEY AND SMITHNECK CREEK WILDLIFE AREAS



FINAL LAND MANAGEMENT PLAN

OCTOBER 2008



EDAW

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PREPARED FOR:

CALIFORNIA DEPARTMENT OF FISH AND GAME
NORTH CENTRAL REGION
1701 NIMBUS ROAD
RANCHO CORDOVA, CA 95670

CONTACT: PAUL RAQUEL
SENIOR BIOLOGIST SUPERVISOR (WILDLIFE)
(916) 358-2868

PREPARED BY:

EDAW
2022 J STREET
SACRAMENTO, CALIFORNIA 95827

CONTACT: GERRIT PLATENKAMP
(916) 414-5800

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Prepared for:

California Department of Fish and Game
North Central Region
1701 Nimbus Road
Rancho Cordova, CA 95670

Prepared by:

EDAW
2022 J Street
Sacramento, CA 95811
(916) 414-5800

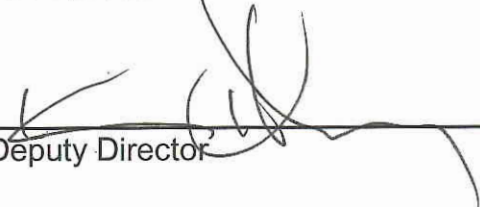
APPROVED BY:



Regional Manager

11/10/08
Date

APPROVED BY:



Deputy Director

11-18-08
Date

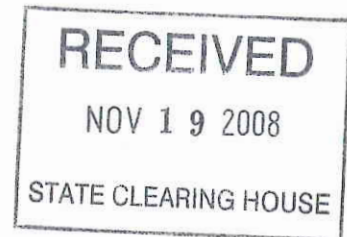


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ACRONYMS AND ABBREVIATIONS

AVWA	Antelope Valley Wildlife Area
Basin Plan	Sacramento–San Joaquin River Basin Plan
bgs	below ground surface
BLM	Bureau of Land Management
CAL FIRE	California Department of Forestry and Fire Protection
CalIPC	California Invasive Plant Council
CALTIP	Californians Turn In Poachers and Polluters
Caltrans	California Department of Transportation
CDFA	California Department of Food and Agriculture
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
cfs	cubic feet per second
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRHR	California Register of Historical Resources
CRMP	coordinated resource management plan
CWA	Clean Water Act
CWHR	California Wildlife Habitat Relationships system
Department	California Department of Fish and Game
DFG	California Department of Fish and Game
DWR	Department of Water Resources
ECC	Grass Valley Emergency Command Center
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FRCRM	Feather River Watershed Coordinated Resource Management Group
GIS	geographic information system
ICS	Incident Command System
IS	Initial Study
IS/ND	initial study/negative declaration

LAFCO	Local Agency Formation Committee
LMP	land management plan
LWD	large woody debris
MBTA	Migratory Bird Treaty Act
ND	Negative Declaration
NIS	Nonnative Invasive Species
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSAQMD	Northern Sierra Air Quality Management District
OHV	off-highway vehicle
PY	personnel year
QLG	Quincy Library Group
RWQCB	Regional Water Quality Control Board
SCWA	Smithneck Creek Wildlife Area
SFSU	San Francisco State University
Sierra Nevada	Sierra Nevada Mountain Range
Sierra Valley unit	Sierra Valley Hydrographic Unit
SR	State Route
STA	special treatment areas
SVGWB	Sierra Valley Groundwater Basin
SVRCD	Sierra Valley Resource Conservation District
SWRCB	State Water Resources Control Board
TAC	Technical Advisory Committee
THP	Timber Harvest Plan
TNF	Tahoe National Forest
USACE	U.S. Army Corps of Engineers
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
WCB	Wildlife Conservation Board

EXECUTIVE SUMMARY

The Antelope Valley Wildlife Area (AVWA) and the Smithneck Creek Wildlife Area (SCWA) occupy approximately 5,700 acres and 1,400 acres, respectively, in the Sierra Valley watershed. The wildlife areas support a diversity of montane vegetation types typical for the eastside of the Sierra Nevada, including eastside pine forest, big sagebrush scrub, woodlands, chaparral, riparian scrub, and meadows. These extensive natural areas provide diverse and valuable habitats for the Loyalton-Truckee mule deer herd and other wildlife and related recreational opportunities.

The California Department of Fish and Game (Department), as part of the Resources Agency of the State of California, has the following mission to guide its planning and operations: “The mission of the Department of Fish and Game is to manage California’s diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public.”

The purpose of this land management plan (LMP) is to:

1. guide management of habitats, species, and programs described in the LMP to achieve the Department’s mission to protect and enhance wildlife values;
2. serve as a guide for appropriate public uses of the AVWA and SCWA;
3. serve as descriptive inventory of fish, wildlife, and native plant habitats that occur at or use the AVWA and SCWA;
4. provide an overview of the property’s operation and maintenance and of the personnel requirements associated with implementing management goals (this LMP also serves as a budget planning aid for annual regional budget preparation); and
5. present the environmental documentation necessary for compliance with state and federal statutes and regulations, provide a description of potential and actual environmental impacts that may occur during land management, and identify mitigation measures to avoid or lessen these impacts.

The planning process was guided by the general policy parameters that direct the Department, including compliance with all state and federal laws. The Department’s mission, the purpose of the wildlife areas, the purpose and history of the acquisition of AVWA and SCWA, and the purposes of LMPs provided broad direction for the development of this plan.

With this broad guidance, the LMP was developed from a compilation of the best available data, a local watershed analysis, additional site specific analyses, consideration of existing land use and resource management plans, and public input. Public input was obtained from a public meeting held in Loyalton, from interviews with knowledgeable individuals and stakeholders, and from comments received during a public review period for the Draft LMP and accompanying California Environmental Quality Act (CEQA) document. Notes from the public meeting and comments received during the public review period are included in the LMP as Appendix A.

An environmental analysis pursuant to the California Environmental Quality Act (CEQA) was conducted concurrently with LMP development to identify the potential environmental impacts of operating AVWA and SCWA under the provisions of this LMP. As described in the initial study/negative declaration (IS/ND) (Appendix B) prepared for the LMP, implementing the LMP would not have a significant impact on the environment.

The following sections provide a summary of the LMP and the CEQA analysis of its potential environmental impacts.

PURPOSE AND HISTORY OF ACQUISITION

The AVWA property was acquired by the Wildlife Conservation Board (WCB) on behalf of the Department in 1980 and expanded in 1993 and 1999 to protect winter range and migration route habitat critical to the Loyalton-Truckee deer herd. WCB purchased the SCWA property in 1988 to protect additional winter range habitat and a major migration corridor, which are critical deer habitat. At the time of purchase, the owners were threatening to develop the properties. The primary long-term goals of the wildlife areas are to improve the habitat, primarily for deer, but also for quail, dove, and other game and non-game wildlife species.

PROPERTY DESCRIPTION AND MANAGEMENT SETTING

AVWA is located 20 miles northwest of Reno, Nevada, and 4 miles southwest of Loyalton in Sierra County at elevations between 5,000 and 6,800 feet. It consists of two units, a main unit and the Merry-Go-Round Unit. Antelope Valley Creek runs through the main unit and is a tributary to the Feather River, a federally designated wild and scenic river. The Merry-Go-Round Unit is located 2 miles northwest of the main Antelope Valley unit and lies completely to the east of State Route (SR) 49.

SCWA is located approximately a mile to the east of the AVWA. The Doe Canyon, Bear Valley Creek, and Badenaugh Units of SCWA are located 2 miles south of Loyalton at an elevation between 5,200 and 6,000 feet. SCWA straddles Smithneck Creek, which drains into the Sierra Valley and then to the Feather River.

The main Antelope Valley unit is accessible from County Road 855, Antelope Valley Road, from SR 49, and Smithneck Creek Road (County Road S860) south of Loyalton. Several spur roads off the county road provide vehicular access to most of the property. The Merry-Go-Round Unit is accessible directly from SR 49. From SR 49, Smithneck Road provides primary access to SCWA and the Sierra Brooks subdivision. Bear Valley Creek Unit and Badenaugh Unit can be accessed by unimproved county-owned roads. Access to the Doe Canyon Unit is by foot over DFG access points or USFS land.

AVWA is almost entirely surrounded by USFS lands of the Tahoe National Forest. SCWA surrounds 389 lots of the Sierra Brooks subdivision. Most of the outer boundary of SCWA is shared with Tahoe National Forest. Other boundaries are shared with the Sierra Brooks Homeowners Association and property owned by Occidental Land Company. Sierra County owns a well located adjacent to Smithneck Creek in SCWA. The well provides municipal water to the Sierra Brooks subdivision.

Planning for AVWA and SCWA encompasses issues that cross regional, local, and wildlife area boundaries. Federal, state, county, and local planning influences that affect the management and planning of AVWA and SCWA were considered in preparation of this LMP, including: City of Loyalton, Sierra Brooks Homeowners Association, Tahoe National Forest, Sierra Valley Resource Conservation District, Feather River Coordinated Resources Management, 1996 Sierra County General Plan, Smithneck Creek Watershed Coordinated Resource Management Plan, Antelope Valley Coordinated Resource Plan, Sierra Valley Coordinated Resource Management Plan, Sierra Valley Watershed Assessment, and Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region.

ENVIRONMENTAL SETTING

GEOLOGY, SOILS, TOPOGRAPHY, AND CLIMATE

GEOLOGY

In general, the Sierra Valley watershed consists largely of more recent pyroclastic eruptions and volcanic flows, which lie upon the metavolcanic and granitic basement rock. The wildlife areas are located on Tertiary volcanic

rock and Quaternary sedimentary deposits. AVWA is largely located on the Miocene-Pliocene Antelope Valley volcanic center. SCWA is located on Miocene-Pliocene volcanic rock and fan deposits.

SOILS

Soils within AVWA and SCWA consist of volcanic loams that are moderately deep and somewhat excessively drained. Small isolated rock outcroppings of metamorphic origin can be noted across portions of AVWA and SCWA. With these exceptions, soils are moderately deep and productive.

TOPOGRAPHY

AVWA and SCWA lie on the southeast edge of the Sierra Valley watershed. The topography of the Sierra Valley watershed is typical of former lake basins. A large portion of the watershed's 297,000 acres is part of the valley floor. The steep slopes of the surrounding Sierra Nevada drain into the Sierra Valley, and are the headwaters of the Middle Fork Feather River. The topography is moderately steep, 30–70%, with incised canyons exceeding 75%. Elevation within AVWA ranges from 5,000 feet at the valley floor to 6,800 feet in the surrounding mountains. The SCWA elevation ranges from 5,200 to 6,000 feet.

CLIMATE

Average annual temperatures range from a low of approximately 30°F to a high of 63°F. Temperatures ranging from the high-70°Fs to the mid-80°Fs are common from June through September. Temperatures in winter months average 30°F in Sierraville. Maximum temperatures from December through February range from the low to mid-40°Fs throughout the watershed. On average, most areas of the Sierra Valley watershed receive approximately 15 to 20 inches of precipitation per year. Most precipitation falls during the winter months with 77% of the annual total falling between November and March. Monthly averages are highest in January with 4.59 inches falling in Sierraville. Rainfall during the summer months is limited to thundershowers 5 to 10 days per year, accounting for less than 5% of the annual precipitation.

WATER RESOURCES

HYDROLOGY

Major streams and creeks in AVWA and SCWA are Antelope Valley, Smithneck, Bear Valley, and Badenaugh Creeks. Past mining, grazing, and timber harvest practices; wildfires; and railroad and road construction have resulted in accelerated erosion, degraded water quality, decreased vegetation and soil productivity, and degraded terrestrial and aquatic habitats. Long-term vegetation disturbance and gully erosion has led to a dramatic change in hydrology, leading to reduced summer flow, higher summer water temperature, lower water tables, reduced meadow storage capacity, and a trend from perennial to intermittent flow.

WATER RIGHTS

Bear Valley Creek, Smithneck Creek, and Badenaugh Creek in SCWA are part of an adjudicated watershed with appropriative water rights reserved and in use by several property owners, including the Department. A 1940 Sierra Valley Decree describes water allocations for a number of creeks in the Sierra Valley region, including Antelope Valley Creek and Smithneck Creek. The portion of Antelope Valley Creek located on Department property in AVWA is not within the Watermaster Service area for this decree. However, all parcels of SCWA are within this Watermaster Service Area. The Department owns a first-priority water right at SCWA of 0.40 cfs for industrial or municipal use on 23.5 acres and another first-priority right of 2.4 cfs for irrigation on 166.4 acres.

BIOLOGICAL RESOURCES

VEGETATION

Riparian and wetland vegetation types present in AVWA and SCWA consist primarily of willow scrub and wet meadow associated with Antelope Valley and Bear Valley creeks. Sporadic stands of aspen riparian forest also occur along these creeks and near springs or other moist sites on mountain slopes. In the absence of fire and flood disturbance, conifers may establish within riparian areas. Conifer shade causes the cover of the shade-intolerant quaking aspen and willow to decrease in riparian areas. Dry meadow is found primarily adjacent to willow scrub and wet meadow in the Bear Valley Creek Unit, but two small patches of dry meadow are also present along Antelope Valley Creek. Patches of perennial grassland occur on hill slopes in openings within the sagebrush scrub and eastside pine vegetation types.

Upland vegetation types include eastside pine forest (2,426 acres), big sagebrush scrub (1,641 acres), western juniper woodland (860 acres), mixed montane chaparral (824 acres), jeffrey pine curleaf mountain mahogany woodland (328 acres), bitterbrush-sagebrush scrub (323 acres), perennial grassland (291 acres), dry meadow (91 acres), and curleaf mountain mahogany woodland (81 acres). The Cottonwood Fire (1994) and Harding Fire (2005) burned substantial areas on AVWA and SCWA. In response to the fires tobacco brush (*Ceanothus velutinus*) (with low forage value) has increased in cover and bitterbrush (*Purshia tridentata*) (with high forage value) has decreased in cover. Bitterbrush was planted and seeded to improve deer forage following the fires in AVWA, with varying success. Mountain mahogany showed almost no natural recruitment after the fires, either in areas that were grazed or ungrazed, even where good seed banks were present.

INVASIVE PLANT SPECIES AND NOXIOUS WEEDS

Invasive plant species and noxious weeds in the wildlife areas and surrounding areas include cheatgrass (*Bromus tectorum*), musk thistle (*Carduus nutans*), Canada thistle (*Cirsium arvense*), bull thistle (*Cirsium vulgare*), poison hemlock (*Conium maculatum*), leafy spurge (*Euphorbia esula*), perennial pepperweed (*Lepidium latifolium*), Dalmatian toadflax (*Linaria genistifolia* ssp. *dalmatica*), Russian thistle (*Salsola tragus*), Mediterranean sage (*Salvia aethiopsis*), Medusahead grass (*Taeniatherum caput-medusae*), and woolly mullein (*Verbascum thapsus*). Of these species cheatgrass has the most widespread infestations.

SPECIAL-STATUS PLANT SPECIES

Sierra Valley ivesia (*Ivesia aperta* var. *aperta*), a species considered “rare, threatened or endangered in California and elsewhere” (List 1B) by the California Native Plant Society (CNPS), is known to occur in the wildlife areas. It occurs on vernal mesic sites in Great Basin scrub, lower montane coniferous forest, pinyon-juniper woodland, meadows and seeps, and vernal pools; usually on volcanic soils. It has been documented in the main Antelope Valley unit and Merry-Go-Round, Bear Valley Creek, and Badenaugh Units of the wildlife areas. Two other species known from the wildlife areas, Sierra Valley evening-primrose (*Camissonia tanacetifolia* ssp. *quadriperforata*) and Lemmon’s clover (*Trifolium lemmonii*), are considered “plants of limited distribution” (List 4) by CNPS. Another 16 special-status plants have not been documented in the wildlife areas but could occur there based on their occurrence near the wildlife areas and the presence of suitable habitat.

WILDLIFE

The primary limiting factor for the mule deer population at AVWA and SCWA is lack of quality forage. Recent management of forage includes a timber harvest in 1999–2001 to open the canopy, remove small conifers that compete with forage plants, and encourage bitterbrush and mountain mahogany growth. The harvest successfully opened the canopy and promoted growth of shrubs. In the mid 1980s about 1.5 miles of Antelope Valley Creek was fenced to protect it from overgrazing. Grazing outside the fence was restricted in 2003 and bitterbrush there subsequently improved. Aspen restoration projects to remove conifers encroaching on aspens stands has improved

fawning habitat. Perhaps in response, AVWA has recently started providing year-round habitat for deer. Restoration of meadow habitat along Antelope Valley and Bear Valley Creeks is expected to further increase riparian fawning habitat.

Habitat at the wildlife areas supports a variety of mammal wildlife species including mountain lion (*Felis concolor*), coyote (*Canis latrans*), black bear (*Ursus americanus*). Thirteen species of bat have been captured or detected at or near Antelope Valley Creek. Upland and riparian vegetation types at the wildlife areas have the potential to support additional terrestrial mammal species, such as black-tailed jack rabbit (*Lepus californicus*), snowshoe hare (*Lepus americanus*), mountain cottontail (*Sylvilagus nuttallii*), deer mouse (*Peromyscus maniculatus*), and Allen's and yellow-pine chipmunks (*Neotamias senex* and *N. amoenus*).

The primary upland game bird species that use the wildlife areas are mountain quail (*Oreortyx pictus*) and mourning dove (*Zenaida macroura*). Red-tailed hawk (*Buteo jamaicensis*) is the most common raptor and builds stick nests in trees or on tall structures in open habitats. One pair of northern goshawk (*Accipiter gentilis*) is known to nest in closed canopy forest at the wildlife areas. Prairie falcons (*Falco mexicanus*) are routinely seen during the breeding season and may nest on rocky cliffs in or near the wildlife areas. Representative species of neotropical migratory birds that breed and/or migrate through the area include western wood-pewee (*Contopus sordidulus*), tree swallow (*Tachycineta bicolor*), barn swallow (*Hirundo rustica*), Bullock's oriole (*Icterus bullockii*), Wilson's warbler (*Wilsonia pusilla*), and yellow warbler (*Dendroica petechia*).

SPECIAL-STATUS WILDLIFE SPECIES

Species listed as threatened or endangered by the State of California that could occur at the wildlife areas include Swainson's hawk (*Buteo swainsoni*), greater sandhill crane (*Grus canadensis*), bald eagle (*Haliaeetus leucocephalus*), and Sierra Nevada red fox (*Vulpus vulpus necator*). Species of special concern to the Department, or that are fully protected, that could occur at the wildlife areas include nesting northern goshawk (*Accipiter gentiles*), golden eagle (*Aquila chrysaetos*), nesting olive-sided flycatcher (*Contopus cooperi*), nesting yellow warbler (*Dendroica petechia brewsteri*), peregrine falcon (*Falco peregrinus anatum*), nesting loggerhead shrike (*Lanius ludovicianus*), Sierra Nevada snowshoe hare (*Lepus americanus tahoensis*), American badger (*Taxidea taxus*), pallid bat (*Antrozous pallidus*), Sierra Nevada mountain beaver (*Aplodontia rufa californica*), western red bat (*Lasiurus blossevillii*), Townsend's big-eared bat (*Corynorhinus townsendii*), spotted bat (*Euderma maculatum*), and western mastiff bat (*Eumops perotis*). No species listed under the federal Endangered Species Act are likely to occur at the wildlife areas, although the U.S. Forest Service considers several of the above listed species sensitive.

FISHERIES AND AQUATIC RESOURCES

Creeks within the wildlife areas provide aquatic habitat for at least eight species of fish, including native and nonnative species. The species assemblage associated with these streams has historically been the rainbow trout assemblage, which is made up of rainbow trout (*Oncorhynchus mykiss*), sculpin (*Cottus gulosus*), speckled dace (*Rhynchichthys osculus*), and mountain sucker (*Catostomus platyrhynchus*), and is dependent on coldwater mountain stream habitat and a rich macroinvertebrate community. However, the introduction of the brown trout (*Salmo trutta*) has likely changed the species composition of these streams. Badenaugh Creek was stocked with rainbow trout, brook trout, and brown trout through the 1950s. Bear Valley Creek has been stocked periodically with rainbow and brook trout, since the 1930s. Smithneck Creek (located just outside SCWA) is thought to provide some of the highest quality angling for brown trout anywhere in California, with the upper reach (above Badenaugh Creek) supporting the highest densities of fish. The lowest third of the creek is known to support mountain suckers.

CULTURAL RESOURCES

Although numerous prehistoric and historic-era sites, features, and isolated artifacts have been identified in the AVWA and SCWA vicinity, only five cultural resources have been documented directly within AVWA and six sites have been identified within SCWA. AVWA sites include three prehistoric lithic scatters, a historic era refuse deposit, and the Winnie Smith lumber mill site. The mill ruin burned to the ground in 2005 during the Harding fire. The SCWA sites include a prehistoric hunting blind and petroglyphs in Badenaugh Canyon. Two undocumented historic-era sites on the SCWA include an unnamed temporary sawmill site, and “Mrs. Pecks Hotel—1876” as plotted on the Loyalton U.S. Geological Survey map. Portions of the old Boca & Loyalton Railroad line extend through SCWA.

PUBLIC USE

Hunting and fishing are the focus of most public use within AVWA and SCWA. Other recreation uses include wildlife observation and photography. Grazing is the only nonrecreational public use still occurring; cattle have grazed within AVWA in recent years under a memorandum of understanding with the Tahoe National Forest. Although not authorized on Department lands, off-highway vehicle (OHV) use occurs to varying degrees of intensity throughout the two areas.

The Department estimates that a few hundred hunters visit AVWA and SCWA each year, and deer hunting is one of the major uses of the units during the late summer and fall open seasons. The primary attraction for hunters is Rocky Mountain mule deer, which are the largest deer in the state, both in terms of body size and antlers. AVWA and SCWA are within Deer Zone X-7a, which includes most of eastern Sierra County, as well as portions of Plumas County and Lassen County to the north and Nevada County to the south.

Smithneck, Badenaugh, and Bear Valley Creeks have historically been stocked with rainbow, brook, and brown trout and all have been noted for their high densities of trout, which provide excellent angling opportunities. Although the level of angling activity on these creeks is not known, both creeks are easily accessible on foot from the Sierra Brooks subdivision. Antelope Valley Creek within AVWA does not provide fishing opportunities. Informal observation and patrols by Department staff suggest that the level of fishing activity is light.

MANAGEMENT GOALS

In the LMP, the current and planned management of the AVWA and SCWA is described using the terminology that is part of the Department’s standardized format for LMPs. This terminology includes the terms element, goal, and task, which are defined below.

Element: refers to any biological unit, public use activity, or facility maintenance or management coordination program as defined below for which goals have been prepared and presented within this LMP.

Goal: is a statement describing management and its intended long-term results for an element.

Task: an individual project or work element that implements the goals and is useful in planning operation and maintenance budgets.

This LMP contains 9 elements. These are:

- ▶ Biological,
- ▶ Watershed restoration,
- ▶ Research and monitoring,
- ▶ Public use,
- ▶ Fuels and fire management,

- ▶ Facility maintenance,
- ▶ Administration,
- ▶ Management review and coordination, and
- ▶ Cultural.

For these elements, the LMP has 28 goals and 136 tasks. Table ES-1 lists these goals and tasks organized by element. Implementation of many of the tasks identified in the LMP is dependent upon the availability of the necessary staff and an adequate operations and maintenance budget. Thus, additional resources may be required to accomplish the tasks identified in the LMP.

OPERATIONS AND MAINTENANCE

Existing Department staff positions are shared among the five wildlife areas in Plumas and Sierra counties: Hallelujah Junction, Chilcoot, Crocker Meadows, Antelope Valley, and Smithneck Creek Wildlife Areas. The current allocation of these positions to the AVWA and SCWA is insufficient to implement most of the tasks identified in this LMP.

To appropriately support the AVWA and SCWA and to perform the tasks identified in this LMP, a combination of additional site management, maintenance and warden staffing is required.

Continued day-to-day operations will require 0.1 personnel year (PY) of an associate wildlife biologist position to be assigned to the AVWA and SCWA. This individual acts as the area manager for the AVWA and SCWA and divides his time among managing the five wildlife areas in Plumas and Sierra counties. Implementation of the LMP will require that the area manager allocate approximately 208 hours per year to the AVWA and SCWA.

Operations and maintenance of AVWA and SCWA require the allocation of 0.4 PY of a Range A–B wildlife biologist whose tasks include species and habitat monitoring, development of specific habitat enhancement projects, developing control measures for invasive species, management review and coordination, and compliance with federal and state environmental and reporting regulations. Implementation of the LMP will require that the biologist allocate approximately 830 hours per year to the AVWA and SCWA under the guidance of the area manager.

Continued day-to-day operations also will require 0.4 PY of a wildlife habitat supervisor to be assigned to AVWA and SCWA. Currently, the area manager of the five wildlife areas in Plumas and Sierra counties is supported by 0.75 PY of a wildlife technician, which should be increased to 1 PY for the five combined wildlife areas. Implementation of the LMP will require the wildlife habitat supervisor to provide to AVWA and SCWA approximately 830 hours per year of support under the guidance of the area manager.

Implementation of the LMP also requires the allocation of 0.25 PY of a wildlife technician to AVWA and SCWA. The wildlife technician will participate in habitat restoration activities, collection of habitat and wildlife data, and other monitoring activities. Implementation of the LMP will require the wildlife technician to provide approximately 520 hours per year of support under the guidance of the wildlife habitat supervisor.

Allocation of two to four fish and wildlife seasonal aide and/or scientific aide positions to AVWA and SCWA, together totaling approximately 0.5 PY is also required for the implementation of the LMP. Implementation of the LMP will require that seasonal aides and/or scientific aides provide approximately 1,040 hours per year of support under the guidance of the wildlife habitat supervisor.

Implementation of the LMP will require a fish and game warden to perform an estimated 208 hours per year (0.1 PY) of patrols and supporting activities at the AVWA and SCWA, which is an increase over the level feasible under the current level of law enforcement staff.

Initial additional equipment that would be required for implementation of this LMP will include:

- ▶ two operations vehicles to be shared with the other wildlife areas in Sierra and Plumas Counties (i.e., one-half-ton or three-quarter-ton four-wheel-drive pickups),
- ▶ one snowmobile,
- ▶ two OHV “quads” for patrol and operations, and
- ▶ office space and equipment (e.g., computers, printer, phone) for the staff described above.

Occasionally, other capital equipment will be required for a particular task. The use of this equipment will be an operations and maintenance expense.

FUTURE REVISIONS

To keep this LMP up to date, a process is required to accommodate minor revisions that may include the adoption of limited changes to the goals and tasks that are directed through adaptive management, by other scientific information, or by legislative direction. The minor revision may be prepared by the staff assigned to AVWA and SCWA or with other Department resources and requires approval by the Regional Manager.

Major revisions or a new LMP could occur, if new policy direction requires a procedure comparable to the LMP planning process. A major revision or new plan requires recommendation by the Regional Manager and approval by the Director of the Department.

A comprehensive review of the achievement of the goals of the LMP should be prepared every five years following the date of adoption. The Area Manager should prepare a status report documenting this review. It should be submitted to the Department’s Lands Program for review and comment, approved by the Regional Manager, and submitted to the Director of the Department. This report should serve as a basis for revision of this LMP and appropriate adjustments to ongoing management practices.

ENVIRONMENTAL REVIEW

The management goals and tasks described in this LMP were evaluated for their potential impact on the environment in accordance with the provisions of the CEQA. An Initial Study (IS), which is included as Appendix B, was prepared in accordance with the State CEQA Guidelines. The IS concluded that this LMP, as proposed, would not have a significant impact on the environment. Accordingly, a Negative Declaration (ND) has been prepared.

This CEQA document analyzes impacts resulting from the programmatic implementation of this LMP. The details of specific projects that may be developed consistent with this LMP are not yet known. Any future projects that may involve environmental impacts will need to be evaluated in light of the IS/ND to determine if additional project-specific CEQA documentation is necessary. Permits, consultations and/or approval actions may also be required to approve future projects. Examples of potential future permit requirements include the following:

- ▶ **California Department of Fish and Game**—The California Endangered Species Act (CESA) and Section 2081 of the California Fish and Game Code require a permit from the Department for projects that could result in the take of a species that is state-listed as threatened or endangered. However, rather than issuing itself a permit in such a case, an internal discussion may be required with the Department’s own experts in the region or at headquarters, and should be documented as an addendum to this LMP. This addendum may be entitled “Information on the Effects of Implementation of the Management Plan on Special Status Species.”

- ▶ **California Department of Fish and Game**—streambed alteration agreement (Section 1602 of Fish and Game Code).
- ▶ **Regional Water Quality Control Board (RWQCB)**—National Pollutant Discharge Elimination System construction stormwater permit (notice of intent to proceed under the statewide General Construction Permit), potential discharge permit for wastewater, general order for dewatering, and CWA Section 401 certification.
- ▶ **U.S. Fish and Wildlife Service (USFWS)**—Section 9 of Endangered Species Act (ESA) prohibits the take of federally listed species. Although it is the intent of the Department not to undertake projects that adversely impact rare, threatened or endangered species or their habitats (Section 2053 of Fish and Game Code), a consultation with USFWS pursuant to the Department’s Section 6(c) Cooperative Agreement dated 8-26-91 may be required to determine if a federal biological opinion would be necessary.
- ▶ **U.S. Army Corps of Engineers (USACE)**—Section 404 of the Clean Water Act (CWA) permit for discharge of fill in waters of the United States.

**Table ES-1
Summary of Management Goals and Tasks of the Land Management Plan.**

GOALS	TASKS
Biological Element	
<p>Biological Goal 1: Protect, restore and enhance habitat, and regulate hunting to support an optimal size of the Loyalton-Truckee mule deer herd.</p>	<p>Task 1.1. Monitor seasonal deer abundance, habitat use, and migration routes to inform deer herd management decisions (see Research and Monitoring Element).</p> <p>Task 1.2. Protect, enhance, and restore riparian areas (see Biological Goal 4 and the Watershed Restoration Element) to maintain and improve deer fawning habitat.</p> <p>Task 1.3. Protect and enhance mountain mahogany and bitterbrush vegetation types (see Biological Goal 5) to maintain and improve deer foraging habitat.</p> <p>Task 1.4. Monitor canopy coverage for densities supportive of deer foraging and cover habitat. Thin young conifers (see Biological Goal 6) as needed to maintain and improve deer habitat.</p> <p>Task 1.5. Manage invasive plant species such as cheatgrass (see Biological Goal 3), to maintain and improve deer foraging and cover habitat.</p> <p>Task 1.6. Prevent catastrophic fires (see Fuels and Fire Management Element) to maintain and improve all deer habitats, and to prevent deer mortality caused by fire.</p> <p>Task 1.7. Periodically evaluate the hunting program and regulations and recommend changes as warranted to maintain an optimal deer herd size (see Public Use Element).</p> <p>Task 1.8. Follow management recommendations provided in the Loyalton-Truckee Deer Herd Management Plan that are applicable to AVWA and SCWA.</p>
<p>Biological Goal 2: Maintain, restore, and enhance habitat for special-status species.</p>	<p>Task 2.1. Conduct, support, or encourage surveys and monitoring for willow flycatcher, yellow warbler, goshawk, special-status bat species, special status plant species, and other special-status species that may be present in AVWA and SCWA.</p> <p>Task 2.2. Periodically visit populations of special-status species to assess overall habitat integrity, to detect changes in species distribution and abundance, and to detect adverse effects of human use, erosion or nonnative species.</p> <p>Task 2.3. Develop and implement enhancement strategies that use natural processes to improve habitat for special-status species.</p> <p>Task 2.4. Conduct management activities and manage public uses, especially grazing, timber harvest, and hunting activities, to minimize effects on areas known to be occupied by special-status species (e.g., northern goshawk, yellow warbler, special status plants).</p> <p>Task 2.5. Restore, protect, and enhance the ecological functions of Antelope Valley Creek and Bear Valley Creek (see Watershed Restoration Element) to enhance riparian and wet meadow habitat for special-status species dependent on this habitat (e.g. willow flycatcher, yellow warbler, bat species).</p>

**Table ES-1
Summary of Management Goals and Tasks of the Land Management Plan.**

GOALS	TASKS
	<p>Task 2.6. Ensure that all actions undertaken in the wildlife areas comply with the federal Endangered Species Act and California Endangered Species Act (including any applicable Habitat Conservation Plans or Natural Community Conservation Plans), Sections 401 and 404 of the Clean Water Act, Section 1602 of Fish and Game Code, and other applicable plans or regulations aimed at the protection of special-status species or their habitat.</p>
<p>Biological Goal 3: Prevent the introduction and spread of invasive species, and manage existing infestations.</p>	<p>Task 3.1. Prioritize management of the invasive species described in Section 3.3 based on their potential impacts to ecosystem functions (e.g., deer foraging habitat) and human uses (e.g., hunting and fishing) and the feasibility and impacts of controlling them. Follow existing federal and state priorities where appropriate.</p> <p>Task 3.2. Determine appropriate prevention, eradication, and control options for priority invasive species; in making this determination, consider guidance available from the Department’s Pesticide Use Program and from other organizations, such as the Plumas/Sierra counties Noxious Weed Management Group, UC Davis Weed Research and Information Center, The Nature Conservancy’s Wildland Weeds Program, California Invasive Plant Council (CalIPC), California Department of Food and Agriculture Weed Management Area and Encycloweedias programs, Department of Pesticide Regulation the USFWS Nonnative Invasive Species Program.</p> <p>Task 3.3. Implement appropriate prevention, eradication, and control options for priority invasive species.</p> <p>Task 3.4. Implement specific cheatgrass control methods as time and budget allow.</p> <p>Task 3.5. Monitor hot spots of introduction of invasive species to enable early detection and rapid eradication of invasive plant and aquatic species (e.g., sites along Antelope Valley Road, along Bear Valley Road, along illegal or informal trails, at good fishing locations on Bear Valley Creek, and in recently burned or disturbed areas).</p> <p>Task 3.6. Conduct periodic resource monitoring (see Research and Monitoring Element), to note observations of new invasive plant or wildlife species, including location and abundance.</p> <p>Task 3.7. Clean vehicles and clothing before entering the wildlife areas (i.e., inspect and remove visible plant materials and mud, spray/rinse vehicles and equipment) if coming from an area known to be infested by invasive plant or aquatic species.</p> <p>Task 3.8. Use only certified weed-free fill and plant materials (e.g., seed mixtures, straw used for erosion control).</p> <p>Task 3.9. Coordinate with regional invasive plant control groups, such the Plumas/Sierra Counties Noxious Weed Management Group, and support efforts to manage invasive plants.</p> <p>Task 3.10. Provide education and outreach regarding efforts to control invasive species, and support education and outreach efforts by other programs.</p> <p>Task 3.11. Apply pesticides in conformance with the Department’s Pesticide Use Program to ensure safe and effective pesticide use that minimizes adverse environmental effects.</p> <p>Task 3.12. Periodically evaluate effectiveness of monitoring and control methods and adjust methods as needed.</p>
<p>Biological Goal 4: Protect, restore and enhance riparian and wetland vegetation types.</p>	<p>Task 4.1. Monitor existing fencing precluding cattle from riparian areas. Maintain or add fencing as needed to protect important riparian areas from overgrazing, while ensuring that fenced areas remain available for deer fawning.</p> <p>Task 4.2. Identify specific locations of existing aspen stands with physical, biological, and economic (e.g., ease of access) conditions favorable for restoration or enhancement.</p> <p>Task 4.3. Develop plans and pursue funding for identified aspen restoration or projects; include goals, techniques, costs, monitoring, an adaptive management process, and a schedule; include the help of volunteers whenever practical.</p>

**Table ES-1
Summary of Management Goals and Tasks of the Land Management Plan.**

GOALS	TASKS
	<p>Task 4.4. Implement identified restoration and enhancement projects (e.g., removal of conifers to minimize shading) for aspen stands.</p> <p>Task 4.5. Prepare a timber harvest plan prior to any timber harvest.</p> <p>Task 4.6. Restore the natural and historic hydrologic functions of Antelope Valley Creek and Bear Valley Creek watersheds (see Watershed Restoration Element).</p> <p>Task 4.7. Ensure that all actions undertaken in the wildlife areas comply with Section 401 and 404 of the Clean Water Act, Section 1600 of Fish and Game Code, and other applicable plans and regulations aimed at the protection of riparian and wetland areas.</p>
<p>Biological Goal 5: Restore and enhance mountain mahogany and bitterbrush vegetation types.</p>	<p>Task 5.1. Identify opportunities for restoration or enhancement in areas that previously supported bitterbrush and mountain mahogany vegetation types but were modified by fires or other disturbances; assess physical, biological, and economic opportunities and constraints. Record all locations of these vegetation types in the Department’s GIS database.</p> <p>Task 5.2. Develop plans and pursue funding for projects to restore identified bitterbrush and mountain mahogany; include goals, techniques, costs, monitoring, an adaptive management process, and a schedule; include the help of volunteers whenever practical.</p> <p>Task 5.3. Implement restoration and enhancement projects (e.g., seeding, planting, soil amendments, watershed restoration) for bitterbrush and mountain mahogany vegetation types if effective restoration or enhancement methods are developed.</p> <p>Task 5.4. Research existing literature addressing mountain mahogany regeneration to understand and manage the current lack of regeneration.</p> <p>Task 5.5. Identify management practices that may enhance mountain mahogany and bitterbrush vegetation types in areas where they already exist.</p> <p>Task 5.6. Conduct and support studies of mountain mahogany regeneration and potential restoration or enhancement methods (see Research and Monitoring Element).</p>
<p>Biological Goal 6: Protect and enhance other native upland vegetation types.</p>	<p>Task 6.1. Monitor regeneration of upland forests that were burned in the Cottonwood and Harding fires (see Research and Monitoring Element). Enhance these forests with additional seeding or planting as needed.</p> <p>Task 6.2. Evaluate the need to thin young conifers, consistent with the 2001 timber harvest and fire management goals, and conduct timber harvests as needed. Reevaluate the need for thinning approximately every 10-20 years.</p> <p>Task 6.3. Prepare a timber harvest plan prior to any timber harvest.</p> <p>Task 6.4. Restore the natural and historic hydrologic functions of Antelope Valley Creek and Bear Valley Creek watersheds (see Watershed Restoration Element).</p> <p>Task 6.5. Ensure that all actions undertaken in the wildlife areas comply with plans, regulations, and CEQA guidelines protecting unique or sensitive communities.</p>
<p>Biological Goal 7: Protect and enhance aquatic ecosystems and functions</p>	<p>Task 7.1. Monitor and assess human use, invasive nonnative aquatic species, and other effects on habitat for sport fish and other aquatic species (see Research and Monitoring Element).</p> <p>Task 7.2. Periodically evaluate angling use and regulations and recommend changes as warranted to maintain and enhance aquatic habitat for sport fish and other aquatic species.</p> <p>Task 7.3. Monitor existing fencing excluding cattle from riparian areas. Maintain or add fencing as needed to protect important aquatic ecosystems from cattle disturbance or pollution.</p> <p>Task 7.4. Ensure that all projects proposed within the watersheds of AVWA and SCWA provide protection measures for water quality (particularly erosion and sedimentation control measures), water quantity, stream buffers, and aquatic species.</p>

**Table ES-1
Summary of Management Goals and Tasks of the Land Management Plan.**

GOALS	TASKS
	<p>Task 7.5. Before implementing any construction projects including soil disturbance greater than 1 acre (or less, depending on current SWRCB regulations), prepare a storm water pollution prevention plan that identifies Best Management Practices (BMPs) that will be used to eliminate or minimize the potential for construction-related pollution (e.g., sediment, fuels, pesticides, cement) to enter stream flows directly, or through stormwater runoff.</p> <p>Task 7.6. Ensure that all actions undertaken in the wildlife areas comply with the federal Endangered Species Act and California Endangered Species Act, Sections 401 and 404 of the Clean Water Act, Section 1602 of Fish and Game Code, and other applicable plans and regulations aimed at the protection of special-status species and aquatic ecosystems.</p>
Biological Goal 8: Manage grazing to protect and enhance biological resources.	<p>Task 8.1. Implement design features, Standard Management Requirements, and BMPs described in the BSA Allotment Management Plans Project Environmental Assessment to manage potential grazing impacts to special-status species; mule deer; riparian and wetland vegetation types; aquatic ecosystems; mountain mahogany, bitterbrush, and other upland vegetation types.</p> <p>Task 8.2. Rotate cattle to facilitate grazing during appropriate seasons and at an appropriate intensity to use grazing as a management tool for invasive plant species management.</p>
Watershed Restoration Element	
Watershed Goal 1: Restore hydrologic stability and floodplain functions to Antelope Valley and Bear Valley Creeks Watersheds.	<p>Task 1.1. Implement watershed restoration activities on Department lands as described in the watershed restoration program included herein as Appendix D while implementing the impact avoidance and minimization measures appended to that report.</p> <p>Task 1.2. Following implementation of the restoration activities in Appendix D, reevaluate the need for additional restoration actions approximately every 3-5 years and as funding allows.</p> <p>Task 1.3. Evaluate opportunities, constraints, and potential restoration benefits to identify feasible watershed restoration projects that would support the goals of this LMP, including review of existing documents and/or conduct of additional assessments (e.g., of physical and biological conditions).</p> <p>Task 1.4. Pursue funding and develop plans for identified restoration projects that include goals, techniques, costs, monitoring, an adaptive management process, and a schedule.</p> <p>Task 1.5. Cooperate with the development and implementation of local and regional restoration plans by other programs that are consistent with the goals of this LMP.</p>
Watershed Goal 2: Document, understand, and respond to ecological changes and improvements resulting from restoration actions.	<p>Task 2.1. Support and encourage the monitoring of pre- and post-restoration ecological conditions to evaluate the success of restoration and associated actions (e.g., construction BMPs) and refine techniques in an adaptive management framework.</p> <p>Task 2.2. Establish permanent photo stations and seasonally or annually document the progress of hydrologic restoration and riparian and wet meadow vegetation enhancement.</p> <p>Task 2.3. Make adaptive changes to stream restoration design, as necessary, based on the results of monitoring.</p>
Research and Monitoring Element	
Research and Monitoring Goal 1: Support appropriate scientific research and encourage or conduct research that contributes to management goals of AVWA and SCWA.	<p>Task 1.1. Review and evaluate proposed research projects utilizing the following criteria.</p> <ul style="list-style-type: none"> ▶ Potential for research results to improve management of the AVWA, SCWA, or other wildlife areas; ▶ Potential conflicts between the research and compatible public uses; ▶ Potential conflicts between the research and any biological goals stated in this plan; ▶ Potential contribution of the research to science and society; and ▶ Potential for the research to interfere with or preclude certain types of future research at the AVWA or the SCWA. <p>Task 1.2. Provide letters or permits to researchers specifying dates and times of authorized access, and information on regulations and area restrictions.</p>

**Table ES-1
Summary of Management Goals and Tasks of the Land Management Plan.**

GOALS	TASKS
	<p>Task 1.3. Require that researchers provide copies of data and/or published papers to the Department, and contact researchers to ensure this requirement is fulfilled.</p> <p>Task 1.4. Actively promote the wildlife areas to regional academic institutions as a resource available for research activities.</p> <p>Task 1.5. Establish long-term working relationships with regional academic institutions.</p> <p>Task 1.6. Encourage long-term studies of water quality and quantity, special-status species populations, native plant, fish and wildlife habitat quality, and other topics that could inform management of the wildlife areas. Encourage consistent monitoring methodology between long-term monitoring efforts and monitoring tasks outlined in the Watershed Restoration Element.</p> <p>Task 1.7. When conducting plant surveys, follow survey protocols outlined by the Department, USFWS, and CNPS, as appropriate according to the species' listing status.</p> <p>Task 1.8. When conducting wildlife surveys, follow Department, USFWS, or USFS survey protocols, as appropriate, according to the species' listing status.</p>
Public Use Element	
<p>Public Use Goal 1: Install signage that provides information to the public about compatible public uses of AVWA and SCWA</p>	<p>Task 1.1. Inform users regarding the location and boundaries of AVWA and SCWA by providing locator signs and property boundary signs at major access points (e.g., SR89, Bear Valley Road, and at illegal OHV access points).</p> <p>Task 1.2. Inform users regarding compatible public uses of AVWA and SCWA by providing bulletin boards at formal entrances to the wildlife areas.</p> <p>Task 1.3. Select signage locations and styles that are consistent with Department signage guidelines, the rural character of the region and the aesthetics of the natural environment in the wildlife areas.</p>
<p>Public Use Goal 2: Encourage and support compatible, safe, and legal public use of wildlife areas through public outreach, regulations and agreements</p>	<p>Task 2.1. Implement a public outreach program to increase the awareness of visitors and potential visitors to the Sierra Valley region about AVWA and SCWA, existing public use opportunities, and regulations. Hold public information meetings periodically to inform the public about particular management issues requiring focused attention (e.g., regulations precluding OHV use).</p> <p>Task 2.2. Provide information on the Department's Web site and published outreach materials to inform the public about AVWA and SCWA.</p> <p>Task 2.3. Develop an agreement with the Feather River Archery Club for a permanent archery range, open to the public and maintained by the club, at one of the wildlife areas.</p> <p>Task 2.4. Periodically conduct reviews of public uses of the wildlife areas and evaluate rules, regulations, guidelines and materials to ensure compatibility of public uses.</p>
<p>Public Use Goal 3: Support the use of AVWA and SCWA for environmental education</p>	<p>Task 3.1. Provide staff assistance, interpretive materials, and permits for environmental education activities.</p> <p>Task 3.2. Encourage all environmental education and natural resource interpretation (informal education) users to incorporate the Department's guidelines for natural resource education messages in their field environmental education activities, curriculums, and interpretive programs, both on- and off-site.</p> <p>Task 3.3. Coordinate with non-profit groups (e.g., National Audubon Society, Cal Trout, Feather River Coordinated Resource Management group) that promote wildlife-dependent recreational opportunities and that can provide additional support to the Department's management of AVWA and SCWA.</p> <p>Task 3.4. Develop a plan to provide interpretive information at key locations (e.g., the proposed Bear Valley Creek restoration site) where visitors can observe natural resources, resource degradation and management challenges, or the application of methods to restore compromised habitats.</p>

**Table ES-1
Summary of Management Goals and Tasks of the Land Management Plan.**

GOALS	TASKS
	<p>Task 3.5. Enlist the cooperation of local volunteers, such as residents and students of the Sierra Valley, when implementing projects (such as restoration or enhancement projects) that may be educational for the volunteers. Include such volunteer labor as an “in-kind” funding source in grant applications, whenever possible.</p>
<p>Public Use Goal 4: Discourage destructive and illegal public use of wildlife areas through enforcement of regulations.</p>	<p>Task 4.1. Assess and monitor where wildlife areas are seeing heaviest OHV use or other forms of illegal resource degradation.</p> <p>Task 4.2. Install physical barriers (e.g., boulders, split-rail fencing) at points frequently used to access or traverse Department property illegally by OHVs. Select barriers that are consistent with the rural character of the region and the aesthetics of the natural environment in the wildlife areas.</p> <p>Task 4.3. Depending on the fluctuating magnitude and type of illegal public use, such as OHV use, out-of-season hunting, or tree removal, increase Department presence in wildlife areas, and increase the frequency of the assignment of penalties, as necessary. Enforce laws and request assistance from the County Sheriff as necessary.</p> <p>Task 4.4. Restore ecosystems damaged by unauthorized uses as necessary.</p>
<p>Public Use Goal 5: Evaluate requests by Native Americans for use of the wildlife area for traditional activities, such as gathering native plant materials for cultural purposes.</p>	<p>Task 5.1. Work with native peoples requesting access to determine the purpose and need for access and/or collections within the wildlife areas based on applicable laws and treaties related to tribal use of state properties.</p> <p>Task 5.2. Develop access plans and issue permits for native peoples that are compatible with the goals of the LMP. Any authorization for access would identify species, limits, locations, seasons, and include standard liability clauses.</p>
<p>Fuels and Fire Management Element</p>	
<p>Fire Goal 1: Coordinate fire preparedness and response with local and regional fire management agencies.</p>	<p>Task 1.1. Provide maps to local fire authorities, including the Fire Management Officer at the Sierraville Ranger District and the Fire Chief at the Truckee CAL FIRE Station, which indicate the location of sensitive resources (e.g. cultural, special status species) requiring careful consideration during a fire incident. Ensure that details of confidential information are not inappropriately circulated.</p> <p>Task 1.2. Provide maps to local fire authorities, including the Fire Management Officer at the Sierraville Ranger District and the Fire Chief at the Truckee CAL FIRE Station, which indicate the location and type of fuels treatments previously completed within the AVWA and SCWA.</p> <p>Task 1.3. Provide contact information for the Department’s Agency Representative to the Grass Valley Emergency Command Center, local fire authorities, and the TNF management office in Nevada City. Obtain comparable contact information from these agencies. Update this information annually.</p> <p>Task 1.4. Review existing TNF fire suppression procedures to identify fire suppression tactics that could have long-term effects on ecosystems (e.g., use of retardant). Recommend avoidance or modification of those tactics whenever feasible in order to avoid or minimize long-term effects on the ecosystems of the AVWA and the SCWA.</p> <p>Task 1.5. Coordinate with the Battalion Chief of the TNF Sierraville Ranger District to obtain and review copies of local incident command procedures and agreements applicable to fire suppression at the AVWA or the SCWA. Provide input for these approaches to ensure consistency with Department goals. Determine if the Department could aid appropriate fire suppression responses (e.g., installing locator signs within the wildlife areas for fire-fighting personnel.)</p> <p>Task 1.6. Meet semiannually with local fire authorities to discuss fire-related issues relevant to AVWA or SCWA, including vegetation management and other forms of fuels management.</p>

**Table ES-1
Summary of Management Goals and Tasks of the Land Management Plan.**

GOALS	TASKS
<p>Fire Goal 2: Protect people and property from fire hazard while maintaining sensitive resources to the extent practicable.</p>	<p>Task 2.1. Train the Wildlife Area Manager to serve the role of Resource Specialist or Agency Representative through the Incident Command System. As part of the ICS, make available the Wildlife Area Manager or another local plant, wildlife, and fisheries specialist from the Department’s staff to provide advice during fires that threaten habitat at AVWA or SCWA.</p> <p>Task 2.2. Develop maps identifying critical areas where emergency revegetation or mechanical or structural measures may be necessary to prevent excessive erosion or flooding post-fire. Implement such measures as appropriate following fire or fire suppression.</p> <p>Task 2.3. Develop a “controlled fire” and vegetation composition management program to stabilize fuel loads, encourage natural synecology, and prevent catastrophic fire.</p> <p>Task 2.4. Develop maps identifying areas of sensitive resources that may require specific management actions for appropriate prescribed burning activities (e.g., season-specific burning in areas of special-status plant or wildlife species, or invasive plant species).</p> <p>Task 2.5. Implement tasks described in the Biological Element to manage the introduction and spread of invasive plant species that may increase fire hazards (e.g., cheatgrass).</p> <p>Task 2.6. Review and comment on any fuels or fire management projects proposed in the future for AVWA, SCWA, or the surrounding TNF lands to ensure consistency with Department goals, such as protection of natural resources.</p> <p>Task 2.7. Identify and implement project-specific BMPs to minimize construction-related fire hazards during any construction activities that require the use of mechanical equipment.</p>
Facility Maintenance Element	
<p>Facilities Goal 1: Add, improve, and maintain existing structures for resource protection, education, safety, and appropriate public use of the wildlife areas.</p>	<p>Task 1.1. Install new facilities as described in the Biological, Public Use, Cultural, and Fuels and Fire Management Elements to support attainment of related goals.</p> <p>Task 1.2. Establish an annual monitoring and reporting program of wildlife area facilities (e.g., condition of signs, structures).</p> <p>Task 1.3. Fix or replace facilities as needed, and adapt facility management approach, based on the results of the annual monitoring program.</p> <p>Task 1.4. Document facilities needs in Department maintenance and capital outlay database.</p>
Administration Element	
<p>Administration Goal 1: Maintain existing data and agreements concerning the management and resources of the wildlife areas.</p>	<p>Task 1.1. Regularly update GIS data sources as information becomes available.</p> <p>Task 1.2. Maintain accurate financial records regarding expenditures, staff, maintenance, funding, and other administrative duties.</p> <p>Task 1.3. Maintain the existing ground lease agreement with SVRCD to allow local reinvestment of funds generated by the wildlife areas.</p> <p>Task 1.4. Administer renewal, modification, and termination of grazing allotments and timber sales, as necessary.</p> <p>Task 1.5. Coordinate with local user groups to obtain volunteer labor when possible. Quantify and record this resource to be referenced as “in kind” contributions in grant applications.</p> <p>Task 1.6. Investigate options that may be available to obtain consistent, dedicated funding sources that are not dependent on fluctuating state funds for management of the wildlife areas.</p>
<p>Administration Goal 2: Streamline administrative requirements and processes by combining AVWA</p>	<p>Task 2.1. Recommend to Department headquarters that for SCWA Title 14, California Code of Regulations section 551(q), and any other applicable regulations be adopted to be consistent with AVWA.</p> <p>Task 2.2. Recommend to Department headquarters that AVWA and SCWA be combined as one wildlife area.</p> <p>Task 2.3. Obtain concurrence from the Director of the Department, and submit the recommendations to the Fish and Game Commission.</p>

**Table ES-1
Summary of Management Goals and Tasks of the Land Management Plan.**

GOALS	TASKS
and SCWA as one wildlife area.	Task 2.4. Upon obtaining approval from the FGC, update records, publications, and Web sites to reflect this change.
Management Review and Coordination Element	
Management Goal 1: Ensure regulations and management practices at AVWA and SCWA support attainment of LMP goals.	Task 1.1. Review, and as necessary revise, regulations and management practices at the wildlife areas to be consistent with and to support attainment of the goals of this LMP. Periodically conduct reviews of public uses of AVWA and SCWA and evaluate rules, regulations, guidelines, and materials to ensure compatibility of public uses.
Management Goal 2: Continue coordination with other law enforcement agencies.	Task 2.1. Meet regularly with law enforcement staff from the Sierra County Sheriff’s Department and other agencies (such as the Truckee office of the California Highway Patrol and CAL FIRE) as appropriate to coordinate law enforcement activities and explore options for cooperative programs. Task 2.2. Pursue joint funding requests with other law enforcement entities to address law enforcement concerns.
Management Goal 3: Maintain relationships with neighbors to address management issues.	Task 3.1. Meet or correspond with local landowners and user groups, as needed, to maintain communication about the management needs of AVWA and SCWA, to obtain access and use input regarding the wildlife areas, to convey useful information regarding management activities, to foster a sense of investment in the wildlife areas, to ensure that they know who to contact if they wish to report any issues, to promote educational activities, and to recruit volunteers to assist with management actions when appropriate.
Management Goal 4: Coordinate with federal, state, and local organizations regarding plans and projects that may affect resources at AVWA and SCWA, or may be affected by management actions at AVWA and SCWA.	Task 4.1. Review, coordinate, and provide comments and recommendations on federal, state, and local government plans; special plans; and proposed projects, as appropriate, for the purpose of determining the consistency of such plans with the goals of the Department’s management plans. Task 4.2. Participate in other regional planning and resource management efforts, and coordinate with regional non-governmental organizations, as appropriate (e.g., Quincy Library Group, Sierra Nevada Forest Plan, Sierra Nevada Framework, Sierra Nevada Alliance, Sierra Nevada Conservancy, Sierra Fund, Upper Feather River Integrated Regional Water Management Plan, California Wilderness Coalition, High Sierra Rural Alliance) to support the attainment of wildlife area management goals. Task 4.3. Coordinate with regional agencies, stakeholders, and educational institutions to implement knowledge exchange (e.g. to organize data and create databases relevant to specific resource issues, provide educational workshops). Task 4.4. Coordinate with the local school district to encourage environmental education and to recruit volunteers to assist with management actions when appropriate. Task 4.5. Continue to coordinate with Department wardens, land managers, and resource specialists in surrounding regions for assistance with law enforcement and resource management. Task 4.6. Continue to participate in the Sierra Valley Coordinated Resource Management Plan and with the other signatories of the plan (including the Sierra Valley Resource Conservation District, the Natural Resources Conservation District, the Plumas Corporation, and the Feather River Coordinated Resource Management group); encourage and support a renewed interest among signatories to meet regularly to facilitate the coordination of land management and planning activities among public agencies and private landowners; collaborate with signatories in funding management actions when possible. Task 4.7. Coordinate with the following organizations regarding resource management, knowledge exchange, and the specific topics described below: Sierra County, City of Loyaltan, TNF - Sierraville Ranger District, RWQCB/SWRCB, DWR, CAL FIRE, Plumas-Sierra Agricultural Commissioner, U.S. Fish and Wildlife Service, and Caltrans.

**Table ES-1
Summary of Management Goals and Tasks of the Land Management Plan.**

GOALS	TASKS
<p>Management Goal 5: Ensure that management actions minimize air quality, noise and hazardous impacts.</p>	<p>Task 5.1. Prior to conducting any construction projects involving the use of hazardous materials typically associated with construction activities, such as oils and fuels, require that contractor(s) establish a construction staging area at which hazardous materials will be stored and disposed of during construction, and prepare an accidental spill prevention and response plan specifying BMPs aimed at reducing the risk of hazardous spills. Implement the plan during construction activities.</p> <p>Task 5.2. Prior to conducting any management projects that would require an acre or more of soil disturbance, submit a Dust Control Plan to the Northern Sierra Air Quality Management District (NSAQMD) for review and approval. Include in this plan the fugitive dust control BMPs to be implemented to control the release of dust to the atmosphere, and to ensure that fugitive dust does not exceed opacity limits or go beyond construction boundaries.</p> <p>Task 5.3. Prepare an emissions reduction plan for any management projects that may involve the simultaneous use of more than approximately 6 excavators, 6 rubber tired dozers, and 2 other material handling equipment. Provide the plan to the NSAQMD for review and approval; include a comprehensive list of construction equipment, and demonstrate that heavy-duty vehicles to be used during construction of the project, including owned, leased, and subcontractor vehicles, would not exceed NSAQMD air quality standards for emissions. Outline and implement BMPs (e.g. use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, emulsified diesel fuel, and particulate matter traps; limiting equipment idling; limiting the use of large diesel powered generators; and maintaining equipment to manufacturer specifications) as necessary to minimize construction emissions.</p> <p>Task 5.4. Prepare a noise reduction plan for any management projects in SCWA that may involve the simultaneous use of multiple pieces of construction equipment within 500 feet of any sensitive receptors (e.g. residences) to ensure that construction activities will not exceed Sierra County General Plan noise standards. Implement BMPs (e.g. limiting the simultaneous use of multiple pieces of construction equipment, limiting work hours, using commercial or plywood noise barriers, consulting with Sierra County and nearby residents) to minimize construction noise such that it does not substantially increase ambient noise levels or expose sensitive receptors to excessive noise levels for an excessive period of time.</p>
<p>Cultural Element</p>	
<p>Cultural Goal 1: Catalog and preserve known significant cultural resources identified within AVWA and SCWA.</p>	<p>Task 1.1. Limit public access and vandalism to petroglyphs located on Department property by installing exclusionary fencing. Select fencing location and styles that are consistent with the rural character of the region and the aesthetics of the natural environment in the wildlife areas.</p> <p>Task 1.2. Limit public access and discourage vandalism of the historic sawmill site located on Department property by avoiding the construction of trails or roads in the vicinity.</p> <p>Task 1.3. Avoid soil disturbance around the petroglyphs and the sawmill. If disturbance is unavoidable, mark these resources as no-entry areas before any soil disturbance activities occur within 100 feet, and retain a qualified professional archaeologist to monitor all ground-disturbing activities.</p>
<p>Cultural Goal 2: Preserve all significant prehistoric and historic-era cultural resources and present-day Native American cultural properties that documentary and/or field investigations identify within AVWA and SCWA.</p>	<p>Task 2.1. Conduct cultural resource surveys as necessary prior to ground-disturbing activities, including proposed watershed restoration projects. Prepare an “inadvertent discovery plan” to be utilized during implementation of any project involving ground-disturbance. The inadvertent discovery plan shall refer to and outline state law regarding the discovery of human remains and include a requirement to consult with a qualified archaeologist in the case of a discovery of cultural resources or human remains during ground-disturbing activities.</p> <p>Task 2.2. If cultural resources are found during surveys or excavation, complete and submit resource documentation to the California Historical Resources Information System. If these resources are potentially eligible for listing on the National Register of Historic Places (NRHP) and/or the California Register of Historical Resources (CRHR), submit evaluations of these resources to the State Historic Preservation Officer for concurrence and recommendations.</p>

**Table ES-1
Summary of Management Goals and Tasks of the Land Management Plan.**

GOALS	TASKS
	<p>Task 2.3. When facility improvements or restoration efforts are proposed that may affect significant (per NRHP/CRHR) cultural resources, consult the CEQA guidelines and/or Section 106 of the National Historic Preservation Act (if federal involvement) for guidance on compliance with regulations.</p> <p>Task 2.4. As opportunities and funding allow, conduct pedestrian surveys in areas that have not already been surveyed. Inventory any resources discovered on Department property that may warrant management actions to facilitate preservation of the resources.</p> <p>Task 2.5. Support efforts to document the history of human activities at AVWA and SCWA.</p>

1 INTRODUCTION

The Antelope Valley Wildlife Area (AVWA) and Smithneck Creek Wildlife Area (SCWA) are located in Sierra County, southwest of Loyalton (Exhibit 1-1). AVWA consists of approximately 5,700 acres of Great Basin montane habitat on the southern edge of the Sierra Valley. It includes the main Antelope Valley Unit, located in the Antelope Valley Creek Watershed, and the Merry-Go-Round Unit. The Antelope Valley Creek Watershed is a tributary to the Feather River, a nationally designated wild and scenic river. Antelope Valley has historically been used for livestock grazing and small-scale logging, with the earliest documented use in 1922. SCWA is located to the east of AVWA and also consists of approximately 1,385 acres of Great Basin montane habitat on the southeast corner of the Sierra Valley. SCWA consists of the Doe Canyon Unit, Bear Valley Creek Unit, and Badenaugh Unit. SCWA straddles Smithneck Creek, which drains into the Sierra Valley and then to the Feather River. AVWA and SCWA are managed predominantly for winter range habitat critical to the Loyalton-Truckee deer herd. The land surrounding the wildlife areas is largely owned by the Tahoe National Forest, managed by the U.S. Forest Service (USFS). The remaining lands, especially to the north and east, are in private ownership.

This land management plan (LMP) represents the commitment of the California Department of Fish and Game (Department) to manage the important resources of AVWA and SCWA in accordance with the laws of the United States and the State of California. The LMP incorporates the best available scientific information. It also incorporates the commitment of the Department to coordinate and cooperate with neighbors of the wildlife areas, other local interests, and other conservation entities that are active in the area.

1.1 MISSION OF THE CALIFORNIA DEPARTMENT OF FISH AND GAME

The Department, as part of the Resources Agency of the State of California, has the following mission to guide its planning and operations:

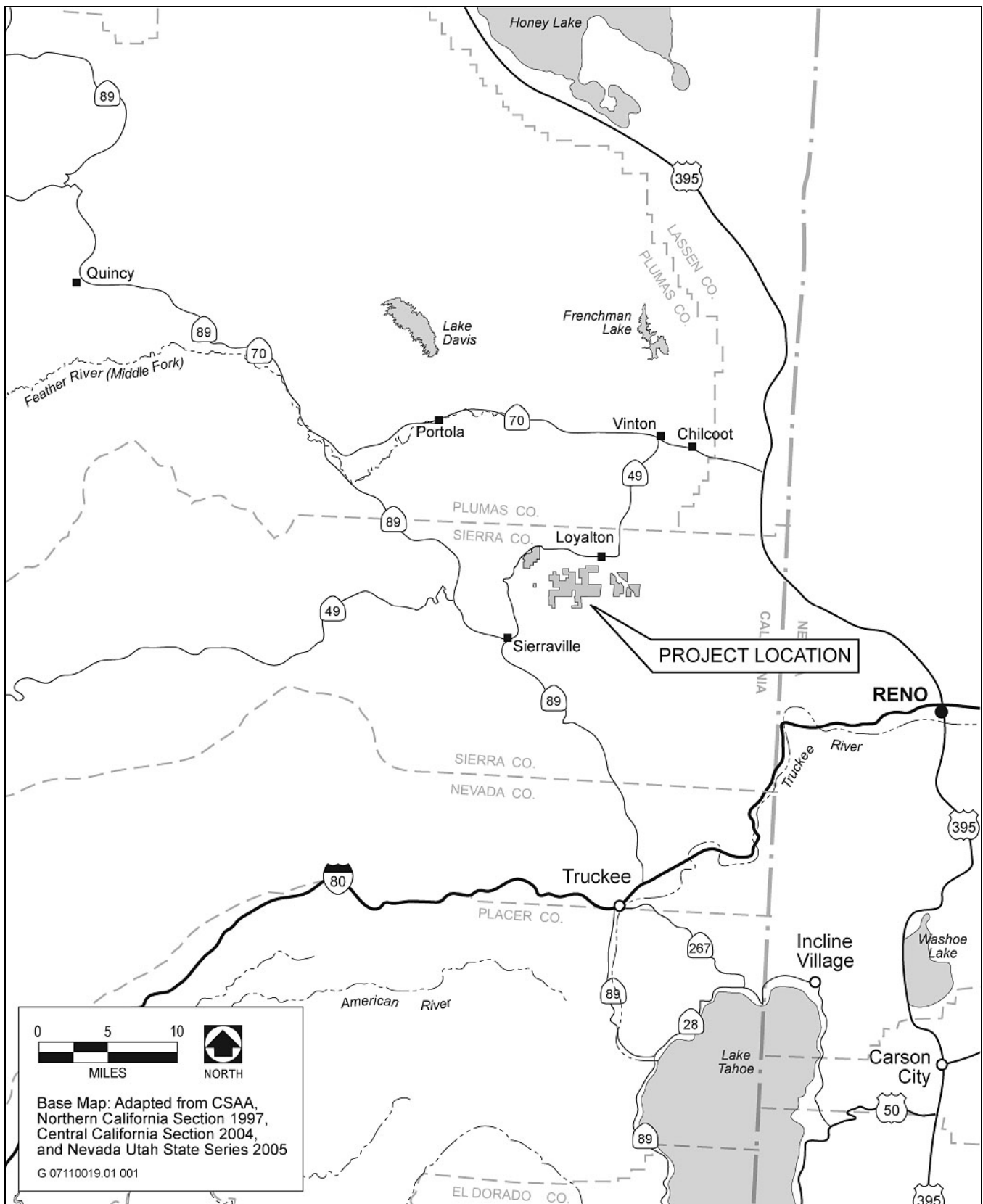
“The mission of the Department of Fish and Game is to manage California’s diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public.”

Thus, the Department manages fish, wildlife, and plant species and natural communities for their intrinsic and ecological value and their benefits to people. This management includes the goal of habitat protection and maintenance in an amount and quality sufficient to ensure the survival of all species and natural communities and the diversified use of fish and wildlife, including recreational, commercial, scientific, and educational uses.

1.2 PURPOSE OF WILDLIFE AREAS

Some of the state’s most important sites for wildlife have been designated as wildlife areas. These lands provide habitat for a wide array of plant and animal species, including many listed as special-status species. Included in this system are AVWA and SCWA. Consistent with its mission, the Department administers more than 100 state wildlife areas composed of approximately 650,000 acres of wildlife habitat. These areas are scattered throughout the state, with most located in central and northern California. The state owns approximately two-thirds of this acreage, while the remainder is managed under agreements with other public agencies. The Department manages these wildlife areas for the following purpose: “To protect and enhance habitat for wildlife species, and to provide the public with compatible, wildlife-related recreational uses.”

Although this is the general purpose for which wildlife areas are managed, wildlife areas differ in their environmental and management settings and in the purpose and history of their acquisition. These differences are the basis of the specific goals that guide the management of individual wildlife areas. Therefore, this plan describes the purpose and history of acquisition of AVWA and SCWA (following in this chapter), the



Source: Data compiled by EDAW in 2007.

Regional Location of the Antelope Valley and Smithneck Creek Wildlife Areas

Exhibit 1-1

management and environmental setting of AVWA and SCWA (in Chapters 2 and 3), and the management goals and associated tasks (in Chapter 4).

1.3 PURPOSE OF ACQUISITION

The AVWA property was acquired in 1980 and expanded in 1993 and 1999 to protect winter range and migration route habitat that is critical to the Loyalton-Truckee deer herd. The properties were purchased by the Wildlife Conservation Board (WCB) on behalf of the Department. WCB purchased the SCWA property in 1988 to protect additional critical deer habitat, including winter range habitat and a major migration corridor. At the time of purchase, the properties were under consideration for development. The primary long-term goals of the wildlife areas are to improve the habitat, primarily for deer, but also for quail, dove, and other game and nongame wildlife species.

1.4 ACQUISITION HISTORY

Originally, WCB acquired 4,480 acres to make up the AVWA property. The acquisition was completed in two phases. In Phase I, WCB purchased 2,080 acres from Nevis Industries, Incorporated, in May 1980. An easement on the property exists for road purposes for ingress and egress. The easement is 30 feet wide and allows access to the grantor's remaining property. In Phase II (Expansion #1), WCB purchased an additional 2,400 acres from Nevis Industries in September 1980. WCB purchased the total of 4,480 acres for \$1,132,000, in-fee, from private owners. WCB acquired AVWA Expansion #2, the Merry-Go-Round Unit, in September 1993 from Bob E. Ferguson, Sr.; Virginia Ferguson; Bob E. Ferguson, Jr.; and Jennifer Ferguson. WCB used the Habitat Conservation Fund to purchase the property for \$463,000. Acquisition became necessary for protection of critical deer habitat after the previous owners rezoned the property and approached Sierra County regarding the submission of a tentative subdivision map for the entire parcel. The grantors retained residences, an outbuilding storage tank, and reservoir. Easements affecting the property are for a telegraph line running from Sierraville in Sierra County to Beckwourth in Plumas County by the Sierra Valley Telegraph Company, an electric transmission or distribution line or system by the Plumas-Sierra Rural Electric Cooperative, communication facilities by the Pacific Telephone and Telegraph Company, and a road by the United States of America. There are easements for diverting, conveying, or storing water as indicated by court decree in January 1940. Two 100-foot-wide State Route (SR) 49 rights-of-way exist on the property and affect approximately 7.92 acres. A management plan for the area acquired in Phase I, II, and Expansion #2 was developed in 1984 and updated in 1997 (Department 1997).

Expansions #3, 4, and 5 were made in September 1998, adding 160 acres to the northwest corner of the main Antelope Valley unit. WCB purchased all expansions using the Habitat Conservation Fund. In Expansion #3, WCB purchased 40 acres for \$60,000 from Fred Willard Van Sant. In Expansion #4, WCB purchased an additional 40 acres for \$60,000 from John Reitingner. An easement for a road, utility, and logging affects a 30-foot-wide strip of land on this property. Expansion #5 added an additional 180 acres for \$120,000 from The Misty Corporation. An easement for a roadway and utilities is on the property. The purpose for the acquisition of these parcels was to enhance and protect the integrity of the wildlife area by eliminating private inholdings.

WCB acquired the 1,385-acre SCWA property in 1988 from Occidental Land, Incorporated. The purchase price for the SCWA property was \$500,000 with a land value of \$800,000. Wildlife Restoration Funds were used for the purchase. The primary purpose of the acquisition was the preservation of winter range and a migration corridor for deer. The property had been used historically as part of a cattle operation both on private land and as part of a USFS grazing allotment. The grazing was phased out with the development of the Sierra Brooks subdivision. Occidental Land, Incorporated, retained all mineral rights on the property. Easements exist on the property for a USFS road, a Sierra Pacific Power Company power line, and a road by the United States of America. An agreement for a water service system for the Sierra Brooks subdivision exists between Sierra County Service Area No. 4 and Occidental Petroleum Land and Development Corporation.

After the purchase of the property, Sierra County expressed a concern that the acquisition would reduce their tax base; therefore, the area was designated as a wildlife area to require the Department to pay in-lieu fees. In 1989 Occidental Land, Incorporated, contacted WCB and offered to sell the 600 remaining acres of their land in the area. Field surveys showed that the wildlife habitat values were not as high quality as the land that was already purchased and the offer was declined. The Department wrote a management plan for SCWA in 1990 (Department 1990).

1.5 PURPOSE OF THE LAND MANAGEMENT PLAN

The purpose of this LMP is to:

- ▶ guide management of habitats, species, and programs described in the LMP to achieve the Department's mission to protect and enhance the wildlife areas' ecological values;
- ▶ serve as a guide for appropriate public uses of AVWA and SCWA;
- ▶ serve as a descriptive inventory of fish, wildlife, and native plant species and habitats that occur on AVWA and SCWA;
- ▶ provide an overview of the property's operation and maintenance and of the personnel requirements associated with implementing management goals (this LMP also serves as a budget planning aid for annual regional budget preparation); and
- ▶ present the environmental documentation necessary for compliance with federal and state statutes and regulations, provide a description of potentially significant environmental impacts that may occur during plan management, and identify mitigation measures to avoid or lessen these impacts.

1.6 THE PLANNING PROCESS

The planning process was guided by the general policy parameters that direct the Department, including compliance with all federal and state laws. The Department's mission, the purpose of wildlife areas, the purpose and history of the acquisition of AVWA and SCWA, and the purposes of land management plans, as stated in this chapter, provided broad direction for the development of this plan.

With this broad guidance, the plan has been developed from a compilation of the best available data, additional site-specific analyses, and public input. Public input has been obtained through interviews with knowledgeable individuals and stakeholders and through a public meeting held in Loyalton. A summary of the public input is attached as Appendix A.

1.7 ENVIRONMENTAL ANALYSIS

An environmental analysis pursuant to the California Environmental Quality Act (CEQA) has been conducted concurrently with plan development to identify the potential environmental impacts of operating AVWA and SCWA under the provisions of this LMP. As described in the initial study/negative declaration (IS/ND) prepared for the plan under CEQA, implementing the plan would not have a significant impact on the environment. The IS/ND is included as Appendix B.

1.8 ORGANIZATION OF THIS LAND MANAGEMENT PLAN

This LMP is organized as follows:

- ▶ **Chapter 1, “Introduction,”** summarizes the purpose of the acquisition, acquisition history, purpose of the land management plan, and planning process.
- ▶ **Chapter 2, “Property Description and Management Setting,”** describes the geographical setting; property boundaries and easements; existing infrastructure; and management setting, including legal constraints, existing agreements, and planning influences and considerations. This chapter (along with Chapter 3) also serves as the environmental setting of the IS/ND.
- ▶ **Chapter 3, “Environmental Setting,”** describes existing resource and regulatory conditions and serves as the environmental setting of the IS/ND.
- ▶ **Chapter 4, “Management Goals,”** describes the basis for resource management at AVWA and SCWA and identifies management goals and tasks. This chapter, as well as Appendix D, serves as the project description necessary for performing environmental review under CEQA.
- ▶ **Chapter 5, “Operations and Maintenance,”** summarizes the number of existing staff employed at the property and any additional requirements for personnel, estimates operations and maintenance costs associated with management of the property, and identifies potential funding sources. This chapter is intended to guide budget preparation and work plans for the property.
- ▶ **Chapter 6, “Future Revisions to This Plan,”** describes the process by which this LMP would be revised, if needed, so that it continues to guide management of AVWA and SCWA.
- ▶ **Chapter 7, “Document Preparers,”** provides a list of individuals responsible for the preparation of the LMP.
- ▶ **Chapter 8, “References,”** provides a list of references used in the creation of the LMP.

2 PROPERTY DESCRIPTION AND MANAGEMENT SETTING

2.1 GEOGRAPHICAL SETTING

The main unit of Antelope Valley Wildlife Area (AVWA) is located 20 miles northwest of Reno, Nevada, and 4 miles southwest of Loyalton in Sierra County, California (Exhibit 2-1). AVWA is in Township 21 North, Range 15 East, in Sections 2, 4, 22–24, 26–28, and 33–36 on the Antelope Valley, Sierraville, Loyalton, and Sardine Peak 15-minute USGS quadrangles. It is situated on the southern edge of the Sierra Valley at an elevation between 5,000 and 6,800 feet. Antelope Valley Creek is a tributary to the Feather River, a federally designated wild and scenic river. The Merry-Go-Round Unit is 6 miles northeast of Sierraville and lies completely to the east of State Route 49. It is found in Township 21 North, Range 15 East, in Sections 18–20, and 30 in the Antelope Valley 15-minute USGS quadrangle. It is located 2 miles northwest of the main Antelope Valley unit.

The Doe Canyon, Bear Valley Creek, and Badenaugh Units of Smithneck Creek Wildlife Area (SCWA) are located 2 miles south of Loyalton at an elevation between 5,200 and 6,000 feet. SCWA straddles Smithneck Creek, which drains into the Sierra Valley and then to the Feather River. The SCWA Units are in Township 21 North, Range 16 East, in Sections 29, 30, 32, and 33, M. D. B. & M. on the Loyalton 15-minute USGS quadrangle.

2.2 ADJACENT LAND USES

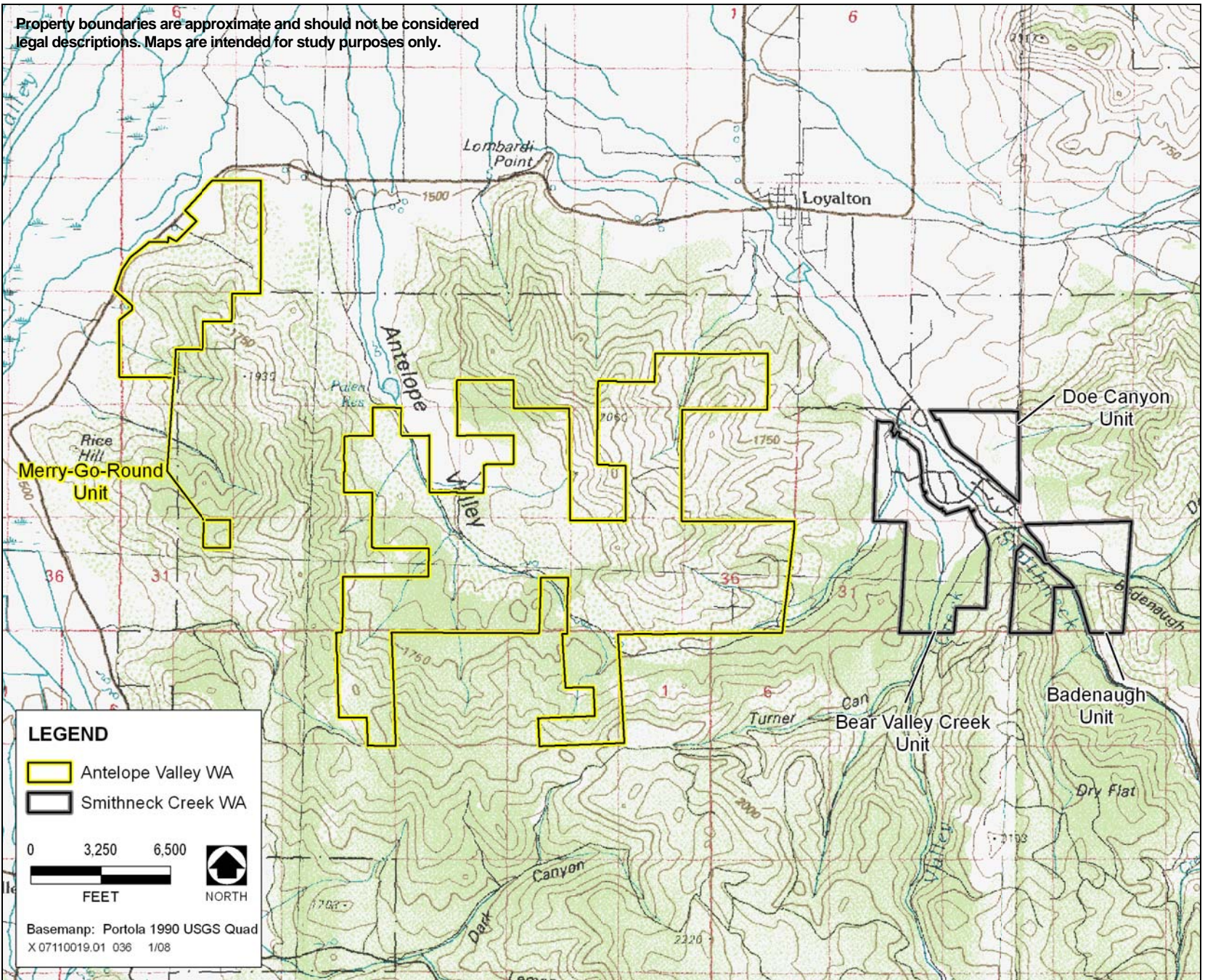
AVWA is almost entirely surrounded by USFS lands of the Tahoe National Forest. A coordinated resource management plan (CRMP) was developed in 1985 and signed by the Department, the U.S. Soil Conservation Service, USFS, and most of the private landowners in the Antelope Valley Creek drainage. This plan encompasses approximately 21,000 acres and identifies the deer and their winter range as key resources. This plan allows management activities to be conducted within the plan area regardless of land ownership. Under the CRMP some portions of AVWA, USFS, and private land have been subjected to controlled burns and planted with bitterbrush seedlings to improve the winter range capability for deer.

Antelope Valley has historically been used for livestock grazing, with the earliest documented use in 1922. Cattle grazed on the allotment from 1922 to 1930. Some cattle grazed this land from 1930 to 1960, but sheep primarily grazed here during that time. A few small-scale logging operations also occupied the area. The records indicate that overgrazing severely affected the area. Cattle grazing resumed in 1960 and has continued intermittently through the present.

SCWA surrounds 389 lots of the Sierra Brooks subdivision. Most of the outer boundary is shared with Tahoe National Forest and is mostly fenced. About a half-mile of property along the southern boundary is shared between SCWA and property owned by the Sierra Brooks Homeowners Association. A portion of the northern boundary is shared with property owned by Occidental Land Company and is largely fenced.

The property has been used historically as part of a cattle operation both as private land and as part of a USFS grazing allotment. When the SCWA property was owned by Occidental Land, Incorporated, grazing rights were leased to local operators in Loyalton until development of the Sierra Brooks subdivision property began. The adjacent federal land is grazed as part of a grazing allotment administered by the Sierraville Ranger District of the Tahoe National Forest. No legal livestock grazing occurs currently on SCWA.

The surrounding Tahoe National Forest lands support a number of recreational uses, some of which include hunting, bird watching, and hiking. The wildlife area is considered by sportsmen and the Department as a premier hunting area in California.



Topography of Antelope Valley and Smithneck Creek Wildlife Areas

Exhibit 2-1

2.3 PROPERTY BOUNDARIES AND EASEMENTS

2.3.1 PROPERTY BOUNDARIES

Exhibit 2-2 depicts the boundaries of the approximately 5,700-acre Antelope Valley Wildlife Area and the 1,385-acre Smithneck Creek Wildlife Area. The legal property descriptions are included in the property deeds, which are attached as Appendix A.

The main Antelope Valley unit is accessible from County Road 855, Antelope Valley Road from SR 49, and Smithneck Creek Road (County Road S860) south of Loyalton. Several spur roads off the county road provide vehicular access to most of the property. The Merry-Go-Round Unit is accessible directly from SR 49. From SR 49, Smithneck Road provides primary access to SCWA and the Sierra Brooks subdivision. Bear Valley Creek Unit and Badenaugh Unit can be accessed by unimproved county-owned roads. Access to the Doe Canyon Unit is by foot over USFS land.

2.3.2 EASEMENTS AND RIGHTS-OF-WAY

Easements and rights-of-way are legally recorded documents that run with the deed of the property. They are, therefore, transferred with the property from owner to owner. Easements typically preserve the rights of an entity other than the landowner. Within AVWA and SCWA there are generally three different types of easements. The first type includes easements for infrastructure such as utilities, roadways, and pipelines. These easements exist for the purpose of maintaining, repairing, replacing, and installing roads, power lines, utility lines, and pipelines needed for regional public works. The second type of easement that exists in the wildlife areas is a water easement. The third is an easement held by the United States of America. A summary description of the easements within or across AVWA or SCWA are included in the title packets (Appendix C) and provided below. Acquiring complete easement documentation and creating a map depicting the easements has been identified as a “step-down action,” a term used by the Department to describe an activity that is currently beyond the scope of the LMP and will require additional effort following the preparation and adoption of the LMP.

HIGHWAY RIGHTS-OF-WAY

Two 100-foot-wide SR 49 rights-of-way exist on the Merry-Go-Round Unit. Rights-of-way Number 1 and Number 2 contain approximately 7.92 acres.

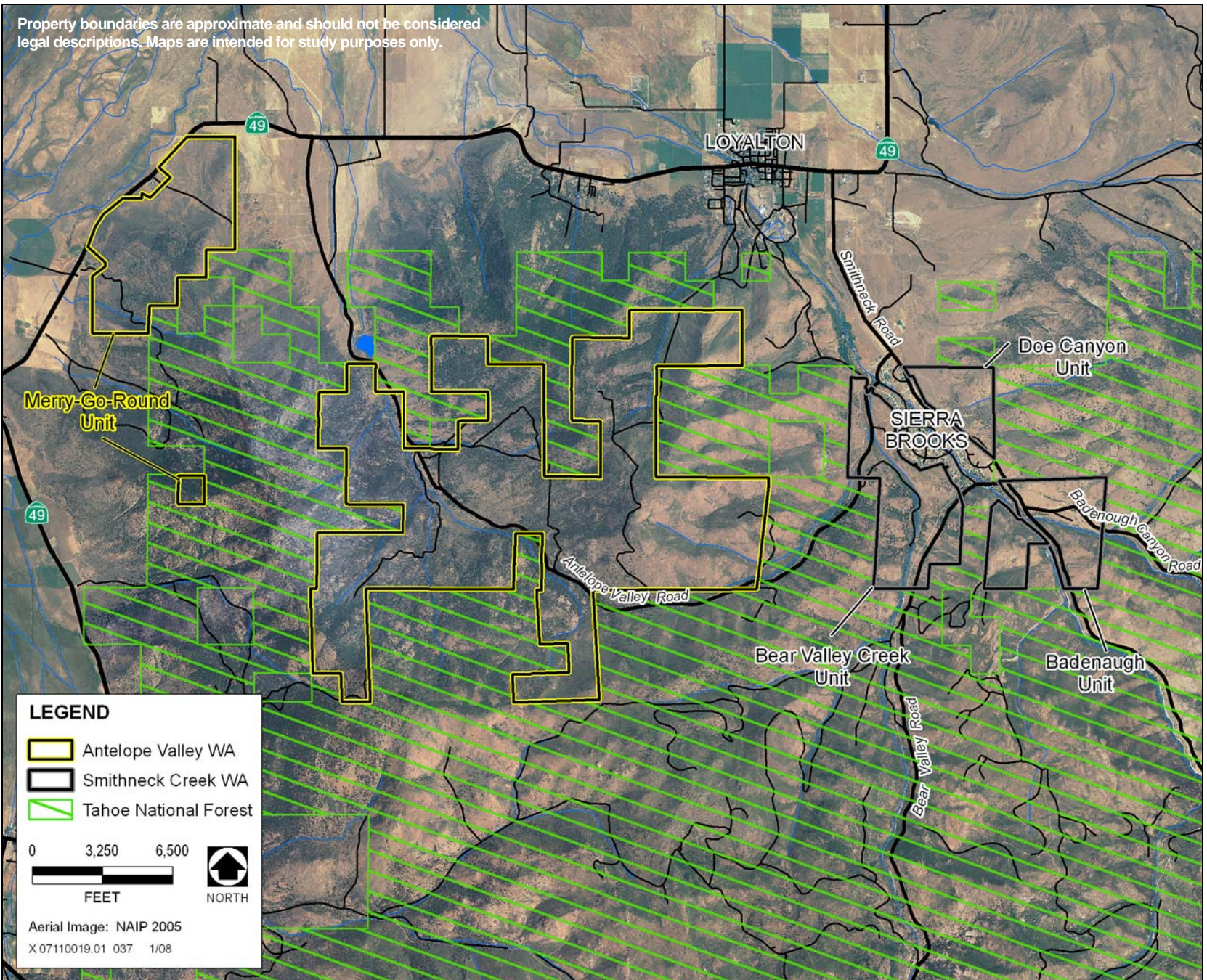
WATER EASEMENT AND AGREEMENT

Within the Merry-Go-Round Unit an easement is held by F. E. Humphrey, Jr., et al., dated January 19, 1940, for diverting, conducting, or storing water (recorded February 1, 1940, in Book 39, page 1 of Deeds, Sierra County Records).

An agreement respecting water facilities and service for The Sierra Brooks Subdivision by and between Sierra County Service Area Number 4, a County Service Area, and Occidental Petroleum Land and Development Corporation for portions of SCWA was recorded May 10, 1971, in Book 53, page 17, Official Records. This agreement description may be a reference to an agreement regarding the well and pump house located in the Bear Valley Creek Unit.

THE SIERRA VALLEY TELEGRAPH COMPANY EASEMENT

The Sierra Valley Telegraph Company holds an easement through the Merry-Go-Round Unit for a telegraph line running from Sierraville in Sierra County to Beckwourth in Plumas County (recorded December 22, 1891, in Book 6, page 20 of Deeds).



Property Boundaries of Antelope Valley and Smithneck Creek Wildlife Areas

Exhibit 2-2

EASEMENT FOR PLUMAS-SIERRA RURAL ELECTRIC COOPERATIVE

Plumas-Sierra Rural Electric Cooperative holds an easement for an electric transmission, or distribution line, or system within the Merry-Go-Round Unit (recorded February 1, 1939, in Book 37, page 222, of Deeds).

UNITED STATES OF AMERICA EASEMENT

The United States of America holds an easement for a portion of the Merry-Go-Round Unit for the construction, maintenance, and full, free, and quiet use and enjoyment of a road for the purposes of hauling forest products for fire protection and for general forest administration (recorded July 6, 1956, in Book 14, Page 197, Official Records for Parcel Number 2). A Correction Deed dated May 16, 1980 (recorded December 7, 1980 in Book 89, Page 467, Official Records) deleted a portion of the original easement and added a portion of the west half of the northwest quarter and a portion of the north half of the southwest quarter of Section 19, Township 21 North, Range 15 East M.D.M. The United States of America also holds a road easement for a portion of SCWA along the existing Bear Valley Road across the west half of Section 32, Township 21 North, Range 16 East (recorded April 16, 1959, in Book 22, page 99, Official Records).

THE PACIFIC TELEPHONE AND TELEGRAPH COMPANY

The Pacific Telephone and Telegraph Company holds an easement for communication facilities in the easterly portions of Sections 13 and 24, Township 21 North, Range 14 East of the Merry-Go-Round Unit (recorded November 2, 1976, in Book 70, page 620, Official Records).

SIERRA PACIFIC POWER COMPANY

Sierra Pacific Power Company holds an easement for an electric power line within SCWA (recorded October 16, 1970, in Book 51, page 659, Official Records).

ROADWAY AND UTILITY EASEMENT

Two roadway and utility easements exist within the main Antelope Valley unit. The exact location and extent of one of the easements is not disclosed (recorded October 9, 1997, in Book 130, page 4526, Official Records). The second road and utility easement for logging is for a strip of land 30 feet wide over a portion in the northeast quarter of the southwest quarter of Section 28, Township 21 North, Range 15 East, Mount Diablo Baseline and Meridian (recorded February 13, 1998, in Book 131, page 358, Official Records).

INGRESS/EGRESS

An easement for road purposes for ingress and egress exists on the main Antelope Valley unit. It is 30 feet wide and allows access to the grantor's remaining property. The center line is described as follows:

Beginning on the northerly side of County Road No. 885 as said road crosses through a portion of the South half of the Southwest quarter of Section 35, Township 21 North, Range 15 East; thence in a Northeasterly direction across said Section 35, a distance of approximately one mile, to the Northerly line of said Section 35 and the terminus thereof, as the above described road presently exists.

2.4 EXISTING INFRASTRUCTURE

2.4.1 ROADS

County Road 855 (Antelope Valley Road) crosses through the main Antelope Valley unit at the area's northwest corner to the southeast corner and the Bear Valley Creek Unit of SCWA. Access into the main Antelope Valley unit is unrestricted on County Road 855 (Department 1997).

Four county roads bisect SCWA. County Road S860 (Smithneck Road) is a paved county road that provides primary access to the area and the Sierra Brooks subdivision. County Road 855 (Antelope Valley Road), Bear Valley Road, and Badenaugh Canyon Road are dirt county roads that provide access to the separate units (Department 1990).

Sierra County operates and maintains these roads, along with the associated culverts.

2.4.2 FENCING

Within the main Antelope Valley unit, a 20-acre riparian corridor along Antelope Valley Creek is fenced and protected from livestock use for the purpose of protecting riparian habitat. At the time of fencing, this area contained potential habitat for the willow flycatcher, which is state listed as threatened (Department 1997).

SCWA shares a majority of its external boundary with the Tahoe National Forest. Most of this property line is fenced. The northern boundary of SCWA that is shared with Occidental Land, Incorporated, is also largely fenced (Department 1990).

2.4.3 WELL

Sierra County Service Area Number 4, a County Service Area, owns a well located adjacent to Smithneck Creek in SCWA. The well provides municipal water to the Sierra Brooks subdivision. Obtaining further details regarding wells on the wildlife areas has been identified as a "step-down action."

2.5 PLANNING INFLUENCES AND CONSIDERATIONS

Planning for AVWA and SCWA encompasses issues that cross regional, local, and wildlife area boundaries. This section identifies the federal, state, county, and local planning influences that affect the management and planning of AVWA and SCWA.

The following entities, and land use, ecosystem restoration, and resource management plans were considered in the development of this LMP and influenced its content:

- ▶ City of Loyalton
- ▶ Sierra Brooks Homeowners Association
- ▶ Tahoe National Forest
- ▶ Sierra Valley Resource Conservation District
- ▶ Feather River Coordinated Resources Management
- ▶ 1996 Sierra County General Plan

- ▶ Smithneck Creek Watershed Coordinated Resource Management Plan
- ▶ Antelope Valley Coordinated Resource Plan
- ▶ Sierra Valley Coordinated Resource Management Plan
- ▶ Sierra Valley Watershed Assessment
- ▶ The Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board Central Valley Region: The Sacramento River Basin and the San Joaquin River Basin

2.5.1 SIERRA COUNTY GENERAL PLAN

State agencies are exempt (as established by *Hall vs. City of Taft* [1952] 47 Cal.2d177) from complying with local or county plans, policies, or zoning regulations. Nevertheless, the Department considers all local plans in its management decisions. State agencies also must comply with state laws and regulations, including CEQA and, in so doing, minimize environmental effects such as conflicts with local plans and policies intended to protect the environment. For these reasons, the Department takes into account local land use policies and regulations when making land use planning decisions.

The *1996 Sierra County General Plan* was considered in the development of this LMP. The current general plan was adopted in 1996 (Sierra County 1996). The general plan's land use diagram shows that the Doe Canyon, Badenaugh, and Bear Valley Units are designated as Open Space and the main Antelope Valley unit is designated as Forest and Open Space. AVWA acquisitions #2–5 occurred outside of the time frame of the general plan and therefore are not included. This LMP is consistent with the *1996 Sierra County General Plan* land use designations.

The Plants and Wildlife Element in the general plan identifies SCWA and the main Antelope Valley unit as sensitive areas. Areas within and around the wildlife areas are identified as special treatment areas (STA) and include critical deer summer range, critical deer winter range, and deer migration corridors.

The general plan contains the following policies and recommendations, which may be applicable to AVWA and SCWA:

- ▶ **Plants and Wildlife Element Policy 8:** Protect, and whenever possible enhance, threatened, endangered, and special plants and animals and their habitats, as defined by the California Department of Fish and Game, as well as migratory birds from proposed land uses.
- ▶ **Plants and Wildlife Element Policy 12:** Cooperate with State and federal agencies in managing recreation and prohibit new recreational developments which may significantly impact biotic resources.

This LMP is consistent with these policies and recommendations.

2.5.2 CITY OF LOYALTON

The City of Loyalton is the only incorporated city in Sierra County and, as such, is the governing agency within the Loyalton city limits. Because of Loyalton's proximity to the wildlife areas, the Department will coordinate with the City of Loyalton regarding implementation of portions of the LMP that are relevant to the City.

2.5.3 TAHOE NATIONAL FOREST

The Tahoe National Forest (TNF) straddles the crest of the Sierra Nevada in northern California and encompasses a vast territory from the foothills on the western slope to the peaks of the Sierra crest. The Tahoe National Forest is bordered by the Plumas National Forest to the north, the El Dorado National Forest to the south, the Humboldt-Toiyabe National Forest and Lake Tahoe Basin Management Unit to the east, and the Sacramento Valley to the west. The Tahoe National Forest Headquarters is located in Nevada City, California, with district offices in Foresthill, Camptonville, Sierraville, and Truckee.

Three grazing allotments include portions the wildlife areas: the Bear Valley, Smithneck, and Antelope grazing allotments. The Clover, Loyaltan, and Hot Springs allotments included portions of the wildlife areas in the past but the allotments have since been removed. The USFS allotment management plan (USFS 2002) for the three allotments were revised in 2002 to include changes in the number of livestock and season of use, range improvement projects, and resource protection measures.

Because TNF surrounds both wildlife areas, cooperation and coordination with the USFS is necessary for effective management of the wildlife areas. Staff of TNF have been generous and cooperative in lending expertise to assist with management of the wildlife areas. In addition, the Sierraville Ranger District is responsible for fire response in the wildlife areas.

2.5.4 WATER QUALITY CONTROL PLAN FOR THE SACRAMENTO AND SAN JOAQUIN RIVER BASINS

The preparation and adoption of water quality control plans (Basin Plans) is required by the California Water Code (Section 13240) and supported by the federal Clean Water Act. In California, these Basin Plans are prepared and adopted by regional water quality control boards. For the waters in a specified area, Basin Plans designate beneficial uses to be protected, water quality objectives to protect those uses, and a program for achieving those objectives.

The wildlife areas are covered by The Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region: The Sacramento River Basin and the San Joaquin River (CVRWQCB 1998). Management and restoration actions in the wildlife areas contribute to attainment of water quality standards.

Potential effects on the Basin Plan's water quality objectives and associated implementation program were considered in the development of this LMP to ensure the LMP's consistency with the basin plan.

2.5.5 SIERRA VALLEY RESOURCE CONSERVATION DISTRICT

Resource conservation districts are "special districts" of the State of California, established by the Local Agency Formation Committee (LAFCO) rules. They are an organized mechanism for providing expertise, assistance, and information on natural resource conservation. The Sierra Valley Resource Conservation District (SVRCD) represents landowners at large and serves as a point of contact for watershed concerns and information. The SVRCD plays an active role in the management of the wildlife areas by holding a land lease agreement over the Department's property at AVWA and SCWA, which allows funds generated by the wildlife areas (e.g., through grazing allotments) to be reinvested in the management of the wildlife areas. In addition, SVRCD often leads efforts for cooperative management of natural resources in the Sierra Valley, especially resources such as water supply and quality.

2.5.6 FEATHER RIVER COORDINATED RESOURCE MANAGEMENT GROUP

The Feather River Coordinated Resource Management (FRCRM) Group is a partnership of 23 public and private sector groups who formed in 1985 to collectively improve watershed health in the upper Feather River watershed. Watershed projects include studies and assessments, stream restoration, monitoring, resource management plans, community outreach, and educational activities. The FRCRM plays an important role in the monitoring and restoration of the Feather River watershed, where the wildlife areas are located. The Department is an active partner of the FRCRM. Terry Benoit, FRCRM Project Manager, is aiding in the development of restoration projects within the wildlife areas.

2.5.7 SIERRA BROOKS HOMEOWNERS ASSOCIATION

Coordination with the Sierra Brooks Homeowners Association is included in the management goals of this LMP. SCWA surrounds the Sierra Brooks subdivision and shares a border with property owned by the Sierra Brooks Homeowners Association.

2.5.8 SMITHNECK CREEK WATERSHED COORDINATED RESOURCE MANAGEMENT PLAN

The Smithneck Creek Watershed CRMP (Smithneck Creek CRMP 1995) was formed to restore and rehabilitate the Smithneck Creek watershed and to reduce the threat of flooding. The CRMP is signed by the Department, USFS Tahoe National Forest, the Natural Resources Conservation Service (NRCS), Sierra County, the Sierra County Economic Council, High Sierra Resource Conservation and Development, the City of Loyalton, the Sierra Brooks Property Owners Association, the Sierra-Plumas Joint Unified School District, the Department of Water Resources (DWR), Sierra Pacific Industries, the California Department of Forestry and Fire Protection, the California Department of Transportation, the Sierra Valley Resource Conservation District, and private landowners. The total plan area encompasses approximately 37,300 acres.

Goals of the Smithneck Creek Watershed CRMP include:

- ▶ Provide for rehabilitation, protection, and improvement of the natural resources in the Smithneck Creek Watershed.
- ▶ Protect the infrastructures of the City of Loyalton and Sierra Brooks subdivision.
- ▶ Encourage opportunities for local employment.
- ▶ Encourage opportunities for watershed and natural resource education.
- ▶ Optimize the beneficial uses of the waters of the Smithneck Creek Watershed. These beneficial uses are: domestic, municipal, agricultural, and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources.

The Smithneck Creek Watershed CRMP was approved in June 1995 and encompasses SCWA. The LMP is consistent with this CRMP. However, it appears that this CRMP is not in active use.

2.5.9 ANTELOPE VALLEY COORDINATED RESOURCE PLAN

The *Antelope Valley Coordinated Resource Plan* (Antelope Valley CRP 1986) was initiated in January 1985. The purpose of the plan is to unite resource management agencies and private landowners in a common effort to solve resource management problems in the Antelope Valley area of Sierra County. The plan area encompasses

approximately 21,000 acres of land owned by USFS, the Bureau of Land Management (BLM), the Department, and private landowners.

The management goals within the Antelope Valley Coordinated Resource Plan are:

- ▶ Maximize and improve deer habitat.
- ▶ Achieve deer herd size and composition as specified in the Loyalton-Truckee deer herd plan.
- ▶ Coordinate grazing with private landowners to complement wildlife habitat improvement.
- ▶ Manage the timber resource to improve range and wildlife habitat and to reduce fire hazard, and improve the health of the stand.
- ▶ Provide technical assistance and expertise to private landowners.
- ▶ Develop and implement a public access plan which protects the resources of the area.
- ▶ Improve and rehabilitate riparian areas in Antelope Valley for watershed protection and wildlife habitat diversity.

This LMP is consistent with these management goals; however, it appears that this CRP is not in active use at the time of preparing the LMP.

2.5.10 SIERRA VALLEY COORDINATED RESOURCE MANAGEMENT PLAN

The *Sierra Valley Coordinated Resource Management Plan* (NRCS 2002) is intended to serve as a framework to develop a watershed management strategy and establish guidelines for joint and cooperative planning and implementation processes. The plan's focus is on noxious weed management, agricultural and economic sustainability, agricultural representation, flood control, water retention (timing), watershed restoration, erosion and sedimentation control, water quality, and fuels management.

The goals of the Sierra Valley Coordinated Resource Management Plan are:

- ▶ Initiate the collaborative effort to balance the competing and changing interests of current and future users, the protection of Sierra Valley's environments while sustaining the agricultural sector, the expanding development, and the agencies that are in service to the communities and residents.
- ▶ Evaluate and understand current and historical watershed conditions.
- ▶ Protect and restore the watershed ecosystem to enhance the viability of human uses in harmony with all species that utilize the watershed.
- ▶ Promote the education of all individuals, organizations and agencies with the most current information on the function and the management of the watershed.
- ▶ Gain flexibility in hydrologic operations to protect public property, private property and natural resources from flood or high water levels or from drought situations.

This LMP is consistent with these management goals; however, the signatories of this plan have not met since its inception.

2.5.11 SIERRA VALLEY WATERSHED ASSESSMENT

The mission of the Sierra Valley Watershed Assessment (SVRCD 2005) was to gather and integrate existing information on the physical, cultural, and demographic variables that characterize the Sierra Valley watershed at the present and in the past. The project is an existing conditions report that can be used by residents and stakeholders in future projects within the Sierra Valley. The project was funded through a grant from the State Water Resources Control Board through the CALFED Watershed Management Program. The Sierra Valley Watershed Technical Advisory Committee (TAC) is made up of SVRCD staff and specialists from cooperating agencies. The Sierra Valley watershed encompasses approximately 297,657 acres and includes the wildlife areas. This assessment is a useful resource for data relevant to the management of the wildlife areas.

3 HABITAT AND SPECIES DESCRIPTIONS

3.1 GEOLOGY, SOILS, TOPOGRAPHY, AND CLIMATE

3.1.1 GEOLOGY

Much of the following geologic information is drawn or summarized from the Sierra Valley Watershed Assessment (SVRCD 2005).

INTRODUCTION

The California Division of Mines and Geology subdivides California into 12 geologic provinces. A unique combination of geology, topographic relief, and climate distinguishes each province. The Sierra Valley watershed lies within the northern Sierra Nevada geologic province, a continuous mountain range spanning 400 miles extending in a north-northwest direction. The Sierra Nevada province is bordered to the north by the Lake Almanor/Honey Lake area and to the west by the Great Valley province.

The geologic setting of the Antelope Valley Wildlife Area (AVWA) and Smithneck Creek Wildlife Area (SCWA) derives from their location on the volcanic flows of the Sierra Valley watershed. Sierra Valley contains unique topographic features that are attributed partly to being one of the most geologically faulted regions in California, and carved by at least four stages of the Ice Age (DWR 1963, cited in SVRCD 2005). The valley lies among a series of northwest trending bands of volcanic ridges and peaks. Granitic rocks to the west and younger rocks to the east of the depositional Hallelujah Formation bound the valley.

DESCRIPTION

In general, the Sierra Valley watershed consists largely of more recent pyroclastic eruptions and volcanic flows, which lie upon the metavolcanic and granitic basement rock. Locally, rocks of the Sierra Valley can be divided into three general groups: Jurassic and Cretaceous metavolcanic and granitic rocks, Tertiary volcanics, and Quaternary sedimentary deposits. These general rock types are described in more detail below, and rock types specific to the wildlife areas are shown in Exhibit 3.1-1.

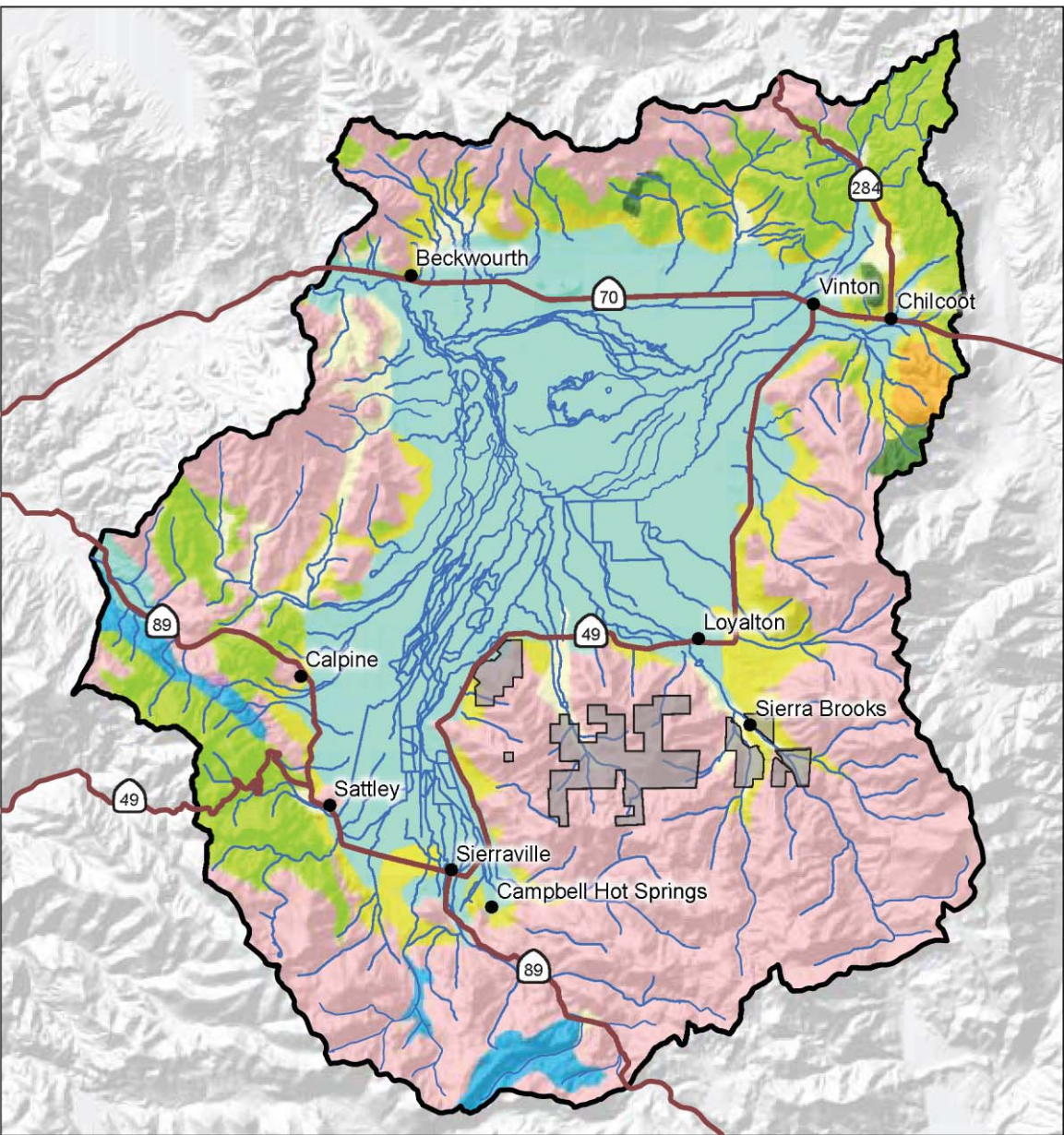
Jurassic and Cretaceous Metavolcanic and Granitic Basement

Jurassic (150–205 million years ago [Ma]) and Cretaceous (70–150 Ma) rocks form the basement complex and consist largely of metamorphic rocks, plutonic granites, and granodiorites. These impermeable basement rocks are visible in the northeastern portion of the Sierra Valley watershed surrounding Little Last Chance Creek and in the southwestern portion of the watershed forming the western margin of the Mohawk Valley Fault. They are also thought to underlie the more recent Tertiary volcanic material of the Dixie Mountain and Loyalton Volcanoes, discussed below.

The metavolcanic and metasedimentary rocks of the region are thought to represent remnants of a Jurassic island arc system (Grose 2000a, cited in SVRCD 2005), which are accreted to the North American Continent and subsequently intruded by plutons of quartz diorite and granite. The rocks are generally massive and crystalline and form rounded outcrops intruded by granitic pegmatite dikes (DWR 1983, cited in SVRCD 2005).

Tertiary Volcanic

Much younger volcanic deposits, which rest upon the Mesozoic basement rocks that began to develop nearly 10 Ma (Grose 2000b, cited in SVRCD 2005), are present throughout the watershed. They consist largely of silicic tuffs and andesitic and dacitic flows and tuffs that rest on the older metavolcanic and granitic basement rocks. Examples of volcanic rocks can be found along the valley foothills, or appear as isolated buttes and low hills in



LEGEND

- Sierra Valley Watershed
- State Highways
- Rivers and Streams
- Antelope Valley and Smithneck Creek Wildlife Areas
- Alluvium
- Fan Deposits
- Glacial Deposits
- Granite, Granodiorite
- Lake Deposits
- Metavolcanic Rocks
- Miocene-Pliocene Volcanic Rocks
- Oligocene-Miocene Volcanic Rocks
- Pliocene Volcanic Rocks

0 2 4
MILES

NORTH

Base Map: California Spatial Information Library; USGS 1 arc-second DEMs, 1999

G 07110019.01 003

Source: SVRCD 2005

Geology of Sierra Valley

Exhibit 3.1-1

the valley and in prominent areas such as the Antelope Valley volcanic center south of Loyalton, Loyalton volcanic center east of Loyalton, and the Sardine Peak complex located approximately 9 miles due south of the Loyalton volcanic center.

Volcanic material of the Sierra Valley can be generally divided into four groups: (1) late Oligocene to early Miocene silicic tuffs, (2) mid-Miocene andesitic flows and tuffs derived from local sources, (3) mid-Miocene dacitic to andesitic flows, and (4) tuffs from the Antelope Valley volcanic center (Grose 2000c, cited in SVRCD 2005).

Quaternary Sediments

Sediments that make up the gently sloping foothills and valley floor are derived from a variety of sources including inflowing streams, deposits from the Sierra Valley Lake, glacial till, and volcanic eruptions. Volcanic deposits include volcanic fanglomerates, conglomerated sandstones and mudstones, tuff and tuff breccias, mudflow breccias, and ignimbrite series (Durrell 1966, cited in SVRCD 2005). These sediments were likely deposited in a lenticular fashion coarsening radially outward near the margins of the valley.

FAULTING

The Sierra Valley lies among one of the most geologically faulted regions in California. Three primary faults Grizzly Valley Fault, Hot Springs Fault, and Mohawk Valley Fault, trend northwest and are suspected to dissect the watershed.

Grizzly Valley Fault

Grizzly Valley Fault can be traced from Mapes Canyon north of Beckwourth, extending along Smithneck Creek until it goes to Sardine Valley. The fault zone is approximately 10 miles long and 1–2 miles wide. Movement along the fault zone consists of left lateral high-angle normal faults of which a small right-slip component of movement is suspected (Grose 2000b, cited in SVRCD 2005).

Hot Springs Fault

Hot Springs Fault parallels Grizzly Valley Fault and can be traced southwest from Beckwourth to where it intersects the Grizzly Valley Fault approximately 1 mile north of Sardine Valley. This fault's name refers to the hot spring well and other thermal artesian wells located along this trace.

Mohawk Valley Fault

Mohawk Valley Fault trends northwest and is located throughout the Mohawk and Sierra Valleys southeast through Sierraville. The fault is a high-angle normal fault with occurrences of dextral-divergent movement. Vertical offset is estimated to be from 1,640 to 3,870 feet (Sawyer 1995, cited in SVRCD 2005).

It is suspected that many of the normal faults have fractured the underlying basement rocks resulting in substantial variations in the depths of valley sediments. Some estimates are from 800 feet below ground surface (bgs) up to 2,000 feet bgs (DWR 1963, cited in SVRCD 2005).

3.1.2 SOILS

Primary soils data available for the Antelope Valley and Smithneck Creek Wildlife Areas include:

- ▶ Soil Survey of the Sierra Valley Area, California, Parts of Sierra, Plumas, and Lassen Counties (NRCS 2007a)
- ▶ Soil Survey of the Tahoe National Forest (NRCS 2007b)

A brief description of common soil series present throughout the watershed is included below (NRCS 2007c). A summary of the soil types present within the wildlife areas is included in Table 3.1-1, Exhibit 3.1-2a, and Exhibit 3.1-2b. Soils within AVWA and SCWA consist of volcanic loams that are moderately deep and somewhat excessively drained. Small isolated rock outcroppings of metamorphic origin can be noted across portions of AVWA and SCWA. With these exceptions, soils are moderately deep and productive (CAL FIRE 1996).

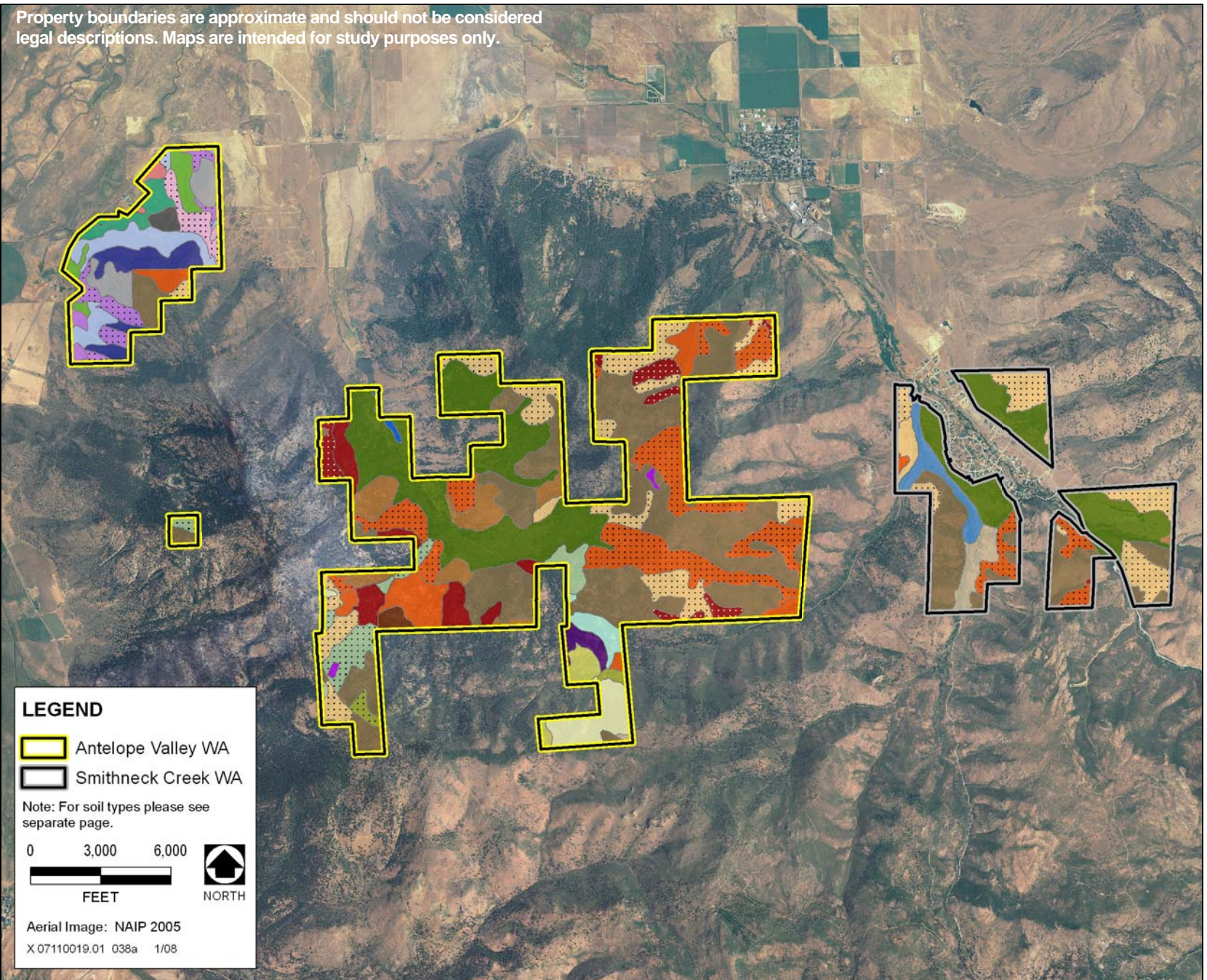
Acidic Rock Land	Aldax-Millich complex, 30–75% slopes
Aldax-Millich complex, 5–30% slopes	Aldax-Aquolls-Kyburz complex, 2–9% slopes
Aldi-Kyburz complex, 2–30% slopes	Aldi-Kyburz-Rock Outcrop complex, 30–75% slopes
Aquolls and Borolls, 0–5% slopes	Badenaugh very cobbly sandy loam, 2–30% slopes
Badenaugh-Martineck-Dotta association, 2–30% slopes	Balman-Ramelli complex, 0–2% slopes
Coolbrith silt loam, 0–2% slopes	Correco sandy loam, 2–5% slopes
Correco sandy loam, 5–15% slopes	Dotta cobbly sandy loam, 2–30% slopes
Dotta sandy loam, 2–9% slopes	Franktown-Aldi-Rock Outcrop complex, 2–30% slopes
Franktown-Aldi-Rock Outcrop complex, 30–50% slopes	Fugawee sandy loam, 2–30% slopes
Fugawee sandy loam, 30–50% slopes	Fugawee variant-Fugawee complex, 2–30% slopes
Fugawee variant-Fugawee-Rock Outcrop complex, 30–75% slopes	Fugawee-Tahoma complex, 30–50% slopes
Kyburz-Aldi complex, 2–30% slopes	Kyburz-Aldi complex, 30–50% slopes
Kyburz-Rock Outcrop-Trojan complex, 2–30% slopes	Kyburz-Trojan complex, 30–50% slopes
Kyburz-Trojan complex, 9–30% slope	Mariposa-Jocal complex, 2–30% slopes
Ramelli clay	Riverwash
Rock Outcrop, volcanic	Rock Outcrop-Franktown-Kyburz complex, 50–75% slopes
Trojan stony sandy loam, 30–50% slopes	Trojan-Sattley-Cryumbrepts, wet complex, 2–30% slopes
Trojan-Sattley-Kyburz complex, 2–30% slopes	Trojan-Sattley-Kyburz complex, 30–50% slopes
Source: NRCS 2007a and NRCS 2007b	

ALDAX SERIES

The Aldax series consists of shallow, well-drained soils that formed from material weathered from andesite or basalt. These soils are loamy-skeletal, mixed, superactive, mesic Lithic Haploxerolls. The Aldax soils are on uplands with slopes of 4 to 75%, and elevations ranging from 5,000 to 8,000 feet. The climate is semiarid with warm, dry summers and moist, cold winters. The mean annual precipitation is 12 to 18 inches and the mean annual air temperature is about 47°F. Permeability is moderately rapid in the Aldax soil. Runoff is medium to rapid. The Aldax series supports big sagebrush, bitterbrush, bluegrass, cheatgrass, squirreltail, and rabbitbrush with scattered pinyon pine and juniper.

ALDI SERIES

The Aldi series consists of shallow, well-drained soils formed in material weathered from volcano rock. These soils are clayey, smectitic, frigid Lithic Ultic Argixerolls. Aldi soils are on gently sloping valley floors and moderately steep to



Soils Within the Antelope Valley and Smithneck Creek Wildlife Areas

Exhibit 3.1-2a

Soils Legend

Source: NRCS 2007a, NRCS 2007b






































Soil Type			
	Aldax-Millich Complex, 5-30% slopes		Fugawee Sandy Loam, 2-30% slopes
	Aldax-Millich Complex, 30-75% slopes		Fugawee Sandy Loam, 30-50% slopes
	Aldi-Aquolis-Kyburz Complex, 2-9% slopes		Fugawee Variant-Fugawee Complex, 2-30% slopes
	Aldi-Kyburz Complex, 2-30% slopes		Fugawee Variant-Fugawee-Rock Outcrop Complex, 30-75% slopes
	Aldi-Kyburz-Rock Outcrop Complex, 30-75% slopes		Fugawee-Tahoma Complex, 30-50% slopes
	Aquolls and Borolls, 0-5% slopes		Kyburz-Aldi Complex, 2-30% slopes
	Acidic Rock Land		Kyburz-Aldi Complex, 30-50% slopes
	Badenaugh-Martineck-Dotta Association, 2-30% slopes		Kyburz-Rock Outcrop-Trojan Complex, 2-30% slopes
	Badenaugh Very Cobbly Sandy Loam, 2-30% slopes		Kyburz-Trojan Complex, 9-30% slopes
	Balman-Ramelli Complex, 0-2% slopes		Kyburz-Trojan Complex, 30-50% slopes
	Coolbrith Silt Loam, 0-2% slopes		Mariposa-Jocal Complex, 2-30% slopes
	Coolbrith Silt Loam, 2-5% slopes		Riverwash
	Correco Sandy Loam, 2-5% slopes		Rock Outcrop, Volcanic
	Correco Sandy Loam, 5-15% slopes		Rock Outcrop-Franktown-Kyburz Complex, 50-75% slopes
	Dotta Cobbly Sandy Loam, 2-30% slopes		Ramelli Clay
	Dotta Sandy Loam, 2-9% slopes		Trojan Stony Sandy Loam, 30-50% slopes
	Franktown-Aldi-Rock Outcrop Complex, 2-30% slopes		Trojan-Sattley-Cryumbrepts, Wet Complex, 2-30% slopes
	Franktown-Aldi-Rock Outcrop Complex, 30-50% slopes		Trojan-Sattley-Kuburz Complex, 2-30% slopes
			Trojan-Sattley-Kuburz Complex, 30-50% slopes

Exhibit 3.1-2b

steep mountainside slopes at elevations of 5,000 to 6,500 feet. Slope ranges from 2 to 75%. The mean annual precipitation varies from 15 to 35 inches and the mean annual temperature varies from 43 to 47°F. Permeability is slow and runoff is medium. Principal species are bitterbrush, sagebrush, annual and perennial grasses.

AQUOLLS

Mollisols that are saturated with water for long periods eventually have limited use for most crops, other than for pasture, unless they are artificially drained. Aquolls (a suborder in the U.S. system of soil taxonomy) may have a histic epipedon, a sodium saturation in the upper part of the mollic epipedon, of >15% that decreases with depth or mottles or turns gray within or immediately below the mollic epipedon.

BADENAUGH SERIES

The Badenaugh series are loamy-skeletal, mixed, superactive, mesic Aridic Argixerolls. The series consists of very deep, well-drained soils that form in alluvium derived from mixed igneous rocks. Badenaugh soils are on fan remnants and stream terraces. Slopes are 2 to 30% and elevation ranges from 4,000 to 6,000 feet. The climate is semiarid with cool, moist winters and warm, dry summers. The mean annual precipitation is 10 to 16 inches and the mean annual temperature is 46 to 50°F. Permeability is moderate or moderately slow with medium or high surface runoff. The vegetation is mainly mountain big sagebrush, antelope bitterbrush, Indian ricegrass, Thurber's needlegrass, and scattered western juniper.

BASIC ROCK LAND

The Basic Rock Land consists of rough, rocky terrain. Rock outcrops and very shallow soils cover as much as 50 to 90% of the surface. These rocks are primarily found in the foothills and steep mountainous terrain. The rock consists primarily of volcanics. The vegetation is spotty cover of sagebrush, annual and perennial grasses, and minor stands of timber.

BOROLLS

Borolls are cold climate mollisols. They formed in areas with annual soil temperature less than 46°F, and a long wet season (i.e., never dry for 60 consecutive days or more within the 90 days following the summer solstice). They do not contain material with a calcium carbonate equivalent greater than 400 grams per kilogram (unless they have a calcic horizon) and their use for most crops is not limited by the period of soil saturation.

DOTTA SERIES

The Dotta series consists of very deep, well-drained soils that formed from alluvium weathered from metamorphic and igneous rock sources. They are on alluvial fans and terraces. Dotta soils are fine-loamy, mixed, superactive, mesic Pachic Argixerolls. Slopes are 0 to 30% and elevation ranges are 2,000 to 5,500 feet. The mean annual precipitation is 12 to 25 inches and mean annual temperature is 47 to 52°F. Runoff is rapid to slow and permeability is moderate to moderately slow. Vegetation is Idaho fescue, bluebunch wheatgrass, bearless wheatgrass, and big sagebrush.

FRANKTOWN SERIES

The Franktown series consists of very shallow and shallow, somewhat excessively drained soils that formed in rediduum and colluvium derived from metamorphic rocks. Franktown soils are loamy-skeletal, mixed, superactive, frigid Lithic Ultic Haploxerolls. This soil occurs on mountains and typically occurs on backslope positions. Elevations range from 5,200 to 8,000 feet at slopes of 45 to 80%. Mean annual precipitation is 16 to 30 inches and mean annual temperature is 41 to 45°F. Franktown soils have very high surface runoff and moderately rapid permeability. The vegetation is principally Jeffery pine in small groves or as scattered trees with

an understory of mountain big sagebrush, antelope bitterbrush, serviceberry, snowberry, bluegrass, needlegrass, buckwheat, and curlleaf mountain mahogany.

KYBURZ SERIES

The Kyburz series consists of moderately deep, well-drained soils formed in material weathered from basic volcanic rock. Soils are fine-loamy, mixed, active, frigid Ultic Haploxeralfs. Kyburz soils are on gently sloping plateaus and moderately steep to steep mountain slopes at elevations of 5,500 to 6,400 feet. Slopes range from 2 to 50%. The mean annual precipitation is 18 to 35 inches and the mean annual temperature is 43 to 47°F. Soils have slow to rapid runoff and moderate to moderately slow permeability. Principal species are Jeffery pine and ponderosa pine.

MARTINECK SERIES

The Martineck series is a member of the clayey-skeletal, smectitic, mesic, shallow family of Aridic Duixerolls. These soils are gently sloping to moderately steep and are on undulating to hilly terraces at elevations of 4,500 to 5,200 feet. The mean annual precipitation is 12 to 18 inches and mean annual temperature is 48°F. Martineck soils have slow to rapid runoff and very slow permeability. The vegetation is low sagebrush, bitterbrush, and perennial grasses.

MILLICH SERIES

The Millich series consists of shallow, well-drained soils that formed in residuum and colluvium derived from volcanic rocks. Soils are clayey, smectitic, frigid Lithic Argixerolls. Millich soils are on hills with slopes 5 to 60% and elevations from 5,400 to 6,500 feet. The mean annual precipitation is 12 to 18 inches and the mean annual temperature is 45 to 49°F. Surface runoff is very high and permeability is slow. The vegetation is antelope bitterbrush, low sagebrush, mountain big sagebrush, needlegrass, bottlebrush squirreltail, singleleaf pinyon, and widely spaced Jeffery pine.

TROJAN SERIES

The Trojan series consists of deep and very deep, well-drained soils that formed in colluvium and residuum derived from volcanic rocks or from schist and argillite. Soils are fine-loamy, isotic, frigid Ultic Argixerolls. Trojan soils are on hills and mountains. Slopes are 2 to 50% and elevation ranges from 4,900 to 6,500 feet. The mean annual precipitation is 16 to 28 inches and the mean annual temperature is 39 to 47°F. Trojan soils have moderately slow permeability and medium or high surface runoff. The vegetation is an open forest canopy of Jeffery pine and ponderosa pine with an understory of antelope bitterbrush, curlleaf mountain mahogany, mountain big sagebrush, and scattered western juniper.

EROSION HAZARDS

Four parameters—soil, slope, cover, and climate—are considered when evaluating erosion hazards. Soil must be analyzed for detachability and permeability. Slope must be viewed for uniformity and steepness. Cover is important because of the density of both living and dead vegetation that shields the soil from erosion by raindrops. Climate is important in determining erosion hazards. The distribution of annual precipitation, intensity of storms, distribution of snowfall and snowmelt, and the freezing of the ground surface affect erosion. Together these parameters provide a general sense of the potential for soils to erode. Soils are designated as a “slight,” “moderate,” or “high” erosion hazard.

Environmental conditions in both AVWA and SCWA make these ecosystems susceptible to erosion, as evidenced by the incised conditions of Antelope Valley Creek and Bear Valley Creek (see Appendix D). In addition, both wildlife areas have experienced surface soil erosion problems during storm events following large fires. After the Harding fire (see Chapter 3.6 Fire and Timber Harvest), which burned much of the vegetative cover protecting surface soils on steep slopes in AVWA, a large storm event quickly released several inches of rain onto these

exposed slopes. Large amounts of sediment and debris were washed down these slopes into channels and tributaries in Antelope Valley below.

3.1.3 TOPOGRAPHY

AVWA and SCWA lie on the southeast edge of the Sierra Valley watershed. The topography of the Sierra Valley watershed is typical of former lake basins. A large portion of the watershed's 297,000 acres is part of the valley floor. The low gradient of the valley floor is a result of the Pleistocene lake that once occupied the valley. During this time, an abundance of glaciers could be found throughout the Sierra Nevada. Traces of these glaciers are found within the watershed today. The steep slopes of the surrounding Sierra Nevada still drain into the Sierra Valley, but now become the headwaters of the Middle Fork Feather River. The topography is moderately steep, 30–70%, with incised canyons exceeding 75% (CAL FIRE 1996).

ELEVATION

Elevation within AVWA ranges from 5,000 feet at the valley floor to 6,800 feet in the surrounding mountains. The SCWA elevation ranges from 5,200 to 6,000 feet (Department 1990). Loyalton sits at 4,985 above mean sea level (msl). The U.S. Geological Survey (USGS) 7.5-foot quadrangle maps within the wildlife areas are Antelope Valley, Sierraville, Loyalton, and Sardine Peak. Watershed topography with elevation bands is shown in Exhibit 3.1-3.

3.1.4 CLIMATE

Climate data is based primarily on information provided in the Sierra Valley Watershed Assessment (SVRCD 2005).

TEMPERATURE AND GROWING SEASONS

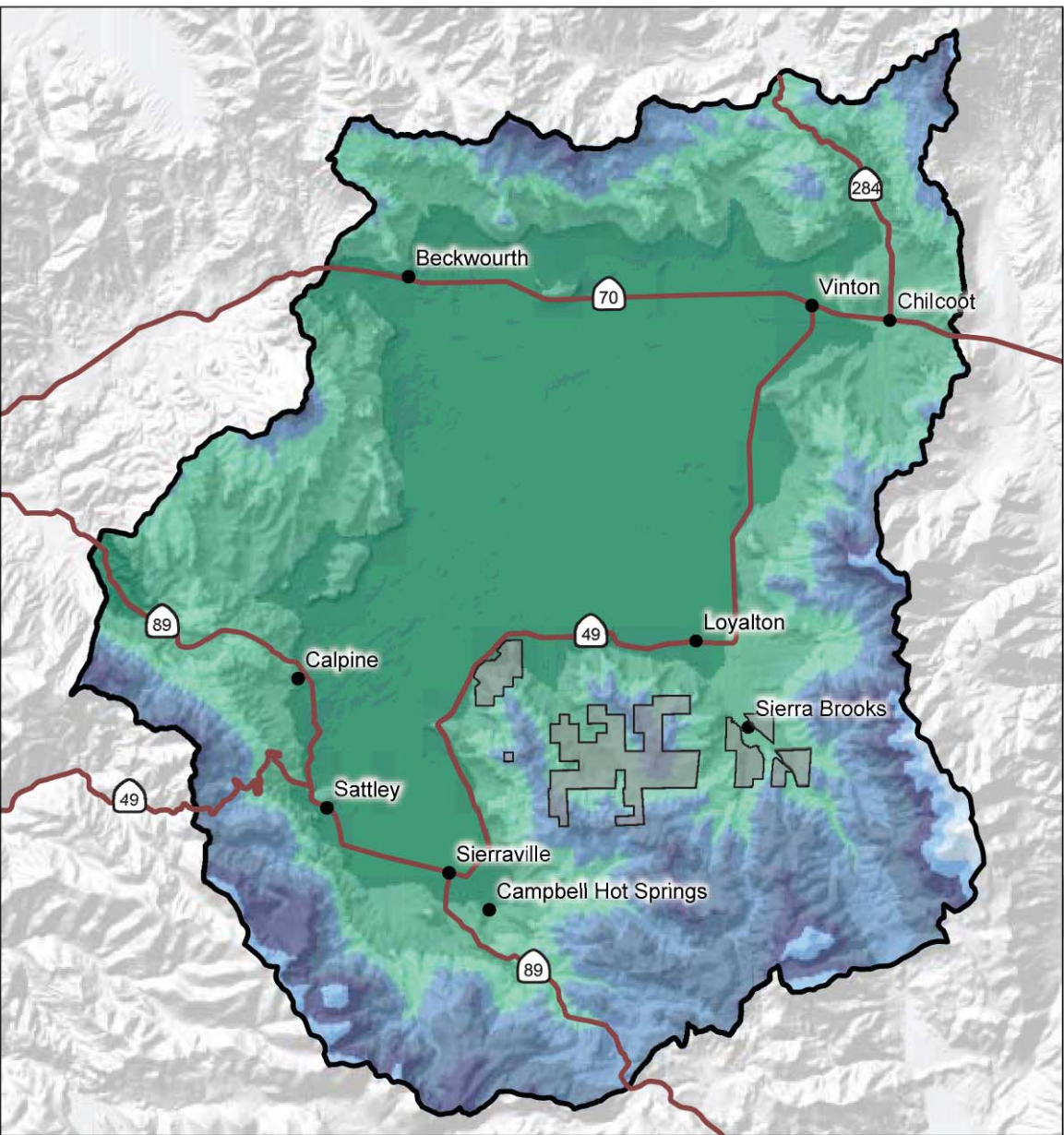
Average annual temperatures within the Sierra Valley watershed range from a low of approximately 30°F to a high of 63°F. Temperatures are typically warm in the summer months with average maximum monthly temperatures occurring in July at approximately 84°F in Sierraville. Temperatures ranging from the high 70°Fs to the mid-80°Fs are common from June through September. Maximum temperatures have been recorded in August at 104°F in Sierraville.

Temperatures in winter months average 30°F in Sierraville. Maximum temperatures from December through February range from the low to mid-40°Fs throughout the watershed. The lowest recorded temperature in Sierraville was -29°F on December 9, 1972.




The first fall freeze generally occurs in September in Sierraville and on the rest of the valley floor. May is generally the last month of freezing temperatures. At higher elevations in the watershed, it is not uncommon to experience freezing temperatures throughout the year.

During January, Sierraville experiences daily temperature fluctuations of approximately 30°F. In July, temperatures fluctuate nearly 40°F.










Evaporation is the amount of water lost from a system. The sun's radiation, air temperature, wind speed, and vapor pressure (relative humidity) cause evaporation. Evaporation data, although typically used to schedule irrigation events, closely reflect the evaporation rates of surface water and are used to help calculate water balance of the watershed. Data (DWR 1979, cited in SVRCD 2005) indicate the average evaporation rates from 1960 to 1970 for the area around Vinton (approximately 10 miles north of the wildlife areas) (see Table 3.1-2). Although these are the only evaporation data available for the watershed it is assumed that the evaporation rates would be similar for the rest of the valley floor.



LEGEND

-  Sierra Valley Watershed
-  State Highways
-  Antelope Valley and Smithneck Creek Wildlife Areas

Elevation in Feet

-  5,000
-  5,500
-  6,000
-  6,500
-  7,000
-  7,500
-  8,000
-  8,500
-  9,000



Base Map: California Spatial Information Library; USGS 1 arc-second DEMs, 1999

G 07110019.01 002

Source: SVRCD 2005

Sierra Valley Elevations

Exhibit 3.1-3

**Table 3.1-2
Evaporation Rates (Inches) for Vinton: 1960–1970**

Year	Total	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1960					44	49	106	228	215	266	267	283	206
1961		127	80	57				171	208	282	331	239	209
1962		141						180	166	203	225	247	206
1963		108	22					81	130	163	283	263	164
1964		117	35					137	169	187	257	259	212
1965		154							165	178	198	198	164
1966		134							208	232	279	252	188
1967		138								128	214	177	133
1968		98							225	289	349	243	223
1969									245	201	307	317	226
1970										214	321	321	
Mean	1,716	127	46	57	44	49	106	159	192	213	276	254	193

Source: DWR 1979, cited in SVRCD 2005

The growing season, based on freezing dates, is approximately 60–90 days on the valley floor. The growing season typically shortens considerably in the mountainous regions to the west and south of the valley.

PRECIPITATION

On average, most areas of the Sierra Valley watershed receive approximately 15 to 20 inches of precipitation per year. Most precipitation falls during the winter months with 77% of the annual total falling between November and March. Monthly averages are highest in January with 4.59 inches falling in Sierraville and 4.17 inches falling in Portola. Rainfall during the summer months is limited to thundershowers 5 to 10 days per year, accounting for less than 5% of the annual precipitation. Precipitation not only feeds the creeks and rivers of the region, but recharges the groundwater resource as well.

Average total precipitation recorded at the USFS Sierraville Ranger Station between 1997 and 2007 are shown in Table 3.1-3. The Sierraville Ranger Station data were collected at an elevation of 4,975 feet in the Feather River basin.

SNOWFALL

Snowfall data collected at the Sierraville Ranger Station (elevation 4,975 feet above msl) show January as having the highest average snowfall at approximately 17.9 inches with average annual snowfall of approximately 71.8 inches. The highest total annual snowfall recorded at the Sierraville Ranger Station was 242.3 inches in 1952.

In this high elevation valley, snow tends to stay on the ground for long periods. In January, the average snow depth in Sierraville is 5 to 6 inches, with snow depths consistently above 2 inches from December to April.

**Table 3.1-3
Average Total Precipitation (Inches) for the Sierraville Ranger Station: 1997–2007**

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1997	12.21	0.45	0.40	0.61	0.06	1.32	0.00	0.00	0.36	1.62	2.25	1.80	21.08
1998	5.38	7.09	3.88	1.67	1.81	0.31	0.08	0.00	2.35	0.73	4.38	2.37	30.05
1999	5.99	8.87	2.64	1.88	0.00	0.12	0.00	0.82	0.37	1.75	1.58	0.74	24.76
2000	8.90	7.00	0.48	1.79	0.63	0.41	0.00	0.00	0.21	1.84	1.00	0.74	23.00
2001	0.88	1.88	1.82	1.91	0.00	0.00 ^a	0.02	0.00	0.42	0.6	4.62	4.68	16.83
2002	1.60	1.18	2.37	0.98	0.38	0.05	0.11	0.00	0.00	0.00	6.10	7.19	19.96
2003	1.13	1.12	2.43	3.99	0.55	0.18	0.51	1.28	0.01	0.03	1.45	6.76	19.44
2004	1.63	6.45	1.13	0.08	0.69	0.25	0.00	0.01	0.31	2.91	2.54	2.69	18.69
2005	3.88	1.31	4.82	1.40	2.16	0.59	0.00	0.00	1.39	0.43	1.64	17.84	35.46
2006	3.92	4.72	4.18	6.25	0.31	0.18	0.00	0.00	0.00	0.15	1.59	1.86	23.16
2007	0.81	5.22	0.76	0.89	0.33	0.32	0.00	0.00	0.08	1.63	0.39	–	10.43 ^b

Notes:

^a Trace of Precipitation

^b Excluding December

Source: DWR 2007.

3.2 WATER RESOURCES

3.2.1 HYDROLOGY

SURFACE WATER

The AVWA and SCWA lie within the Sierra Valley Hydrographic Unit (Sierra Valley unit), which is part of the Middle Fork Feather River Hydrologic Unit (HUC 18020123) of the Central Valley Drainage Basin, in northeastern Sierra County. The approximate boundaries of the Sierra Valley unit are Plumas County in the north, the Sierra crest in the west, a line passing through Babbitt and Sardine Peaks to Henness Pass in the south, and Mount Ina Coolbrith and the Bald Mountains in the east (Sierra County 1996).

The Sierra Valley unit drains the streams originating in the mountains surrounding the Sierra Valley to the middle fork of the Feather River near Beckwourth in Plumas County. The Feather River flows westward into the Sacramento River in the Central Valley (Sierra County 1996).

A number of streams and creeks flow through AVWA and SCWA into the Sierra Valley. The major features are Antelope Valley, Smithneck, Bear Valley, and Badenaugh Creeks (Exhibit 2-1). Antelope Valley, Bear Valley, and Smithneck Creeks flow into the valley from the south. Smithneck Creek has an average annual flow of 8,076 acre-feet per year and a drainage area of 31.6 square miles (DWR 1973, cited in Chapter 8 of Sierra County 1996). Badenaugh Creek flows into the Sierra Valley from the east and originates on the west side of Babbitt Peak. See Section 3.3, “Biological Resources,” and the restoration project description in Appendix D for site-specific descriptions of the main creeks located in the wildlife areas.

GROUNDWATER

The Sierra Valley Groundwater Basin (SVGWB) extends from the southern edge of the Sierra Valley in Sierra County into Plumas County to the north. SCWA lies above the southeastern portion of the SVGWB and the AVWA lies just outside the southern boundary. Although the AVWA does not lie directly above the SVGWB, it is assumed that its surface waters contribute to the recharge of the groundwater basin. The groundwater basin consists of younger alluvium, lake, and volcanic deposits of the Valley floor. Unconfined groundwater within the SVGWB is generally found less than 100 feet deep and movement is to the north. Confined aquifers between depths of 100 and 2,000 feet contain a large volume of groundwater (Sierra County 1996).

Recharge of the groundwater occurs by infiltration of surface waters through permeable materials in the upper portions of the alluvial fans on the edge of the Sierra Valley. Some recharge occurs from direct precipitation into the higher elevation volcanic rocks, infiltration of precipitation into the Valley floor, and percolation of irrigated water. It is approximated that the groundwater storage capacity is 2,500,000 acre-feet for the Sierra County portion of the SVGWB (Sierra County 1996).

3.2.2 WATER QUALITY

OVERVIEW

Human use has greatly altered the Feather River watershed, including the creeks located within the wildlife areas. Past mining, grazing, and timber harvest practices; wildfires; and railroad and road construction have resulted in accelerated erosion, degraded water quality, decreased vegetation and soil productivity, and degraded terrestrial and aquatic habitats. Long-term vegetation disturbance and gully erosion has led to a dramatic change in hydrology, leading to reduced summer flow, higher summer water temperature, lower water tables, reduced meadow storage capacity, and a trend from perennial to intermittent flow. Many downcut streams no longer sustain late-season flow, causing adverse effects on riparian and upland vegetation, aquatic communities, and downstream water uses (FRCRM 2008a).

The Feather River Watershed Coordinated Resource Management (FRCRM) Watershed Monitoring Program summarizes water quality data from numerous sites in the Feather River Watershed. The closest sampling location to the wildlife areas is located at Beckwourth in the Middle Fork Feather River watershed. The 2004 FRCRM Watershed Monitoring Program report indicated that at the Beckwourth station pebbles coarsened and that the channel was gradually increasing in entrenchment (i.e., gullies). It had the highest total dissolved solids and electrical conductivity of all reported sites, and was five times higher in phosphorus than the next highest site. It also had the highest concentration of ammonia, aluminum, cadmium, chromium, iron, lead, and zinc (FRCRM 2004a).

The *Watershed Assessment Report—Antelope Valley Watershed and Watershed of an Unnamed Tributary to Bear Valley Creek* (Appendix D) states that the stream channel system of the Antelope Valley watershed is severely degraded. It describes “stream channel degradation and development of entrenchments (aka gullies)” ... “as a result of stream channel relocation and channelization during the early logging era, construction and relocation of Antelope Valley Road, and construction of Palen Reservoir and a system of diversion ditches. The stream system continues to degrade today and the entrenchments that have developed continue to widen (actively erode), reducing and dewatering adjacent meadows and other landscape features.”

The 1977 Sierra County General Plan Wildlife Element identified several streams degraded by sediment. Stream ratings focused on habitat deterioration. Antelope Valley Creek was classified as severely degraded with highly erosive soils. The condition of Smithneck Creek was categorized as substantially altered with stream channelization or bank alteration and surrounding fragile meadows and riparian vegetation (Sierra County 1977, as cited in Chapter 8 of Sierra County 1996). While this stream inventory is not recent (1977), it provides a broad indication of current conditions and it indicates that stream degradation has been an ongoing problem for decades. The conditions of some creeks may have worsened, and it does not appear that conditions have substantially improved.

It is anticipated that the proposed watershed restoration activities would substantially improve water quality, as it relates to erosion and sedimentation, by reconnecting entrenched creeks in the wildlife areas with their floodplains. These floodplains are essential buffers, absorbing the impacts of high flow events and high nutrient and sediment discharges. They absorb water during the wet season and release much of this captured water during the dry season. Stream channels downstream of proposed watershed restoration activities would become more stable and show significantly improved water quality conditions (Benoit, pers. comm., 2007).

BENEFICIAL USES

In California, beneficial uses of a water feature are legally designated by the Regional Water Quality Control Board (RWQCB), in this case the Central Valley RWQCB. They are described in the Sacramento–San Joaquin River Basin Plan (Basin Plan) (Rooney and Schnabel 1998). Beneficial Use designations determine applicable water quality objectives. The Basin Plan does not identify beneficial uses specific to any of the creeks located within the wildlife areas; however, they are the same as those indicated for other water features in the Sierra Valley. The Beneficial Uses designations for waters in the Sierra Valley are (SVRCD 2005):

- ▶ Agriculture,
- ▶ Recreation Contact and Other Noncontact,
- ▶ Freshwater Habitat,
- ▶ Spawning, and
- ▶ Wildlife Habitat.

3.2.3 WATER RIGHTS

RIPARIAN WATER RIGHTS

No California statute defines riparian rights, but court decisions have established a common law doctrine of riparian rights that has been confirmed by the provisions of Section 3, Article XIV of the California Constitution (California Water Code Sections 100, 101).

In general, riparian lands are those that are traversed by or border a natural watercourse. A riparian right enables an owner of land bordering a natural watercourse to take and use water on his riparian land. Each owner may have a right, correlative with the right of each other riparian owner, to share in the reasonable beneficial use of the natural flow of water that passes his land.

The State Water Resources Control Board (SWRCB) considers natural flow as not including return flows derived from use of groundwater, water seasonally stored and later released, or water diverted from another watershed. Riparian rights may be used to divert the natural flow of a stream but may not be used to store water for more than 30 days or divert water released from storage. Riparian land must be in the same watershed as the water source and must never have been severed from the source of supply by an intervening parcel without reservation of the riparian right to the severed parcel. No permit is required for use of riparian rights. A record of water use under riparian claim can be established by filing a Statement of Water Diversion and Use with the SWRCB (SWRCB 2000).

APPROPRIATIVE WATER RIGHTS

An appropriative right is required for use of water on nonriparian land and for storage of water. Generally, appropriative rights may be exercised only when there is a surplus not needed by riparian water users.

Before 1872, appropriative water rights could be acquired by simply taking and beneficially using water. In 1872, Sections 1410 through 1422 of the California Civil Code were enacted, which established a procedure for the appropriation of water. A priority of right was established by posting a notice of appropriation at the proposed point of diversion and by recording a copy of the notice with the respective County Recorder.

Appropriative rights initiated after December 19, 1914, the effective date of the California Water Commission Act, require a permit from the state (California Water Code, Section 1225) and compliance with the provisions of Division 2, Part 2 of the California Water Code. The California Code of Regulations, Title 23, Waters, contains regulations for the administration of water rights and water quality activities of the SWRCB.

Once acquired, an appropriative right can be maintained only by continuous beneficial use of water. The amount that now can be rightfully claimed under an appropriative right initiated before December 19, 1914, has, in general, become fixed by actual beneficial use as to both amount and season of diversion. Successful assertion of an appropriative right that was initiated before December 19, 1914, requires evidence of both the original appropriation and the subsequent maintenance of the right by continuous and diligent application of water to beneficial use (California Water Code Section 1202 [b]). Typically appropriative water rights will be lost after 5 years of nonuse.

A right secured by appropriation is subordinate to all prior vested rights. This limitation may be removed by continuous use adverse to prior rights for 5 years if the owners of the prior rights fail to file legal action to protect themselves during that time. This result is called a prescriptive right to the use of water. A well-established rule is that a prescriptive water right ordinarily cannot be acquired against an upstream user (SWRCB 2000).

In 1924, following many injuries and some deaths resulting from disputes over adjudicated water rights, the State of California established the Watermaster program to provide for general public welfare and safety. The main purpose of the Watermaster program is to ensure water is allocated according to established water rights as determined by court adjudications or agreements by an unbiased, qualified person, thereby reducing water rights court litigation, civil lawsuits, and law enforcement workload. It also helps prevent the waste or unreasonable use of water (DWR 2007).

WATER RIGHTS AT AVWA AND SCWA

In 2002 the Department filed a Statement of Water Diversion and Use with the SWRCB, recording the use of riparian water rights along Antelope Valley Creek. This document states that all available water is used for the

purpose of “Development and maintenance of riparian habitat for fish and wildlife use” and describes 1980 as the “Year of first use (nearly as known).” (Appendix E)

There is a water storage diversion on Department property just upstream of the northern AVWA property boundary along Antelope Valley Creek. This diversion is permitted to the adjacent property owner, Frederick Balderston. This diversion allows a maximum of 126 acre-feet per year to be stored between November 1 and March 1 for the purpose of irrigation (Appendix E).

Bear Valley Creek, Smithneck Creek, and Badenaugh Creek in SCWA are part of an adjudicated watershed with appropriative water rights reserved and in use by several property owners, including the Department. In addition, the Department has riparian water rights along each of these stream reaches.

A 1940 Sierra Valley Decree 3095 (DWR 1940) describes water allocations for a number of creeks in the Sierra Valley region, including Antelope Valley Creek and Smithneck Creek. The portion of Antelope Valley Creek located on Department property in AVWA is not within the Watermaster Service Area for this decree (Scarborough 2007). However, all parcels of SCWA are within this Watermaster Service Area.

The Department owns a first-priority water right at SCWA (under the Decree Name “Clover Valley Lumber Co.”) of 0.40 cfs for industrial or municipal use on 23.5 acres and another first-priority right (under the Decree Name “Laffrenchini, Mary C.”) of 2.4 cfs for irrigation on 166.4 acres. According to Sierra Valley Decree 3095, use of the 0.40 cfs water right is subject to Schedule C (page 33, paragraph 52, line 16), and diversions must be directly applied to beneficial use (page 16, paragraph 24). Water can be diverted from points 77 and 78 for the 0.40 cfs water right and from points 79, 80, 84, 85, and 252 for the 2.4 cfs water right. Water can only be diverted during the March 1 through September 30 diversion season. These points can be seen on the Department of Water Resources tract maps 51 and 49 respectively, and on map sheet 4 of the middle fork of the Feather River (DWR n.d.). The entire decree can be found at <http://www.nd.water.ca.gov/PPAs/Watermasters/ServiceAreas/SierraValley/index.cfm>.

WATERSHED RESTORATION AND WATER RIGHTS

Watershed restoration actions proposed along Bear Valley Creek would be conducted within an adjudicated watershed. As such, information must be provided to the Sierra Valley Watermaster demonstrating that any proposed restoration would not diminish or otherwise adversely affect the water supply of other water users holding appropriated water rights. This task has been identified as a “step-down action,” a term used by the Department to describe an activity that is currently beyond the scope of the LMP (in this case, because of the protracted time frame required to address the issue) and will require additional effort following the preparation and adoption of the LMP.

Importantly, the watershed restoration projects proposed on both Antelope Valley Creek and Bear Valley Creek are anticipated to enhance stream flows (and quality) rather than diminish downstream water supply. Water moves rapidly through degraded water systems during the wet season, thus reducing the likelihood of full groundwater recharge. “Plug and pond” restoration projects dissipate stream flows during the wet season. These stream flows are redirected into historic, remnant channels where they can easily access the historic floodplains and increase groundwater recharge. More water is stored in the upper watershed areas during the wet season and; therefore, more water is available for base stream flows during the dry season. Water is retained during wet months (the flood season) and released during dry months (the irrigation season). Following “plug and pond” restoration, a water balance shows no change in the volume of water moving through the system, only in the timing (Benoit, pers. comm., 2007) and (FRCRM 2008b).

3.3 BIOLOGICAL RESOURCES

This section discusses common and sensitive biological resources including vegetation, wildlife, and fisheries and aquatic resources that occur or have potential to occur in AVWA and SCWA.

The following text was developed through a review of scientific literature and existing data sources, information obtained from Department and USFS personnel, and observations made during reconnaissance surveys. Information about documented occurrences, regional distributions, and habitat associations of key plant, wildlife, and fish species was obtained through these resources.

3.3.1 VEGETATION

The Sierra Valley watershed supports a rich flora because of its location near the convergence of the Great Basin, Sierra Nevada, and Cascade Range Regions. Plant species and assemblages that are commonly found in other parts of the Sierra Nevada are present here because of proximity to these neighboring regions, contributing to the floral diversity of the area. For instance, the watershed includes a unique extension of Modoc Plateau vegetation into the Sierra Nevada. The Modoc Plateau is a subregion of the Great Basin that supports many rare and endemic plant species. In addition, because the Sierra Valley is located at a low point in the crest of the Sierra, it supports plant species that are generally restricted to lower elevations west of the crest, such as black oak (*Quercus kelloggii*) (Department 2001).

Vegetation types present in the wildlife areas were mapped using aerial photograph interpretation with reconnaissance-level field verification (Exhibit 3.3-1), and are discussed below under “Riparian and Wetland Ecosystems” and “Upland Ecosystems.” A list of these vegetation types, their respective acreage in the wildlife areas, and a crosswalk to three commonly used vegetation classification systems is provided in Table 3.3-1. A list plant species known to occur within the wildlife areas is provided in Appendix F.

RIPARIAN AND WETLAND ECOSYSTEMS

Riparian and wetland vegetation types present in AVWA consist primarily of willow scrub and wet meadow associated with Antelope Valley and Bear Valley creeks. Sporadic stands of aspen riparian forest also occur along these creeks and near springs or other moist sites on mountain slopes.

It is estimated that approximately 95% of California’s wetlands and 75% of Nevada’s wetlands have been lost to land conversion and hydrological modifications. Wetlands are the most imperiled ecosystem in the region (DFG 2001). The Sierra Valley watershed supports the largest remaining area of wetlands in the entire Sierra Nevada ecoregion (DFG 2001). Over half of the riparian habitat that once existed in the 48 conterminous states has been destroyed (Manci 1989) and estimates suggest that only 2–5% of the historic riparian habitat of interior California still exists (Riparian Habitat Joint Venture 2004). Much of the riparian habitat that remains both nationally and statewide is seriously degraded. Wetland and riparian habitat losses in the Sierra Valley watershed are primarily attributable to livestock grazing, agriculture, timber harvest, and stream modifications for water storage and supply and flood control. Riparian vegetation has been largely eliminated from the valley floor and has been substantially reduced in the wildlife area due to alterations to Antelope Valley Creek and Bear Valley Creek.

Alterations have resulted in disconnecting these creeks from their historic floodplains. Both creeks are now characterized by an increased bankfull width, an increased channel width to depth ratio, substantial channel incision (6–8 feet), reduced overbank flow frequency, and a lowered water table. The effect of these changes to both creeks is that riparian and wet meadow vegetation types have converted to dry meadow and sagebrush scrub types on the former floodplains, while wet meadow and riparian types are now restricted to narrow strips within the incised creek channels. As a result of downcutting, Antelope Valley Creek flows directly and rapidly to Palen Reservoir, rather than meandering slowly through its historic floodplain wet meadow surface, while recharging

groundwater reserves. A similar situation exists in Bear Valley Creek, which rapidly drains into Smithneck Creek through its deeply incised channel (see Appendix D for further discussion).

Riparian ecosystems provide food, water, migration and dispersal corridors, escape and thermal cover, and nesting habitat for wildlife (Mayer and Laudenslayer 1988). Riparian vegetation types generally support greater wildlife species richness and abundance than surrounding types, even when restricted to narrow corridors as they are in the Antelope Valley Wildlife Area. More than 225 species of birds, mammals, reptiles, and amphibians depend on California's riparian habitats and, while not dependent on them, many other species also make use of these habitats (Riparian Habitat Joint Venture 2004). Riparian areas provide some of the most important habitat for neotropical migrant landbirds that breed in or migrate through the western United States. These areas function as breeding habitat and important stopover areas during spring and fall migration. Loss and degradation of this habitat type may be the most important cause of declining landbird populations in western North America (Riparian Habitat Joint Venture 2004).

In addition to providing important habitat values to a variety of common and special-status species, riparian and wetland vegetation are part of the physical processes such as water movement and water table retention. The roots of riparian vegetation bind soil on stream banks stabilizing against cutting action. Riparian, marsh, and wet meadow vegetation dissipate stream energy during high flows, reducing erosion and improving water quality; filter and deposit sediment and capture bedload to aid floodplain development; promote prolonged base flows; and improve floodwater retention and groundwater recharge (Prichard 1998, Mancini 1989). Riparian and wet meadow zones function as shallow aquifers that recharge during high flows and drain during low flows (Van Haveren and Jackson 1986 in Mancini 1989). When the physical processes of riparian and wetland ecosystems are not functioning properly, these systems cannot sustain desired habitat values (Prichard 1998).

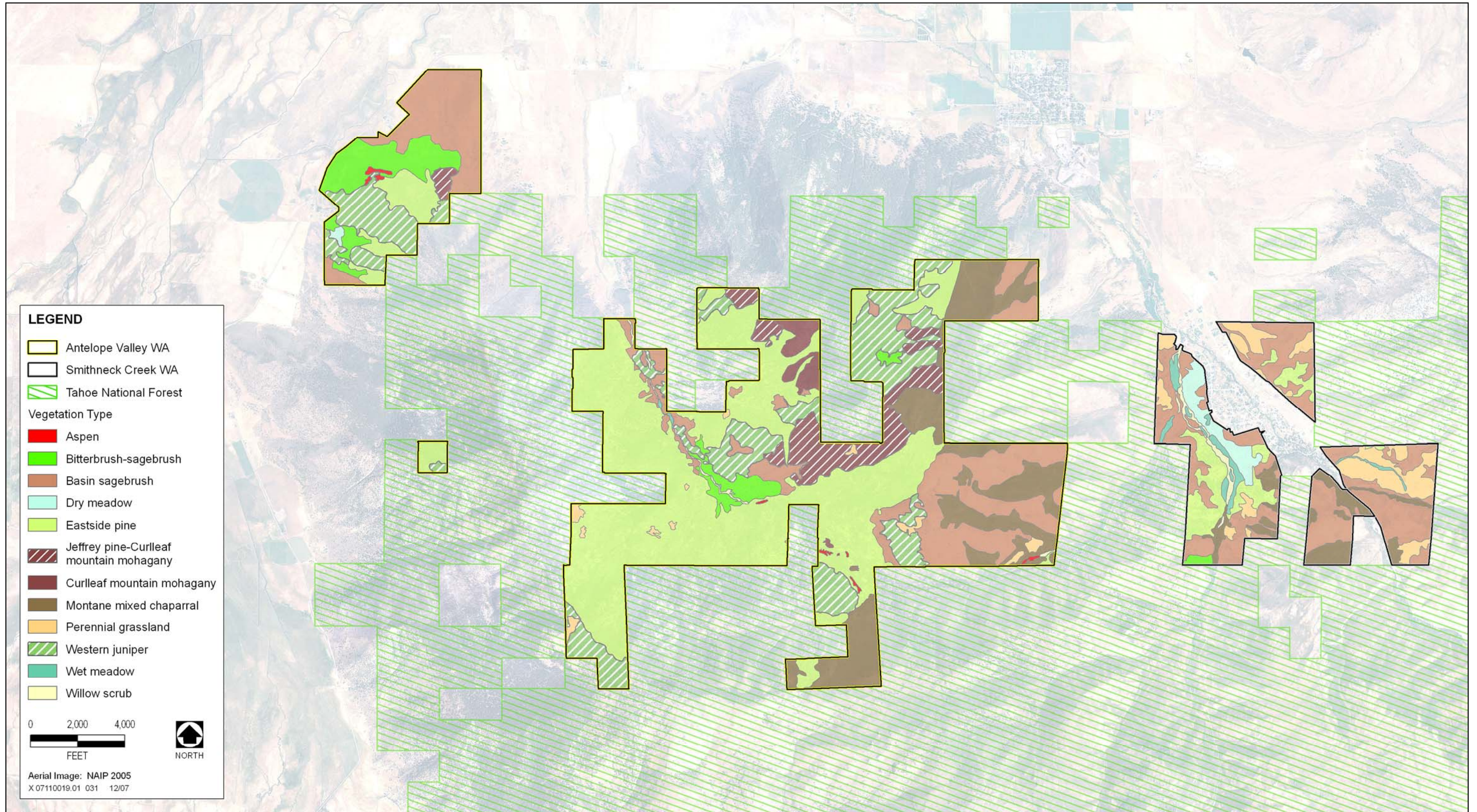
Wet Meadow

Small patches of wet meadow vegetation are found in willow scrub openings and understory along Antelope Valley Creek. Along Bear Valley Creek, wet meadow and willow scrub vegetation form a continuous corridor on the incised floodplain. The portion of Badenaugh Creek that runs through the wildlife area currently supports a narrow but continuous band of wet meadow vegetation. This vegetation type is characterized by dense perennial herb cover up to 5 feet tall. Characteristic species include rushes (*Juncus* spp.), sedges (*Carex* spp.), common spike rush (*Eleocharis macrostachya*), common horsetail (*Equisetum arvense*), tufted hairgrass (*Deschampsia caespitosa*), timothy (*Phleum pratense*), Canada reedgrass (*Calamagrostis canadensis*), common yellow monkeyflower (*Mimulus guttatus*), and hedge nettle (*Stachys ajugoides*). Wet meadows in the high Sierra and Great Basin typically include willow stringers along stream channels. Growth and reproduction occur most actively during summer months because of rich soils and plentiful moisture. Species are dormant through winter. Wet meadows occur on fine-textured soils of intermittent and perennial stream terraces where the water table is at or near the surface so that soil in the root zone (i.e., upper 12 inches) is more or less continuously saturated. This vegetation type has been used extensively for livestock grazing throughout the Sierra Valley watershed and is often manipulated to encourage predominance of grasses over sedges (California Gap Analysis Project 2007).

This vegetation type is analogous to Holland's Great Basin wet meadow (Holland 1986), a sensitive natural community tracked in the California Natural Diversity Database (CNDDDB).

Willow Scrub

Willow scrub is found on the constricted active floodplains of Antelope Valley Creek and Bear Valley Creek and is characterized mostly by dense shrubby willow thickets, but includes areas with more open willow shrub distribution. The willow scrub is interspersed with wet meadow vegetation and forms a fairly continuous band along the Bear Valley Creek corridor, but is discontinuous and extremely narrow on Antelope Valley Creek. Willow species present include arroyo willow (*Salix lasiolepis*), yellow willow (*Salix lutea*), and narrow-leaved



Source: EDAW 2007, DFG 2007, USFS 2006

Vegetation Types of the Antelope Valley and Smithneck Creek Wildlife Areas

Exhibit 3.3-1

**Table 3.3-1
Correspondence of Mapped Vegetation Types with Other Vegetation Classifications**

Mapped Vegetation Type	Acres in Plan Area	Sawyer & Keeler-Wolf ¹	WHR ²	Holland ³
Herbaceous Wetland				
Wet meadow	53	Montane meadow habitat	Wet meadow	Great basin wet meadow
Riparian				
Willow scrub	46	Mixed willow series, montane wetland shrub habitat	Montane riparian	Modoc-great basin riparian scrub
Aspen riparian forest	15	Aspen series	Aspen	Aspen riparian forest
Herbaceous Upland				
Dry meadow	91		Perennial grassland	Montane meadow
Perennial grassland	291		Perennial grassland	Great basin grassland
Shrub Dominated Upland				
Big sagebrush scrub	1,641	Big sagebrush series	Sagebrush	Big sagebrush scrub
Bitterbrush-sagebrush scrub	323	Bitterbrush series, big sagebrush series	Bitterbrush, sagebrush	Great basin mixed scrub
Mixed montane chaparral	824	Tobacco brush series	Montane chaparral	Mixed montane chaparral, montane ceanothus chaparral
Tree Dominated Upland				
Curleaf mountain mahogany woodland	81	Curleaf mountain mahogany series	Montane chaparral	None
Jeffrey pine-curleaf mountain mahogany woodland	328	Jeffrey pine series	Eastside pine	None
Western juniper woodland	860	Mountain juniper series	Juniper	Great basin juniper woodland and scrub
Eastside pine forest	2,426	Jeffrey pine series, ponderosa pine series	Eastside pine	Eastside ponderosa pine forest, Jeffrey pine forest
Notes: AVSC LMP = Antelope Valley-Smithneck Creek Land Management Plan; WHR = Wildlife Habitat Relationships. 1 Based on Sawyer and Keeler-Wolf 1995 2 Based on DFG 2002 3 Based on Holland 1986 Source: EDAW field survey in 2007				

willow (*Salix exigua*), and wild rose (*Rosa woodsii* var. *ultramontana*) is usually also a shrub component. The understory of, and openings within, this vegetation type consists of a mixture of grasses and forbs that are typical of wet meadow and riparian vegetation in the Great Basin, including Baltic rush (*Juncus balticus*), mountain nettle (*Urtica dioica* ssp. *holosericea*), California mugwort (*Artemisia douglasiana*), sedges, creeping wild rye (*Leymus triticoides*), and western marsh cudweed (*Gnaphalium palustre*). This vegetation type is characteristic of low, wet alluvial terraces of perennial and intermittent streams of the Modoc Plateau and Great Basin deserts and typically occurs as a narrow corridor within a larger wet meadow complex in a properly functioning system.

The willow scrub vegetation type is analogous to Holland's Modoc-Great Basin riparian scrub (Holland 1986), a sensitive natural community tracked in the CNDDDB.

Aspen Riparian Forest

Aspen stands are relatively infrequent within the wildlife area, but small patches do occur along Antelope Valley Creek in the main Antelope Valley unit and on mountain slopes near springs and other moist sites in the main Antelope Valley unit and Merry-Go-Round Unit. This vegetation type is characterized by dense stands of quaking aspen (*Populus tremuloides*) with hydrophytic herbs, such as monkshood (*Aconitum columbianum*), common yellow monkeyflower, hedge nettle, common horsetail, and swordleaf rush (*Juncus ensifolius*), in the understory. Scattered shrubs, including willows, bitter cherry (*Prunus emarginata*), and wild rose are also often present. Encroachment of Jeffrey pine (*Pinus jeffreyi*), tobacco brush (*Ceanothus velutinus*), and big sagebrush (*Artemisia tridentata*) was observed in aspen riparian forest areas in the wildlife area. In some stands, willows make up a high percentage of the total cover, becoming almost codominant with aspen. Aspen riparian forest typically forms on relatively flat, slow-moving stream reaches in soils that are high in organic content and remain saturated throughout the growing season (Holland 1986).

Quaking aspen is a clonal tree that produces multiple shoots (i.e., sprouts) from its root system (Perala 1990). Following disturbances, such as logging or a canopy fire, the root system produces large numbers of shoots; this often results in a patch of forest (i.e., a stand) with a canopy composed almost entirely of aspen. Although individual shoots of aspen are relatively short lived (typically 80–120 yrs [Perala 1990; Shepperd et al. 2006]), aspen stands can persist for centuries through the repeated replacement of stems with new stems from the root system. The recruitment and persistence of new shoots depends on disturbances that create conditions suitable for the initiation and growth of new shoots and intervals between disturbances suitable for the survival and growth of shoots. In the absence of disturbance, conifers may establish and eventually overtop the shade-intolerant aspens, reducing their survival and regeneration as discussed below under "Disturbance Dynamics in Riparian Ecosystems."

Aspen riparian forest is a sensitive natural community that is tracked in the CNDDDB.

DISTURBANCE DYNAMICS IN RIPARIAN ECOSYSTEMS

The composition and structure of riparian vegetation are closely related to disturbance and flow regimes. Fires and floods are important disturbances affecting riparian vegetation in the wildlife area. The shoots of quaking aspen and willow species are killed by fires of even low intensity; however, these species subsequently produce sprouts from the stem bases or roots. In contrast, conifer species that grow in riparian zones have shoots that low-intensity fires do not kill, but that do not produce new shoots from their stem base or roots if shoots are killed during high-intensity fires.

Flood events disturb vegetation by scour, burial, uprooting, and inundation (Malanson 1993, Mitsch and Gosselink 1993, Keddy 2000). The frequency and magnitude of these disturbances are related to a stream's flow regime and, within a stream corridor, these disturbances are more frequent and intense at lower elevations (i.e., nearer the stream channel) than at higher elevations.

Plants differ in their vulnerability to mortality during flood events based on their size and species. Seedlings are readily uprooted or killed by scour, burial, or prolonged inundation. In contrast, mature plants are rarely completely uprooted, and larger plants are difficult to bury completely or to completely inundate for prolonged periods during the growing season. Even mature plants of most species have shoots that are readily killed through abrasion by coarse sediment. However, many species (including willow species) will produce new above ground shoots from their stem bases or below ground shoots (i.e., rhizomes).

For successful recruitment, many riparian-associated plants depend on specific hydrologic events before, during, and immediately following their seed release periods. Many species, especially species that are small seeded and intolerant to shade, such as quaking aspen and willows, require establishment sites that are largely free of competition from existing vegetation. The erosion and deposition of sediment along stream channels and on floodplains creates such surfaces.

In the absence of fire and flood disturbance, conifers may establish within riparian areas. Conifers, particularly white fir, can tolerate and grow in the shade of riparian trees and shrubs and have a narrower crown and can reach much greater heights than quaking aspen or any of the willow species. Conifers can grow between or through the crowns of riparian trees and shrubs and overtop them. Because quaking aspen, like most riparian trees and shrubs, are intolerant of shade, their growth and survival are substantially reduced when conifers overtop them. Consequently, when conifers encroach in quaking aspen and willow stands in riparian areas, conifer cover increases and quaking aspen and willow cover decreases (Shepperd et al. 2006).

UPLAND ECOSYSTEMS

Dry Meadow

Dry meadow vegetation is found primarily adjacent to the east side of the willow scrub and wet meadow in the Bear Valley Creek Unit, but two small patches of this vegetation type are also present along Antelope Valley Creek. It is located in a higher landscape position than the willow scrub and wet meadow vegetation, where the water table is deeper and soils are drier. This type is generally transitional between the wet meadow and sagebrush scrub vegetation types and is characterized by a mixture of wetland and upland plant species, particularly grasses. Characteristic species include Great Basin wild rye (*Leymus cinereus*), mule's ears (*Wyethia mollis*), creeping wild rye, Canada reedgrass, Kentucky bluegrass (*Poa pratensis*), panicked willowherb (*Epilobium brachycarpum*), and shining pepperweed (*Lepidium nitidum*). Most of the area currently characterized by dry meadow vegetation could be restored to wet meadow through remedial actions to raise the water table.

This vegetation type is analogous to Holland's montane meadow (dry subtype) (Holland 1986), a sensitive natural community tracked in the CNDDDB.

Perennial Grassland

Patches of perennial grassland vegetation occur on hill slopes in openings within the sagebrush scrub and eastside pine vegetation types. This is an open grassland dominated by perennial bunchgrasses up to 3 feet tall. Characteristic grasses include bottlebrush squirreltail (*Elymus elymoides*), one-sided bluegrass (*Poa secunda*), western needlegrass (*Achnatherum occidentale*), Indian ricegrass (*Achnatherum hymenoides*), and Idaho fescue (*Festuca idahoensis*). Various annual and perennial wildflower associates grow between the widely spaced clumps of grasses including such species as mule's ears, California balsamroot (*Balsamorhiza macrolepis*), dusty maidens (*Chaenactis douglasii* var. *douglasii*), large-flowered collomia (*Collomia grandiflora*), California poppy (*Eschscholzia californica*), silvery lupine (*Lupinus argenteus* var. *heterandra*) and Great Basin navarretia (*Navarretia intertexta* ssp. *propinqua*). Growth and flowering generally take place during late spring and early summer with plants becoming dormant, or reaching the end of their life cycles in the case of annuals, as summer progresses and moisture becomes scarce. Plants remain dormant through winter because of the cold temperatures of the region. This vegetation type is found on fine-textured soils that are damp or frozen at the surface during winter, moist in spring, and dry through summer and fall.

Pristine perennial grassland has become somewhat uncommon in the region because of the effects of grazing, which have caused many areas formerly covered with perennial grasses to become dominated by sagebrush and have also led to the introduction of invasive annuals, such as cheatgrass (*Bromus tectorum*), that displace native bunch grasses over time through their ability to outcompete natives for spring moisture. However, perennial grassland vegetation is still much more common in the Great Basin and eastern Sierra than in the Central Valley

of California, where perennial grasslands have been almost completely replaced by introduced annual grasses. Note that not all grassland areas identified on the aerial photography were verified by a ground-level survey and it is possible that some of these sites are dominated by cheatgrass rather than native perennial grasses.

This vegetation type is analogous to Holland's Great Basin grassland community (Holland 1986), a sensitive natural community tracked in the CNDDDB.

Big Sagebrush Scrub

Big sagebrush scrub is common in all units of the wildlife areas and is the second most common vegetation type after eastside pine. It occurs in valleys and on lower slopes between meadow and juniper vegetation types. It also occurs on the higher slopes in the eastside pine forests. It is found on a wide variety of soils and terrain, from rocky, well-drained slopes to fine-textured valley soils with a high water table (Holland 1986). In some areas, the lowered water table resulting from channelization and incision of Antelope Valley and Bear Valley Creeks has led to expansion of sagebrush scrub vegetation into areas formerly occupied by wet meadow vegetation. This vegetation type is dominated by widely spaced big sagebrush shrubs, mostly 2–3 feet tall, and typically contains other, shorter soft woody shrubs including common rabbitbrush (*Chrysothamnus nauseosus*), Parry's rabbitbrush (*C. parryi*), sticky-leaved rabbitbrush (*C. viscidiflorus*), bitterbrush (*Purshia tridentata*), and gray horsebrush (*Tetradymia canescens*). The herb layer is generally sparse and includes species typical of perennial grassland. The active growing season for this vegetation type is late spring and early summer with a progression of flowering from species that bloom in late spring, such as bitterbrush, to others, such as sagebrush and rabbitbrush, that bloom in early fall.

Fire strongly influences the dynamics of sagebrush-dominated habitat. Sagebrush does not resprout after fire. Although some viable seed may survive a fire, sagebrush has relatively short-lived seed that are wind dispersed and generally do not travel far from the parent plant. Consequently, frequent fires often convert sagebrush-dominated areas to other vegetation types. Invasion by cheatgrass increases the continuity and quantity of fuels within sagebrush-dominated vegetation, and thus increases fire-induced sagebrush mortality and fire frequency (Young 2000). Both effects can substantially reduce the abundance of sagebrush. Cheatgrass is widespread and abundant within the Sierra Valley watershed. It was observed in open areas throughout the wildlife area, particularly in areas that burned during the Harding Fire.

Bitterbrush-Sagebrush Scrub

This moderately tall, open-canopied shrubland vegetation type is present in the main Antelope Valley unit and Merry-Go-Round Unit, where it intergrades with big sagebrush scrub. It is similar to the big sagebrush scrub type, but bitterbrush is codominant with sagebrush, rather than just an occasional associate. The bitterbrush forms a taller shrub layer, 5–10 feet tall, above the sagebrush and other shrubs. Like the big sagebrush scrub community, a number of soft-woody shrub species and perennial bunch grasses are present. Bitterbrush-sagebrush scrub grows on deep, gravelly, well-drained sites usually in alluvium derived from granitic sources and is generally found at slightly higher elevations and on more fertile soils than big sagebrush scrub (Holland 1986). Overgrazing can eventually eliminate bitterbrush from a site, causing conversion from a bitterbrush-sagebrush mixed scrub to big sagebrush scrub.

Bitterbrush is very susceptible to fire mortality and is a weak sprouter at best; sprouting ability is variable depending on ecotype, shrub age, fire intensity and season, soil texture, geographic location, and shrub morphology with decumbent forms sprouting more successfully than columnar forms (Zlatnik 1999). The seed bank generally survives even high intensity fires, though, and seed germination and growth is generally very successful on exposed mineral soils where competition has been reduced by fire. However, recovery of bitterbrush following fire generally takes 20 years or more (Zlatnik 1999), and as discussed previously for the big sagebrush scrub community, bitterbrush-sagebrush scrub may convert to other vegetation types in the presence of frequent fires.

Mixed Montane Chaparral

Mixed montane chaparral dominated by greenleaf manzanita (*Arctostaphylos patula*) and tobacco brush is the vegetation type on exposed slopes in the eastern portion of the main Antelope Valley unit that burned during the Cottonwood Fire of 1994. Smaller patches are also present in burned areas of the Badenaugh and Bear Valley Creek Units. In many areas, tobacco brush is dominant with greenleaf manzanita as an occasional associate. Mixed montane chaparral is a dense-canopied shrub type, up to 10 feet tall, with a sparse herbaceous layer. In the wildlife areas, it intergrades with big sagebrush scrub. Associated herb species observed in the wildlife areas include cheatgrass, scabland fleabane (*Erigeron bloomeri* var. *bloomeri*), western needlegrass, spreading groundsmoke (*Gayophytum diffusum*), mule's ears, and mountain monardella (*Monardella odoratissima*). Plants are dormant in winter and active growth and flowering take place in late spring and early summer. This vegetation type is successional following fire or other catastrophic disturbance and is generally found on dry exposed sites in the lower coniferous zone on shallow, rocky soils between 5,000 and 8,000 feet elevation (Holland 1986).

The dynamics of montane chaparral are closely related to fire (Hanes 1977, California Interagency Task Force Group 2002). Many chaparral shrubs produce new shoots from their stem bases after their crowns have been killed by fire. Tobacco brush is one such species that resprouts prolifically following fire. In addition, tobacco brush and greenleaf manzanita develop banks of seed that remain dormant in the soil until stimulated to germinate following fire. The combination of sprouting and seedling recruitment following fire rapidly replenishes the shrub layer of this vegetation type. The Cottonwood fire appears to have expanded tobacco brush and manzanita dominated vegetation into areas that were previously tree dominated.

Crown fires that remove the tree layer and result in chaparral shrubs dominating the site after a fire can also reduce or practically eliminate post-fire establishment of trees by:

- ▶ eliminating on-site seed sources if all trees are killed,
- ▶ limiting dispersal of tree seeds onto the site if trees have been eliminated from a large area, and
- ▶ competing with and reducing the growth and survival of tree seedlings that do become established.

If regeneration of conifers is limited following a fire, or if a subsequent fire eliminates conifer regeneration, the chaparral patches that originate after fires can persist for decades.

Curlleaf Mountain Mahogany Woodland

This vegetation type is characterized by a scattered to continuous canopy of curlleaf mountain mahogany (*Cercocarpus ledifolius*) trees and shrubs mostly 10 to 30 feet tall. Emergent Jeffrey pine and western juniper (*Juniperus occidentalis*) trees are occasionally present but make up less than 20% of the relative tree cover. This vegetation type was identified only in a few small areas of the main Antelope Valley unit, but other areas that contain a higher percentage of Jeffrey pine and/or western juniper above the intermediate curlleaf mountain mahogany layer were also present and are described below. A shrub layer made up of species typical of the big sagebrush scrub type is present beneath the taller mountain mahogany plants. Curlleaf mountain mahogany occurs on drier, more exposed sites, such as ridges, within the eastside pine forest.

Curlleaf mountain mahogany woodland generally occurs on harsh, rocky sites with low fuel loads, so it is somewhat protected from fire and often escapes burning. However, research indicates that its exclusion from fires over the last 100 years has increased the abundance of curlleaf mountain mahogany and successful regeneration in many areas. The frequent fires of pre-European settlement restricted mountain mahogany to only those rocky or thin-soiled sites where fires were less frequent (Gucker 2006). Curlleaf mountain mahogany is typically absent from areas that burn frequently and abundance of this species is almost always higher on unburned sites than burned sites (Gucker 2006). This is caused by the species' high susceptibility to mortality in all but the coolest burning fires, extremely weak ability to resprout after fire kills the crown, and seed banks that typically do not survive high-intensity fires. Therefore, frequent fire, even of low intensity, can reduce abundance of curlleaf

mountain mahogany and eventually lead to the conversion of curlleaf mountain mahogany woodland to other vegetation types, such as grassland or chaparral.

Jeffrey Pine–Curlleaf Mountain Mahogany Woodland

This vegetation type is similar to the curlleaf mountain mahogany type described previously, but Jeffrey pine comprises at least 20% of the total overstory cover. Western juniper may also be a substantial component of the overstory in some areas mapped as Jeffrey pine–curlleaf mountain mahogany. Mountain mahogany forms a substantial intermediate tree layer approximately 20 feet tall beneath a taller, more open Jeffrey pine canopy. Bitterbrush is typically the dominant species in the shrub layer and western needlegrass and Idaho fescue are generally important components of the herbaceous layer. This type occurs primarily on the slopes facing the upper west of the main Antelope Valley unit and is more common than vegetation types dominated solely by mountain mahogany.

Western Juniper Woodland

This woodland vegetation type is characterized by an open tree canopy dominated by western juniper trees up to 50 feet tall over a big sagebrush scrub layer. Western juniper stands in the wildlife area typically include Jeffrey pine or Ponderosa pine in the tree layer and are present in the main Antelope Valley unit and Merry-Go-Round Unit, mostly on south or west-facing slopes. Western juniper woodland generally occurs on dry, shallow, rocky soils above the sagebrush and bitterbrush scrub belts, but lower than the eastside pine and Jeffrey pine–curlleaf mountain mahogany vegetation types.

The dynamics of woodlands dominated by western juniper and mountain mahogany differ from montane forests in several important aspects. These include smaller tree sizes, slower growth of trees, greater tree longevity, and longer intervals between stand-replacing disturbances. These woodlands generally occur on rockier, shallower soils on which tree growth is slower and vegetation is relatively patchy. In addition to being slow-growing, the tree species that dominate these sites live a long time: curlleaf mountain mahogany can live for over 700 years and western juniper can live for 2,000–3,000 years (Gucker 2006). Consequently, change in structure (and in species composition) is slow in the absence of major disturbance. And, because of the limited and discontinuous fuels in many of these woodlands, stand-replacing fire is a relatively rare event—despite these tree species being vulnerable to mortality from fire (Tirmenstein 1999, Gucker 2006). Therefore, the dynamics of these woodlands tend to result in ancient stands with very stable structures.

Eastside Pine Forest

Eastside pine is the predominant vegetation type in the main Antelope Valley unit, and is also found on ridgelines and north and east-facing slopes of the other units. It occurs at elevations just above the big sagebrush and bitterbrush-sagebrush scrub or western juniper types and intergrades with Sierran-mixed conifer forest on moister sites (this vegetation type was not observed in the wildlife area) and Jeffrey pine forest on drier sites. Although this vegetation type is generally described as being dominated by ponderosa pine (*Pinus ponderosa*), Jeffrey pine appears to be the dominant tree species in areas mapped as eastside pine forest in the wildlife areas, although ponderosa pine is also present and may be dominant in some areas. Associate tree species include incense cedar (*Calocedrus decurrens*), white fir (*Abies concolor*), and western juniper (*Juniperus occidentalis* var. *occidentalis*). The tree canopy varies from open to dense, with absolute tree cover ranging from approximately 10 to 40%, depending on site factors such as slope, aspect, soil characteristics, and whether or how recently the particular stand burned. Shadier slopes have denser tree canopies than sunnier and rockier slopes and ridgelines, and stands that burned during the Cottonwood or Harding fires are more open than those that have not burned in the recent past. A shrub layer is typically present and better developed in more open forest stands. Common associate shrub species include mahala mat (*Ceanothus prostratus*), creeping snowberry (*Symphoricarpos mollis*), big sagebrush, bitterbrush, curlleaf mountain mahogany, and rabbitbrush (*Chrysothamnus* spp.). This vegetation type is usually found on coarse, well-drained basaltic soils at elevations between 4,000 and 6,000 feet.

Frequent fire has historically exerted a strong influence on forest structure in the Sierra Nevada, including the Sierra Valley watershed. Historically, fires occurred at intervals of 2–20 years in Sierran conifer forests, with shorter average intervals in pine-dominated forests and longer intervals in fir forests and at higher elevations (Roy and Vankat 1999, Taylor and Beaty 2005). Before European settlement, conifer forests in the Sierra Nevada were reportedly open, park like stands of large pine and fir trees with a grassy understory (SVRCD 2005). Frequent low-intensity fires rejuvenated grasslands and consumed dead woody debris and leaf litter from the forest floor and high-intensity crown fires that consumed mature individuals were infrequent (SVRCD 2005). During the 20th century, policies of fire exclusion were implemented throughout the region, reducing fire frequency and allowing the recruitment of large numbers of trees that would have been removed as saplings under a regime of frequent fire. As a result, many forest stands have become denser and have higher loads of surface fuels. This change in stand structure has increased fire hazards because more intense fires, which may spread through the canopy and cause substantial tree mortality, are now much more likely.

INVASIVE PLANT SPECIES AND NOXIOUS WEEDS

As defined by the California Invasive Plant Council (CalIPC), invasive plants are species that are not native to, but can spread into California wildland ecosystems, and can displace or hybridize with native species, alter biological communities, or alter ecosystem processes. Human activities have facilitated the expansion of thousands of plant species beyond their native ranges; a small fraction of these, generally around 10% of introduced species, spread and persist into native ecosystems and have serious effects on their introduced environment (Williamson 1996). These effects can include alteration of hydrological patterns, fire cycles, and soil chemistry; reduction of available nutrients, water, and light; and reduction of biodiversity (Coblentz 1990, Vitousek et al. 1996, CalIPC 2006). The impacts of invasive plant species can decrease wildlife habitat values and reduce the quality of rangeland forage for livestock (SVRCD 2006).

Infestations of invasive plants generally originate in areas where soil and vegetation have been disturbed and where the removal of native vegetation provides an opportunity for propagules of introduced species to establish, grow, reproduce, and eventually spread throughout the disturbed area and possibly into adjacent undisturbed vegetation (Truckee River Watershed Council 2006).

Invasive plant species known to occur in the Sierra Valley watershed, and therefore possibly present in the wildlife areas, are listed in Table 3.3-2. These are species that are either listed as invasive by CalIPC or identified as noxious weeds by the California Department of Food and Agriculture (CDFA). CalIPC is a non-governmental organization that maintains an inventory of invasive plants that threaten California’s wildlands. The invasiveness of each plant species in the inventory is categorized by CalIPC as high, moderate, or limited based on an assessment of the species’ ecological impact.

Species	Rating		Habitat and Other Comments	Presence in Wildlife Area
	CalIPC	CDFA		
Cheatgrass <i>Bromus tectorum</i>	High	None	Interior scrub, woodlands, grasslands. Most widely distributed invasive plant in the U.S.	Common and widespread in the wildlife area, particularly in burned areas and areas cleared by timber harvest. Heavy infestations mostly confined to small patches.
Heart-podded hoarycress <i>Cardaria draba</i>	Moderate	B	Riparian areas, marshes of central coast.	Unlikely; the wildlife area is higher than the species’ typical elevation range.
Musk thistle <i>Carduus nutans</i>	Moderate	None	Grasslands. More invasive in other western states; limited distribution in California.	Known in the Bear Valley Creek Unit and fairly widespread in the immediate vicinity.

**Table 3.3-2
Invasive Plants and Noxious Weeds in Sierra Valley Watershed**

Species	Rating		Habitat and Other Comments	Presence in Wildlife Area
	CallPC	CDFA		
Spotted knapweed <i>Centaurea maculosa</i>	High	A	Riparian habitats, grasslands, wet meadows, forests. More widely distributed in other western states.	Known near Loyalton, but not known in the wildlife area. Close to eradication in the Sierra Valley watershed.
Yellow starthistle <i>Centaurea solstitialis</i>	High	C	Grasslands, woodlands, occasionally riparian habitats.	Not known in the wildlife areas. Uncommon in the Sierra Valley watershed, but a small infestation is known near State Route 49, approximately 3 miles southwest of the wildlife areas.
Canada thistle <i>Cirsium arvense</i>	Moderate	B	Grasslands, riparian habitats, forests. Severe impacts in other western states; limited distribution in California.	Known to be present in the wildlife areas.
Bull thistle <i>Cirsium vulgare</i>	Moderate	*	Riparian habitats, marshes, meadows. Widespread, can be very problematic regionally.	Likely present; species is widespread throughout the region, but large infestations not observed in the wildlife areas.
Poison hemlock <i>Conium maculatum</i>	Moderate	None	Riparian woodland, grassland. Widespread in disturbed areas.	Not known in the wildlife areas but could occur.
Field bindweed <i>Convolvulus arvensis</i>	None	C	Grasslands, orchards, disturbed areas.	Unlikely; the wildlife areas are higher than the species' typical elevation range.
Bermuda grass <i>Cynodon dactylon</i>	Moderate	C	Riparian scrub. Common landscape weed; can be very invasive in desert washes.	Unlikely; the wildlife areas are higher than the species' typical elevation range.
Scotch broom <i>Cytisus scoparius</i>	High	C	Coastal scrub, oak woodland. Horticultural varieties may also be invasive.	Not known in the wildlife areas or nearby, and the wildlife areas are higher than the species' typical elevation range.
Leafy spurge <i>Euphorbia esula</i>	High	A	Forests, woodlands. More widespread in northern states.	Not known in the wildlife areas but known near Loyalton, approximately 2 miles from the wildlife areas.
Klamath weed <i>Hypericum perforatum</i>	Moderate	C	Many northern California habitats. Abiotic impacts low; biological control agents have reduced overall impact.	Unlikely; the wildlife areas are higher than the species' typical elevation range.
Perennial pepperweed <i>Lepidium latifolium</i>	High	B	Marshes, riparian habitats, wetlands, grasslands. Potential to invade montane wetlands.	Known infestations in the Bear Valley Creek Unit.
Dalmatian toadflax <i>Linaria genistifolia</i> ssp. <i>dalmatica</i>	Moderate	A	Grasslands, forest clearings. Limited distribution; more severe impacts in other western states.	Not known in the wildlife areas, but infestations known near Loyalton.
Scotch thistle <i>Onopordum acanthium</i>	High	A	Wet meadows, sagebrush scrub, riparian areas.	Not known in the wildlife areas. Nearest known infestation is several miles away. Close to eradication in the Sierra Valley watershed.

**Table 3.3-2
Invasive Plants and Noxious Weeds in Sierra Valley Watershed**

Species	Rating		Habitat and Other Comments	Presence in Wildlife Area
	CallIPC	CDFA		
Russian thistle <i>Salsola tragus</i>	Limited	C	Desert dunes and scrub, alkali playas. Widespread but impacts are minor in wildlands.	Known; present in burned eastside pine forest in the Antelope Valley Unit.
Mediterranean sage <i>Salvia aethiopsis</i>	Limited	B	Sagebrush scrub, juniper woodland, perennial grassland. Limited distribution; impacts minor but can be locally significant.	Not known in the wildlife areas or immediate vicinity. Several occurrences in the Sierra Valley watershed.
Medusahead grass <i>Taeniatherum caput-medusae</i>	High	C	Grasslands, scrub, woodlands.	Not known. Typically thought restricted to the foothills on east side of the Sierra, but reportedly occurs in the Sierra Valley.
Puncture vine <i>Tribulus terrestris</i>	None	C	Roadsides, vacant lots, other disturbed areas. Does not present a serious ecological threat to native vegetation.	Unlikely; the wildlife areas are higher than the species' typical elevation range.
Woolly mullein <i>Verbascum thapsus</i>	Limited	None	Meadows, riparian habitats, sagebrush scrub, pinyon-juniper woodland. Widespread; impacts minor.	Known; scattered plants present throughout the riparian and meadow communities in the Antelope Valley and Bear Valley Creek Units. No large patches observed.

Notes: CallIPC = California Invasive Plant Council; CDFA = California Department of Food and Agriculture.

CallIPC Ratings:

- High** —Species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment and most are widely distributed.
- Moderate**—Species have substantial and apparent, but generally not severe, ecological impacts on physical processes, plant and animal communities, and vegetation structure. Reproductive biology and other attributes are conducive to moderate to high rates of species dispersal, but establishment is generally dependent on disturbance; ecological amplitude and distribution ranges from limited to widespread.
- Limited** —Species are invasive but ecological impacts are minor on a statewide level or not enough information exists for a higher score. Reproductive biology and other attributes result in low to moderate rates of invasiveness; ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

CDFA Ratings:

- A**—Known economic importance subject to state/county enforced action involving eradication, quarantine regulation, containment, rejection, or other holding action.
- B**—Known economic importance subject to eradication, containment, control, or other holding action at the discretion of the individual county agricultural commissioner, or an organism of known economic importance subject to state-endorsed holding action and eradication only when found in a nursery.
- C**—An organism subject to no state-enforced action outside of nurseries except to retard spread, generally at the discretion of a commission or an organism subject to no state-enforced action except to provide for pest cleanliness standards in nurseries.

* Under consideration, not yet rated

Sources: CallIPC 2006, CDFA 2007, and SVRCD 2005

The term noxious weed is used by government agencies to apply to plant species that have been defined as pests by law or regulation. CDFA is a government agency that regulates the sale, introduction, and spread of plants defined as noxious weeds by California law. California law defines noxious weeds as “any plant species that is, or is liable to be, troublesome, aggressive, intrusive, detrimental, or destructive to agriculture, silviculture, or important native species and is difficult to control or eradicate” (CDFA 2007). Whereas CallIPC’s invasive plant inventory is focused on species that have an ecological impact, CDFA’s focus is primarily on species that have an economic impact on agriculture in California. Unlike CDFA, CallIPC has no regulatory authority; however, CDFA biologists may consult with technical advisors to CallIPC when determining whether or not to list a plant as a

noxious weed. Plants identified as noxious weeds by CDFA are assigned a rating that reflects CDFA's view of the statewide importance of the species, the likelihood that eradication or control efforts would be successful, and the present distribution of the species within the state (CDFA 2007).

Special-Status Plant Species

A list of sensitive and special-status plant species that are known to be or could be present in the wildlife areas was developed through review of the following resources:

- ▶ the Department's CNDDDB (2007) records within a 5-mile radius of the wildlife areas;
- ▶ California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2007) records within the Antelope Valley and Loyalton USGS 7.5-minute quadrangles and surrounding quadrangles (Portola, Reconnaissance Peak, Chilcoot, Beckwourth Pass, Calpine, Evans Canyon, Sattley, Sierraville, Sardine Peak, and Dog Valley); and
- ▶ Rare Plant Surveys at the Antelope Valley, Smithneck Creek, and Crocker Meadows Wildlife Areas, Sierra and Plumas Counties (Witham 1993).

Special status plants are defined as plants that are legally protected or that are otherwise considered sensitive by federal, state, or local resource conservation agencies and organizations. Special-status plant taxa are species, subspecies, or varieties that fall into one or more of the following categories, regardless of their legal or protection status:

- ▶ officially listed by California or the federal government as endangered, threatened, or rare;
- ▶ a candidate for federal or state listing as endangered, threatened, or rare;
- ▶ taxa that meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the State CEQA Guidelines;
- ▶ taxa designated as a special-status, sensitive, or declining species by other federal or state agencies or nongovernmental organizations (including species classified as sensitive by BLM); and
- ▶ taxa considered by CNPS to be "rare, threatened, or endangered in California" (Lists 1B and 2).

The CNPS inventory includes five lists for categorizing plant species of concern, which are summarized below. The plants listed on CNPS lists 1A, 1B, and 2 meet the definitions of Section 1901, Chapter 10 of the Native Plant Protection Act or Sections 2062 and 2067 of the California Endangered Species Act (CESA) and the California Fish and Game Code and may qualify for state listing. Therefore, they are considered rare plants pursuant to Section 15380 of CEQA. DFG recommends, and local government agencies may require, that they be fully considered during preparation of environmental documents relating to CEQA (Department 2006a). Some of the plants constituting CNPS Lists 3 and 4 meet the definitions of Section 1901, Chapter 10 or Sections 2062 and 2067 of the California Fish and Game Code and are eligible for state listing. The Department recommends, and local governments may require, protection of plants that are regionally important, such as locally rare species, disjunct populations of more common plants (i.e., isolated populations that may harbor unique genetic properties), or plants on CNPS List 3 and List 4 (Department 2006a). Therefore, CNPS List 3 and 4 species should be evaluated for consideration during preparation of environmental documents relating to CEQA. The CNPS lists are defined as follows:

- ▶ **List 1A** Plants presumed extinct in California
- ▶ **List 1B** Plants rare, threatened, or endangered in California and elsewhere
- ▶ **List 2** Plants rare, threatened, or endangered in California but more common elsewhere
- ▶ **List 3** Plants about which more information is needed—a review list
- ▶ **List 4** Plants of limited distribution—a watch list

Although no records of federally or state-listed plant species were found through the database and literature review, one species that is a candidate for federal listing and a number of species that are listed as rare or endangered by CNPS or that are considered sensitive by USFS have been documented in the wildlife areas or in the vicinity. Table 3.3-3 lists these species and provides information on their listing status, habitat, distribution, flowering period, and potential for occurrence in the wildlife areas. Exhibit 3.3-2 shows the locations of sensitive plant species documented within 1 mile of the wildlife areas' boundaries. Special-status plant species identified through the database and literature review process are considered to have potential for existence in the wildlife areas if suitable habitat is present and the wildlife area is within the species' known distribution and elevation range. A brief description of the special-status plant species that are known or have potential to occur in the wildlife area is provided in Table 3.3-3.

Purple Milk-Vetch

Purple milk-vetch (*Astragalus agrestis*) is a perennial herb species in the pea family (Fabaceae). This species is considered fairly endangered in California, but is more common in other states within the Great Basin. CNPS considers a species to be fairly endangered when 20–80% of known occurrences are threatened. In California, it is known from only five occurrences in Lassen and Sierra counties. This species is found in vernal moist habitats in Great Basin scrub and meadows and seeps from approximately 5,000- to 5,400-foot elevations. The nearest documented occurrence of purple milk-vetch is by Long Valley Creek in the Evans Canyon quadrangle approximately 8 miles from the wildlife areas.

Lemmon's Milk-Vetch

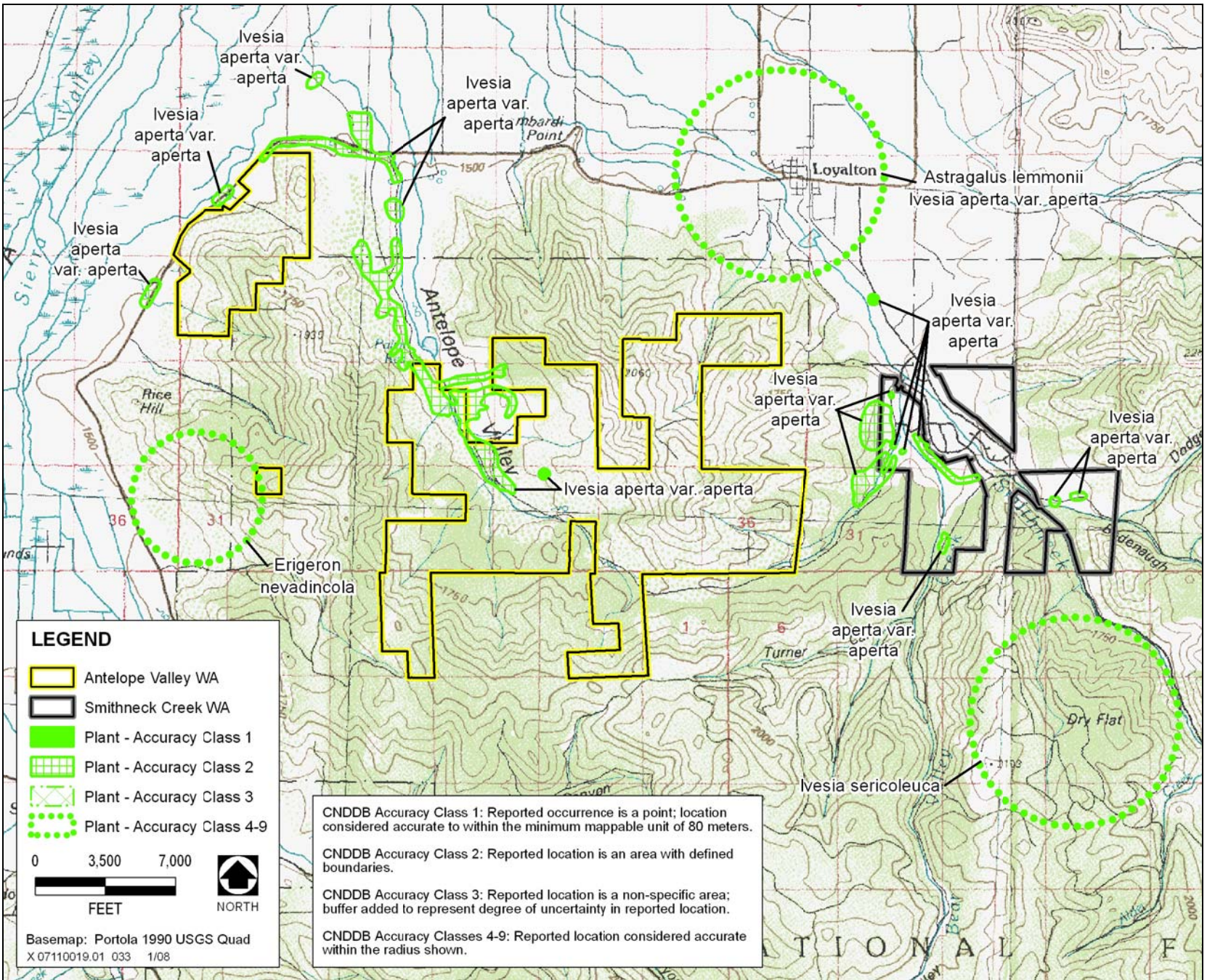
Lemmon's milk-vetch (*Astragalus lemmonii*), a perennial herbaceous member of the pea family, is considered fairly endangered in California and is also rare, threatened or endangered in Nevada and Oregon, the only other states where it exists. Its distribution in California is primarily within the Modoc Plateau, but known occurrences are in the adjacent Sierra and Mono counties as well. There is a documented occurrence of Lemmon's milk-vetch within 1 mile north of the main Antelope Valley unit just south of the town of Loyalton. Suitable habitat for this species is Great Basin scrub, meadows and seeps, and lake shore marshes at elevations from approximately 3,300 to 7,200 feet.

Lens-Pod Milk-Vetch

Lens-pod milk-vetch (*Astragalus lentiformis*) is another perennial herb in the pea family. It has been recorded near the wildlife area is lens-pod milk-vetch. This species is endemic to California and is considered fairly endangered. Its distribution is limited to the Sierra Nevada in Plumas and Sierra counties between 4,800- and 6,300-foot elevations. There are 67 documented occurrences in Plumas County and only three in Sierra County. The nearest occurrences documented in the CNDDDB are near Portola approximately 15 miles northwest of the wildlife areas. It is found in sandy volcanic soils in Great Basin scrub and lower montane coniferous forests.

Pulsifer's Milk-Vetch

Pulsifer's milk-vetch (*Astragalus pulsiferae* var. *pulsiferae*), a perennial herbaceous member of the pea family, is found in California and Nevada, but is fairly endangered in both states. In California, it is restricted to the northern Sierra Nevada and eastern Modoc Plateau from Modoc County to Sierra County at elevations between 4,200 and 5,900 feet. The overwhelming majority of documented occurrences are in Lassen and Plumas counties, but two records are of this variety in Sierra County. It has been documented in three of the quadrangles surrounding the wildlife areas, Beckwourth Pass, Chilcoot, and Reconnaissance Peak; but not within 5 miles of the wildlife areas. Pulsifer's milk-vetch is found in Great Basin scrub, lower montane coniferous forest and pinyon and juniper woodland, usually in sandy or rocky granitic soils.



Source: CNDDB 2007a, Department 2007, USFS 2006

CNDDB Plant Occurrences within 5 miles of the Antelope Valley and Smithneck Creek Wildlife Areas

Exhibit 3.3-2

**Table 3.3-3
Special-Status Plant Species Known or with Potential to Occur in the Antelope Valley and Smithneck Creek Wildlife Areas**

Species	Listing Status			Habitat	Distribution in California	Flowering Period	Potential for Occurrence
	Fed.	State	CNPS				
Purple milk-vetch <i>Astragalus agrestis</i>	–	–	2.2	Vernally mesic sites in meadows and seeps and great basin scrub; 5,000–5,400 foot elevations	Lassen and Sierra Counties	April–July	Could occur; suitable habitat is present and species is documented in surrounding quadrangles, but not within 5 miles of the wildlife areas.
Lemmon’s milk-vetch <i>Astragalus lemmonii</i>	–	–	1B.2	Great Basin scrub, meadows and seeps, and lake shore marshes and swamps; 3,300–7,200 foot elevations	Great Basin Modoc Plateau and adjacent northern Sierra Nevada, also Mono County	May–August	Could occur; suitable habitat is present and species has been documented less than 1 mile from the main Antelope Valley unit.
Lens-pod milk-vetch <i>Astragalus lentiformis</i>	–	–	1B.2	Sandy volcanic soils in Great Basin scrub and lower montane coniferous forest; 4,800–6,300 foot elevations	Northern Sierra Nevada primarily in southeast Plumas County, but a few occurrences in Sierra County	May–July	Could occur; suitable habitat is present and species is documented in surrounding quadrangles but not within 5 miles of the wildlife areas.
Pulsifer’s milk-vetch <i>Astragalus pulsiferae</i> var. <i>pulsiferae</i>	–	–	1B.2	Sandy or rocky, usually granitic, soils in Great Basin scrub, lower montane coniferous forest, and pinyon juniper woodland; 4,200–5,900 foot elevations	Northern Sierra Nevada and eastern Modoc Plateau from Modoc County to Sierra County	May–August	Could occur; suitable habitat is present and species is documented in surrounding quadrangles but not within 5 miles of the wildlife areas.
Hillman’s silverscale <i>Atriplex argentea</i> var. <i>hillmanii</i>	–	–	2.2	Alkaline soils in Great Basin scrub and meadows and seeps; 4,000–5,600 foot elevations	Northern Sierra Nevada and eastern and southern Modoc Plateau from Modoc County to Calaveras County, also eastern Sierra Nevada in Mono and Inyo Counties	June–September	Could occur; suitable habitat is present and species is documented in surrounding quadrangles but not within 5 miles of the wildlife areas.
Moonwort <i>Botrychium lunaria</i>	–	–	2.3	Meadows and seeps in upper montane and subalpine coniferous forest; 7,000–10,000 foot elevations	Modoc plateau and Sierra Nevada highlands in Modoc, Sierra, Nevada, Mono, Tuolumne, and Tulare Counties	August	Unlikely; although this species is documented in surrounding quadrangles, it is not expected to occur because its known elevation range is higher than the wildlife areas.

Table 3.3-3 Special-Status Plant Species Known or with Potential to Occur in the Antelope Valley and Smithneck Creek Wildlife Areas							
Species	Listing Status			Habitat	Distribution in California	Flowering Period	Potential for Occurrence
	Fed.	State	CNPS				
Sierra Valley evening-primrose <i>Camissonia tanacetifolia</i> ssp. <i>quadriperforata</i>	-	-	4.3	Vernally mesic clay flats in Great Basin scrub; 4,200–5,000 foot elevation	Northern Sierra Nevada highlands and Modoc Plateau from Lassen to Sierra County		Known; species has been documented in the main Antelope Valley unit and Bear Valley Creek Unit.
Constance's sedge <i>Carex constanceana</i>	-	-	1B.1	Mesic, shady sites in subalpine coniferous forest; 6,600 foot elevations	Sierra Nevada in Nevada and Sierra Counties	August	Unlikely; although this species is documented in a surrounding quadrangle, known occurrences are above the wildlife areas' elevation ranges.
Valley sedge <i>Carex vallicola</i>	-	-	2.3	Mesic sites in Great Basin Scrub, meadows and seeps; 5,000–9,200 foot elevations	Modoc Plateau, Modoc, Lassen, and Sierra Counties and east of Sierra Nevada in Alpine and Mono Counties	July–August	Could occur; suitable habitat is present and species is documented in surrounding quadrangles but not within 5 miles of the wildlife areas.
Globose cymopterus <i>Cymopterus globosus</i>	-	-	2.2	Sandy, open flats in Great Basin scrub; 4,000–7,000 foot elevations	Mono, Nevada, Plumas, and Sierra Counties	March–June	Could occur; suitable habitat is present and species has been documented within 5 miles of the wildlife areas.
Subalpine fireweed <i>Epilobium howellii</i>	-	-	1B.3	Mesic sites in subalpine coniferous forest and meadows and seeps; 6,600–9,000 foot elevations	Sierra Nevada in El Dorado, Fresno, Madera, Nevada, Sierra, and Tuolumne Counties	July–August	Unlikely; although this species is documented in a surrounding quadrangle, known occurrences are in subalpine habitats above the wildlife areas' elevation ranges.
Nevada daisy <i>Erigeron nevadincola</i>	-	-	2.3	Rocky sites in Great Basin scrub, lower montane coniferous forest, and pinyon and juniper woodland; 4,500–9,500 foot elevation	Lassen, Placer, Plumas, Sierra, and Nevada Counties	May–July	Could occur; one CNDDDB occurrence polygon overlaps with the southern parcel of the Merry-Go-Round Unit and suitable habitat is present throughout the wildlife areas.
Ochre-flowered buckwheat <i>Eriogonum ochrocephalum</i> var. <i>ochrocephalum</i>	-	-	2.2	Volcanic or clay soils in Great Basin scrub or pinyon-juniper woodland; 4,000–8,000 foot elevations	Modoc Plateau in Modoc, Lassen, Plumas, Shasta and Siskiyou Counties	May–June	Unlikely; although documented in a surrounding quadrangle, this species is restricted to the Modoc Plateau.

**Table 3.3-3
Special-Status Plant Species Known or with Potential to Occur in the Antelope Valley and Smithneck Creek Wildlife Areas**

Species	Listing Status			Habitat	Distribution in California	Flowering Period	Potential for Occurrence
	Fed.	State	CNPS				
Donner Pass buckwheat <i>Eriogonum umbellatum</i> var. <i>torreyanum</i>	-	-	1B.2	Volcanic, rocky soils in meadows and upper montane coniferous forest; 6,000–8,600 foot elevations	Sierra Nevada in Sierra, Nevada, and Placer Counties	July– September	Could occur; suitable habitat is present and species is documented in surrounding quadrangles but not within 5 miles of the wildlife area.
Alkali hymenoxys <i>Hymenoxys lemmonii</i>	-	-	2.2	Subalkaline soils in Great Basin scrub, lower montane coniferous forest, and meadows and seeps, 750–3,300 foot elevations	Cascade Range, Modoc Plateau, Sierra Nevada (Plumas and Fresno Counties), and White and Inyo Mountains	June–August	Unlikely; although this species is documented in a surrounding quadrangle, this species' elevation range is lower than the wildlife areas.
Sierra Valley ivesia <i>Ivesia aperta</i> var. <i>aperta</i>	-	-	1B.2	Vernally mesic sites in Great Basin scrub, lower montane coniferous forest, pinyon-juniper woodland, meadows and seeps, and vernal pools; usually on volcanic soils; 4,800–7,500 foot elevations	Sierra Valley in Lassen, Plumas, and Sierra Counties	June– September	Known; this species has been documented in the main Antelope Valley unit and Merry-Go-Round, Bear Valley Creek, and Badenaugh Units of the wildlife areas.
Dog Valley ivesia <i>Ivesia aperta</i> var. <i>canina</i>	-	-	1B.1	Rocky volcanic soils in lower montane coniferous forest and dry meadows; 5,200–6,500 foot elevations	Dog Valley, eastern Sierra and Nevada Counties	June–August	Unlikely; although suitable habitat is present and species is documented in surrounding quadrangles, this variety is apparently restricted to Dog Valley.
Bailey's ivesia <i>Ivesia baileyi</i> var. <i>baileyi</i>	-	-	2.3	Rocky volcanic soils in Great Basin scrub and lower montane coniferous forest, particularly volcanic crevices; 4,400–8,500 foot elevations	Southern Modoc Plateau and adjacent Sierra Nevada highlands of Lassen and Plumas Counties	May–August	Could occur; suitable habitat is present and species is documented in surrounding quadrangles but not within 5 miles of the wildlife areas.
Plumas ivesia <i>Ivesia sericoleuca</i>	-	-	1B.2	Vernal pools or vernal mesic sites in Great Basin scrub, lower montane coniferous forest, meadows and seeps; usually on volcanic soils; 4,800–7,200 foot elevations	Northern Sierra Nevada and southern Modoc Plateau from Lassen to Placer County	May– September	Could occur; a documented occurrence of this species is approximately 1 mile south of the Badenaugh and Bear Valley Creek Units and suitable habitat is present

Table 3.3-3 Special-Status Plant Species Known or with Potential to Occur in the Antelope Valley and Smithneck Creek Wildlife Areas							
Species	Listing Status			Habitat	Distribution in California	Flowering Period	Potential for Occurrence
	Fed.	State	CNPS				
Webber's ivesia <i>Ivesia webberi</i>	C	–	1B.1	Sandy or gravelly soils and volcanic ash in Great Basin scrub, lower montane coniferous forest, and pinyon-juniper woodland; 3,200–6,800 foot elevations	Northern Sierra Nevada and southern Modoc Plateau in Lassen, Plumas, and Sierra Counties	May–July	Could occur; suitable habitat is present and species is documented in surrounding quadrangles but not within 5 miles of the wildlife areas.
Sagebrush loeflingia <i>Loeflingia squarrosa</i> var. <i>artemisiarum</i>	–	–	2.2	Desert sand dunes or sandy flats in Great Basin scrub and Sonoran Desert scrub; 2,300–5,300 foot elevations	Widely distributed throughout central and southern California including central and southern coasts, Mojave and Sonoran Deserts, disjunct populations in the Great Basin Desert in Lassen and Plumas Counties	April–May	Unlikely; although this species is documented in a surrounding quadrangle, suitable sandy dunes and flats are not present in the wildlife areas.
Tall alpine-aster <i>Oreostemma elatum</i> (= <i>Aster alpigenus</i> var. <i>andersonii</i>)	–	–	1B.2	Bogs and fens, meadows and seeps, mesic sites in upper montane coniferous forest; 3,300–7,000 foot elevations	Klamath, Cascade, and North Coast Ranges; Sierra Nevada, San Jacinto, Warner, White and Inyo Mountains	June–August	Could occur; suitable habitat is present and species is documented in surrounding quadrangles but not within 5 miles of the wildlife areas.
Modoc County knotweed <i>Polygonum polygaloides</i> ssp. <i>esotericum</i>	–	–	1B.1	Vernal pools, meadows and seeps, and other seasonally wet habitats in Great Basin scrub and lower montane coniferous forest; 4,900–5,500 feet elevations	Modoc Plateau and Sierra Valley from Modoc County to Plumas County	May–August	Could occur; suitable habitat is present and species is documented in surrounding quadrangles but not within 5 miles of the wildlife areas.
Sticky pyrrocoma <i>Pyrrocoma lucida</i>	–	–	1B.2	Alkaline clay soils in Great Basin scrub, lower montane coniferous forest, and meadows and seeps; 2,300–6,400 foot elevations	Northern Sierra Nevada from Lassen to Sierra and Yuba Counties	July–October	Unlikely; although this species has been documented within 5 miles, it is not expected to occur in the wildlife areas because of unsuitable soil conditions.

**Table 3.3-3
Special-Status Plant Species Known or with Potential to Occur in the Antelope Valley and Smithneck Creek Wildlife Areas**

Species	Listing Status			Habitat	Distribution in California	Flowering Period	Potential for Occurrence
	Fed.	State	CNPS				
Winged dock <i>Rumex venosus</i>	-	-	2.3	Sandy soils in Great Basin scrub; 4,000–6,000 foot elevations	Modoc Plateau, Lassen County	May–June	Unlikely; although documented in a surrounding quadrangle, this species is not expected to occur because the wildlife areas are outside its known distribution range in California.
Green-flowered prince’s plume <i>Stanleya viridiflora</i>	-	-	2.3	White ash deposits in Great Basin scrub; 4,200–5,200 foot elevations	Southern Modoc Plateau, Lassen and Plumas Counties	May–August	Unlikely; although documented in a surrounding quadrangle, this species is not expected to occur because the wildlife areas are outside its known distribution range in California.
Lemmon’s clover <i>Trifolium lemmonii</i>	-	-	4.2	Openings and rocky flats in Great Basin scrub and lower montane coniferous forest; 5,000–7,000 foot elevations	Plumas, Sierra, and Nevada Counties	May–July	Known; this species has been documented in the main Antelope Valley unit.
Golden violet <i>Viola aurea</i>	-	-	2.2	Sandy soils in Great Basin scrub and pinyon-juniper woodland; 3,200–6,700 foot elevations	Scattered distribution in the Great Basin and Mojave Deserts.	April–June	Could occur; suitable habitat is present and species is documented in surrounding quadrangles but not within 5 miles of the wildlife areas.

U.S. Fish and Wildlife Service (USFWS) Federal Listing Categories: FT Federal Threatened FE Federal Endangered C Candidate for Federal Listing as Threatened or Endangered	California Department of Fish and Game State Listing Categories: CR California Rare CT California Threatened CE California Endangered	California Native Plant Society (CNPS) Listing Categories: 1B Plants rare, threatened, or endangered in California and elsewhere 2 Plants rare, threatened, or endangered in California but more common elsewhere 3 Plants for which more information is needed—a review list 4 Plants of limited distribution—a watch list Extensions: 1 Seriously endangered in California (>80% of occurrences are threatened and/or high degree and immediacy of threat) 2 Fairly endangered in California (20 to 80% of occurrences are threatened) 3 Not very endangered in California (<20% of occurrences are threatened or no current threats are known)
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Source: CNDDDB 2007, CNPS 2007, Witham 1993, data compiled by EDAW in 2007.

Hillman's Silverscale

Hillman's silverscale (*Atriplex argentea* var. *hillmanii*) is an annual herb species in the goosefoot family (Chenopodiaceae). This species is considered fairly endangered in California, but is more common in Nevada and Oregon. The distribution of this species in California extends through the Modoc Plateau and the northern Sierra Nevada from Modoc County to Calaveras County and the eastern Sierra in Mono and Inyo counties at elevations between 4,000- and 5,600-foot elevations. The nearest documented occurrence is in the Reconnaissance Peak quadrangle. It grows in alkaline soils in Great Basin scrub and meadows and seeps.

Sierra Valley Evening-Primrose

Sierra Valley evening-primrose (*Camissonia tanacetifolia* ssp. *quadriperforata*), a perennial herbaceous member of the evening primrose family (Onagraceae), is endemic to California and is on the CNPS watch list (List 4). It is of limited distribution, known only from Lassen, Plumas, and Sierra Counties, but is abundant where found and not very endangered at this time. This species was documented by Carol Witham in the main Antelope Valley unit and Bear Valley Creek Unit during surveys conducted in 1993. It grows in vernal moist clay flats in Great Basin scrub from roughly 4,000- to 5,000-foot elevations and it often colonizes disturbed habitats such as roadside drainage ditches (Witham 1993).

Valley Sedge

Valley sedge (*Carex vallicola*), a perennial herb species, is a member of the sedge family (Cyperaceae) and is considered rare in California, but is more common in other Great Basin states. Although it is somewhat rare in California, it is not very endangered at this time, meaning that it has low vulnerability to threats. Its known distribution in California is limited to the Modoc Plateau and eastern Sierra regions of Modoc, Lassen, Sierra, Alpine, and Mono counties at elevations between 5,000 and 9,200 feet. It has been documented in the Evans Canyon quadrangle several miles east of the wildlife areas. It grows in moist sites in Great Basin scrub and meadows and seeps.

Globose Cymopterus

Globose cymopterus (*Cymopterus globosus*) is a perennial herb species in the carrot family (Apiaceae). It is considered fairly endangered in California, but is common in Nevada and Utah. In California this species is known from only five occurrences in Mono and Plumas Counties, including an occurrence within 5 miles northwest of the Merry-Go-Round Unit in the Antelope Valley and Calpine quadrangles. This species is found in sandy open flats in Great Basin scrub at elevations from 4,000 to 7,000 feet.

Nevada Daisy

Nevada Daisy (*Erigeron nevadincola*), a perennial herb species, is a member of the sunflower family (Asteraceae) and is rare in California, but more common in the State of Nevada. Although rare in California, there is currently little known threat to existing populations so the possibility of extinction is very low. Its distribution in California is limited to the Modoc Plateau and Sierra Nevada regions of Lassen, Placer, Plumas, Sierra, and Nevada counties at elevations between 4,500 and 9,500 feet. It has been documented in the immediate vicinity (i.e., within 1 mile) of the isolated southern parcel of the Merry-Go-Round Unit. The CNDDDB polygon depicting the location of this occurrence actually overlaps with the unit boundary, however, the mapping accuracy is such that it is uncertain whether this occurrence spans into the wildlife areas or not. Rocky sites in Great Basin scrub, lower montane coniferous forest, and pinyon-juniper woodland provide suitable habitat for this species.

Donner Pass Buckwheat

Donner Pass buckwheat (*Eriogonum umbellatum* var. *torreyanum*) is a perennial herb or subshrub in the buckwheat family. It is endemic to California and is considered fairly endangered because 20 to 80% of existing

occurrences are susceptible to currently known threats. Its distribution is limited to Sierra, Nevada, and Placer counties at elevations from approximately 6,000 to 8,900 feet. The nearest known occurrence to the wildlife areas is approximately 9 miles away in the Dog Valley quadrangle. This species grows in rocky volcanic soils in meadows and seeps and upper montane coniferous forest. Nearly all known occurrences of this species are recorded at elevations higher than the wildlife areas, but the upper elevation limits of the wildlife areas do overlap with the lower elevation limits of the species.

Sierra Valley Ivesia

Sierra Valley ivesia (*Ivesia aperta* var. *aperta*) is a perennial herb species in the rose family (Rosaceae) that occurs in the Sierra Valley in Lassen, Plumas, and Sierra counties at elevations ranging from 4,800 to 7,500 feet. This species is also found in the State of Nevada and is considered fairly endangered in both states. Carol Witham documented this species at several locations in the main Antelope Valley unit and Bear Valley Creek and Badenaugh Units during surveys conducted in 1993. Sierra Valley ivesia typically grows in vernal moist volcanic soils in Great Basin scrub, lower montane coniferous forest, pinyon-juniper woodland, meadows and seeps, and vernal pools. In the wildlife areas, the specific microhabitats where this species was found included rocky ephemeral stream channels, meadows, sagebrush flats, and sparsely vegetated slopes always on sites that receive abundant moisture early in the growing season, but dry up quickly (Witham 1993). Dog Valley ivesia (*Ivesia aperta* var. *canina*) is another rare variety of *Ivesia aperta* that grows in the surrounding area, but is apparently restricted to Dog Valley and is, therefore, unlikely to be found in the wildlife areas. Carol Witham (1993) examined many specimens that seemed to have intermediate characteristics between the two varieties and sent specimens to be examined by Barbara Ertter, who prepared the treatment for this genus in the Jepson Manual. They determined that all specimens collected and observed in the wildlife areas were of the variety *aperta*.

Bailey's Ivesia

Bailey's ivesia (*Ivesia baileyi* var. *baileyi*) is another member of the genus *Ivesia* that is known to occur in the region. It is rare in California, but not very endangered because there is little known threat to existing populations and it is somewhat common in Idaho, Nevada, and Oregon. In California, the species' distribution is limited to the southern Modoc Plateau region and adjacent Plumas and Lassen counties between 4,400- and 8,500-foot elevations. The nearest known occurrence to the wildlife areas is over 20 miles northeast of the wildlife areas in the Beckwourth Pass quadrangle. This species grows in rocky volcanic soils in Great Basin scrub and lower montane coniferous forest.

Plumas Ivesia

Plumas ivesia (*Ivesia sericoleuca*) is also a perennial herbaceous member of the rose family that is rare in California and known to occur in the region. This ivesia species is endemic to California and is fairly endangered. Its distribution is limited to the northern Sierra Nevada and southern Modoc Plateau regions from Lassen to Placer County at elevations ranging from 4,800 to 7,200 feet. It has been documented approximately 1 mile south of the Badenaugh Unit. Plumas ivesia is found in vernal pools or other seasonally wet sites in Great Basin scrub, lower montane coniferous forest, and meadows and seeps, usually in volcanic soils.

Webber's Ivesia

Webber's *Ivesia* (*Ivesia webberi*) is native to California and Nevada and is a candidate for federal listing. CNPS lists it as seriously endangered in California, meaning that greater than 80% of the known occurrences are threatened or there is a high degree or immediacy of threat to existing occurrences. Known populations in California are distributed in the northern Sierra Nevada and southern Modoc Plateau regions in Lassen, Plumas, and Sierra counties from 3,200- to 6,800-foot elevations. Webber's ivesia has been documented in the Sierra Valley in the Chilcoot, Dog Valley, and Evans Canyon quadrangles, but there are no known occurrences within 5 miles of the wildlife areas. This species grows in sandy or gravelly soils in Great Basin scrub, lower montane coniferous forest, and pinyon-juniper woodland.

Tall Alpine-Aster

Tall alpine-aster (*Oreostemma elatum* [syn. *Aster alpigenus* var. *andersonii*]) is a perennial herb in the sunflower family and is a California endemic that is considered fairly endangered because, although the species is fairly widely distributed, 20 to 80% of known occurrences are threatened. Its area of distribution includes the Klamath, Cascade, and North Coast Ranges as well as the Sierra Nevada, San Jacinto, Warner, White and Inyo mountains at elevations ranging from 3,300 to 7,000 feet. It has been documented in the Calpine and Sattley quadrangles, but there are no known occurrences within 5 miles of the wildlife areas. It grows in moist sites in upper montane coniferous forest, bogs and fens, and meadows and seeps.

Modoc County Knotweed

Modoc County Knotweed (*Polygonum polygaloides* ssp. *esotericum*) is an annual herbaceous member of the buckwheat family that is seriously endangered in California. It is distributed in the Modoc Plateau region and Sierra Valley from Modoc County to Plumas County and extends only slightly into Oregon. Its known elevation range is from 4,900 to 5,500 feet. Of the 26 known occurrences of this species, 22 are in Modoc County, but it has been reported in the CNPS inventory from the area surrounding the wildlife area in the Antelope Valley, Calpine, and Reconnaissance Peak 7.5' USGS quadrangles. This species grows in vernal pools, meadows and seeps, and other seasonally wet areas in Great Basin scrub and lower montane coniferous forest.

Lemmon's Clover

Lemmon's clover (*Trifolium lemmonii*) is a perennial herb in the pea family and is on CNPS List 4, a watch list for species of limited distribution and is also on the U.S. Forest Service watch list. It is considered fairly endangered in California, where it is known only from Plumas, Nevada, and Sierra counties, but it is also found in the state of Nevada. Carol Witham found one occurrence of Lemmon's clover in the main Antelope Valley unit during surveys conducted in 1993. It grows in openings and rocky flats in Great Basin scrub and lower montane coniferous forest at elevations ranging from 5,000 to 7,000 feet.

Golden Violet (*Viola aurea*)

Golden Violet (*Viola aurea*), a perennial herbaceous member of the violet family (Violaceae), is considered fairly endangered in California, but is more common in the State of Nevada. Its discontinuous distribution in California includes the Great Basin and Mohave Desert in Sierra, Mono, Kern, and San Bernardino counties, as well as occurrences in San Diego and Ventura counties. Golden violet has been documented in the Evan's Canyon quadrangle nearby, but there are no known occurrences within 5 miles of the wildlife areas. This species grows in sandy soils in Great Basin scrub and pinyon-juniper woodland at elevations ranging from 3,200 to 6,700 feet.

3.3.2 WILDLIFE

Wildlife species of AVWA and SCWA include those associated with eastside pine and montane riparian vegetation types as well as sagebrush, bitterbrush, and montane chaparral.

This section provides a general description of the wildlife species that are likely present at AVWA and SCWA, and a more detailed discussion of special-status species that occur, or could potentially occur, at the wildlife areas.

GENERAL DESCRIPTION

Very little wildlife survey information is available that is specific to AVWA and SCWA, and no systematic wildlife inventories have been conducted. Annual summer bat surveys are conducted by San Francisco State University (SFSU) on Antelope Valley Creek in AVWA, and SFSU has compiled a bird checklist of the Sierra Valley and Yuba Pass. Other sources of wildlife records contained in this document include anecdotal records

from federal and state wildlife biologists who have worked in or near the wildlife areas, previous land management plans, and a 1996 timber harvest plan. A draft species list exists for AVWA (Department 1997). However, rather than being a list of known occurrences based on field observations, this list was generated from the California Wildlife Habitat Relationships system (CWHR), a predictive model based on habitat types. An updated list based on the CWHR is provided in Appendix F.

Based on the quality and diversity of habitats present, the wildlife areas undoubtedly provide important habitat for numerous species and guilds of wildlife, some of which are described below. The following discussion focuses mainly on wildlife of management concern at the wildlife areas.

Mammals

Mule Deer

Several subspecies of mule deer occur in California, each particularly adapted to a distinct ecological province. The subspecies at the wildlife areas is Rocky Mountain mule deer (*Odocoileus hemionus hemionus*), which is associated with the Intermountain Sagebrush Province. Deer at the wildlife areas are part of the Sierra Valley subunit of the Loyalton-Truckee deer herd (Department 1982).

The wildlife areas are located in an area identified as key winter range for the Sierra Valley subunit and are on the migration route between summer and winter ranges (Department 1982). The wildlife areas were established to protect critical winter range and migration routes for this herd. The deer population in the northeast Sierra Nevada has recently been declining. This decline is linked especially to loss of habitat acreage and quality caused by development, hot summer fires, and grazing (Department 1998).

Mule deer in California generally migrate out of high elevation areas in the fall to valleys and other low-elevation areas that receive less than 2 feet of snow, and then return to mountainous areas as snow melts in the spring. Mule deer browse and graze, preferring the new growth of shrub vegetation, forbs, and grasses typical of early successional habitats that follow disturbances such as fire or logging. Following disturbance, grasses and forbs are the first species to become established, then shrubs and other woody vegetation, which often provide succulent food for deer. In forested areas, slower growing and taller pines or firs eventually out-compete most other plants.

Forage preferences vary by availability, quality, and season. In the Sierra Nevada, deer prefer early to midsuccessional forests, woodlands, and riparian and brush habitats because of the greater diversity of shrubby vegetation and woody cover. In addition to forage, vegetative cover is critical for thermoregulation. Suitable habitat includes a mosaic of vegetation including forest or meadow openings, dense woody thickets and brush, edge habitat, and riparian areas. Fawning habitat, used by does during birth and by newborn fawns, is critical to reproductive success. A diversity of thermal cover, hiding cover, succulent forage, and water are needed during fawning (USFS 1982). Optimal deer fawning habitat has been described as having moderate to dense shrub cover near forest cover and water, such as riparian zones (Leckenby et al. 1982, USFS 1982). A source of surface water (e.g., creek or river) is especially important to mule deer (Leckenby et al. 1982; Zeiner et al. 1990). Typical fawning habitat varies in size, but an area of 5–26 acres is adequate, with optimal fawn-rearing habitat of around 400 acres (Leckenby et al. 1982).

The following habitat descriptions come from *Deer Habitats in California* (USFS 1982). In winter deer use a patchy mosaic of dense cover (>3 feet tall) for finding shelter and browsing, interspersed with open foraging areas with grasses and forbs. Shelter is needed to minimize environmental stresses during a season when deer rely on fat reserves stored during summer and fall to supplement the food that is available. In spring deer move toward their summer ranges. All deer, and especially pregnant females, depend on abundant new herbaceous growth, particularly perennial grasses, to replenish tissue reserves while migrating. Cover is not as critical as during winter, but is still important for escaping from predators.

Summer habitat needs to provide a rich mix of forage plants to nourish fawns and meet their requirements for growing and storing energy. Cover is especially important to fawns, which hide in, or escape from, predators in dense but penetrable thickets and brush fields or tall herbaceous vegetation. Water sources should be available within one-quarter to one-half mile of forage and cover; lack of water may preclude the use of otherwise suitable habitat. Small patches of brush fields interspersed with mature forest near water provide good summer habitat.

In fall deer return to their winter range. During this season fawns are growing and deer need to store energy for the winter. Cover is important for escape from predators and for protection during the hunting season. Inadequate cover may cause deer to avoid otherwise desirable foraging areas. Patches of cover should be greater than 20 acres and open enough or with trails to allow easy movement. Stands of large shrubs with little to no tree canopy provide particularly good forage, and perennial grasses, if still green, are also important.

Aspen groves are an early successional habitat that is very important to migratory deer, providing good cover and forage near water. After being disturbed, groves can regenerate rapidly through root suckering; however, groves are declining because of aggressive fire suppression and heavy livestock grazing. Much of the deer winter ranges of the Loyalton-Truckee deer herd is not forested habitat but is in more low-lying areas dominated by sagebrush, bitterbrush, and agricultural fields. Forage on the wildlife areas is mostly provided by bitterbrush, sagebrush, mountain mahogany, and perennial grasses. Cover is mostly provided by juniper and Jeffrey pine. A small amount of willow scrub and aspen also provides important forage and cover near perennial creeks. Water is available in creeks and at several springs on the wildlife areas, including several springs on steep slopes away from creeks.

The primary limiting factor for deer at AVWA and SCWA is lack of quality forage. Recent management of forage includes a timber harvest in 1999–2001 to open the canopy, remove small conifers that compete with forage plants, and encourage bitterbrush and mountain mahogany growth. The harvest successfully opened the canopy and promoted growth of shrubs, but results would have been improved with some seeding and planting of bitterbrush and mountain mahogany (Lidberg, pers. comm., 2007). In the mid 1980s about 1.5 miles of Antelope Valley Creek was fenced to protect it from overgrazing. Bitterbrush responded well within, but not outside of, the fenced area. Grazing outside the fence was restricted in 2003 and bitterbrush there subsequently improved.

The effects of fire on vegetation types, including those used by deer, are described in Section 3.3.1, “Vegetation,” of this chapter. Regeneration of forage plants after severe fires can be slow. The Cottonwood and Harding fires burned substantial areas on AVWA and SCWA. Following these fires, bitterbrush was planted and seeded to improve deer forage in AVWA, with varying success. Success was likely related to soil moisture and could be improved by planting in protected areas (e.g., near slash piles) and in the fall (Lidberg, pers. comm., 2007). Mountain mahogany showed almost no natural recruitment after the fires, either in areas that were grazed or ungrazed, even where good seed banks were present.

According to the wildlife area manager, AVWA has recently started providing year-round habitat for deer, including fawning habitat (Lidberg, pers. comm., 2007). Relatively recent fires and timber harvest may have benefited shrub communities on the wildlife areas, improving overall deer habitat and encouraging year-round use. Recruitment of fawns has long been a management concern for the Loyalton-Truckee deer herd (Department 1982), and continues to be a concern at the wildlife areas. Several efforts have benefited aspen at the wildlife areas: riparian fencing to exclude cattle from Antelope Valley Creek and aspen restoration projects to remove conifers encroaching on aspens stands.

Deer mortality at the wildlife areas is caused by predation, disease, and legal and illegal hunting. Predation (mostly by mountain lions, with additional predation on young by coyotes and bears) and disease are not substantial deer management concerns at the wildlife areas (Lidberg, pers. comm., 2007). The wildlife areas provide limited entry, high quality trophy hunting, and so legal hunting mortalities are low. Illegal hunting, while it undoubtedly occurs, is probably not a management concern for deer (Lidberg, pers. comm., 2007). Outside of the wildlife areas, vehicle collisions are a substantial cause of mortality for the Sierra Valley subunit of the deer herd.

Other Mammals

Habitat at the wildlife areas supports a variety of mammal wildlife species in addition to deer. A study of mountain lion (*Felis concolor*) in Sierra County conducted in the late 1980s and early 1990s tracked mountain lions by radio throughout the wildlife areas (Department unpublished data), and tracks are commonly seen in mud on Antelope Valley Creek, but not at other locations (Lidberg, pers. comm., 2007). Coyote (*Canis latrans*) and black bear (*Ursus americanus*) are among the other larger mammals occurring at the wildlife areas.

Thirteen species of bat have been captured or detected on or near Antelope Valley Creek (Szewczak, pers. comm., 2007), consisting of spotted bat (*Euderma maculatum*), free-tailed bat (*Tadarida brasiliensis*), pallid bat (*Antrozous pallidus*), big brown bat (*Eptesicus fuscus*), western red bat (*Lasiurus blossevillii*), silver-haired bat (*Lasionycteris noctivagans*), hoary bat (*Lasiurus cinereus*), California myotis (*Myotis californicus*), small-footed myotis (*Myotis ciliolabrum*), long-eared myotis (*Myotis evotis*), fringed myotis (*Myotis thysanodes*), hairy-winged myotis (= long-legged myotis) (*Myotis volans*), and Yuma myotis (*Myotis yumanensis*). Most of these species were detected while they were foraging over or in riparian habitat, although bats roost in all habitats found at the wildlife areas. Bat use and activity of a site may be useful indicators of habitat changes, such as those following restoration efforts (Szewczak 2004). A study of bat use at a riparian restoration project in the Sierra Valley watershed about 8 miles northwest of AVWA showed an increase in bat use following a “plug and pond” restoration project (Szewczak 2004), which could indicate improvements to the riparian vegetation.

Upland and riparian vegetation types at the wildlife areas have the potential to support additional terrestrial mammal species, such as black-tailed jack rabbit (*Lepus californicus*), snowshoe hare (*Lepus americanus*), mountain cottontail (*Sylvilagus nuttallii*), deer mouse (*Peromyscus maniculatus*), and Allen’s and yellow-pine chipmunks (*Neotamias senex* and *N. amoenus*).

Birds

The riparian, shrub and coniferous forest vegetation types found at the wildlife areas support a diversity of migratory and resident bird species. Groups that use the wildlife area include upland game species, raptors, and neotropical migratory birds. Birds are of increasing interest to wildlife watchers at the wildlife areas.

Upland Game Birds

Upland and riparian vegetation types in the wildlife areas provide habitat for several upland game birds, although few hunters use the wildlife areas for these species. The primary upland game bird species that uses the wildlife areas are mountain quail (*Oreortyx pictus*) and mourning dove (*Zenaida macroura*).

Raptors

A few species of hawks and falcons regularly use the wildlife areas. Breeding raptors tend to be sensitive to disturbance at nest sites. Red-tailed hawk (*Buteo jamaicensis*) is the most common and builds stick nests in trees or on tall structures in open habitats. One pair of northern goshawk (*Accipiter gentilis*) is known to nest in closed canopy forest at the wildlife areas. Peregrine falcons (*Falco peregrinus*) are known to nest in the vicinity and may forage at the wildlife areas. Prairie falcons (*Falco mexicanus*) are routinely seen during the breeding season and may nest on rocky cliffs in or near the wildlife areas. Swainson’s hawks (*Buteo swainsoni*) nest in Sierra Valley, but do not use the wildlife areas with any regularity.

Neotropical Migratory Birds

Many species of neotropical migratory birds migrate through or breed in the Sierra Nevada, including at the wildlife areas. Neotropical migratory birds are species that breed in North America and winter in Central and South America. Representative species that breed and/or migrate through the area include western wood-pewee

(*Contopus sordidulus*), tree swallow (*Tachycineta bicolor*), barn swallow (*Hirundo rustica*), Bullock's oriole (*Icterus bullockii*), Wilson's warbler (*Wilsonia pusilla*), and yellow warbler (*Dendroica petechia*).

Population levels for many neotropical migratory birds are declining, especially those that breed in riparian habitats. Primary causes of these declines have been habitat loss and fragmentation, together with increased nest parasitism by cowbirds. Conservation of existing habitat and restoration of additional suitable riparian habitat at the wildlife areas would contribute to maintaining healthy neotropical migrant bird populations.

Neotropical migrants comprise a high proportion of riparian bird communities in the Sierra Nevada. Riparian bird species that collectively represent a broad range of specific habitat associations include song sparrow (*Melospiza melodia*), MacGillivray's warbler (*Oporornis tolmiei*), Wilson's warbler (*Wilsonia pusilla*), yellow warbler (*Dendroica petechia*), and warbling vireo (*Vireo gilvus*). Species composition in a particular location depends on vegetation composition, structure, patch size, and hydrologic characteristics. In the Sierra Nevada, in general, primary limiting factors to the distribution and persistence of riparian habitats that can function as songbird population sources and support a diverse avian community are surface wetness and soil saturation within the riparian or meadow zone. For example, breeding productivity of several riparian songbird species (e.g., willow flycatcher) increases with the extent and duration of soil saturation or standing/slow-moving water in meadows or wide riparian corridors.

Preliminary results from a riparian plug and pond restoration project in Carman Valley, about 8 miles northwest of AVWA, indicate good success at improving habitat for riparian birds. Song sparrow, MacGillivray's warbler, and yellow warbler populations responded positively in the first 2 years following the project (SFSU 2007). Studies at that site were planned through 2007; results of the project should be useful for planning and monitoring any riparian restoration projects at the wildlife areas.

SPECIAL-STATUS WILDLIFE SPECIES

Special-status wildlife species are legally protected or are otherwise considered sensitive by federal, state, or local resource conservation agencies and organizations. Special-status wildlife species addressed in this section include:

- ▶ species listed as threatened or endangered under the federal or state Endangered Species Acts,
- ▶ species identified by the U.S. Fish and Wildlife Service (USFWS), the Department, or USFS as species of special concern, and
- ▶ species fully protected in California under the California Fish and Game Code.

Table 3.3-4 includes 17 special-status wildlife species that are known or have potential to occur within 5 miles of the wildlife areas, or could be affected by projects there. Exhibit 3.3-3 displays the occurrences of these species within 1 mile of the wildlife area that have been recorded by the CNDDDB (2007). The table also provides information on each species' regulatory status, habitat requirements, and potential for occurrence at the wildlife areas.

For some of the species in Table 3.3-4, the wildlife areas do not contain suitable habitat, nor is suitable habitat likely to result from restoration efforts. The wildlife areas could, however, provide habitat for 18 of the species listed in Table 3.3-4.

**Table 3.3-4
Sensitive Wildlife Species with Potential to Occur in the
Antelope Valley and Smithneck Creek Wildlife Areas**

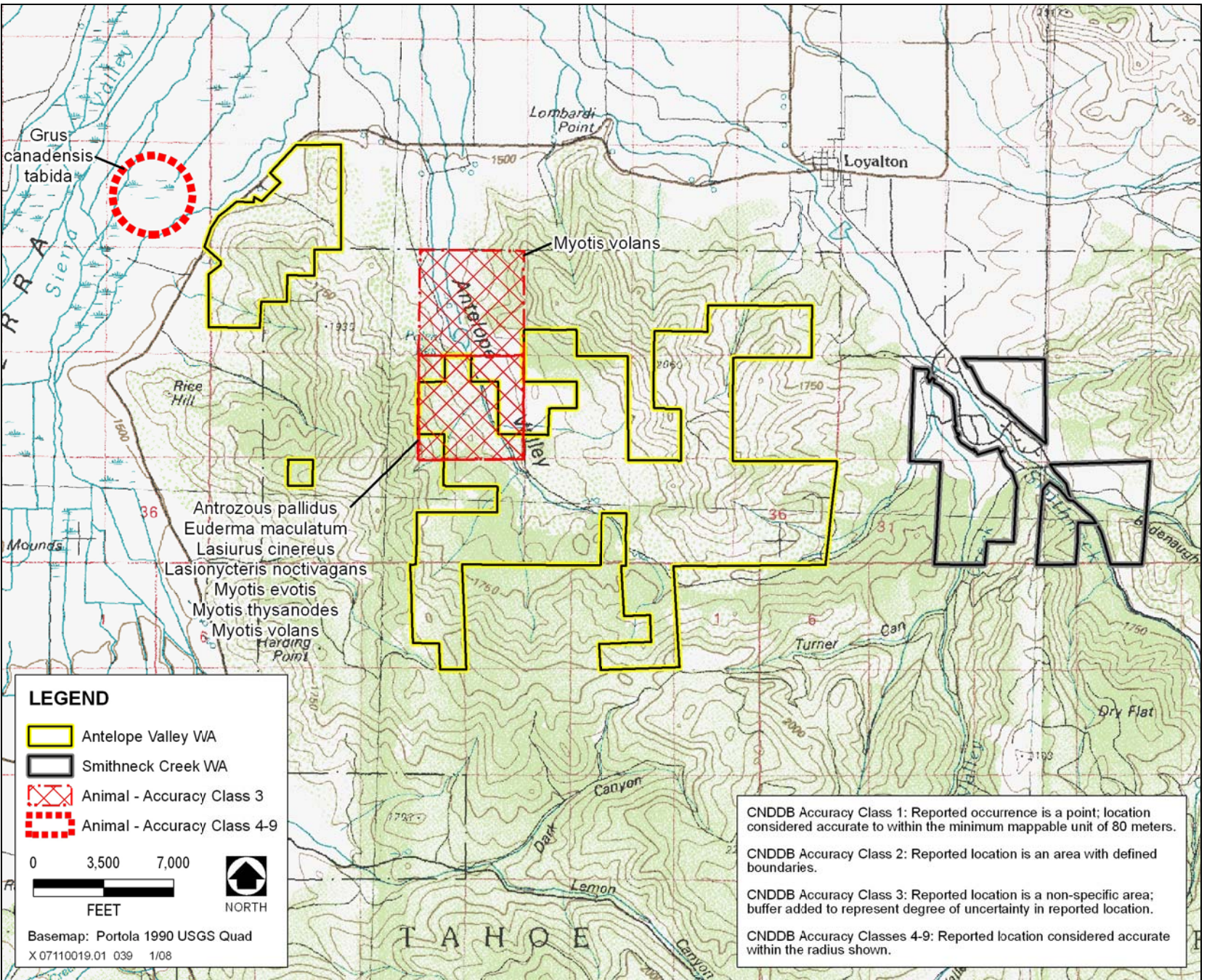
Species	Status ¹		Habitat	Potential for Occurrence
	Federal	State		
Amphibians				
Mountain yellow-legged frog <i>Rana muscosa</i>	C, S	SSC	Open lake and stream margins, especially where predatory fish are absent. Occurs in the Sierra Nevada of California from about 4,500 to 12,000 feet from Plumas to Tulare Counties.	Unlikely to occur. Predators are present. Efforts to locate this species in the wildlife areas have been unsuccessful (Hiscox and Urich, pers. comm., 2007).
Birds				
Northern goshawk <i>Accipiter gentilis</i> (nesting)	–, S	SSC	Nests in mid- to high-elevation coniferous forest.	Known to occur. Documented nesting from 1998 through 2005; nest territory is presumed still active (Lidberg, pers. comm., 2007).
Golden eagle <i>Aquila chrysaetos</i>	–	FP	Nests on cliffs of all heights and in large trees in open areas.	Could occur. EDAW staff observed a golden eagle near the Smithneck Creek Wildlife Area (SCWA) during a reconnaissance survey in November 2006.
Swainson's hawk <i>Buteo swainsoni</i>	–	T	Nests in riparian woodlands and isolated trees; forages in grasslands, shrublands and agricultural fields.	Could occur. Breeds in Sierra Valley in spring and summer, and has been observed at the mouth of Antelope Valley. No breeding habitat on Antelope Valley Wildlife Area (AVWA) or SCWA (Lidberg, pers. comm., 2007).
Olive-sided flycatcher <i>Contopus cooperi</i> (nesting)	–	SSC	Nests in montane conifer forest; forages in conifer forest, adjacent meadows and clearings.	Could occur. The wildlife areas are within the range of the species and provide suitable habitat.
Yellow warbler <i>Dendroica petechia brewsteri</i> (nesting)	–	SSC	Breeds in deciduous riparian vegetation in open canopy woodland and forest.	Known to occur. Occurs regularly and is presumed to breed, especially on Antelope Valley Creek.
Willow flycatcher <i>Empidonax traillii</i> (nesting)	–, S	E	Nests in open shrub thickets in moist meadows near slow or still water.	Unlikely to occur. Moist meadow habitat with slow or still water is absent. Species breeds 5-8 miles south of wildlife areas on Cottonwood Creek and Little Truckee River.
Peregrine falcon <i>Falco peregrinus</i>	D, S	FP	Nests on high cliffs near wetlands, rivers and lakes.	Could occur. Known to nest near the wildlife areas and may forage at the wildlife areas.
Greater sandhill crane <i>Grus canadensis</i>	–, S	T, FP	Grassland, croplands with corn or rice stubble, and open wetlands.	Could occur September–April. Known to occasionally use Bear Valley Creek Unit, but not for breeding (Lidberg, pers. comm., 2007). Breeds in Sierra Valley.
Bald eagle <i>Haliaeetus leucocephalus</i>	D	E, FP	Nests on tall trees or structures near lakes, reservoirs, and rivers; forages in marshes and wet meadows.	Could occur. Unlikely to breed but occurs in Sierra Valley during migration and winter, and occasionally observed at Palen Reservoir (CAL FIRE 1996).
Loggerhead shrike <i>Lanius ludovicianus</i> (nesting)	–	SSC	Breeds mainly in shrubland and open woodland with grass cover and areas of open ground.	Could occur. Sierra Valley is within range and suitable habitat is available.
Great gray owl <i>Strix nebulosa</i> (nesting)	–, S	E	Ungrazed montane meadows with dense coniferous forest containing snags and broken topped trees.	Unlikely to occur. Documented historically within about 7 miles of Antelope Valley, but the wildlife areas do not contain suitable habitat.

**Table 3.3-4
Sensitive Wildlife Species with Potential to Occur in the
Antelope Valley and Smithneck Creek Wildlife Areas**

Species	Status ¹		Habitat	Potential for Occurrence
	Federal	State		
Mammals				
Pallid bat <i>Antrozous pallidus</i>	-,S	SSC	Most common in open, dry habitats with rock areas such as deserts, grasslands, shrublands.	Known to occur. Males and lactating females were captured on AVWA in 1998 and 1999 (CNDDDB 2007b).
Sierra Nevada mountain beaver <i>Aplodontia rufa californica</i>	–	SSC	Typically occur in montane riparian habitat with dense deciduous vegetation and open, brushy forest.	Could occur. The wildlife areas provide potentially suitable habitat, but the species has not been documented there.
Townsend’s big-eared bat <i>Corynorhinus townsendii</i>	-,S	SSC	Widespread, but most common in moist sites; typically roosts in caves and mines.	Known to occur. Species has been detected on AVWA (Szewczak, pers. comm., 2007)
Spotted bat <i>Euderma maculatum</i>	–	SSC	Roosts and may breed in rock crevices; feeds over water.	Known to occur. Foraging bats have been detected on AVWA (Szewczak, pers. comm., 2007)
western mastiff bat <i>Eumops perotis</i>	–	SSC	Broadly distributed in open, semiarid to arid habitats; roosts in high rock faces or similar features.	Known to occur. Species has been detected on AVWA (Szewczak, pers. comm., 2007)
California wolverine <i>Gulo gulo</i>	-,S	T,FP	Usually inhabits open terrain above timberline; may occur at lower elevations.	Unlikely to occur. Species undocumented in California for decades with the exception of one nearby sighting in 2007.
Western red bat <i>Lasiurus blossevillii</i>	–	SSC	Widespread, frequents riparian habitats; roosts primarily in trees.	Known to occur. Species has been detected on AVWA (Szewczak, pers. comm., 2007)
Sierra Nevada showshoe hare <i>Lepus americanus tahoensis</i>	–	SSC	Riparian communities with thickets of deciduous trees and shrubs; adjacent dense thickets of young conifers and chaparral.	Could occur. The wildlife areas provide potentially suitable habitat, but the species has not been documented there.
Sierra marten <i>Martes americana sierrae</i>	-,S	–	Mixed evergreen forests with more than 40% crown closure, with large trees and snags; variety of different-aged stands, old-growth conifers and snags with abundant cavities.	Unlikely to occur. The wildlife areas are within the range of the species, but fires have reduced availability of different aged stands and old-growth conifers.
Fisher (=Pacific Fisher) <i>Martes pennanti (=Martes pennanti pacificus)</i>	C,S	SSC	Dense stands in mixed conifer forests composed of Douglas fir and associated conifers; higher elevation fir and pine forests.	Unlikely to occur. No dense conifer stands occur in the wildlife areas. This species is rarely observed between Mt. Shasta and Yosemite National Park.
American badger <i>Taxidea taxus</i>	–	SSC	Friable soils and relatively open, uncultivated ground.	Could occur. The wildlife areas provide suitable habitat, but the species has not been documented there.
Sierra Nevada red fox <i>Vulpus vulpus necator</i>	-,S	T	Uses dense vegetation and rocky areas for cover and den sites. Hunts in grassland and other open areas.	Could occur. The wildlife areas are within the range of the species and provide suitable habitat.

¹ Legal Status Definitions
U.S. Fish and Wildlife Service Federal Listing Categories:
E Endangered (legally protected)
T Threatened (legally protected)
D Recently de-listed from Endangered Species List
C Candidate for listing
S Considered Sensitive by the US Forest Service
California Department of Fish and Game State Listing Categories:
E Endangered (legally protected)
T Threatened (legally protected)
FP Fully Protected (legally protected, no take allowed)
SSC Species of Special Concern (no formal protection)

Source: CNDDDB 2007b, USFWS 2007, USFS 2001, Szewczak, pers. comm. 2007



Source: CNDDB 2007a, Department 2007, USFS 2006

CNDDB Wildlife Occurrences within 1 Mile of the Antelope Valley and Smithneck Creek Wildlife Areas

Exhibit 3.3-3

Although just a few of these special-status species have been recorded using the wildlife areas in recent years, their presence cannot be discounted because biological surveys for these species may not have been conducted in the wildlife areas. Consequently, for each of the species that could occur or is known to occur the following text provides additional information regarding their life history, habitat requirements, and the likelihood of their presence. The reasons for population declines and general management and restoration actions are also described.

Northern Goshawk

In the Sierra Nevada, northern goshawk breeds at elevations from approximately 2,500 feet in the ponderosa pine/mixed-conifer vegetation types through approximately 10,000 feet in the red fir and lodgepole pine vegetation types, and throughout eastside pine forests on the east slope (Bloom et al. 1986). Additionally, northern goshawk nests in aspen stands occurring in shrub vegetation types on the eastern slope of the Sierra Nevada (Bloom et al. 1986). Northern goshawk is suspected to be a year-round resident throughout the Sierra Nevada, although some limited seasonal altitudinal movements may occur.

In general, northern goshawk requires mature conifer and deciduous forests with large trees, snags, downed logs, dense canopy cover, and open understories for nesting. Goshawk foraging habitat includes forests with dense to moderately open overstories and open understories interspersed with meadows, brush patches, riparian areas, or other natural or artificial openings. High canopy cover is the most consistent structural characteristic among studies of northern goshawk nesting habitat. High canopy cover may indicate northern goshawk habitat because of the presence of large trees for nest sites, a closed canopy for protection from predators and thermal cover, and open understories that provide for maneuverability and detection of prey below the canopy.

A nest territory was identified at AVWA (CAL FIRE 1996). The nest was protected by restricting logging from within a nest buffer during timber harvest in 1999–2001, and is known to have remained active through 2005. Although it has not been checked in recent years, the territory is presumed to still be active (Lidberg, pers. comm., 2007).

Golden Eagle

Golden eagle (*Aquila chrysaetos*) is an uncommon permanent resident and migrant throughout California, except in the center of Central Valley. It uses rolling foothills and mountain terrain, wide arid plateaus deeply cut by streams and canyons, open mountain slopes, and cliffs and rock outcrops. Golden eagles nest on cliffs of all heights and in large trees in open areas. It builds large platform nest of sticks, twigs, and greenery. Rugged, open habitats with canyons and escarpments are used most frequently for nesting. This raptor eats mostly rabbits and rodents, but also takes other mammals, birds, reptiles, and some carrion. It needs open terrain for hunting: grasslands, deserts, savannahs, and early successional stages of forest and shrub habitats (California Interagency Wildlife Task Group 2005).

In November 2006, EDAW biologists observed a golden eagle sitting in the pasture along Smithneck Road, just north of Sierra Brooks.

Swainson's Hawk

Swainson's hawk (*Buteo swainsoni*) typically breeds in California during March through September and winters primarily in Mexico (Central Valley breeders) and Central and South America (Great Basin breeders). Swainson's hawk usually nest in riparian areas and prefer to nest in large trees with a panoramic view of foraging habitat. Foraging habitats are grasslands and agricultural fields that have accessible prey.

They are known to breed in Sierra Valley, but not at the wildlife areas. Swainson's hawks could occasionally forage in grasslands or meadows at the wildlife areas, but these areas do not provide a substantial amount of foraging habitat, especially when compared to the agricultural lands present in Sierra Valley.

Olive-sided Flycatcher

Olive-sided flycatcher (*Contopus cooperi*) is a summer resident in a wide variety of forest and woodland habitats below 2800 m (9000 ft) throughout California exclusive of the deserts, the Central Valley, and other lowland valleys and basins. Preferred nesting habitats include mixed conifer, montane hardwood-conifer, Douglas-fir, redwood, red fir, and lodgepole pine. It requires large, tall trees, usually conifers, for nesting and roosting sites, and openings in the forest for foraging. Olive-sided flycatchers also require high perches, typically the dead tips or uppermost branches of the tallest trees in vicinity, for singing posts and hunting perches. (California Interagency Wildlife Task Group 2005).

Yellow Warbler

As a neotropical migrant, yellow warbler inhabits California from April to October (Zeiner et al. 1990). During these months, yellow warbler primarily uses underbrush of riparian woodlands for foraging and nesting. It forages for insects and spiders by gleaning and hovering in the crowns of trees and shrubs. Its nest is an open cup in a tree or shrub. The home range of yellow warbler is less than an acre.

Riparian areas at the wildlife areas provide potential nesting and foraging habitat for yellow warbler. Restoring additional riparian vegetation, and enhancing existing habitat would increase the likelihood of yellow warbler nesting at the wildlife areas. SFSU (2007) reports that a yellow warbler population began to increase within 2 years of a riparian restoration project a few miles from AVWA, even while populations at a control site declined.

Willow Flycatcher

In the Sierra Nevada, breeding habitat typically consists of moist montane meadows that support riparian deciduous shrubs (particularly willows) and remain wet through midsummer. Wet meadows provide a concentrated source of flying insect prey required for successful breeding and rearing of young. Willow flycatcher (*Empidonax traillii*) displays and forages from perches and requires some openings in the vegetation; in mountain meadows, willow flycatcher typically uses willow thickets interspersed with open space for breeding, but avoids large, contiguous thickets (Craig and Williams 1998).

Nesting sites in California are usually near slow moving streams, standing water, or seeps (Zeiner et al. 1990). However, willow flycatcher may place nests far away from water (e.g., where river channels or subsurface flows have been modified), as long as the site continues to support riparian vegetation (Sogge et al. 1997, cited in Craig and Williams 1998). Very little suitable habitat exists at the wildlife areas. Downcutting (a geological process that deepens the channel of a stream or valley by removing material from the stream's bed or the valley's floor) in Antelope Valley and Bear Valley creeks has reduced the water table and dried out adjacent meadows, and riparian vegetation is very limited.

No willow flycatchers have been recorded at the wildlife areas. They have been observed annually at a riparian area adjacent to a downcut stream in Carman Valley, about 8 miles from AVWA, where they have unsuccessfully attempted to breed (SFSU 2007). There is a 2004 breeding record from Cottonwood Creek, less than 5 miles south of AVWA, and numerous recent breeding records from the Little Truckee River within 10 miles of the wildlife areas, and within 15 miles on the Feather River (CNDDDB 2007b).

Peregrine Falcon

Peregrine falcon (*Falco peregrinus*) breeds near wetlands, lakes, rivers, or other water on high cliffs, banks, dunes, and mounds. Its nest is a scrape on an open depression or ledge. Peregrine falcon may also nest on human-made structures, and occasionally uses tree or snag cavities or old nests of other raptors. When foraging, the peregrine falcon dives onto flying prey, chases in flight, and rarely hunts from a perch. It usually captures a variety of birds up to ducks in size and occasionally takes non-avian prey. It breeds mostly in woodland, forest,

and coastal habitats. Riparian areas and coastal and inland wetlands are important habitats yearlong, especially in nonbreeding seasons.

Peregrine falcon population declined drastically in the 60's and 70's, associated mostly with dichloro-diphenyl-dichloroethylene (DDE) contamination, which caused thinning of the egg shell. DDE is a breakdown product of the insecticide dichloro-diphenyl-trichloroethane (DDT), which was banned in the United States in 1972. Since then, the peregrine falcon population has rebounded, which led to removal from the federal endangered species list in 1999 (California Interagency Wildlife Task Group 2005).

Peregrine falcons nest near the wildlife areas and could use the wildlife areas for foraging. Peregrine falcons also migrate through the Sierra Valley in fall.

Greater Sandhill Crane

The greater sandhill crane (*Grus canadensis*) nests in northeastern California and Oregon and is found throughout most of the Central Valley in winter. Vegetation types used by the sandhill crane include seasonal and freshwater emergent wetlands, grasslands, and agricultural lands. Generally, crane breeding habitat consists of wet meadows, often interspersed with emergent marsh. California birds tend to nest in rather open habitat. The greater sandhill crane population has declined primarily as a result of loss of suitable wetland nesting habitats. Other major factors adversely affecting the species include disturbance associated with human activities, illegal harvest, and predation.

Greater sandhill cranes breed in Sierra Valley. They have been observed on the Bear Valley Creek Unit, but do not breed there (Lidberg, pers. comm., 2007). It is unlikely that wet meadow restoration activities would provide open breeding habitat for the species.

Bald Eagle

Bald eagle (*Haliaeetus leucocephalus*) nest sites are always associated with bodies of water, usually lakes and rivers that support abundant fish, waterfowl, or other waterbird prey. Nest trees are usually found within about a mile of water and are typically in mature and old-growth conifer stands (Buehler 2000). Nest trees usually have an unobstructed view of a water body and are usually one of the largest trees in a stand. Snags and dead-topped live trees are important for perch and roost sites. Bald eagle winters along rivers, lakes, or reservoirs that support abundant fish or waterbird prey and that have large trees or snags for perch or roost sites. Bald eagle typically forages in waters less than one-quarter mile from perching habitat.

Bald eagles are seen rarely throughout the year in the Sierra Valley (SFSU 1996). They migrate through the valley, and may occur during winter, but breeding pairs have not been documented there (CNDDDB 2007b). According to a 1996 THP prepared for AVWA, bald eagles are occasionally seen at Palen Reservoir.

Loggerhead Shrike

Loggerhead shrike (*Lanius ludovicianus*) is a common resident and winter visitor in lowlands and foothills throughout California. Prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches. This species requires thorny shrubs, barbed-wire fences or other pointy objects to skewer its prey of (mostly) large insects, or small birds, mammals, amphibians, reptiles, fish, carrion, and various other invertebrates. The highest density of loggerhead shrikes occurs in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree habitats. In the Great Basin, from Inyo Co. north, the population declines markedly from November through March (California Interagency Wildlife Task Group 2005).

In California, loggerhead shrikes breed mainly in shrublands, open woodlands with a fair amount of grass cover and areas of bare ground. There has been an apparent increase in the abundance in northeastern California. Loggerhead shrike is a rare breeder in the Sierra Valley (Humble 2008).

Western Red Bat

Western red bat (*Lasiurus blossevillii*) is widely distributed throughout California (Pierson et al. 2004). Apparently, breeding females are confined to low elevation riparian habitats, although western red bats (most likely males) have been detected above 8,000 feet (Pierson et al. 2004). Western red bats feed over a wide variety of habitats including grasslands, shrublands, open woodlands and forests, and croplands. This species roosts primarily in trees, less often in shrubs. Roost sites often are in edge habitats adjacent to streams, fields, or urban areas.

Roosts may be from 2 to 40 feet above ground level. Females and young may roost in higher sites than males. Family groups roost together. Nursery colonies are found with many females and their young (California Interagency Wildlife Task Group 2005).

Western red bats have been detected near Antelope Valley Creek (Szewczak, pers. comm., 2007) and at Carman Valley.

Pallid Bat

Pallid bat prefers to use rocky outcrops, cliffs, and crevices with access to open habitats for foraging in a wide variety of habitats, including grasslands, shrublands, woodlands, and forests. It roosts in caves, crevices, mines, and occasionally in hollow trees and buildings during the day and may use more open roosts at night. Rock crevices are probably used for hibernation (California Interagency Wildlife Task Group 2005).

Pallid bat often takes large insect prey from the ground or vegetation and rarely feed in flight (Szewczak 2004). They have been documented near Antelope Valley Creek at AVWA (Szewczak, pers. comm., 2007, CNDDDB 2007b).

Sierra Nevada Mountain Beaver

Sierra Nevada mountain beaver (*Aplodontia rufa californica*), or sewellel, uses riparian habitats with soft, deep soils for burrowing, lush growth of preferred food sources such as willow and alder, and a variety of herbaceous species for bedding material. Vegetation types include wet meadows and willow and alder dominated riparian corridors, typically near water sources. Mountain beaver is generally solitary, except during its short breeding system, and spends a high proportion of its time in extensive underground burrow systems with multiple openings, tunnels, and food caches. (Carraway and Verts 1993; Steele 1982). Sierra Nevada mountain beaver populations are localized and uncommon. The species has not been documented at the wildlife areas, but habitat may be suitable where soils are deep and friable. Riparian restoration projects could improve habitat for the species.

Townsend's Big-Eared Bat

Townsend's big-eared bat prefers moist habitats, where it gleans insects from brush or trees or feeds in the air along habitat edges throughout California. The species roosts in caves, mines, tunnels, buildings, or other human-made structures. It may use separate sites for night, day, hibernation, or maternity roosts and may roost with other species. Compared with other species, it is considered to be extremely sensitive to disturbance at its roosting site (California Interagency Wildlife Task Group 2005).

Spotted Bat

Spotted bat prefers sites with adequate roosting habitat, such as cliffs, and feeds over water and along washes. It prefers to roost in rock crevices, and is occasionally found in caves and buildings. Cliffs provide optimal roosting habitat (California Interagency Wildlife Task Group 2005). It forages over open marshes, fields, and riparian corridors (Barbour and Davis 1969; Wai-Ping and Fenton 1989; Szewczak et al. 1998, cited in Szewczak 2004). Spotted bat preys almost exclusively on moths.

Spotted bats have been detected over Antelope Valley Creek (Szewczak, pers. comm., 2007).

Western Mastiff Bat

Western mastiff bat (*Eumops perotis*) occurs uncommonly in many open, semi-arid to arid habitats. It uses crevices in cliff faces, high buildings, trees, and tunnels for roosting, where vertical faces allow it to drop off to take flight (California Interagency Wildlife Task Group 2005). The wings of western mastiff bat are distinctively long and narrow. Such morphology allows for rapid, sustained flight, but limits maneuverability (California Interagency Wildlife Task Group 2005); it must use ponds greater than 100 feet long for drinking (Szewczak 2004). It is likely that mastiff bat could seasonally roost in cliff faces around the Sierra Valley (Szewczak 2004).

Western mastiff bats have been detected over Antelope Valley Creek (Szewczak, pers. comm., 2007).

Sierra Nevada Showshoe Hare

Sierra Nevada showshoe hare (*Lepus americanus tahoensis*) is an uncommon resident at upper elevations throughout the northern and central Sierra Nevada. In California it is mostly found in dense cover in montane riparian habitats with thickets of alders and willows, and in stands of young conifers interspersed with chaparral. The early seral stages of mixed conifer, subalpine conifer, red fir, Jeffrey pine, lodgepole pine, and aspen are likely habitats primarily along edges and especially near meadows and riparian habitats. It may also be found in areas with young firs with branches drooping to ground and in patches of ceanothus and manzanita within, or bordering, fir or pine forests (California Interagency Wildlife Task Group 2005).

American Badger

American badger (*Taxidea taxu*) is an uncommon resident of herbaceous, shrub, and open stages of most habitats with dry, friable soils. This species burrows for cover in friable soils and frequently reuse old burrows (California Interagency Wildlife Task Group 2005). Badgers are not known to exist in the wildlife areas, but could occur there (Lidberg, pers. comm., 2007).

Sierra Nevada Red Fox

The native subspecies of the red fox (*Vulpus vulpus nicator*) is found in the Cascades in Siskiyou County, and from Lassen County south to Tulare County. Introduced populations of the red fox inhabit Sacramento and San Joaquin valleys and scattered coastal and inland locations. Native Sierra Nevada populations may be found in a variety of habitats, including alpine dwarf-shrub, wet meadow, subalpine conifer, lodgepole pine, red fir, aspen, montane chaparral, montane riparian, mixed conifer, and ponderosa pine. Jeffrey pine, eastside pine, and montane hardwood-conifer are also used.

The red fox hunts small and medium-sized mammals, ground squirrels, gophers, mice, marmots, woodrats, pikas, and rabbits. Other vertebrates, insects, carrion, fruits, and earthworms are used occasionally and carrion is important in winter. Sierra Nevada red fox prefers forests interspersed with meadows or alpine fell-fields. Open areas are used for hunting, forested habitats for cover and reproduction. Sierra Nevada red foxes are rare, and numbers may be continuing to decline (California Interagency Wildlife Task Group 2005). Although the Sierra

Nevada red fox has not been reported from the wildlife areas, this species could occur there, because the wildlife areas are within its range and support suitable habitat.

3.3.3 FISHERIES AND AQUATIC RESOURCES

The wildlife areas contain a number of streams and creeks that flow into the Sierra Valley; the most prominent being Antelope Valley, Smithneck, Bear Valley, and Badenaugh Creeks. These streams support healthy aquatic ecosystems and provide essential water to the surrounding terrestrial ecosystem. Changing land uses in the region have altered the aquatic ecosystems, resulting in the incision of stream channels and the disappearance of associated wetland marsh floodplain. The effects have largely been caused by grazing, logging, wildfires, road construction, and water diversion. In addition, the introduction and/or spread of nonnative species have altered the aquatic communities of the wildlife areas.

AQUATIC ECOSYSTEM PROCESSES

Primary environmental patterns that influence aquatic ecosystems include hydrology, topography and geology, and soils/sediments. In the wildlife areas' watersheds, all of these patterns combine to support geomorphic processes that create, maintain, or change aquatic habitats, which in turn govern the type of aquatic communities present.

Streamflow patterns in particular play a large role in aquatic communities and are governed by precipitation, snowpack and runoff, temperature, and groundwater. The formation and maintenance of habitat types (e.g., pool, riffle, run) and substrate composition are directly influenced by streamflow patterns and associated fluvial geomorphic processes. In the streams that flow through the wildlife areas, aquatic communities are also heavily influenced by sediment deposits from upstream sources and by large woody debris (LWD).

Aquatic communities are shaped by streamflow patterns, topography, and LWD inputs which influence the abundance and types of organisms present in the streams. Both the flow needs for sustaining fisheries and other aquatic life and the amount, timing, and variability of flow are important in relation to the overall function of the stream ecosystem. Salmonids, such as the rainbow trout (*Oncorhynchus mykiss*) and brown trout (*Salmo trutta*), require sufficient flows (and cold temperatures) to cue spawning and to provide spawning habitat. Eggs require clean gravel and sufficient flows during the incubation period to prevent egg exposure to freezing or desiccation and to provide necessary water quality and temperature conditions. Rearing juveniles and adults both require flows necessary to maintain suitable water temperatures and dissolved oxygen concentrations. Aquatic macroinvertebrate communities, an important trophic link in aquatic ecosystems, require appropriate streamflows, water quality, and substrate conditions.

AQUATIC FOOD WEB

The primary energy input to aquatic ecosystems is solar radiation, which is used along with nutrients by the primary producers (e.g., phytoplankton, vascular plants, and macroalgae) to convert inorganic carbon and nutrients to organic matter through photosynthesis. Therefore, productivity is generally increased in summer months. Vascular plants and macroalgae are grazed on and also produce detritus (i.e., debris), which microbes decompose and detritivores (e.g., a diverse group of other fish and macroinvertebrates) consume. Secondary consumers then prey on the primary consumers. The secondary consumers consist mainly of a variety of invertebrates (e.g., polychaete worms, snails, crayfish, and other macroinvertebrates) and fish. The top consumers (i.e., fish such as rainbow trout and brown trout) then prey on the secondary consumers. The role of a species in the food web may be different at different life stages, or it may use various levels of the food web simultaneously.

AQUATIC MACROINVERTEBRATES

Aquatic macroinvertebrates form a complex web toward the base of the food chain in mid- to high-elevation streams in the Sierra Nevada. Diversity and richness of aquatic macroinvertebrates are positively correlated with stream health and ecological function. It is likely that a diverse group of species can be found in all waters of the wildlife areas. Functional feeding groups among aquatic macroinvertebrates can be broken up into shredders, grazers, collector-gatherers, and predators. Organisms in these feeding groups shred coarse organic matter such as leaf litter that cannot otherwise be directly consumed, graze algae off rocks, gather plankton and other floating organic material, and prey on larval fish and other invertebrates. In general, shredders and collectors are more common in upstream reaches, whereas grazers are more common downstream in the lower reaches. The river continuum concept (Vannote et al. 1980) describes how the nature of streams and their biotic communities evolve in a continuous gradient from headwaters to the ocean. In general, the farthest upstream reaches of mountain streams have a closed riparian canopy with little light penetration, while downstream reaches are broader with photosynthesis occurring to a much greater extent within the stream. Therefore, in the headwater streams, shredders are key in making plant material that enters the stream from the terrestrial environment available to the aquatic environment. Similarly, upstream reaches are likely more pristine and capable of supporting sensitive taxa such as mayflies, stoneflies, and caddiflies. These insect orders are known scientifically as ephemeroptera, plecoptera, and trichoptera (commonly referred to as EPT taxa); and collectively their presence or absence gives a measure of EPT taxa richness. A measure of the EPT richness indicates the stream health and the degree to which it has degraded. EPT taxa largely depend on clean, highly oxygenated water for survival and are therefore generally found in riffles of relatively pristine streams.

Macroinvertebrates may spend their entire lives in the aquatic environment or may demonstrate an adult terrestrial life phase. This is common in species of the EPT taxa, where they live a variable amount of time as juveniles or “nymphs” in the stream benthos (i.e., the bottom of a body of water) before emerging in a winged phase into the terrestrial environment as adults. Additionally, aquatic macroinvertebrates go through either an incomplete or a complete metamorphosis in their juvenile phase. Incomplete being that they metamorphose from “nymphs” directly into adults. The complete metamorphosis involves a pupation phase in between larval and adult phases where pupae enter a casing or enclosure where they are unable to eat or move. After a variable pupation period, the insect emerges from its casing (cocoon), emerges, and flies away as an adult. The adults remain associated with the aquatic environment and return to deposit their eggs (oviposit) on the water surface, thus beginning the cycle again.

FISH COMMUNITIES

The fish communities living in streams within the wildlife areas are similar to those commonly associated with mid- to high-elevation Sierra Nevada streams. Creeks within the wildlife areas provide aquatic habitat for at least eight species of fish, including native and nonnative species (Table 3.3-5). The creeks located in the wildlife areas drain from the higher elevation mountains into the Sierra Valley and are generally characterized as coldwater, moderate-gradient streams. The species assemblage associated with these streams has historically been the rainbow trout assemblage. This assemblage is made up of rainbow trout, sculpin (*Cottus gulosus*), speckled dace (*Rhynchichthys osculus*), and mountain sucker (*Catostomus platyrhynchus*) and is dependent on coldwater mountain stream habitat and a rich macroinvertebrate community (described above). However, the introduction of the brown trout has likely changed the species composition of these streams. Whereas rainbow trout were naturally the top predator in the aquatic ecosystem, brown trout are able to outcompete them for forage, habitat, and may even prey directly on them. While rainbow trout feed almost exclusively on invertebrates, brown trout are known to consume other fishes as a component of their diet, which often includes young rainbow trout. Overall, rainbow trout and brown trout occupy a similar habitat niche in the streams of the wildlife areas and exhibit similar life history strategies.

Common Name	Scientific Name
Rainbow trout (N)	<i>Orcorhynchus mykiss</i>
Lahontan cutthroat trout (N)*	<i>Oncorhynchus clarki henshawi</i>
Mountain sucker (N)	<i>Catostomus platyrhynchus</i>
Riffle sculpin (N)	<i>Cottus gulosus</i>
Speckled dace (N)	<i>Rhynchichthys osculus</i>
Brown trout (I)	<i>Salmon trutta</i>
Brook trout (I)	<i>Salvelinus fontinalis</i>
Golden shiner (I)	<i>Notemigonus crysoleucas</i>

Source: Department unpublished data
N=Native, I=Introduced
* The Lahontan cutthroat trout is native to the Lahontan region in California, which does not include the Antelope Valley or Smithneck Creek Wildlife Areas.

AQUATIC HABITATS

Important components of aquatic habitat in the streams flowing through the wildlife areas include flow-related habitat types (e.g., pools, riffles, and runs formed through geomorphic processes), instream cover (e.g., boulders and LWD), and riparian elements (e.g., vegetation and instream tree and shrub debris). All of these habitat components provide structure and complexity that benefit the diversity and abundance of aquatic species.

The majority of aquatic macroinvertebrates are concentrated in riffle habitats where dissolved oxygen is high and relatively coarse substrates (e.g., gravel, cobble) are present. Trout and other fish species use all habitat types at some point during their life cycle. Trout spawning is generally associated with riffle and run habitats where adequate gravel substrate and water flow are available for spawning. Juvenile trout use edge habitats where stream velocities are low and structure is present to support prey and provide refuge. Aquatic vegetation and riparian cover along with instream LWD serve as important juvenile fish habitats.

In the wildlife areas, riffle habitats are generally dominant and pool habitat is lacking. The streams in the wildlife areas are largely bordered by pine forests in their higher reaches and mountain meadow in their mid to lower reaches. Stream flows vary; high flood flows from spring runoff typically peak in May. Extensive habitat degradation, including channel incision and bank erosion, has occurred in most of the creeks. These effects are largely caused by excessive grazing, road construction, logging, and wildfires (Appendix D). Since the 1950s ecologists have recommended temporary removal of cattle from the stream channels and adjacent lands as a measure to reduce erosion and channel incision.

In spite of the degradation of these creek systems, these creeks have been valued for their abundant populations of rainbow and brown trout. While recent wildfires may have decreased trout populations, Smithneck, Badenaugh, and Bear Valley Creeks have all been praised for their high densities of trout, which provide excellent recreational opportunities. A brief discussion on each of the creeks flowing through the wildlife areas is provided below.

Antelope Valley Creek

Antelope Valley Creek is a small perennial stream that originates in the mountains south of the town of Loyalton and flows along Antelope Valley Road into the Antelope Valley. The creek is dammed just outside of the wildlife

area boundary, forming Palen Reservoir, which regulates the flow of Antelope Creek north into Antelope Valley and eventually into Sierra Valley and the Middle Feather River. The creek originates at about 6,500 feet elevation and drops roughly 1,600 feet before entering the Antelope Valley at about 4,900 feet. Antelope Valley Road parallels Antelope Valley Creek from the lower Antelope Valley up the drainage and down an unnamed stream to Bear Valley Creek and the Sierra Brooks subdivision. In addition to Antelope Valley Road, a network of smaller roads was built in the early 1900s in conjunction with the lumber mill and logging operations in the central part of the watershed. These roads have altered the hydrology of the watershed by intercepting overland flow, concentrating tributary flow, and thus dewatering natural channels, increasing erosion potential, and causing incision of the creek channel. Construction of Palen Reservoir disrupted natural drainage patterns through excavation of floodplain areas for dam construction and the engineering of channels around and below the reservoir to convey flows. A damaged diversion structure above Palen Reservoir still partially diverts flows into a canal that bypasses the reservoir. The current state of Antelope Valley Creek is a channel that has become incised up to 8 to 10 feet in some areas. As a result of the channel incision, the stream flow has become entirely isolated from its floodplain in the meadow.

In the summer of 1988, the Department stocked Palen Reservoir with fingerling Lahontan cutthroat trout (*Oncorhynchus clarki henshawi*) with the objective that the species would naturalize in the small lake. In subsequent years, young of the year Lahontan cutthroat trout were observed in Palen Reservoir, confirming natural reproduction in the system, however, spawning sites were unknown. Since the initial introduction, the reservoir has been stocked on three other occasions. Lahontan cutthroat trout were observed and captured in the lower Antelope Valley Creek on DFG property; however, only two individual fish were sampled and conditions in Palen Reservoir and lower Antelope Valley Creek during the late summer and fall of dry years appear to prohibit the survival of Lahontan cutthroat trout (Hiscox 2000).

Badenaugh Creek

Badenaugh Creek flows northwest out of the high elevation areas of the Sierra Nevada and into Smithneck Creek just upstream of the Sierra Brooks subdivision south of Loyalton. It originates as a first order stream at about 7,200 feet and drops about 1,800 feet before entering Smithneck Creek from the east side. By the time it flows into Smithneck Creek at 5,400 feet it becomes a second order stream. Badenaugh Creek consists of a high gradient, step-pool system bordered by riparian and upland forest. The creek has been degraded partially by construction of an old railroad grade and the road system that follows the creek through Badenaugh Valley. The alignment of the railroad grade causes the diversion of spring-fed tributaries from their natural channels, causing a concentration of flows and subsequent erosion of channels. The road currently moves through the riparian zone along the stream causing rutting and erosion in the downstream meadow. The Department stocking records indicate that the creek was stocked with rainbow trout, brook trout, and brown trout through the 1950s.

Bear Valley Creek

Bear Valley Creek flows north out of Bear Valley and into Smithneck Creek from the west just downstream of the Sierra Brooks subdivision. The stream originates at 6,800 feet elevation and drops to 5,100 feet by the time it enters Smithneck Creek. The creek is adjoined by a healthy riparian corridor. In the lowest 1.5 miles of the creek above the junction with Smithneck Creek, Bear Valley Creek flows through the Bear Valley Meadow. The meadow is presently degraded with severely incised (i.e., entrenched) stream channels, which are actively eroding the banks and contributing sediments downstream to Smithneck Creek near the town of Loyalton. Dating back to the 1930s rainbow and brook trout have been stocked periodically in Bear Valley Creek.

Smithneck Creek

Smithneck Creek is the largest creek in SCWA, draining an area of approximately 31.6 square miles including the Bear Valley Creek and Badenaugh Creek drainages. It flows out of a high altitude basin in the Sierra Nevada just north of Stampede Reservoir. Originating at about 7,200 feet, it flows north-northeast 13 miles to the town of

Loyalton and finally into the Sierra Valley and the Middle Fork of the Feather River. Smithneck Creek is thought to provide some of the highest quality angling for brown trout anywhere in California, with the upper reach (above Badenaugh Creek) supporting the highest densities of fish. Baseline flows in Smithneck Creek average about 5–8 cubic feet per second (cfs) with flood flows reaching as high as 85 cfs. The lowest third of the creek is known to support mountain suckers.

SPECIAL-STATUS FISH SPECIES

Special-status fish species are legally protected or are otherwise considered sensitive by federal, state, or local resource conservation agencies and organizations. No special-status fish species are known to occur in aquatic habitats within the wildlife areas. As discussed above, Lahontan cutthroat trout (listed as federally threatened) were unsuccessfully introduced to Palen Reservoir, which is located on Antelope Valley Creek outside of the boundary of the wildlife areas.

3.3.5 REGULATORY SETTING

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

Federal Endangered Species Act

The U.S. Fish and Wildlife Service (USFWS) has authority over projects that may affect the continued existence of a federally listed (threatened or endangered) plant or wildlife species. Section 9 of Endangered Species Act (ESA) prohibits the take of federally listed species; take is defined under ESA, in part, as killing, harming, or harassment. Under federal regulations, take is further defined to include habitat modification or degradation where it results in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. The Cooperative Agreement between the USFWS and the Department allows Department staff certain types of take of federally listed species under specific circumstances; see <http://www.dfg.ca.gov/wildlife/species/publications/docs/CDFGCooperativeAgreementWithUSFWS.pdf>.

Clean Water Act

Pursuant to Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (USACE) regulates discharge of dredge or fill material into waters of the United States. Waters of the United States and their lateral limits are defined in Section 33 of the Code of Federal Regulations Part 328.3 (a) and include navigable waters of the United States, interstate waters, all other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries. Fill is defined as any material that replaces any portion of a waters of the United States with dry land or changes the bottom elevation of any portion of a waters of the United States. Any activity resulting in the placement of dredge or fill material to waters of the United States requires a permit from USACE.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA), first enacted in 1918, implements domestically a series of treaties between the United States and Great Britain (on behalf of Canada), Mexico, Japan, and the former U.S.S.R., which provide for international migratory bird protection, and authorizes the U.S. Secretary of the Interior to regulate the taking of migratory birds. The MBTA provides that it shall be unlawful, except as permitted by regulations, “to pursue, take, or kill any migratory bird, or any part, nest or egg of any such bird” (16 United States Code 703). The current list of species protected by MBTA can be found in the August 24, 2006 Federal Register (71 FR 50194). The list includes nearly all birds native to the United States. Nonnative species such as house sparrows and European starlings are not protected by this statute, nor are native, nonmigratory

upland game birds such as quail. Section 3513 of the California Fish and Game Code provides for adoption of the MBTA's provisions at the state level.

U.S. Forest Service Sierra Nevada Forest Plan Amendment

The management direction of the Sierra Nevada Forest Plan Amendment lists management goals and strategies for aquatic, riparian, and meadow ecosystems and associated species. The goals provide a comprehensive framework for establishing desired conditions at larger scales, including river basin, watershed, and landscape scales. Moving ecosystem conditions toward these goals will restore and maintain the physical, chemical, and biological integrity of the region's waters as mandated by the Clean Water Act, and will support the U.S. Forest Service's mission to provide habitat for riparian and aquatic-dependent species under the National Forest Management Act, Organic Act, Safe Drinking Water Act, Endangered Species Act, and Electric Consumers Protection Act. Goals and objectives are provided to maintain and restore the characteristics of watersheds and aquatic habitats.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

Native Plant Protection Act

Sections 1900–1913 of the California Fish and Game Code codify the Native Plant Protection Act, which is intended to preserve, protect, and enhance endangered or rare native plants in the state. The act directs the Department to establish criteria for determining which native plants are rare or endangered. Under Section 1901, a species is endangered when its prospects for survival and reproduction are in immediate jeopardy from one or more cause. A species is rare when, although not threatened with immediate extinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens. Under the act, the Fish and Game Commission may adopt regulations governing the taking, possessing, propagation, or sale of any endangered or rare native plant.

California Endangered Species Act

Pursuant to the California Endangered Species Act (CESA) and Section 2081 of the California Fish and Game Code, a permit from the Department is required for projects that could result in the take of a state-listed threatened or endangered species. Under CESA, the definition of "take" is understood to apply to an activity that would directly or indirectly kill an individual of a species, but the definition does not include "harm" or "harass," as the federal act does.

California Environmental Quality Act

The California Environmental Quality Act (CEQA; California Public Resources Code § 21000–21177) requires State agencies, local governments, and special districts to evaluate and disclose impacts from "projects" in the State. Section 15380 of the CEQA Guidelines clearly indicates that species of special concern may be included in the CEQA definition of rare, threatened, or endangered species, if they can be shown to meet the criteria of outlined in that section of the Public Resources Code.

Sections 15063 and 15065 of the CEQA Guidelines, which address how an impact is identified as significant, are particularly relevant to Species of Special Concern. Project-level impacts to listed (rare, threatened, or endangered) species are generally considered significant thus requiring lead agencies to prepare an Environmental Impact Report to fully analyze and evaluate the impacts. In assigning "impact significance" to populations of non-listed species, analysts usually consider factors such as population-level effects, proportion of the species' or sub-species' range affected by a project, regional effects, and impacts to habitat features.

California Fish and Game Code Section 1602—Streambed Alteration

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream or lake in California that supports wildlife resources are subject to regulation by the Department, pursuant to Section 1602 of the California Fish and Game Code. Section 1602 states that it is unlawful for any person, governmental agency, state, local, or any public utility to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake without first notifying the Department of such activity. The regulatory definition of stream is a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports wildlife, fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or have supported riparian vegetation. The Department's jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife.

California Fish and Game Code Section 3503 and 3513—Protection of Birds

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Additional regulations protect individual birds in addition to their nests and eggs. Under Section 3503.5 it is unlawful to take, possess, or destroy species in the orders Falconiformes or Strigiformes (birds of prey or raptors). Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act. Typical violations include destruction of active raptor nests because of tree removal, and failure of nesting attempts (i.e., loss of eggs or young) attributable to disturbance of nesting pairs by nearby human activity.

California Department of Fish and Game Code, Section 1700—Conservation of Aquatic Resources

Section 1700 of the Department Code states the importance of the maintenance of sufficient populations of all species of aquatic organisms to insure their continued existence.

California Department of Fish and Game Code, Section 2600–2602

Section 2600–2602 of the Department Code stresses the importance of habitat for the continued existence of healthy, vigorous populations of fish and wildlife. This section of the code provides the financial means to correct the most severe deficiencies in fish and wildlife habitat in California through acquisition, enhancement, and development of habitat areas that are most in need of proper conservation and management.

California Department of Fish and Game Code, Section 2761

The Department Code acknowledges that fish and wildlife are important public resources with significant economical, environmental, recreational, aesthetic, and educational values and that they have declined as a result of development. California should make reasonable efforts to prevent further decline and protect fish and wildlife resources such as salmon and trout.

Loyalton-Truckee Deer Herd Management Plan

The Loyalton-Truckee Deer Herd Management Plan provides guidelines and objectives for long-term management of the Loyalton-Truckee deer herd. The goals of the plan are consistent with the general goals set forth in “A Plan for California Deer” in 1976 (Department 1976). These state-wide goals are to restore and maintain healthy deer herds in the wild in California, and to provide high quality and diversified use of deer.

3.4 CULTURAL RESOURCES

Human occupation in the Sierra Nevada Mountain Range (Sierra Nevada) dates to thousands of years ago; important habitation and activity sites are found in many areas where landforms and resources important to early Native American populations could be found. To some extent, human intervention has shaped the present-day landscape and the natural resources found at AVWA and SCWA. From the introduction of invasive plant species to the large-scale cutting of timber, introduction of cattle ranching in the 19th and early 20th centuries, and impoundment of streams and rivers, what may at first appear to be a pristine natural setting has in fact been heavily influenced by people's manipulation and uses of the land. A brief review of the sequence of Native American and Euro-American occupation and their effects on the landscape is presented below.

3.4.1 PREHISTORIC ARCHAEOLOGICAL SETTING

In general, the prehistory of AVWA and SCWA and the surrounding area has not been extensively investigated and the sequence of cultural manifestations is not well understood. However, sites and artifacts that have been documented in AVWA and SCWA appear to relate to the cultural chronologies based on sites found primarily in the nearby Tahoe Basin. Heizer and Elsasser (1953) were the first researchers to postulate an archaeological chronology for the north-central Sierra Nevada. The mutually exclusive site locations and tool technologies noted from the Tahoe Basin and the surrounding region reveal two main cultural manifestations or "complexes":

- ▶ **The Martis Complex (ca. 5000–1300 Before Present [B.P.]).** This period is also commonly referred to as the Middle Archaic and was defined by a heavy reliance on flaked basalt implements and milling stones and slabs for the grinding of seed foods. The predominance of flaked and ground stone artifacts on archaeological sites of this time appears to reflect an economic focus on hunting and seed gathering. This complex was first identified at site CA-Pla-5 in Martis Valley, south of Truckee.
- ▶ **The King's Beach Complex (ca. 1300–150 B.P.).** In contrast with the Martis Complex, technology during this time was characterized by chert and obsidian toolstone, bedrock mortars, smaller projectile points (presumably arrow points), and an economic emphasis on fishing and seed gathering. The King's Beach Complex is usually attributed to the late prehistoric Washoe. Archaeological site CA-Pla-9 on the north shore of Lake Tahoe is typical of the Kings Beach Complex.

Heizer and Elsasser's 1953 archaeological sequence for the north-central Sierra was revised and expanded to reflect research findings by Elston (1970, 1972), Elston and Davis (1972), and Elston et al. (1976). Based on later discoveries of stratified archaeological deposits, the presence of stemmed-series projectile points from the Great Basin, and accompanying radiocarbon dates, the regional chronological framework was amended to include a pre-Martis culture and defined a transitional phase between Martis and Kings Beach (Elston et al. 1976). Elston's "Pre-Archaic" (pre-Martis) incorporates the ill-defined **Tahoe Reach Phase** and broadly places the earliest Eastern Front prehistory between 10,000 and 8000 B.P. It is generally equated with small, highly mobile groups whose economy was focused on game hunting. Little evidence for sites of this phase has been found in the Sierra Nevada. Its presence in the region is postulated based on sites of this age at lower elevations. Better-defined cultural manifestations defined by Elston (1970, 1972), and Elston et al. (1976) include:

The Early Archaic (8000–5000 B.P.). Consisting of the Spooner Phase, the Early Archaic is described by Elston et al. (1976) as "a hypothetical construct to name the interval for which little archaeological data existed, and it remains poorly known to the present." This cultural phase has been characterized (but not without some controversy; see Milliken and Hildebrandt 1997) by the presence of projectile points of the Pinto (Gatecliff) Split Stem series and Humboldt series found predominantly in the Great Basin. Paleoenvironmental conditions during this period reflect a widespread Middle Holocene warming and drying trend. General cultural patterns attributed to the Early Archaic include small game hunting, increased milling of hard seeds, and a mixed-mode, forager-collector subsistence strategy.

The Middle Archaic (5000–1300 B.P.). As defined by Elston et al. (1976), this period is represented by the Early Martis (5000–3000 B.P.) and the Late Martis (3000–1300 B.P.) phases. During this time, conditions became cooler and wetter, similar to the climate experienced today. Human populations increased and diversified, though remained small enough to prevent resource overexploitation (Zeier and Elston 1992). The origins and cultural implications of the Martis Complex remain a mystery to local researchers and debate continues (e.g., Bloomer et al. 1997; Clewlow 1984; Duke 1998; Elsasser and Gortner 1991; Jackson et al. 1995). Current research and discussion focuses on whether the Martis Complex represents a distinct cultural phenomenon or a unique technological system specializing in Sierra Nevada resources, particularly the uncharacteristic reliance on basalt toolstone. Lindström (1985), for instance, speculates that Martis reflects an indigenous Sierran culture rather than representing groups from Great Basin or California, thus incorporating the mountain setting into their seasonal settlement and subsistence patterns.

The Late Archaic is divided into the **Early Kings Beach Phase (1300–700 B.P.)** and **Late Kings Beach Phase (700–150 B.P.)** (Elston et al. 1994). The transition from Middle to Late Archaic/ethnographic Washoe is described as one of “profound cultural change” (Elston 1986:19). Environmental conditions continued to be temperate during the Late Archaic, although periodic warm-dry intervals appear to have resulted in substantial and prolonged droughts (Lindström and Bloomer 1994). Socio-economic and technological changes likely resulted from population increases and “demographic packing” and consequent “interspersed” settlement patterns (Elston 1986). Innovations attributed to the Late Archaic include the bow and arrow, the increased use of bedrock mortars for piñon pine exploitation, and an increase in the use of simple flake tools. The inclination toward basalt and other coarse-grained material for tool manufacture decreased during this time, while obsidian and chert were increasingly exploited.

In summary, the current cultural chronology for the Sierra/Lake Tahoe region recognizes six generally distinct phases, each of which can be defined in large part by the presence of distinct projectile points found on archaeological sites:

- ▶ Tahoe Reach Phase (ca. 10,000–8000 B.P.)—Great Basin Stemmed series projectile points.
- ▶ Spooner Phase (ca. 8000–5000 B.P.)—various large basalt projectile points.
- ▶ Early Martis Period (ca. 5000–3000 B.P.)—Martis Contracting Stem and Martis Split Stem projectile points.
- ▶ Late Martis (ca. 3000–1300 B.P.)—Martis Corner Notched, Elko Corner Notched, and Elko Eared points.
- ▶ Late Archaic is divided into:
 - Early Kings Beach Phase (ca. 1300–800 B.P.)—Rosegate and Gunther Series points.
 - Late Kings Beach Phase (ca. 800–150 B.P.)—Desert Side-Notched and Cottonwood series projectile points.

3.4.2 ETHNOGRAPHIC SETTING

Within and near AVWA and SCWA, accounts differ as to the exact boundaries of Native American tribal groups that have identified the area as their traditional territory. Although cultural and tribal boundaries tended to shift over time or be poorly defined, research indicates that the region was essentially a border area between the Washoe, centered around Lake Tahoe, and the Maidu to the west. Both of these tribes may have used the landscape within AVWA and SCWA and exploited its natural resources during prehistoric times and into the ethnographic and historic eras.

The Washoe-Maidu boundary near AVWA and SCWA differ somewhat between maps published by Kroeber (1925) and d’Azevedo (1986). Still different divisions of Washoe and Maidu territories can be found in Riddell (1978). It is important to note that these conflicting boundaries were drawn as the result of ethnographic observations, historical accounts, and oral interviews. Information could vary from region to region, between tribes, and likely even between members of the same tribe. In addition, boundaries were often flexible and, in the end, were not necessarily delineated according to landscape features, oral tradition, or resource area. Regardless, despite cultural differences, these tribes appear to have inhabited and used the landscape in similar ways. This was

particularly the case when resources were abundant, or where trade and travel routes or mountain passes were present and joint use was typically accommodated through negotiation (d'Azevedo 1986:467).

WASHOE

Although the Tahoe Basin to the south of AVWA and SCWA is considered the spiritual and geographic center of the Washoe world (Downs 1966:16), at the time of Euro-American contact, Washoe settlements were found in the larger valleys on and along the eastern slope of the Sierra Nevada between Honey Lake to the north and Little Antelope Valley to the south (d'Azevedo 1986:468; Carlson 1986; Elston 1986:13; Price 1962, 1980). They are members of the widespread Hokan linguistic group and the only Great Basin group to speak a non-Numic language. Although the evidence is far from conclusive, Kroeber (1925:569) and Downs (1966:70) postulate an early relationship prior to 4,500 years ago between the Hokan speaking Washoe and other Hokan speakers in California.

The traditional Washoe were organized into basic household or extended family units residing in multifamily communities (Barrett, S.A. 1917:8; Jackson et al. 1994). Groups maintained ties with each other as well as with neighboring Penutian-speaking Maidu and Miwok to the north, south, and west, and with the Paiute to the east in the Great Basin. The Washoe had one of the highest precontact population densities in the region (Lindström and Bloomer 1994:27; Price 1980) and pursued an "intensive subsistence strategy and a demographically packed settlement pattern" as defined by Zeier and Elston (1986:379). This land use pattern involved high seasonal mobility, mixed strategies of foraging and collecting, and the intensive exploitation of various perennial and seasonal floral and faunal resources.

Fishing was one of the most important forms of subsistence acquisition available to the Washoe in lake, stream, and river settings and d'Azevedo (1986:473) and Lindström (1992:308) suggest that this activity provided the most predictable and consistent source of year-round food during prehistoric and ethnographic times. The hunting of large and small mammals provided hides, bones, ligaments, and other important materials but also constituted another important food source. The late summer and early fall were preferred hunting seasons when species such as mule deer, pronghorn antelope, and mountain sheep were at their most robust. Hares and jackrabbits (white-tailed jackrabbit, cottontail and snowshoe hare) also supplied an abundant meat source and drives were organized in late fall to take advantage of this important resource.

The wide variety of flora available within Washoe territory provided a substantial part of their diet and many species were valued for their medicinal properties. The varied distribution of seasonally available plants was a major factor in the dispersal of Washoe groups and their frequent movements over a large range. Two of the most important Washoe staple foods, pine nuts (*ta gim*) and acorns (*malin*) for example, were available mostly in the late fall and winter when other plant resources were becoming scarce.

In general, Washoe lifeways remained largely unchanged for centuries until the middle decades of the 19th century. Would-be miners, loggers, ranchers, and Euro-American settlers began to flood the region following the gold strikes in the Sierra Nevada foothills and the silver discoveries in the nearby Nevada Comstock Lode. The Washoe, like many Native American groups in California and Nevada, suffered greatly from the loss of their traditional territory and lifeways and their population decreased dramatically and soon became marginalized. Today, however, the Washoe people constitute a thriving native community and they are reinvesting in their heritage and culture through new-found political, economic, and social influence throughout the Sierra Nevada region.

NORTHEASTERN MAIDU

The Northeastern or "Mountain" Maidu traditionally inhabited a region including the drainages of the American and Feather rivers in the northern Sierra Nevada (Riddell 1978). Accounts indicate that because of the deep snows and marshy conditions found in nearby Sierra Valley for most of the year, the Maidu spent little time there;

however, no information specific to the Antelope Valley is known to exist. It can be assumed that the Maidu in the northernmost areas of their territory had contact with the Pit River tribes (Kroeber 1925) and they certainly would have had some kind of relationship with the Washoe peoples to the south.

The Maidu, unlike their Washoe neighbors, spoke a series of dialects of the Maidu family of languages, classified as California Penutian (Riddell 1978:370). In general, Maidu speakers inhabited areas above 4,000 feet, such as the Sierra and Mohawk valleys. Village sites were only seasonal and were in use during the warmer months, thereby limiting to a certain degree their contact with the Washoe. Maidu settlement patterns used a “village community” system as described by Kroeber 1925:398), which served as the only formal political organization of the tribe. Each community, consisting of several villages, was politically autonomous and included an often larger central village where an earth-covered lodge and dance-house were built. This central village served as the political hub of the community and often served as the residence for the head-man who served primarily as an advisor and spokesman for the community members, although he did not necessarily wield strict political power (Dixon 1905:224).

Village community territories in the Maidu’s mountainous environment were typically well defined by the valleys in which they were established (Kroeber 1925:398). In the larger glacial valleys (such as the Sierra and Antelope valleys), the floors were often covered with snow during the winter months but became marshy drainages during the warmer seasons. The Maidu took advantage of these resource-rich valley bottoms and, according to Dixon (1905:175), “selected sites along the edges of these valleys and rarely lived out in the middle of the level stretches.” Archaeological evidence also demonstrates the tendency of the Maidu to live in those settings that provided easy access to subsistence resources and good views of the surrounding landscape (McMillin 1963:63; Riddell and Pritchard 1971).

As with their Washoe neighbors, hunting and fishing, particularly in the higher elevations of the Maidu territory, were important subsistence activities. Fish species inhabiting the rivers and creeks within individual village community territories were caught with small baglike nets or seine nets stretched across a stream channel (Dixon 1905:143). Game such as grizzly bear, deer, elk, and various birds were hunted individually or en masse using drives and traps. Although pursued chiefly as food sources, game animals also provided a valuable source for raw materials such as hides, tendons, and bones, which were used for clothing and the numerous implements necessary for daily life.

Although the Washoe were one of the last tribes in the region to be affected by incursions of Euro-Americans, the Maidu came into regular contact with Spanish explorers and American trappers during the early decades of the 19th century. In 1808, Gabriel Moraga first encountered the Maidu on his expeditions up the lower reaches of the Feather River and, by the 1830s, Hudson’s Bay Company trappers were regularly traveling through Maidu territory. However, it wasn’t until the discovery of gold at Coloma in 1848 that sustained and often disastrous contacts became the norm. Although the patterns of Euro-American impact on Maidu culture mirror those of other California tribes, the Maidu have a renewed interest in their traditional culture and values. The Maidu, like the Washoe, represent a growing and proud native California community.

3.4.3 HISTORIC-ERA SETTING

Although contact between Native American tribes and Euro-Americans had begun decades earlier, a party of would-be miners first entered the Sierra Valley (adjacent to and to the northwest of Antelope Valley) in the summer of 1850 and essentially ushered in an era of sustained nonnative control of the region (Sinnot 1982). However, trapper and adventurer James P. Beckwourth is most often credited with the “discovery” of the Sierra Valley in 1851 where he settled the following year:

In the spring of 1852 I established myself in Beckwourth Valley (present-day Sierra Valley), and finally found myself transformed into a hotel-keeper and chief of a trading post. My house is considered the emigrant’s landing-place, as it is the first ranch he arrives at in the golden state, and is the only house between this point and Salt Lake. Here is a valley two hundred and forty miles in circumference,

containing some of the choicest land in the world. Its yield of hay is incalculable; the red and white clovers spring up spontaneously, and the grass that covers its smooth surface is of the most nutritious nature. When the weary, toil-worn emigrant reaches this valley, he feels himself secure; he can lay himself down and taste refreshing repose, undisturbed by the fear of Indians....

By the late 1850s numerous trails and wagon roads were established to handle the transport of goods and people from Sierra Valley, and the towns of Beckwourth, Loyalton, and Sierraville to the Nevada Territory and back. The town of Beckwourth in the northern part of the valley was founded in 1852 and the southern town of Smith's Neck was founded in 1854. By 1863, with the Civil War raging in the eastern states, the Unionist sentiments of the Smith's Neck residents led to the renaming of the town to Loyalton (Kirkham 1976). The northern part of the valley was settled primarily by farmers and ranchers and was less populated than the southern portion of the valley and the surrounding area (SVRCD 2005). The southern portion of the valley was more heavily wooded and communities such as Sierraville and Loyalton served as ranching and lumber towns that developed in support of the Comstock Lode mines (named after one of the discoverers of the silver deposits) in Nevada.

Although the Gold Rush of the late 1840s and the early and mid-1850s often brought would-be miners to California from all corners of the globe, most of the immigrants that settled in the Sierraville and Loyalton area were born in the United States. The backgrounds of several area pioneers are typical of those that settled near AVWA and SCWA (Fariss & Smith 1882):

Walter Banet—Born in Mississippi in 1855, he graduated from the Missouri Medical College and in 1881 was stationed in Nevada as a surgeon with the U.S. Indian Service. By 1882 he had settled in Loyalton and established a thriving medical practice.

Thomas F. West—Born in 1820 in Rensselaer County, New York, he worked as a farmer and small merchant in New York and Wisconsin before coming to California in 1871. By 1882 he had settled on a farm about 2 miles northeast of Loyalton.

Michael Hardin—Born in 1819 in Bergen, New Jersey, he came to California in 1851 and worked as a miner in Placer and Yuba Counties. In 1857 he purchased a 240 acre ranch 1.5 miles north of Sierraville.

E. H. Hamlen—Born in Maine in 1836, he arrived in San Francisco in 1857 and worked as a miner and logger in Alleghany (Sierra County) until 1859 before settling on a 540-acre farm and ranch in the Sierra Valley.

Sierra County split from Yuba County in 1852 and had a population of 11,400 by 1860. Euro-American settlers of Sierra Valley such as those mentioned above were most highly concentrated along the rim of the valley and in the forested areas. The predominant economic industries of the valley included dairy and beef cattle, hay, and lumber. With the decline of the mining boom in California and in the Nevada Comstock Lode, the population of Sierra County by 1870 was only 5,600. The highest concentration of people in Sierra Valley fell into two areas: the communities along Highway 70 from Beckwourth to Chilcoot, and logging communities such as Sierraville in the southern portion of the Valley (SVRCD 2005).

Although beef, hay, and dairy products, such as butter, were produced in large quantities in Sierra Valley and the surrounding region, logging constituted the other major industry. Numerous lumber companies and their associated facilities were established near Sierraville and Loyalton during the latter decades of the 19th century. Lumber mills such as the Winnie Smith Mill in Antelope Valley, the California Mill on Smithneck Creek southeast of Loyalton, and the Lewis Mill, also on Smithneck Creek, processed the timber cut from local hillsides. Lumber companies, such as the Roberts Lumber Company (subsequently the Clover Valley Lumber Company and the Verdi Lumber Company), were major contributors to the local economy into the early decades of the 20th century. However, as commercially viable stands of timber were exhausted in the area, most of these companies went out of business or consolidated with other firms and shifted operations to more productive regions. Although logging continues near AVWA and SCWA today, it is generally localized and the industry no longer serves as one of the major economic mainstays of the region. Since the 1980s in particular two issues substantially reduced the amount of timber

harvested in the region. Helms and Tappeiner (1996) noted that conservation efforts to protect wildlife habitat resulted in a two-thirds reduction in the harvest of timber on public lands throughout California. Secondly, public opinion has led to efforts to restrict old-growth stands from commercial logging. Although few such stands are present near AVWA and SCWA, the general statewide pattern of restricted logging substantially reduced the timber industry in the region.

3.4.4 DOCUMENTED CULTURAL RESOURCES

Although numerous prehistoric and historic-era sites, features, and isolated artifacts have been identified in the AVWA and SCWA vicinity, only five cultural resources have been documented directly within AVWA (Table 3.4-1) and six sites have been identified within SCWA, including some that have been marked on USGS topographic quadrangle maps but for which no further documentation is available (Table 3.4-1). Although conducting a record search through the California Historical Resources Information System (CHRIS) is often an initial step in researching a project area within California, it was determined that the Sierraville Ranger Station of the U.S. Forest Service maintained the most detailed and updated files. Consequently, records on file at this location were consulted in lieu of those curated by the CHRIS.

Table 3.4-1 Cultural Resources Documented in the Wildlife Areas						
Resource Number	Association	Type	Twp.	R.	Sec.	NRHP/CRHR Status
Antelope Valley Wildlife Area						
			Antelope Valley USGS Quad.			
FS-05-17-56-287	historic-era	refuse deposit	21N	15E	34	not evaluated
FS-05-17-56-289	prehistoric	lithic scatter—habitation	22N	15E	34	not evaluated
CA-Sie-693, FS-05-17-56-317	prehistoric	lithic scatter	21N	15E	28	not evaluated
FS-05-17-56-318	prehistoric	lithic scatter—milling station	21N	15E	28	not evaluated
FS-05-17-56-319	historic	Winnie Smith Mill	21N	15E	28	not evaluated
Smithneck Creek Wildlife Area						
			Loyalton USGS Quad.			
CA-Sie-391, FS-05-17-56-06	prehistoric	Badenaugh Canyon petroglyphs	21N	16E	33	not evaluated
CA-Sie-155	prehistoric	possible hunting blind	12N	16E	32	not evaluated
n/a	historic-era	possible mill site	21N	15E	36	not evaluated
n/a	historic-era	Mrs. Peck’s Hotel—1876	21N	16E	32	not evaluated
n/a	historic-era	Boca & Loyalton Railroad	*	*	*	not evaluated
			Sardine Peak USGS Quad.			
FS-05-17-56-444	historic-era	refuse deposit	20N	16E	32	not evaluated
Notes: CRHR = California Register of Historical Resources; NRHP = National Register of Historic Places; Quad. = quadrangle; Twp. = Township; R. = Range; Sec. = Section; USGS = U.S. Geological Survey * various locations Source: Data compiled by EDAW in 2007.						

In order to determine if any culturally important sites or locations were within the AVWA or SCWA that might be of concern to the Native American community, the Native American Heritage Commission (NAHC) was contacted and a review of the Sacred Lands File was requested. A list of appropriate Native American tribal organizations and representatives that might have an interest in or concerns with the LMP was identified. The NAHC reported that no sensitive properties were situated within the AVWA or SCWA. The Washoe Tribe of Nevada and California were contacted, in accordance with the NAHC's suggestion, but no comments were received.

FS-05-17-56-287

Situated near the remains of the Winnie Smith lumber mill (FS-05-17-56-319), this refuse deposit measures approximately 300 to 350 yards NW-SE and about 200 yards NE-SW. Documented artifacts include milled lumber, square-cut and wire nails, a mining sluice box, a Ford Model T fender, tobacco tins, sanitary cans, sections of stove pipe, fragments of bottle glass of various colors, sheet metal, and enamel ware fragments. With the exception of the sluice box, which suggests that placer mining was conducted in the area around the turn of the last century, the deposit does not appear characteristic of any particular industry or economic endeavor. However, its location, essentially adjacent to the Winnie Smith Mill, suggests that this site represents debris related to the construction and operation of this facility.

FS-05-17-56-289

This prehistoric site consists of a sparse scatter of stone artifacts including two grinding slabs and lithic debitage (the sharp-edged waste material left over when someone creates a stone tool). The debitage assemblage includes flakes and fragments of black basalt, obsidian, and dark red chert. No formal implements other than the grinding slabs were noted at this location. The scatter occurs in an area measuring approximately 90 meters NE-SW and 48 meters NW-SE and appears to represent a short-term campsite dedicated to the exploitation of locally available floral resources and the production and/or curation of stone tools.

CA-SIE-693 (FS-05-17-56-317)

Lithic artifacts recorded at this location consist of a sparse scatter of chert debitage in various colors ranging from salmon pink to dark red, an obsidian projectile point, a basalt biface fragment, and a tan/red chert core. The site record indicates that most of the debitage consists of small "interior" flakes bearing no trace of cortical surfaces. This observation suggests that the reduction activities undertaken at this site were geared toward the maintenance of flaked stone implements. Few, if any, were manufactured directly from quarried or otherwise gathered fragments of raw material. These artifacts were found within an area measuring about 95 meters NE-SW by 50 meters NW-SE. Two possibly cultural shallow cups or basinlike indentations on the vertical face of a boulder were also documented at this location. A more detailed analysis is required to determine whether or not these features are natural in origin.

FS-05-17-56-318

This prehistoric site includes a sparse to moderately dense scatter of lithic artifacts and milling features occurring within an area measuring about 80 meters N-S and 40 meters E-W. The lithic artifacts consist of debitage of various materials including obsidian, basalt, chert, several biface fragments, and a possible drill. A total of five granitic outcrops exhibit eight mortar cups ranging in depth from 1–10 centimeters. The presence of the mortar cups and the wide range of lithic artifacts suggests that a number of subsistence and technological activities were conducted on this site, including the processing of locally available floral foodstuffs (probably nuts and/or various seeds) and the production and curation of flaked stone implements.

FS-05-17-56-319 (WINNIE SMITH MILL)

Relatively little is known regarding the operations at the mill, although this lumber mill site is one of the most prominent historic-era sites in AVWA and the vicinity and some of the descendants of the original mill's owners still live in the area. This extensive complex was one of the larger mills in the Sierraville/Loyalton area and was no doubt a major employer during the early decades of the 20th century. The mill shut down during the 1940s and by the 1950s the facility was in a state of disrepair, which is reflected in its designation as "Ruins" on the Antelope Valley USGS topographic quadrangle map dated 1955.

Numerous photographs of the mill exist, which is fortunate given that virtually all aboveground structures and buildings were destroyed in the 2005 Harding fire, which burned over a large area within AVWA. The site was documented in its current state in 2005, and numerous building foundations, structure remains, and artifacts related to the mill operations were noted.

CA-SIE-391 (FS-05-17-56-06) (BADENAUGH CANYON PETROGLYPHS)

Although numerous flaked and ground stone artifacts have been found at this site, the dominant feature of this locale consists of one large and one smaller volcanic boulder bearing numerous weathered petroglyphs. The petroglyphs were originally documented by Louis Payen of California State University Sacramento in 1966 and the majority consists of concentric circular or "bulls-eye" motifs. Cupules and other circular and line figures have also been noted on the larger boulder; only the circular patterns have been documented on the smaller adjacent rock.

Other petroglyph sites have been found in the region. The two nearest roughly comparable sites include one at Kyburz Flat, 7 miles north of Hobart Mills, and another 12 miles north of Truckee in the Sardine Valley (Payen 1966). The meaning of the cupules, concentric circles, and other similar petroglyph designs is not known although some present-day Native Americans suggest that they may have been associated with male and/or female puberty rituals.

CA-SIE-155

Located just below and on the southwest side of a rocky hill above Bear Valley Creek, this feature may be the remains of a prehistoric hunting blind. An oval pit and a low rock wall measure approximately 3 meters north-south and 2.5 meters east-west. Documented in 1976 by Louis Payen, this feature overlooks a present-day game trail where a single basalt flake was found. However, it is not possible to directly associate the flake with the feature nor is it possible to definitively associate the feature with any specific temporal period or cultural group.

MILL AND HOTEL SITES

Two possible historic-era sites are recorded on the Loyalton USGS topographic quadrangle map maintained by the U.S. Forest Service Sierraville District Office in Sierraville, Sierra County. One consists of an unnamed and undocumented temporary sawmill site; this may have been a satellite mill operated by one of the large lumber firms that dominated the local economy during the late 19th or early 20th centuries. Such sites are common occurrences in the region and may also represent the remains of small companies or individually owned facilities.

No documentation could be found regarding the location of "Mrs. Pecks Hotel—1876" as plotted on the Loyalton USGS map kept at the US Forest Service Sierraville District office, although this historic-era site may consist of the remains of a boarding house or hotel that catered to the early ranching and timber industries. These industries constituted the main employers of the region during the latter decades of the 19th century.

BOCA & LOYALTON RAILROAD

Portions of the old Boca & Loyalton Railroad line extend through SCWA. This railroad began as a spur line built from the town of Boca, along the Southern Pacific route, ending at Lewis Mills in 1897. The company was formally incorporated in 1900, after which time the tracks were extended to Beckwith in Plumas County, providing freight and passenger service to those communities and supporting the then-booming timber industry. Subsequent extensions of the system went west along the Feather River and Spring Garden and Spanish creeks to Quincy, a distance of 80 miles. Combined with additional lines to places such as Indian Creek, Red Clover, and Last Chance Valley, Boca & Loyalton Railroad was one of the major rail companies in the region. However, by 1916 the company went out of business and its lines and property were sold to competitors such as the Western Pacific or for use by timber operators such as the Clover Valley Lumber Company (Fickeworth 1992).

FS-05-17-56-444

This site consists of a small scatter of historic-era artifacts including parts of an iron stove, bricks, tobacco tins, cut and wire nails, a lard bucket, and sanitary and hole-in-top cans and can fragments. The remains of a possible structure pad were also documented at this location. The artifacts and structure pad occur in an area measuring approximately 40 feet in diameter. Based on the documented materials, the site probably dates to the early 20th century. Although the site likely represents the remains of a small dwelling, it does not appear to have been intended for long-term habitation and it may have been used sporadically by ranchers or loggers operating in the area.

3.5 PUBLIC USE

Currently, hunting and fishing are the most common public recreational uses within AVWA and SCWA. Other recreation uses include wildlife observation and photography. The primary public use of the lands within AVWA and SCWA over the last century has been cattle and sheep grazing. Historically, small-scale logging operations were centered on a mill located near Antelope Creek. The remains of the lumber mill are now an archeological site. Mineral exploration occurred within AVWA under a special use permit in the 1990s, but no mineral production has occurred. Grazing is the only nonrecreational public use still occurring; cattle have grazed within AVWA in recent years under a memorandum of understanding with the Tahoe National Forest. No other commercial activities take place in the wildlife areas.

The following sections describe these current recreational and other public uses and the current regulations and management policies related to the uses.

3.5.1 RECREATION AT ANTELOPE VALLEY AND SMITHNECK CREEK WILDLIFE AREAS

Recreational activities at AVWA and SCWA are facilitated by the accessibility of the lands from paved state highways and paved and unpaved county roads. Despite this good access, AVWA and SCWA receive only moderate amounts of recreational use, which is focused primarily on hunting and fishing. Other activities include dispersed primitive camping and wildlife observation. Although not authorized on Department lands, off-highway vehicle (OHV) use occurs to varying degrees of intensity throughout the two areas.

HUNTING

The Department estimates that a few hundred hunters visit AVWA and SCWA each year, and deer hunting is one of the major uses of the units during the late summer and fall open seasons. The primary attraction for hunters is Rocky Mountain mule deer, which are the largest deer in the state, both in terms of body size and antlers. AVWA and SCWA are within Deer Zone X-7a, which includes most of eastern Sierra County, as well as portions of Plumas County and Lassen County to the north and Nevada County to the south. X zones are managed as premium hunting areas, with a preference-based drawing system used to distribute a limited number of deer tags each year (Department 2007a). (Additional details on deer tag quotas and deer hunting regulations applicable to AVWA and SCWA are provided below.) Deer tags for this and other X zones are highly coveted, with many more applications each year than available tags. A total of 315 tags were available for Zone X-7a for the 2007 season (Department 2007b).

While the total estimated number of deer taken by hunters within Zone X-7a during the past 5 years (2002–2006) has ranged from 75 to 139 deer (Department 2007c), kill location data derived from deer tag report cards submitted by hunters indicate a dozen or fewer deer were taken in or near AVWA and SCWA each of those years, with the exception of 2002, when about 17 were taken (Department 2007d).

Although deer hunting is the primary form of hunting at AVWA and SCWA, opportunities also exist for hunting small game, such as rabbits and tree squirrels and upland game birds, such as grouse, quail, and turkey. The area is not good bear habitat, although bear may pass through the area; therefore, only incidental bear hunting is likely to occur. In general, hunting for species other than deer is infrequent at AVWA and SCWA.

FISHING

Smithneck, Badenaugh, and Bear Valley Creeks have historically been stocked with rainbow, brook, and brown trout (see Section “3.3.4 Fish Communities”) and all have been noted for their high densities of trout, which provide excellent angling opportunities. Smithneck Creek is thought to provide some of the highest quality angling for brown trout anywhere in California, with the upper reach (above Badenaugh Creek) supporting the highest densities of fish. Although the level of angling activity on these creeks is not known, both creeks are

easily accessible on foot from the Sierra Brooks subdivision. Antelope Valley Creek within AVWA does not provide fishing opportunities. Informal observation by Department staff and patrol suggest that the level of activity is light.

OTHER RECREATION ACTIVITIES

Special regulations authorize camping at AVWA only from May 1 through October 31. Trailers are not allowed. Informal observations by Department staff indicate that camping use is very low, with most camping occurring during the deer hunting season. In the past, informal deer camps have been seen near access roads.

No designated trails exist within the wildlife areas; therefore, trail-oriented activities such as hiking, mountain biking, and horseback riding are uncommon. These uses may occur infrequently along Antelope Valley Road and Bear Valley Road and undesignated dirt roads branching off the county roads.

The variety of wildlife present within AVWA and SCWA, particularly in riparian areas, and the relatively easy access to these areas from county roads provide good opportunities for wildlife observation and photography. The Sierra Valley has been nationally recognized by the Audubon Society as an Important Bird Area (National Audubon Society 2004), and birders coming to the valley may also spend time in the wildlife areas, given their proximity to the valley and the opportunity for viewing species that are not present or as common in the open sagebrush and wetland habitats of the valley. In particular, visitors have good opportunities to observe raptors such as rough legged and ferruginous hawks, prairie falcons, and golden and bald eagles. The riparian areas provide opportunities to observe a variety of songbirds.

The Feather River Archery Club has in the past maintained a temporary archery range within SCWA. The club has expressed interest in developing a permanent archery range, open to the public and operated by the club. Such a facility would require a special use permit.

3.5.2 UNAUTHORIZED USES

California Code of Regulations, Section 550(b)(6)(A) precludes recreational OHV use on Department lands. However, illegal OHV use has regularly occurred on both AVWA and SCWA throughout their tenure as public lands. The California Vehicle Code prohibits OHV use on Antelope Valley Road and other public roads in the area but this prohibition is not well enforced. Substantial resources have been degraded by OHV near Bear Valley Creek and within adjacent wet meadows within SCWA, including soil compaction, erosion, and rutting. A primary source of this activity appears to be the adjacent Sierra Brooks subdivision. Some riders may be crossing Department lands on their way to authorized and unauthorized trails and other riding opportunities on adjacent Tahoe National Forest lands.

Other unauthorized uses that are sometimes observed on other wildlife areas and public lands in general, such as dumping of debris and trash and unauthorized camping or squatting, have not been observed to any visible degree.

3.5.3 OTHER ACTIVITIES

The current AVWA management plan (Department 1997) makes the area available for class trips, research, and other projects for local schools and other groups, with issuance of a permit by the Department's Region 2 manager.

The Smithneck Creek and Antelope Valley Creek watersheds have been the site of several data collection efforts and research projects in recent years, as the scientific and conservation community has focused interest and effort on learning about the effects of the recent large fires on the vegetation regime, fish and wildlife, and streams and has investigated ecological restoration options for the streams and the Sierra Valley. Although most of this activity has not taken place specifically within AVWA or SCWA, stream monitoring has taken place at various locations within the areas.

The SVRCD has worked with the Department and USFS on a long-term management plan for Antelope Valley, and has worked with the University of California Cooperative Extension to conduct water quality monitoring at Smithneck Creek, with a monitoring site near the Sierra Brooks subdivision, just outside the SCWA boundary (California Department of Conservation 2006). The Department has also engaged in ecological restoration actions since 1995 under the Smithneck Creek CRMP developed with the U.S. Department of Agriculture NRCS, the Tahoe National Forest, Sierra Brooks Homeowners Association, and other landowners and cooperators (University of California, Davis 2007).

3.5.4 POTENTIAL FOR FUTURE RECREATION DEVELOPMENT

Extensive recreational development within AVWA and SCWA would not be compatible with Department policies for wildlife areas, which state, “Except for hunting and fishing purposes, only minimum facilities to permit other forms of multiple recreational uses...shall be provided” (Fish and Game Code, Section 1528). However, the addition of regulatory and informational signage could facilitate resource protection as well as visitor enjoyment and appreciation of the areas. The 1997 AVWA management plan proposed coordinating with the Tahoe National Forest to add boundary markers and interpretive signage at the area entrance that describe Department ownership and explain management plans and objectives. The proposed restoration project on Antelope Valley Creek would present a new opportunity to develop interpretive information for visitors explaining the habitat enhancement methods and objectives of the project. Such information could be presented in kiosks located near travel routes in good wildlife viewing areas, with parking space provided for a few vehicles. Such kiosks could also present wildlife area maps and regulations.

3.5.5 PUBLIC USE REGULATIONS

The Department manages AVWA and SCWA under Title 14 of the California Code of Regulations, Sections 550 (General Public Use Activities) and 551 (Hunting, Firearms, and Archery Equipment Use and Permit Requirements), and the California Fish and Game Code, Sections 1525–1530 (the Regulations) (Department 2007). The Department strives to carry out management responsibilities related to public use as identified in the existing management plans and in keeping with the agency mission to manage the resources for the “use and enjoyment by the public.” As state wildlife areas, wildlife and habitat protection and enhancement are the primary management purposes within AVWA and SCWA; recreation and public use are secondary to habitat preservation.

3.5.6 HUNTING REGULATIONS

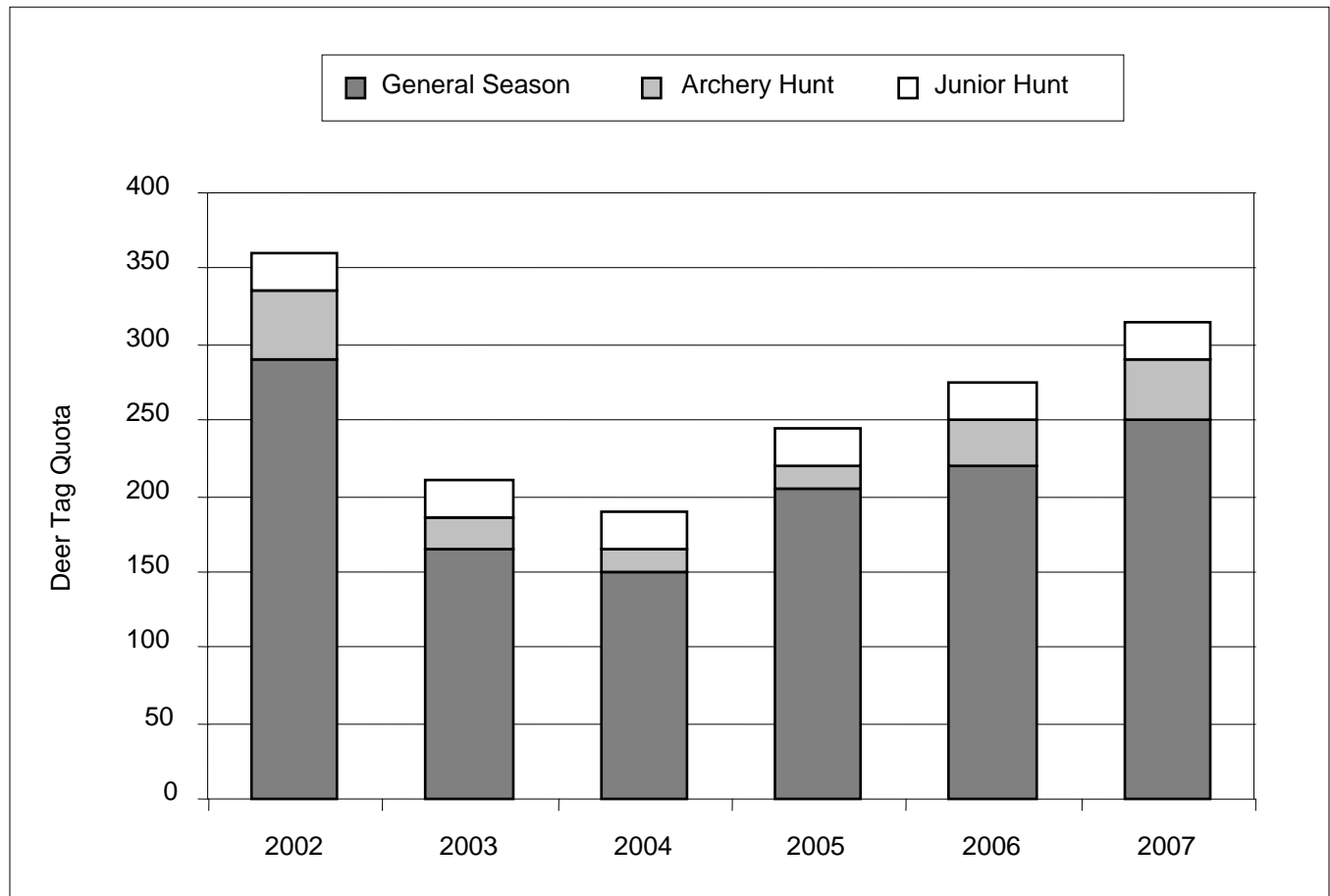
The Regulations provide management direction for lands associated with hunting activities on federally and state-owned lands in California. The Regulations include hunting license provisions and requirements, application and fee information, hunting practices and regulations, permit requirements, and firearms and archery equipment regulations in each hunting area.

AVWA and SCWA are designated as Type C hunting areas by the Regulations. As Type C hunting areas, a permit or pass is not required for most uses. Special regulations for AVWA have established July 1 through January 31 as hunt days during open seasons for authorized species (Title 14, Section 551[q]).

As noted above, both AVWA and SCWA are within Deer Zone X-7a. Deer hunt tags for X zones are distributed during a special Big Game Drawing held each June, according to an annually variable quota. The deer tag quota will vary from year to year based on the health of the deer herd in the area and the number of bucks available for harvest. The general season quota for Zone X-7a has ranged between 150 and 250 tags during the past five seasons (Department 2007c). Prospective hunters pay an application fee to participate in the drawing. The general season for deer opens on the first Saturday in October and extends for 16 consecutive days. The general season tags allow hunting during the general season only, using a muzzleloading or centerfire rifle, shotgun, authorized pistol or revolver, crossbow or bow (Department 2007a).

Additional tags are issued each year for a Zone X-7a Area-Specific Archery Hunt and a Junior Hunt. The Archery Hunt begins on the third Saturday of August and extends for 23 days; the Archery Hunt quota for Zone X-7a has ranged between 15 and 40 tags during the past five seasons (Department 2007b). The Junior Hunt (open to hunters less than 16 years old with a Junior Hunting License and accompanied by an adult 18 years of age or older) is scheduled for the same period as the general hunt, but is an either-sex hunt. The Junior Hunt quota for Zone X-7a has been 25 tags each of the past five seasons (Department 2007b).

The graph below illustrates the variation in Zone X-7a deer tag quotas for the general, Archery and Junior Hunts between 2002 and 2007.



Source: Department 2007b, 2007c

Zone X-7a Deer Tag Quotas

Exhibit 3.5-1

The bag and possession limit for the general season and the Archery Hunt is one buck, forked horn or better, per tag; for the Junior Hunt the limit is one either-sex deer per tag (Department 2007e).

The Regulations also specify hunting seasons within Class C wildlife areas for resident small game mammals such as rabbit, fox, and tree squirrel; nongame mammals such as bobcat, coyote, skunks, raccoon, and opossum; and game birds such as dove, quail, grouse, and turkey. Hunting and trapping of furbearing mammals such as beaver, mink, muskrat, and raccoon is permitted during designated seasons. Skunk and opossum may also be taken at any time of year (Department 2007e). Trapping of furbearers requires a trapping license. Allowable methods for commercial and recreational trapping have been greatly restricted in the state since 1999 following voter's approval of Proposition 4, and leg-hold and other forms of body-gripping traps are prohibited (Department

2007f). Hunters taking resident or migratory game birds such as quail, grouse, turkey, and mourning doves must have a current state upland game bird stamp (Department 2007g).

The Regulations permit bear hunting in the area of the state encompassing AVWA and SCWA during a season opening on the second Saturday in October and extending 79 consecutive days, or fewer days if the Department determines that 1,700 bears have been taken (Department 2007e).

3.5.7 FISHING REGULATIONS

All anglers must display a California Sport Fishing License on their outer clothing while fishing. Resident and nonresident anglers may choose from one-day, two-day, 10-day, and annual licenses. In addition, Title 14, Chapter 3 provides special regulations relating to trout fishing and designates Sierra County as part of the Sierra District for the purposes of those regulations. Section 7 designates season and bag limit regulations for trout species within the Sierra District. Open season on the streams within AVWA and SCWA begins the last Saturday in April and extends through November 15. The limit is five fish per day and no more than 10 fish in possession (Department 2007h).

3.6 FIRE AND TIMBER HARVEST

Historically, the entire region within and around AVWA and SCWA was covered by coniferous forests consisting of large fire-tolerant species. These forests experienced wildfires about every 10 years. These frequent fires kept understory fuels low which, in turn, resulted in fires of low intensity. In the late 1800s and early 1900s, the forests were logged, and logs were removed using railroads and donkeys. Regional timber was used in California gold mines, in the Nevada Comstock mine, and for construction of the transcontinental railroad (Noxon, pers. comm., 2007). As a result of those timber harvest practices and subsequent fire suppression practices, fire intolerant species such as incense cedar and white fir grew abundantly in the region and fuels have become excessive. In addition, because the area is close to timberline and very dry, healthy forests do not regenerate quickly on their own within a severe fire scar area. Rather, these burnt areas typically require active restoration to rehabilitate the forests (Rinella, pers. comm., 2007).

Large wildfires near the wildlife areas threaten people, firefighters, houses and commercial structures in Sierra Brooks, Loyaltown and other communities, and ecosystem functions. Large wildfires can be costly and destructive. They reduce recreation values of the region, harm timber resources, cause increased erosion and flooding, degrade habitat, and require expensive reforestation.

Two major fires have occurred in AVWA, SCWA, and surrounding forest land. The Cottonwood Fire, which occurred in 1994, burned 2,000 to 3,000 acres in the eastern and southern portions of the wildlife areas, and approximately 46,000 acres in the region. The Harding Fire, which occurred in 2005, burned approximately 600 acres in the wildlife areas, and about 2,000 acres in the region (Lidberg, pers. comm., 2007). Both fires were caused by people, although lightning fires are also common in the area.

The Tahoe National Forest (TNF) harvested many small insect salvage sales around the AVWA prior to the Cottonwood Fire. During the spring of 1995, after the Cottonwood Fire, an emergency timber harvest plan was approved and harvested, including portions of both wildlife areas. This salvage removed most of the fire-killed timber from the region. Because the Cottonwood Fire was a continuing source of environmental problems in the Antelope Valley watershed and elsewhere, the USFS attempted to stabilize the area as part of their salvage mitigation (CAL FIRE 1996).

3.6.1 TIMBER HARVEST PLAN

In 1996 a Timber Harvest Plan (THP) covering much of the AVWA was approved to harvest timber from 967 acres. The objective of the harvest was to develop the existing even-aged young growth stand of healthy trees in the 12”–24” DBH class using a commercial thinning prescription. This was applied to promote timber growth and improve forest health as per 14 CCR 933.3 (a) (CAL FIRE 1996). The goal of this timber harvest was to enhance deer habitat and reduce fire hazards by promoting a more natural forest ecosystem (Lidberg, pers. comm., 2007). The thinned stand consisted of a homogeneous 120 to 180 year old CAL FIRE Site III ponderosa pine forest with basal area averaging 220 sq. ft. (basal area is a measure of stand density developed by foresters. It is the total cross-sectional area of the trees in a stand, at breast height [4.5 feet above the ground], measured in square feet per acre). Thinning reduced stocking levels to no less than 75 sq. ft. of basal area, retaining healthy dominant trees from the preharvest stand. It was anticipated that the postharvest stand would experience a release in diameter growth due to the improved conditions created by eliminating conifer competition (CAL FIRE 1996).

The Department requested and received an extension on the THP, which otherwise would have expired in 1999, and timber harvest was completed in 1999, 2000, and 2001. The Department also prepared a collection agreement that reserved a percentage of the timber harvest receipts (approximately \$30,000) to pay the Sierraville Ranger District to conduct prescribed burning in 2002 (Lidberg, pers. comm., 2007).

Some of the positive results of the timber harvest and prescribed burning were realized when the Harding Fire broke out in 2005, three years following harvest. The hot, high fire dropped to ground level and lost intensity

when it reached the treated areas of AVWA, facilitating its control by fire fighters and preventing its spread to Loyalton or the Sierra Brooks development (Lidberg, pers. comm., 2007).

3.6.2 FIRE RESPONSE

Fire response in the wildlife areas is the responsibility of the Sierraville Ranger District, part of the TNF. The Sierraville Ranger District uses the universal Incident Command System, a defined emergency response protocol, to respond to fire emergencies in the region. The Sierraville Ranger District is responsible for Incident Command, although CAL FIRE (Truckee Fire Station) is a Cooperating Agency and is called in to help as needed (Noxon, pers. comm., 2007).

The designated Incident Commander during a fire event is the Sierraville Ranger District Fire Management Officer or one of four other Duty Officers (two at the Sierraville Ranger District, two at the Truckee Ranger Station), depending who is on call at the time.

The Incident Commander is in charge of managing all aspects of a fire response. All other incident response positions are assigned to appropriate emergency response personnel (including members of cooperating agencies) depending on who is available at the time of a fire event. The Operations Section Chief develops the daily fire-fighting plan and directs the emergency response people. The Logistics Section Chief plans for and arranges fuel, food, water, sleeping arrangements, etc. The Plans Section Chief implements the daily plan put together by the Operations Chief, ordering the people and equipment needed at specified locations. If a very large fire occurs, a preassembled Incident Management Team can be called in from locations around the country (Noxon, pers. comm., 2007).

The regional Emergency Command Center (ECC) is located in Grass Valley. The ECC maintains emergency response staffing plans, dispatch plans, and an emergency response computer program called WildCAD. When the ECC receives a report of fire, the WildCAD program assimilates specific variables (such as the size of the fire, its location, weather conditions) and prepares a response plan detailing specific resources needed to fight the fire (e.g., specific equipment and staff from specific locations). The ECC dispatches these resources, and the Incident Commander modifies the dispatch as needed according to the progress of the fire. The ECC or the TNF Nevada City office would be responsible for notifying the Department of a fire on their property. The Sierraville Ranger District has an agreement with the local school district to use their facilities as an incident command post in the event of a fire. They also have data outlining potential water sources, access points, evacuation routes, staging areas, and other information that may be necessary for responding to a fire event (Noxon, pers. comm., 2007).

3.6.3 FIRE MANAGEMENT PLAN DEVELOPMENT

Although the TNF has a process established for responding to a fire in the region, an AVWA and SCWA Fire Management Plan is needed to manage the wildlife areas to restore a fire tolerant forest with high quality habitat values, and to guide responses to fire emergencies. The development of a Fire Management Plan would include compiling and developing fire response information that is specifically relevant to the wildlife areas. It would include guidance for on-going timber, fuels, and fire management within the wildlife areas with a goal of returning the forest to a natural age structure and species composition. It would also guide coordination of fire preparedness and response with local and regional fire management agencies. Preparing a Fire Management Plan has been identified as a “step-down action”, a term used by the Department to describe an activity that is currently beyond the scope of the LMP and will require additional effort following the preparation and adoption of this LMP.

Tasks have been included in the Fire Management Element (see Chapter 4) of this LMP to facilitate the coordination of fire preparedness and response with local and regional fire management agencies. In addition to implementing these tasks, development of the Fire Management Plan would include a review of the Herger-Feinstein Quincy Library Group (QLG) Forest Recovery Act Pilot Project Environmental Impact Statement (EIS)

and the Sierra Nevada Forest Plan for potential applicability to the wildlife areas. Although the QLG project is primarily a prescription for resource management (including fuels management, special status species protection, and habitat restoration) on Federal lands, it may be indirectly applicable to the wildlife areas because the Sierraville Ranger District follows this prescription in managing the surrounding TNF lands, and they are responsible for fire response in the wildlife areas. The QLG prescription may be a useful reference in defining an on-going timber, fuels, and fire management prescription within the wildlife areas.

In addition, the Fire Management Plan should include information such as:

- ▶ Water sources
- ▶ Access information including road access (labeled on maps and signage in the field), gate access, and available helicopter landing zones
- ▶ Evacuation routes
- ▶ Contact list
- ▶ Maps to distribute to cooperative agencies
- ▶ Predetermined command post options such as a community center, school, church, parking lot, or field site
- ▶ For potential command post options, obtain 24-hour contact information and record what resources are available, such as:
 - parking area
 - equipment available
 - power capabilities
 - number of phone lines
 - satellite dish
 - internet

4 MANAGEMENT GOALS

The mission of the California Department of Fish and Game (Department) is to manage California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. Management goals and tasks included in this chapter are based on this mission and the specific management needs of the Antelope Valley and Smithneck Creek wildlife areas.

The goals presented in this chapter provide broad guidance for long-term management of natural resources and public uses in Antelope Valley Wildlife Area (AVWA) and Smithneck Creek Wildlife Area (SCWA). Tasks to implement each goal are also described. It is important to note, however, that implementation of many of the tasks identified in this plan is dependent on the availability of the necessary staff and an adequate operations and maintenance budget. Thus, additional resources may be required to accomplish tasks identified in this chapter. Chapter 5, "Operations and Maintenance Summary," identifies the specific resources required to manage AVWA and SCWA in the future.

The land management plan (LMP) goals and tasks have been evaluated for their potential impacts on the environment in accordance with the provisions of the California Environmental Quality Act (CEQA). An initial study (IS), which is included in Appendix B, was prepared in accordance with the State CEQA Guidelines. This IS concluded that the LMP, as proposed, would not have any significant effects on the environment. Accordingly, a proposed negative declaration (ND) has been prepared.

The CEQA document analyzes impacts resulting from the programmatic implementation of this LMP and the implementation of the watershed restoration program described in Appendix D. Aside from the project types described in Appendix D, the details of other projects that may be developed consistent with this LMP are not yet known. Any future projects that may involve environmental effects will need to be evaluated in light of the IS/ND to determine if additional project-specific CEQA analysis is necessary.

Permits, consultations, and/or approval actions may also be required to approve specific future projects. Examples of potential permit requirements include the following:

- ▶ U.S. Army Corps of Engineers (USACE)—Section 404 of the Clean Water Act (CWA) permit for discharge of fill in waters of the United States;
- ▶ California Department of Fish and Game—streambed alteration agreement (Section 1602 of Fish and Game Code);
- ▶ Regional Water Quality Control Board (RWQCB)—National Pollutant Discharge Elimination System construction stormwater permit (notice of intent to proceed under the statewide General Construction Permit), potential discharge permit for wastewater, general order for dewatering, and CWA Section 401 certification.
- ▶ U.S. Fish and Wildlife Service (USFWS)—Section 9 of Endangered Species Act (ESA) prohibits the take of federally listed species. Although it is the intent of the Department not to undertake projects that adversely impact rare, threatened or endangered species or their habitats (Section 2053 of Fish and Game Code), a consultation with USFWS pursuant to the Department's Section 6(c) Cooperative Agreement dated 8-26-91 may be required to determine if a federal biological opinion would be necessary.
- ▶ California Department of Fish and Game—The California Endangered Species Act (CESA) and Section 2081 of the California Fish and Game Code require a permit from the Department for projects that could result in the take of a species that is state-listed as threatened or endangered. However, rather than issuing itself a permit in such a case, an internal discussion may be required with the Department's own experts in the region or at headquarters, and should be documented as an addendum to this LMP. This addendum may be entitled "Information on the Effects of Implementation of the Management Plan on Special Status Species."

4.1 DEFINITION OF MANAGEMENT TERMS

The LMP is intended to be compatible with the Department's standardized format for management plans. The latest version of that format is *A Guide and Annotated Outline for Writing Land Management Plans*, dated December 2006. Terminology for describing management is part of this standardized format and these terms are defined below and used throughout this plan to describe the current and planned management of AVWA and SCWA.

Element: refers to any biological, ecosystem, or cultural constituent; public use activity; or maintenance or management coordination program, as defined below, for which goals have been prepared and presented within this plan.

Biological element: refers to species, habitat, or ecosystems for which specific management goals have been developed within this plan.

Watershed restoration element: refers to restoration actions described within this plan that would improve the Antelope Valley Creek or Bear Valley Creek subwatershed.

Public use element refers to recreational and other public uses for which specific management goals have been developed within this plan.

Fire management element refers to planning and implementation of fire and fuels management actions.

Facility maintenance element refers to maintenance requirements necessary to support management of the wildlife areas and attainment of goals for other elements.

Administration element refers to administrative actions that support attainment of goals for other elements.

Research and monitoring element refers to scientific research and monitoring that supports attainment of Department objectives for wildlife areas.

Management coordination element refers to coordination with other public agencies and management programs that are supportive of and compatible with Department activities on the wildlife areas.

Cultural element refers to documenting and protecting significant prehistoric, historic-era, or present-day Native American cultural resources found on the wildlife areas.

Opportunities are existing factors that may facilitate the attainment of management goals.

Constraints are existing factors that may constrain the attainment of management goals.

Biological goal is a statement describing management and its intended long-term results for a biological element.

Public use goal is a statement describing management and the resulting type and level of public use (which is intended to be compatible with goals for other elements).

Facility maintenance goal is a statement describing management and the resulting type and level of facility maintenance (which is intended to support attainment of goals for other elements).

Scientific research and monitoring goal is a statement describing management of procedures for or types of scientific research and monitoring conducted at AVWA and SCWA.

Fire management goal is a statement describing a desired component of fire management planning or of pre-, during, or post-fire management.

Management coordination goal is a statement describing the desired type and level of management coordination activities that are required to achieve the goals previously specified within this LMP.

Tasks are individual projects, actions, or groups of actions that implement the goals and are useful in planning operation and maintenance budgets.

4.2 BIOLOGICAL ELEMENT

Opportunities for the management of biological resources at AVWA and SCWA include the following:

- ▶ The *Loyalton-Truckee Deer Herd Management Plan* (Kahre and Fowler 1982) outlines a good knowledge of management needs of the Truckee-Loyalton mule deer herd.
- ▶ No known invasive animal populations exist in the wildlife areas besides brown trout, which is a desirable game species.
- ▶ Because ecosystems in the wildlife areas have been damaged by past land uses (i.e., timber harvest, channel alteration, illegal OHV use, and fire suppression), many opportunities for ecological restoration and habitat enhancement exist.

Several important constraints on management of biological resources in the AVWA and the SCWA include the following:

- ▶ The ecosystems covering much of the wildlife area property offer limited water supply for ecological restoration or vegetation enhancement actions.
- ▶ Limited baseline biological inventory information is available for the wildlife areas.
- ▶ Many of the vegetation types in the wildlife areas are slow to regenerate, thus requiring prolonged restoration and enhancement monitoring and maintenance.
- ▶ Harvesting large conifers to enhance aspen groves will require the preparation of a relatively expensive timber harvest plan (THP).
- ▶ Limited staff and funding is available for the management of biological resources at the wildlife areas.

Biological Goal 1: Protect, restore and enhance habitat, and regulate hunting to support an optimal size of the Loyalton-Truckee mule deer herd.

As described in Section 3.3 of this document, AVWA and SCWA are located in an area identified as a key winter range for the Sierra Valley subunit of the Loyalton-Truckee mule deer herd, they are on the migration route between summer and winter ranges, and the deer population in the northeast Sierra Nevada has recently been declining. This goal is based on the Department's mission and on one of the primary purposes for which AVWA and SCWA were established: to preserve and protect habitat for the Loyalton-Truckee mule deer herd.

Tasks:

1. Monitor seasonal deer abundance, habitat use, and migration routes to inform deer herd management decisions (see Section 4.4, "Research and Monitoring Element").

2. Protect, enhance, and restore riparian habitat (see Biological Goal 4 and Section 4.3, “Watershed Restoration Element”) to maintain and improve deer fawning habitat.
3. Protect and enhance mountain mahogany and bitterbrush habitat (see Biological Goal 5) to maintain and improve deer foraging habitat.
4. Monitor canopy coverage for densities supportive of deer foraging and cover habitat. Thin young conifers (see Biological Goal 6) as needed to maintain and improve deer habitat.
5. Manage invasive plant species such as cheatgrass (see Biological Goal 3), to maintain and improve deer foraging and cover habitat.
6. Prevent catastrophic fires (see Section 4.6, “Fuels and Fire Management Element”) to maintain and improve all deer habitats, and to prevent deer mortality caused by fire.
7. Periodically evaluate the hunting program and regulations and recommend changes as warranted to maintain an optimal deer herd size (see Section 4.5, “Public Use Element”).
8. Follow management recommendations provided in the *Loyalton-Truckee Deer Herd Management Plan* (Kahre and Fowler 1982) that are applicable to AVWA and SCWA, including the following:
 - ▶ Work cooperatively with the U.S. Forest Service (USFS) to perform habitat alterations.
 - ▶ Work cooperatively with private landowners, providing information and advice on the improvement of deer habitat. Develop programs to provide incentives to landowners for wildlife habitat maintenance and improvement.
 - ▶ Develop funding sources and/or allocate funds when available to perform improvement projects for deer habitat.
 - ▶ Reduce road access into critical habitats by closing roads. This increases the value of the habitat to deer by reducing harassment and illegal kill.
 - ▶ Encourage local citizens to report deer violations. Seek more publicity for, and public participation in, the Californians Turn In Poachers and Polluters (CALTIP) secret witness program. Stress the need for hunter involvement in reducing in-season illegal kill.
 - ▶ Work cooperatively with counties to enforce leash laws as a means of reducing harassment and kills from domestic and feral dogs. Publicize the need for citizen cooperation in reducing dog-related mortality.

Biological Goal 2: Maintain, restore and enhance habitat for special-status species.

Currently, several special-status wildlife species are known to use ecosystems at AVWA and SCWA (e.g., northern goshawk [*Accipiter gentilis*], yellow warbler [*Dendroica petechia*], several bat species), and suitable habitat exists for several other special-status wildlife species (Table 3.3-4). Similarly, three special-status plant species are known to occur in the wildlife areas (Sierra Valley evening-primrose [*Camissonia tanacetifolia* ssp. *quadriperforata*], Sierra Valley ivesia [*Ivesia aperta* var. *aperta*], and Lemmon’s clover [*Trifolium lemmonii*]) and suitable habitat exists for several other special-status plant species (Table 3.3-3). Surveys for most of these species have not been conducted at either wildlife area. Therefore, the results of surveys for these species would determine the need for, and scope of, the other tasks listed below. This goal is based on the Department’s mission and policies to protect special-status species.

Tasks:

1. Conduct, support, or encourage surveys and monitoring for willow flycatcher (*Empidonax traillii*), yellow warbler, goshawk, special-status bat species, special status plant species, and other special-status species that may be present in AVWA and SCWA.
2. Periodically visit populations of special-status species to assess overall habitat integrity, to detect changes in species distribution and abundance, and to detect adverse effects of human use, erosion or nonnative species.
3. Develop and implement enhancement strategies that use natural processes to improve habitat for special-status species.
4. Conduct management activities and manage public uses, especially grazing, timber harvest, and hunting activities, to minimize effects on areas known to be occupied by special-status species (e.g., northern goshawk, yellow warbler, special status plants).
5. Restore, protect, and enhance the ecological functions of Antelope Valley Creek and Bear Valley Creek (see Section 4.3, “Watershed Restoration Element”) to enhance riparian and wet meadow habitat for special-status species dependent on this habitat (e.g., willow flycatcher, yellow warbler, bat species).
6. Ensure that all actions undertaken in the wildlife areas comply with the ESA and the CESA (including any applicable Habitat Conservation Plans or Natural Community Conservation Plans), Sections 401 and 404 of the CWA, Section 1602 of Fish and Game Code, and other applicable plans or regulations aimed at the protection of special-status species or their habitat.

Biological Goal 3: Prevent the introduction and spread of invasive species, and manage existing infestations.

As described in Section 3.3, cheatgrass (*Bromus tectorum*) is common and widespread in the wildlife area, particularly in burned areas and areas cleared by timber harvest, although heavy infestations are mostly confined to small patches. As also described, the introduction of the brown trout has likely changed the species composition of streams within AVWA and SCWA. Several other invasive species are known to occur within or in the vicinity of the wildlife areas. Because invasive species can spread quickly and remediation can be difficult and costly, vigilant management attention is required to prevent the introduction and spread of invasive species. This goal is based on the Department’s mission and the need to avoid potential substantial and adverse modifications to ecosystems caused by the introduction and spread of invasive species in AVWA and SCWA. Managing invasive species at AVWA and SCWA would contribute to attainment of several other goals regarding in this LMP, including management of deer herd habitat and fires.

Tasks:

1. Prioritize management of the invasive species described in Section 3.3 based on their potential impacts on ecosystem functions (e.g., deer foraging habitat) and human uses (e.g., hunting, fishing) and the feasibility and impacts of controlling them. Follow existing federal and state priorities where appropriate.
2. Determine appropriate prevention, eradication, and control options (e.g., grazing) for priority invasive species. In making this determination, consider guidance available from the Department’s Pesticide Use Program and from other organizations, such as the Plumas/Sierra counties Noxious Weed Management Group, the UC Davis Weed Research and Information Center, The Nature Conservancy’s Wildland Weeds Program, California Invasive Plant Council (CalIPC), California Department of Food and Agriculture Weed Management Area and Encycloweed programs, Department of Pesticide Regulation, the USFWS Nonnative Invasive Species (NIS) Program.

3. Implement appropriate prevention, eradication, and control options for priority invasive species.
4. Because cheatgrass is already known to be a high-priority species requiring management action, implement the following control methods as time and budget allow:
 - ▶ Encourage grazing in infested areas during the late fall and early spring, to avoid spreading seed and to prevent plants from reaching maturity.
 - ▶ Avoid promoting the invasion of cheatgrass by avoiding overgrazing of uninfested areas.
 - ▶ Close unpaved roads and trails in cheatgrass infested areas.
 - ▶ Conduct prescribed burning activities according to established management methods for controlling cheatgrass (e.g., *Element Stewardship Abstract for Bromus tectorum L. (Anisantha tectorum (L.) Nevski), cheatgrass, downy brome* [The Nature Conservancy n.d.]).
 - ▶ Use herbicide (e.g., Plateau, when it is approved in the United States, or similar) to control cheatgrass in heavily infested areas.
 - ▶ Following fires, promptly revegetate areas of mixed shrub-cheatgrass stands (e.g., sagebrush communities) with seeds/seedlings of native shrub species characteristic of the site-specific vegetation types.
 - ▶ Encourage the establishment of native perennial grasses after cheatgrass has been removed or reduced.
 - ▶ Utilize plant materials that have been certified to be free of cheatgrass seed.
5. Monitor hot spots for introduction of invasive species to enable early detection and rapid eradication of invasive plant and aquatic species (e.g., sites along Antelope Valley Road, along Bear Valley Road, along illegal or informal trails, at popular fishing locations along Bear Valley Creek, in recently burned or disturbed areas.)
6. Conduct periodic resource monitoring (see Section 4.4, “Research and Monitoring Element”) to note observations of new invasive plant or wildlife species, including location and abundance.
7. Clean vehicles and clothing before entering the wildlife areas (i.e., inspect and remove visible plant materials and mud, spray/rinse vehicles and equipment) if coming from an area known to be infested by invasive plant or aquatic species.
8. Use only certified weed-free fill and plant materials (e.g., seed mixtures, straw used for erosion control).
9. Coordinate with regional invasive plant control groups, such as the Plumas/Sierra Counties Noxious Weed Management Group, and support efforts to manage invasive plants.
10. Provide education and outreach regarding efforts to control invasive species, and support education and outreach efforts by other programs.
11. Apply pesticides in conformance with the Department’s Pesticide Use Program to ensure safe and effective pesticide use that minimizes adverse environmental effects.
12. Periodically evaluate the effectiveness of monitoring and control methods and adjust methods as needed.

Biological Goal 4: Protect, restore and enhance riparian and wetland vegetation types.

The preservation, restoration, and enhancement of riparian areas are primary concerns of the Department, as evidenced by the California Riparian Habitat Conservation Program (Chapter 4.1 of the Fish and Game Code). Aspen riparian forest is also a sensitive natural community that is tracked in the California Natural Diversity Database (CNDDDB). In addition, because wetlands are so important to a wide variety of fish and wildlife species, it is the policy of the Fish and Game Commission to seek to provide for the protection, preservation, restoration, enhancement, and expansion of wetlands in California. The protection, restoration, and enhancement of riparian and wetland vegetation types at AVWA and SCWA would contribute to attainment of several other goals in this LMP, including habitat for special-status species and deer. This goal is based on Department policies to protect riparian and wetland habitats, and on its contribution to attainment of other goals in this LMP.

Tasks:

1. Monitor existing fencing precluding cattle from riparian areas. Maintain or add fencing as needed to protect important riparian areas from overgrazing, while ensuring that fenced habitat remains available for deer fawning.
2. Identify specific locations of existing aspen stands with physical, biological, and economical (e.g., ease of access) conditions favorable for restoration or enhancement.
3. Develop plans and coordinate with USFS to pursue funding for identified aspen restoration or enhancement projects on either DFG or USFS land; include goals, techniques, costs, monitoring, an adaptive management process, and a schedule; include the help of volunteers whenever practical.
4. Implement identified restoration and enhancement projects (e.g., removal of conifers to minimize shading) for aspen habitat.
5. Prepare a THP prior to any timber harvest.
6. Restore the natural and historic hydrologic functions of Antelope Valley Creek and Bear Valley Creek watersheds (see Section 4.3, "Watershed Restoration Element").
7. Ensure that all actions undertaken in the wildlife areas comply with Section 401 and 404 of the CWA, Section 1600 of Fish and Game Code, and other applicable plans and regulations aimed at the protection of riparian and wetland habitats.

Biological Goal 5: Restore and enhance mountain mahogany and bitterbrush vegetation types.

Curlleaf mountain mahogany (*Cercocarpus ledifolius*) and bitterbrush (*Purshia tridentata*) vegetation types provide important forage plants for the Loyalton-Truckee mule deer herd. In addition, mountain mahogany has shown low or no recruitment within the wildlife areas and the region (Lidberg, pers. comm., 2007). This goal is based on Department policy to preserve and protect important California habitats and on the policy of the Fish and Game Commission that research shall be performed to provide scientific and management data necessary to promote the protection, propagation, conservation, management, or administration of wildlife resources. The restoration and enhancement of mountain mahogany and bitterbrush vegetation types at AVWA and SCWA would contribute to attainment of goals regarding habitat for special-status species and mule deer.

Tasks:

1. Identify opportunities for restoration or enhancement in areas that previously supported bitterbrush and mountain mahogany vegetation types but were modified by fires or other disturbances; assess physical,

biological, and economic opportunities and constraints. Record all locations of these vegetation types in the Department's geographic information system (GIS) database.

2. Develop plans and pursue funding for projects to restore or enhance identified bitterbrush and mountain mahogany; include goals, techniques, costs, monitoring, an adaptive management process, and a schedule; include the help of volunteers whenever practical.
3. Implement restoration and enhancement projects (e.g., seeding, planting, soil amendments, watershed restoration) for bitterbrush and mountain mahogany vegetation types if effective restoration or enhancement methods are developed.
4. Research existing literature addressing mountain mahogany regeneration to understand and manage the current lack of regeneration.
5. Identify management practices that may enhance mountain mahogany and bitterbrush vegetation types in areas where they already exist.
6. Conduct and support studies of mountain mahogany regeneration and potential restoration or enhancement methods (see Section 4.4, "Research and Monitoring Element").

Biological Goal 6: Protect and enhance other native upland vegetation types.

This goal is based on the Department's mission to manage California's fish, wildlife, plants, and habitats for their ecological and recreational values and on its contribution to attainment of other goals in this LMP, such as supporting an optimal deer herd size.

Tasks:

1. Monitor regeneration of upland forests that were burned in the Cottonwood and Harding fires (see Section 4.4, "Research and Monitoring Element"). Enhance these forests with additional seeding or planting as needed.
2. Evaluate the need to thin young conifers, consistent with the 2001 timber harvest and fire management goals, and conduct timber harvests as needed. Reevaluate the need for thinning approximately every 10–20 years.
3. Prepare a THP prior to any timber harvest.
4. Restore the natural and historic hydrologic functions of Antelope Valley Creek and Bear Valley Creek watersheds (see Section 4.3, "Watershed Restoration Element").
5. Ensure that all actions undertaken in the wildlife areas comply with plans, regulations, and CEQA guidelines protecting unique or sensitive habitats.

Biological Goal 7: Protect and enhance aquatic ecosystems and functions.

It is the policy of the Fish and Game Commission that the Department shall emphasize programs that ensure, enhance, and prevent loss of aquatic ecosystems and sport fishing opportunities. The protection and enhancement of aquatic ecosystems at AVWA and SCWA would contribute to the attainment of other biological goals and public use goals. This goal is based on the policies of the Fish and Game Commission, the Department's mission to manage California's fish, wildlife, plants, and habitats for their ecological and recreational values, and on the goal's contribution to attainment of other goals in this LMP, such as supporting special-status species and recreational fishing.

Tasks:

1. Monitor and assess human use, invasive nonnative aquatic species, and other effects on habitat for sport fish and other aquatic species (see Section 4.4, “Research and Monitoring Element”).
2. Periodically evaluate angling use and regulations and recommend changes as warranted to maintain and enhance aquatic habitat for sport fish and other aquatic species.
3. Monitor existing fencing precluding cattle from riparian areas. Maintain or add fencing as needed to protect important aquatic habitat from cattle disturbance or pollution.
4. Ensure that all projects proposed within the watersheds of AVWA and SCWA provide protection measures for water quality (particularly erosion and sedimentation control measures), water quantity, stream buffers, and aquatic species.
5. Before implementing any construction projects including soil disturbance greater than 1 acre (or less, depending on current State Water Resources Control Board [SWRCB] regulations), prepare a storm water pollution prevention plan that identifies BMPs that will be used to eliminate or minimize the potential for construction-related pollution (e.g., sediment, fuels, pesticides, cement) to enter stream flows directly, or through stormwater runoff.
6. Ensure that all actions undertaken in the wildlife areas comply with the ESA and CESA, Sections 401 and 404 of the CWA, Section 1602 of Fish and Game Code, and other applicable plans and regulations aimed at the protection of aquatic habitats.

Biological Goal 8: Manage grazing to protect and enhance biological resources.

Cattle grazing on native rangeland can have a potential for substantial impacts to natural resources, and also can be used as an important management tool. Therefore, careful consideration must be given to ensure that cattle grazing on Department property will not harm the resources that the Department is committed to protecting. Appropriately managing cattle grazing on Department property would be essential for attaining other LMP goals (e.g., all biological goals, Research and Monitoring Goal 1). The BSA Allotment Management Plans Project Environmental Assessment (TNF 2002) thoroughly describes the potential impacts of grazing on adjacent TNF property, and outlines mitigation measures important to protecting natural resources. This information has been incorporated by reference into the grazing lease used for Department property. This goal is based on the Department’s mission to manage California’s fish, wildlife, plants, and habitats for their ecological and recreational values, and on the goal’s contribution to attainment of other goals in this LMP.

Tasks:

1. Implement design features, Standard Management Requirements, and Best Management Practices described in the BSA Allotment Management Plans Project Environmental Assessment to manage potential grazing impacts to special-status species; mule deer; riparian and wetland vegetation types; aquatic ecosystems; mountain mahogany, bitterbrush, and other upland vegetation types.
2. Rotate cattle to facilitate grazing during appropriate seasons and at an appropriate intensity to use grazing as a management tool for invasive plant species management.

4.3 WATERSHED RESTORATION ELEMENT

The Watershed Restoration Element supplements the Biological Element. Although many tasks in the Watershed Restoration Element support the attainment of goals described in the Biological Element, the methodology of the tasks is specific to the aquatic systems and hydrology of the watersheds. These Elements are further differentiated

by the scale of restoration actions; restoration actions described in the Biological Element may affect resources spread throughout the wildlife areas (e.g., enhance bitterbrush habitat), while restoration actions described in the Watershed Restoration Element may affect the entire watershed (e.g., restore hydrologic and floodplain functions and stability).

Several actions are proposed that would restore, in part, watershed functions within AVWA and SCWA. They are described in detail in Appendix D. Briefly, they include implementing a “plug and pond” restoration technique along Antelope Valley and Bear Valley creeks, and modifying several roadways, skid trails, and other abandoned human-made features to redirect surface water flows. Implementing these projects would support attainment of several Watershed Restoration Element and Biological Element goals.

Several opportunities for restoring the watersheds in AVWA and SCWA include the following:

- ▶ No water resources in the portion of Antelope Valley Creek located within AVWA are part of an adjudicated water supply.
- ▶ Yellow warbler is the only known special-status species inhabiting proposed restoration sites. This and other neotropical songbirds, as well as other riparian vegetation dependent wildlife species are expected to benefit from watershed restoration.
- ▶ Proposed restoration techniques have been proven successful in similar, nearby watersheds.
- ▶ Neighbors and other stakeholders have demonstrated support and cooperation with proposed watershed restoration activities.
- ▶ The Department has a cooperative relationship with the Tahoe National Forest (TNF) to implement restoration activities on both Department property and USFS property.
- ▶ The wildlife areas are located in a relatively remote and undeveloped region, which minimizes or eliminates potential human-related environmental impacts from construction activities (e.g., noise impacts).
- ▶ Aside from Palen Reservoir, no significant development or human use is near AVWA or SCWA that would constrain or be in conflict with watershed restoration designs.
- ▶ Most existing human-made physical features, such as old logging roads, that are hindering healthy watershed functions are no longer in use; therefore, these features can be modified relatively easily to help restore watershed functions.

Several important constraints on restoring the watersheds in AVWA and SCWA include the following:

- ▶ Water appropriations exist for the water supply of Bear Valley Creek.
- ▶ Both wildlife areas contain very degraded stream systems with severe incision, which limits the practicality of restoration techniques involving the active fill of incised channels.
- ▶ The construction season for conducting restoration activities is short because of seasonal restrictions that protect water quality and special-status species that could occur in riparian habitats associated with Antelope Valley and Bear Valley creeks.
- ▶ Many restoration activities would require compliance with Section 401 and 404 of the CWA, Section 1602 of Fish and Game Code, and other applicable regulations aimed at the protection of aquatic resources and habitats.

- ▶ Funding has not yet been obtained for the watershed restoration activities described in Appendix D.

Watershed Goal 1: Restore hydrologic stability and floodplain functions to Antelope Valley Creek and Bear Valley Creek watersheds.

Restoring hydrologic stability and floodplain functions to Antelope Valley Creek and Bear Valley Creek watersheds would restore ecological processes and provide substantial ecosystem benefits. Implementing “plug and pond” restoration techniques in these two watersheds would redirect water that is now draining rapidly through incised channels, eroding creek substrate and increasing sediment loads downstream. Redirecting these flows would raise groundwater elevations in each watershed, which would:

- ▶ dissipate and slow stream flows;
- ▶ saturate dry alluvial floodplain deposits;
- ▶ increase infiltration and groundwater recharge;
- ▶ decrease the potential for downstream flooding;
- ▶ increase the amount of time water is stored in the upper watersheds;
- ▶ release stored water and increase base stream flows in downstream environments later in the dry season;
- ▶ reduce downstream sediment loads by eliminating active erosion in main and secondary channels;
- ▶ increase sediment deposition in the upper reaches of the watersheds by slowing flows;
- ▶ restore, enhance, and expand the riparian zone; and,
- ▶ restore and enhance wet meadows.

In turn, these results would help to attain a number of other goals in this LMP (e.g., Biological Goal 1). This goal is based on the policy of the Fish and Game Commission to seek to provide for the protection, preservation, restoration, enhancement, and expansion of wetland habitat in California, and on its contribution to the attainment of other goals of this LMP.

Tasks:

1. Implement watershed restoration activities on Department lands as described in the watershed restoration program included herein as Appendix D, while implementing the impact avoidance and minimization measures appended to that report.
2. Following implementation of the restoration activities in Appendix D, reevaluate the need for additional restoration actions approximately every 3–5 years and as funding allows.
3. Evaluate opportunities, constraints, and potential restoration benefits to identify feasible watershed restoration projects that would support the goals of this LMP, including review of existing documents and/or conduct of additional assessments (e.g., of physical and biological conditions).
4. Pursue funding and develop plans for identified restoration projects that include goals, techniques, costs, monitoring, an adaptive management process, and a schedule.
5. Cooperate with the development and implementation of local and regional restoration plans by other programs that are consistent with the goals of this LMP.

Watershed Goal 2: Document, understand, and respond to ecological changes and improvements resulting from restoration actions.

Monitoring, documenting, and adaptively managing watershed restoration actions will help to: ensure that project goals and objectives are being met, ensure that stream and floodplain ecosystems are healthy and functioning following restoration, inform future management decisions, and expand the scientific community’s knowledge base regarding restoration ecology. It is the policy of the Fish and Game Commission that research shall be

performed to provide scientific and management data necessary to promote the protection, propagation, conservation, management, or administration of fish and wildlife resources. This goal is based on the policies of the Fish and Game Commission and the need for monitoring and scientific research data to attain this plan's goals, including successful restoration.

Tasks:

1. Support and encourage the monitoring of pre- and post-restoration ecological conditions to evaluate the success of restoration and associated actions (e.g., construction BMPs) and refine techniques in an adaptive management framework. Priority elements to be considered for monitoring include:
 - ▶ hydrologic conditions;
 - ▶ erosion and sedimentation;
 - ▶ fish populations, to assess the presence of multiple species and all relevant life stages;
 - ▶ fish habitat, to assess the presence and development of diverse and complex stream elements (e.g., riffle-run-pool habitats, riparian and in-stream structure, substrate);
 - ▶ aquatic macroinvertebrates, to assess species richness and abundance and healthy stream ecology;
 - ▶ mule deer populations, including evidence of fawning;
 - ▶ special-status species, including willow flycatcher, yellow warbler, bat species, and mountain yellow-legged frog; and
 - ▶ invasive plants, to assess if control measures are effective or if additional control measures are warranted.
2. Establish permanent photo stations and seasonally or annually document the progress of hydrologic restoration and riparian and wet meadow vegetation enhancement.
3. Make adaptive changes to stream restoration design, as necessary, based on the results of monitoring.

4.4 RESEARCH AND MONITORING ELEMENT

Scientific research and monitoring contributes to sound management of natural resources both in and beyond the wildlife areas. It is a key component of successful adaptive management programs. Monitoring the results of management actions is fundamental to an adaptive management approach to land management. As part of this LMP, the Department is preparing a vegetation map of AVWA and SCWA based primarily on aerial interpretation. As part of the proposed watershed restoration program along Antelope Valley and Bear Valley Creeks, the Department (in cooperation with the TNF and the Plumas Corporation) is gathering specific hydrologic and geomorphic data for those watersheds. In addition, the Department has information on several specific resources in the wildlife areas, including the location of aspen stands, survey data about mountain lions, information on a few specific cultural resources, the specific location of nesting special-status birds, and anecdotal information regarding common and special-status species found within the wildlife areas.

However, most basic inventory data are lacking for AVWA and SCWA. For example, a comprehensive list of wildlife species based on field surveys does not exist for the wildlife areas. Also, no ongoing monitoring of invasive plant populations, special-status plant populations or their habitats, or any monitoring that could be used to evaluate the effects of public use on ecosystems exists at the wildlife areas. Thus, additional research and monitoring could benefit the management and attainment of goals from the Biological Element.

At AVWA and SCWA, several opportunities for scientific research and monitoring include the following:

- ▶ Existing background information has been compiled by this and other reports (e.g., *Sierra Valley Watershed Assessment* [SVRCD 2005]).
- ▶ Proposed plans to implement a watershed restoration program within the wildlife areas would provide the opportunity for gathering baseline data prior to implementation of those projects, and for the compilation of restoration response data following implementation of those projects (see Section 4.3 “Watershed Restoration Element”, Goal 2)
- ▶ Several individuals affiliated with educational and/or research organizations have been conducting and/or are interested in conducting scientific monitoring and research in the wildlife areas (see Section 3.3).
- ▶ Opportunities exist for coordination with other branches of the Department; with other federal and state resource agencies or departments (e.g., California Department of Water Resources (DWR), California Department of Conservation, California Department of Food and Agriculture, TNF, USGS, USFWS, USACE); and with private organizations (e.g., California Audubon, Ducks Unlimited, Plumas/Sierra Counties Noxious Weed Management Group) that are conducting data collection and mapping activities.

Several important constraints on scientific research and monitoring in AVWA and SCWA include the following:

- ▶ Available staff and funding are limited for scientific research and monitoring.
- ▶ Access is relatively limited due to the somewhat remote location of the wildlife areas; and
- ▶ Public use of much of the wildlife areas can hinder research and monitoring.

Research and Monitoring Goal 1: Support appropriate scientific research and encourage or conduct research that contributes to management goals of AVWA and SCWA.

It is the policy of the Fish and Game Commission that research shall be performed to provide scientific and management data necessary to promote the protection, propagation, conservation, management, or administration of fish and wildlife resources. This goal is based on the need for data from monitoring and scientific research to attain many of this plan’s goals, and on the policies of the Fish and Game Commission. Whenever possible and advantageous, the services of the University of California or other academic or research institutions, or federal, state, or local agencies shall be used.

Tasks:

1. Review and evaluate proposed research projects utilizing the following criteria:
 - ▶ potential for research results to improve management of AVWA, SCWA, or other wildlife areas;
 - ▶ potential conflicts between the research and compatible public uses;
 - ▶ potential conflicts between the research and any biological goals stated in this plan;
 - ▶ potential contribution of the research to science and society; and
 - ▶ potential for the research to interfere with or preclude certain types of future research at AVWA or SCWA.
2. Provide letters or permits to researchers specifying dates and times of authorized access, and information on regulations and area restrictions.
3. Require that researchers provide copies of data and/or published papers to the Department, and contact researchers to ensure this requirement is fulfilled.
4. Actively promote the wildlife areas to regional academic institutions as a resource available for research activities.

5. Establish long-term working relationships with regional academic institutions.
6. Encourage long-term studies of water quality and quantity, special-status species populations, native plant, fish and wildlife habitat quality, and other topics that could inform management of the wildlife areas. Encourage consistent monitoring methodology between long-term monitoring efforts and monitoring tasks outlined in the Watershed Restoration Element. High-priority topics may include:
 - ▶ mule deer,
 - ▶ bat species,
 - ▶ fish populations,
 - ▶ willow flycatcher,
 - ▶ yellow warbler,
 - ▶ raptor species,
 - ▶ mountain mahogany and bitterbrush vegetation types,
 - ▶ riparian vegetation types,
 - ▶ deer foraging and cover habitat,
 - ▶ special-status plants (e.g., Sierra Valley evening-primrose, Sierra Valley ivesia, Lemmon's clover; see Table 3.3-4)
 - ▶ cheatgrass and other invasive plants,
 - ▶ fire fuels,
 - ▶ erosion and downstream sedimentation, and
 - ▶ watershed hydrology.
7. When conducting plant surveys, follow survey protocols outlined by the following sources, as appropriate according to the species' listing status:
 - ▶ California Department of Fish and Game. 2000. Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities. Revision of 1983 Guidelines. Sacramento, CA.
 - ▶ California Native Plant Society. 2001. CNPS Botanical Survey Guidelines. December 9, 1983. Revised June 2, 2001. Available: <http://www.cnps.org/cnps/rareplants/pdf/cnps_survey_guidelines.pdf>.
 - ▶ USFWS. 2000. Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants.
8. When conducting wildlife surveys, follow Department, USFWS, or USFS survey protocols, as appropriate, according to the species' listing status.

4.5 PUBLIC USE ELEMENT

It is the policy of the Fish and Game Commission that lands under its administration are available to the public for wildlife-dependent recreational use whenever such uses will not unduly interfere with the primary purpose for which such lands were acquired. One of the primary reasons for acquiring AVWA and SCWA was to protect critical winter habitat for mule deer. Deer hunting is a primary use of the wildlife areas. Because use of AVWA and SCWA for hunting is seasonally restricted, several other uses are compatible with hunting at these wildlife areas. Compatible, wildlife-dependent uses authorized and ongoing at AVWA and SCWA include angling, informal camping, wildlife observation, and environmental education. Compatible uses that are not wildlife-dependent, but are authorized and ongoing at a low level of intensity include mountain biking, hiking, and horseback riding. Gathering of native plant materials for cultural uses also can be compatible and may be ongoing.

At AVWA and SCWA, several opportunities for compatible public uses include the following:

- ▶ Both wildlife areas have direct connectivity with surrounding USFS lands, which supplement the usability of resources found within the wildlife areas.
- ▶ The Loyaltan-Truckee mule deer herd (a large, desirable game species) uses the wildlife areas and the open habitat (allowing high visibility) in the wildlife areas, which provides good hunting opportunities.
- ▶ Fishing opportunities exist for game species, primarily brown trout, within the Smithneck Creek watershed.
- ▶ Both wildlife areas provide good areas for passive recreation, such as wildlife viewing and photography, due of their proximity to the unique high altitude of the Sierra Valley meadow, recent habitat changes resulting from large wildfires, and wildlife habitat management.

Several important constraints on public use of AVWA and SCWA include the following:

- ▶ Regulations preclude the use of Off Highway Vehicles (OHV) within the wildlife areas.
- ▶ Regulations limit the method and scale of legal hunting and the species that can be legally hunted within the wildlife areas.
- ▶ The wildlife areas lack a defined or intentional trail system.
- ▶ Available staff and funding for operations and maintenance is limited.
- ▶ Public uses may affect cultural resources.
- ▶ Potential conflicts exist between the primary purpose of the wildlife area (i.e., species and ecosystem preservation) and other uses (e.g., angling, hunting). For example, disturbance such as hunting may affect ecosystems in the wildlife areas, including special-status species and their habitat. Conversely, watershed restoration may temporarily reduce local game fish species populations.

Public Use Goal 1: Install signage that provides information to the public about compatible public uses of AVWA and SCWA.

Compatible public uses of AVWA and SCWA are facilitated by signage that informs the public of the boundaries, laws, and regulations applicable to the wildlife areas. This information reduces conflicts among uses, increases the safety of users, and discourages unauthorized uses.

Tasks:

1. Inform users regarding the location and boundaries of AVWA and SCWA by providing locator signs and property boundary signs at major access points (e.g., State Route (SR) 49, Bear Valley Road, illegal OHV access points.)
2. Inform users regarding compatible public uses of AVWA and SCWA by providing bulletin boards at formal entrances to the wildlife areas. Include information such as:
 - ▶ wildlife area maps;
 - ▶ hunting regulations;
 - ▶ OHV use regulations;
 - ▶ regulations precluding Christmas tree or firewood harvest;
 - ▶ other Title 14 regulations;
 - ▶ safety information;
 - ▶ TNF maps indicating legal OHV trails;
 - ▶ contact information for the Department and TNF;
 - ▶ penalties for illegal activities; and,
 - ▶ interpretive material.
3. Select signage locations and styles that are consistent with Department signage guidelines, the rural character of the region and the aesthetics of the natural environment in the wildlife areas.

Public Use Goal 2: Encourage and support compatible, safe, and legal public use of wildlife areas through public outreach, regulations and agreements.

As the Loyalton-Truckee deer herd continues to use habitat at AVWA and SCWA, deer hunting opportunities will continue to be an important public use. The wildlife areas also have the capacity to support additional compatible public uses, particularly bird watching and other wildlife viewing and environmental education. As the populations of the surrounding counties grow, it will be increasingly important that the public is aware of appropriate public uses of the wildlife areas. This goal is based on the Department's policy to provide natural-resource dependent public use opportunities that are compatible with wildlife area goals and objectives.

Tasks:

1. Implement a public outreach program to increase the awareness of visitors and potential visitors to the Sierra Valley region about AVWA and SCWA, existing public use opportunities, and regulations. Hold public information meetings periodically to inform the public about particular management issues requiring focused attention (e.g., regulations precluding OHV use).
2. Provide information on the Department's Web site and published outreach materials to inform the public about AVWA and SCWA. Include information such as:
 - ▶ Regulations concerning public uses (such as hunting times, locations, and tag procedures; fishing regulations; and illegal OHV use) at the wildlife areas;
 - ▶ Contact information for AVWA and SCWA staff for questions, comments, and suggestions regarding compatible uses of AVWA and SCWA;
 - ▶ Maps and boundary information; and,
 - ▶ Penalties for illegal activities.

3. Develop an agreement with the Feather River Archery Club for a permanent archery range, open to the public and maintained by the club, at one of the wildlife areas.
4. Periodically conduct reviews of public uses of the wildlife areas and evaluate rules, regulations, guidelines, and materials to ensure compatibility of public uses.

Public Use Goal 3: Support the use of AVWA and SCWA for environmental education.

It is the policy of the Fish and Game Commission that, to the maximum extent feasible, the Department shall disperse information to the public regarding conservation, protection, and management of the state's fish and wildlife resources. It is also a policy that the Department shall encourage education programs that increase the public's respect and concern for wildlife and their knowledge of the interrelationships between wildlife, their environment, and their human neighbors.

Tasks:

1. Provide staff assistance, interpretive materials, and permits for environmental education activities.
2. Encourage all environmental education and natural resource interpretation (informal education) users to incorporate the Department's guidelines for natural resource education messages in their field environmental education activities, curriculums, and interpretive programs, both on- and off-site.
3. Coordinate with non-profit groups (e.g., National Audubon Society, Cal Trout, Feather River Coordinated Resource Management group) that promote wildlife-dependent recreational opportunities and that can provide additional support to the Department's management of AVWA and SCWA.
4. Develop a plan to provide interpretive information at key locations (e.g., the proposed Bear Valley Creek restoration site) where visitors can observe natural resources, resource degradation and management challenges, or the application of methods to restore compromised habitats.
5. Enlist the cooperation of local volunteers, such as residents and students of the Sierra Valley, when implementing projects (such as restoration or enhancement projects) that may be educational for the volunteers. Include such volunteer labor as an "in-kind" funding source in grant applications, whenever possible.

Public Use Goal 4: Discourage destructive and illegal public use of wildlife areas through enforcement of regulations.

Unauthorized use of OHVs, particularly in the vicinity of Bear Valley Creek, has regularly occurred at SCWA and has periodically occurred in other areas of SCWA and ACWA. Other unauthorized uses such as vandalism of archeological resources, unauthorized tree removal, and unauthorized firewood removal have been known to occur only infrequently. These unauthorized uses damage the wildlife areas' ecosystems, threaten special-status and game species and their habitats, and interfere with authorized uses. Limited staff and funding constrains management of unauthorized uses.

Tasks:

1. Assess and monitor where wildlife areas are seeing the heaviest OHV use or other forms of illegal resource degradation.
2. Install physical barriers (e.g., boulders, split-rail fencing) at points frequently used to access or traverse Department property illegally by OHVs. Select barriers that are consistent with the rural character of the region and the aesthetics of the natural environment in the wildlife areas.

3. Depending on the fluctuating magnitude and type of illegal public use, such as OHV use, out-of-season hunting, or tree removal, increase Department presence in wildlife areas, and increase the frequency of the assignment of penalties, as necessary. Enforce laws and request assistance from the Sierra County Sheriff as necessary.
4. Restore ecosystems damaged by unauthorized uses as necessary.

Public Use Goal 5: Evaluate requests by Native Americans for use of the wildlife area for traditional activities, such as gathering native plant materials for cultural purposes.

Gathering limited quantities of native plant materials can be compatible with hunting and other wildlife-dependent uses, and the following tasks are intended to ensure that such uses are authorized only when compatible and in a manner that minimizes conflicts with other uses.

Tasks:

1. Work with native peoples requesting access to determine the purpose and need for access and/or collections within the wildlife areas based on applicable laws and treaties related to tribal use of state properties.
2. Develop access plans and issue permits for native peoples that are compatible with the goals of the LMP. Any authorization for access would identify species, limits, locations, seasons, and include standard liability clauses.

4.6 FUELS AND FIRE MANAGEMENT ELEMENT

Fuels and fire management are very important priorities in AVWA and SCWA. Physical conditions within and surrounding the wildlife areas make them susceptible to wildfires, and catastrophic wildfires can cause serious economic and ecological impacts on the wildlife areas, the Department, and the surrounding communities.

At AVWA and SCWA, several opportunities for fuels and fire management include the following:

- ▶ Fire response agreements exist with the Sierraville Ranger District of the TNF.
- ▶ A previous fuels management prescription (using timber harvest and prescribed burning) proved successful during the Harding Fire.
- ▶ An acute regional, statewide, and even national focus on natural resource and fire management in the region exists as a result of the activities of the Quincy Library Group.
- ▶ Much of AVWA and the surrounding region was already subjected to the large Cottonwood and Harding fires, thus diminishing the likelihood of additional catastrophic fire.
- ▶ Positive ecological effects can result from moderate levels of fire.
- ▶ The wildlife areas are remote and buffered from any dense populations.

Several important constraints on fuels and fire management in AVWA and SCWA include the following:

- ▶ The forest ecosystem was made unnatural and fire intolerant by detrimental timber harvest and fire suppression practices common in the region throughout the late 1800s and most of the 1900s.
- ▶ Precipitation in the region is likely to decrease and the snowpack is likely to decrease as a result of climate change.
- ▶ Managing natural lands for resource protection and fire control is biologically complex.

- ▶ Coordinating fuels and fire management between multiple government agencies is administratively complex.
- ▶ The relative remoteness of the wildlife areas minimizes access during a fire event.
- ▶ Negative ecological effects can result from catastrophic fires.
- ▶ Limited staff and funding are available for fire management.

Fire Goal 1: Coordinate fire preparedness and response with local and regional fire management agencies.

The development of a fire management plan for AVWA and SCWA has been identified as a “step-down” action requiring additional effort following the preparation and adoption of this LMP. Although the following tasks may be implemented during the development of a fire management plan, they have been included here as necessary actions for effective management of the wildlife areas, regardless of the subsequent preparation of a complete fire management plan.

Tasks:

1. Provide maps to local fire authorities, including the Fire Management Officer at the Sierraville Ranger District and the Fire Chief at the California Department of Forestry and Fire Protection (CAL FIRE) Truckee station, which indicate the location of sensitive resources (e.g., cultural, special status species) requiring careful consideration during a fire incident. Ensure that details of confidential information are not inappropriately circulated.
2. Provide maps to local fire authorities, including the Fire Management Officer at the Sierraville Ranger District and the Fire Chief at the Truckee CAL FIRE Station, which indicate the location and type of fuels treatments previously completed within AVWA and SCWA.
3. Provide contact information for the Department’s Agency Representative to the Grass Valley Emergency Command Center, local fire authorities, and the TNF management office in Nevada City. Obtain comparable contact information from these agencies. Update this information annually.
4. Review existing TNF fire suppression procedures to identify fire suppression tactics that could have long-term effects on ecosystems (e.g., use of retardant). Recommend avoidance or modification of those tactics whenever feasible in order to avoid or minimize long-term effects on the ecosystems of AVWA and SCWA.
5. Coordinate with the Battalion Chief of the TNF Sierraville Ranger District to obtain and review copies of local incident command procedures and agreements applicable to fire suppression at AVWA or SCWA. Provide input for these approaches to ensure consistency with Department goals. Determine whether the Department could aid appropriate fire suppression responses (e.g., installing locator signs within the wildlife areas for fire-fighting personnel.)
6. Meet semiannually with local fire authorities to discuss fire-related issues relevant to AVWA or SCWA, including vegetation management and other forms of fuels management.

Fire Goal 2: Protect people and property from fire hazards while maintaining sensitive resources to the extent practicable.

1. Train the Wildlife Area Manager to serve the role of Resource Specialist or Agency Representative through the Incident Command System. As part of this system, make available the Wildlife Area Manager or another local plant, wildlife, and fisheries specialist from the Department’s staff to provide advice during fires that threaten habitat at AVWA or SCWA.

2. Develop maps identifying critical areas where emergency revegetation or mechanical or structural measures may be necessary to prevent excessive erosion or flooding after fires. Implement such measures as appropriate following fire or fire suppression.
3. Develop a “controlled fire” and vegetation composition management program to stabilize fuel loads, encourage natural synecology, and prevent catastrophic fire. The program should include vegetation management measures along Bear Valley Road to reduce potential fire hazards.
4. Develop maps identifying areas of sensitive resources that may require specific management actions for appropriate prescribed burning activities (e.g., season-specific burning in areas of special-status plant or wildlife species, or invasive plant species).
5. Implement tasks described in the Biological Element to manage the introduction and spread of invasive plant species that may increase fire hazards (e.g., cheatgrass).
6. Review and comment on any fuels or fire management projects proposed in the future for AVWA, SCWA, or the surrounding TNF lands to ensure consistency with Department goals, such as protection of natural resources.
7. Identify and implement project-specific BMPs to minimize construction-related fire hazards during any construction activities that require the use of mechanical equipment.

4.7 FACILITY MAINTENANCE ELEMENT

Facilities at AVWA and SCWA include fencing, paved and dirt roads and accompanying culverts, and a groundwater well and pump house near Bear Valley Creek. Sierra County maintains the roads, well, and pump house. In addition, several other entities hold easements over portions of the wildlife areas that may allow the installation of additional facilities, such as power transmission lines, for the future. Issues related to their operations and maintenance are addressed under Section 4.9, “Management Review and Coordination Element.”

As a result of implementing goals and tasks described in other Elements of this LMP, it is anticipated that additional facilities may be installed in the wildlife areas. These facilities may include wildlife guzzlers, a drop structure in Bear Valley Creek, and additional riparian fencing (see Biological Element); signage and OHV barriers (see Section 4.5, “Public Use Element” and Section 4.6, “Fuels and Fire Management Element”); and fencing to protect cultural resources (see Section 4.10, “Cultural Element”). Therefore, management goals and tasks are included here in anticipation of maintenance needs for these facilities.

Because very few facilities are now in place in either of the wildlife areas, several opportunities exist to install facilities that would help bring about effective management of the wildlife areas. Constraints to installing new facilities and maintaining existing facilities include a limited availability of staff and funding for facility installation and maintenance, a potential for vandalism to signage and OHV barriers, constrained access for installation and maintenance of facilities, and a Department goal to maintain natural aesthetics in the wildlife areas.

Facilities Goal 1: Add, improve, and maintain existing structures for resource protection, education, safety, and appropriate public use of the wildlife areas.

Management of structures for resource protection, education, safety, and appropriate public use of the wildlife areas would contribute to the attainment of goals for biological, public use, fire management, and cultural elements.

Tasks:

1. Install new facilities as described in the Biological, Public Use, Cultural, and Fuels and Fire Management Elements to support attainment of related goals.
2. Establish an annual monitoring and reporting program of wildlife area facilities (e.g., condition of signs, structures)
3. Fix or replace facilities as needed, and adapt facility management approach, based on the results of the annual monitoring program.
4. Document facilities needs in Department maintenance and capital outlay database.

4.8 ADMINISTRATION ELEMENT

Administration of AVWA and SCWA includes maintaining and providing records of management actions, expenditures, allocation of staff time, and funding acquisition. Opportunities that exist for administration of these wildlife areas include an existing ground lease agreement with the Sierra Valley Resource Conservation District (SVRCD) that allows funds generated by the wildlife areas (e.g., through grazing allotments) to be reinvested in the management of the wildlife areas. Another opportunity for efficient administration includes the sharing of resources (e.g., vehicles and office space) for management of AVWA, SCWA, and three other wildlife areas: the Hallelujah Junction Wildlife Area, the Chilcoot Wildlife Area, and the Crocker Meadows Wildlife Area. Constraints for maximum administration effectiveness include limited staffing resources and a financial dependence on unstable state funding for management of the wildlife areas.

Administration Goal 1: Maintain existing data and agreements concerning the management and resources of the wildlife areas.

Maintaining current data and agreements concerning the management and resources of the wildlife areas would support attainment of goals for all other elements.

Tasks:

1. Regularly update GIS data sources as information becomes available.
2. Maintain accurate financial records regarding expenditures, staff, maintenance, funding, and other administrative duties.
3. Maintain the existing ground lease agreement with SVRCD to allow local reinvestment of funds generated by the wildlife areas.
4. Administer renewal, modification, and termination of grazing allotments and timber sales, as necessary.
5. Coordinate with local user groups to obtain volunteer labor when possible. Quantify and record this resource to be referenced as “in kind” contributions in grant applications.
6. Investigate options that may be available to obtain consistent, dedicated funding sources that are not dependent on fluctuating state funds for management of the wildlife areas.

Administration Goal 2: Streamline administrative requirements and processes by combining AVWA and SCWA as one wildlife area.

Streamlining administrative requirements and processes would help to reduce administrative costs of managing the two wildlife areas, thus releasing funds for use in meeting other management goals and tasks.

Tasks:

1. Recommend to Department headquarters that for SCWA, the Department adopt Title 14, California Code of Regulations, Section 551(q), and any other applicable regulations to be consistent with AVWA.
2. Recommend to Department headquarters that the Department combine AVWA and SCWA as one wildlife area.
3. Obtain concurrence from the Director of the Department and submit the recommendations to the Fish and Game Commission.
4. After obtaining approval from the Fish and Game Commission, update records, publications, and Web sites to reflect this change.

4.9 MANAGEMENT REVIEW AND COORDINATION ELEMENT

Attainment of the goals of this LMP depends on the implementation of supporting regulations and management practices. Attainment of the goals also can be supported by coordination of management efforts with neighbors, local agencies, nonprofits, and other federal and state agencies.

An important step toward attaining the goals of this LMP is reviewing current regulations and management practices for consistency with and support of the goals. Based on this review, if necessary, regulations and management practices could be revised to better support attainment of the goals of the LMP. The primary constraint on performing this review and changing regulations or management practices is the availability of funding and staff.

The activities of neighbors, a number of state and local agencies, nonprofits, and the TNF influence ecosystems at AVWA and SCWA. These activities may occur at the wildlife area or elsewhere in the region and are conducted for a wide range of purposes. The entities planning and conducting these activities may not be aware of related activities, effects at AVWA or SCWA, or of the Department's management goals for the wildlife areas. Therefore, management coordination could reduce the adverse consequences of these actions and increase the beneficial effects resulting from the actions and involvement of these other entities.

At AVWA and SCWA, several opportunities for management review and coordination include the following:

- ▶ Department staff has existing cooperative relationships with TNF, Sierra County, Loyalton, and other neighboring property owners.
- ▶ The Sierra Valley Coordinated Resource Management Plan was drafted in 2002, providing a framework for collaboration between stakeholders concerned with the ecologic and economic health of Sierra Valley.
- ▶ The Sierra County Sheriff's Department cooperates with Department wardens to enforce laws in the wildlife areas.
- ▶ The Sierraville Ranger District of the TNF leads and CAL FIRE assists with fire management efforts in the wildlife areas.

- ▶ There are several regional resource management plans or efforts to refer to for resource management guidance.

Important constraints on management review and coordination in AVWA and SCWA include the following:

- ▶ Staff and funding are limited to perform this coordination.
- ▶ Coordination requires that other agencies are willing to participate in management coordination and have the staff and funding available to do so.
- ▶ The Department's inconsistency in paying property taxes fosters resentment in residents and staff of Sierra County. The Department routinely submits budget change proposals in an attempt to address this issue, but these have been unsuccessful.

Management Goal 1: Ensure regulations and management practices at AVWA and SCWA support attainment of LMP goals.

This goal is based on the purpose of this LMP, which includes guiding management of habitats, species, and programs described in the LMP to achieve the Department's mission to protect and enhance wildlife values, and serving as a guide for appropriate public uses of AVWA and SCWA.

Task:

1. Review, and as necessary revise, regulations and management practices at the wildlife areas to be consistent with and to support attainment of the goals of this LMP. Periodically conduct reviews of public uses of AVWA and SCWA and evaluate rules, regulations, guidelines, and materials to ensure compatibility of public uses.

Management Goal 2: Continue coordination with other law enforcement agencies.

Although the Department maintains its own law enforcement staff (game wardens), the jurisdictions and duties of other law enforcement organizations overlap in AVWA and SCWA. Therefore, continued coordination with these organizations will support effective law enforcement and the attainment of LMP goals.

Tasks:

1. Meet regularly with law enforcement staff from the Sierra County Sheriff's Department and other agencies (such as the Truckee office of the California Highway Patrol and CAL FIRE) as appropriate to coordinate law enforcement activities and explore options for cooperative programs.
2. Pursue joint funding requests with other law enforcement entities to address law enforcement concerns.

Management Goal 3: Maintain relationships with neighbors to address management issues.

Activities of neighbors, especially those in Sierra Brooks and Loyalton, affect ecosystems and public uses at AVWA and SCWA. Maintaining relationships with neighbors can contribute to attainment of most goals of this LMP.

Tasks:

1. Meet or correspond with local landowners and user groups, as needed, to maintain communication about the management needs of AVWA and SCWA, to obtain access and use input regarding the wildlife areas, to convey useful information regarding management activities, to foster a sense of investment in the wildlife areas, to ensure that they know who to contact if they wish to report any issues, to promote educational activities, and to recruit volunteers to assist with management actions when appropriate.

Management Goal 4: Coordinate with federal, state, and local organizations regarding plans and projects that may affect resources at AVWA and SCWA, or may be affected by management actions at AVWA and SCWA.

It is the policy of the Fish and Game Commission, to provide maximum protection of fish and wildlife and their habitats, that the Department shall review and comment on proposed projects that may affect these resources, and to recommend and seek the adoption of proposals necessary or appropriate for the protection and enhancement of fish and wildlife populations and their habitats. This goal is based on Fish and Game Commission policy, and on the desire to facilitate efficient and effective management of the wildlife areas and natural resources protected by the Department.

Tasks:

1. Review, coordinate, and provide comments and recommendations on federal, state, and local government plans; special plans; and proposed projects, as appropriate, for the purpose of determining the consistency of such plans with the goals of the Department’s management plans.
2. Participate in other regional planning and resource management efforts, and coordinate with regional nongovernmental organizations, as appropriate (e.g., Quincy Library Group, Sierra Nevada Forest Plan, Sierra Nevada Framework, Sierra Nevada Alliance, Sierra Nevada Conservancy, Sierra Fund, Upper Feather River Integrated Regional Water Management Plan, California Wilderness Coalition, High Sierra Rural Alliance) to support the attainment of wildlife area management goals.
3. Coordinate with regional agencies, stakeholders, and educational institutions to implement knowledge exchange (e.g., to organize data and create databases relevant to specific resource issues, provide educational workshops.)
4. Coordinate with the local school district to encourage environmental education and to recruit volunteers to assist with management actions when appropriate.
5. Continue to coordinate with Department wardens, land managers, and resource specialists in surrounding regions for assistance with law enforcement and resource management.
6. Continue to participate in the Sierra Valley Coordinated Resource Management Plan and with the other signatories of the plan (including the Sierra Valley Resource Conservation District, the Natural Resources Conservation Service, and the Plumas Corporation and Feather River Coordinated Resource Management Group); encourage and support a renewed interest among signatories to meet regularly to facilitate the coordination of land management and planning activities among public agencies and private landowners; collaborate with signatories in funding management actions when possible.
7. Coordinate with the following organizations regarding resource management, knowledge exchange, and the specific topics described below:
 - ▶ Sierra County—roadway management and potential realignment of Antelope Valley Road, use and maintenance of wells in SCWA, public outreach assistance, review of proposed projects;
 - ▶ City of Loyalton—flood control issues, public outreach assistance, review of proposed projects;
 - ▶ TNF, Sierraville Ranger District—resource management (e.g., grazing, fuels management, invasive species management, special-status species management), watershed restoration, fire management, public outreach assistance;

- ▶ RWQCB/SWRCB—Water quality control plan (basin plan) goals, funding opportunities, regulatory compliance;
- ▶ DWR—coordination with the Water Master regarding water rights issues, funding opportunities, assistance with watershed projects;
- ▶ CAL FIRE—fire management, public outreach assistance;
- ▶ The Plumas-Sierra Agricultural Commissioner—depredation issues;
- ▶ USFWS—special-status species impacts, funding opportunities;
- ▶ The California Department of Transportation (Caltrans)—watershed restoration (particularly around SR 49), funding opportunities.

Management Goal 5: Ensure that management actions minimize air quality, noise, and hazardous impacts.

The following tasks are necessary to minimize potential impacts of management actions to air quality, noise, and hazardous resources. This goal is based on the Department’s policy and obligation to avoid significant environmental impacts.

Tasks:

1. Prior to conducting any construction projects involving the use of hazardous materials typically associated with construction activities, such as oils and fuels, require that contractor(s) establish a construction staging area at which hazardous materials will be stored and disposed of during construction, and prepare an accidental spill prevention and response plan specifying BMPs aimed at reducing the risk of hazardous spills. Implement the plan during construction activities.
2. Prior to conducting any management projects that would require an acre or more of soil disturbance, submit a Dust Control Plan to the Northern Sierra Air Quality Management District (NSAQMD) for review and approval. Include in this plan the fugitive dust control BMPs (e.g., the use of water trucks, speed limits, street sweepers, or construction restrictions during high winds) to be implemented to control the release of dust to the atmosphere, and to ensure that fugitive dust does not exceed opacity limits or go beyond construction boundaries.
3. Prepare an emissions reduction plan for any management projects that may involve the simultaneous use of more than approximately 6 excavators, 6 rubber tired dozers, and 2 other pieces of material handling equipment. Provide the plan to the NSAQMD for review and approval; include a comprehensive list of construction equipment, and demonstrate that heavy-duty vehicles to be used during construction of the project, including owned, leased, and subcontractor vehicles, would not exceed NSAQMD air quality standards for emissions. Outline and implement BMPs (e.g., use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, emulsified diesel fuel, and particulate matter traps; limiting equipment idling; limiting the use of large diesel powered generators; and maintaining equipment to manufacturer specifications) as necessary to minimize construction emissions.
4. Prepare a noise reduction plan for any management projects in SCWA that may involve the simultaneous use of multiple pieces of construction equipment within 500 feet of any sensitive receptors (e.g., residences) to ensure that construction activities will not exceed Sierra County General Plan noise standards. Implement BMPs (e.g., limiting the simultaneous use of multiple pieces of construction equipment, limiting work hours, using commercial or plywood noise barriers, consulting with Sierra

County and nearby residents) to minimize construction noise such that it does not substantially increase ambient noise levels or expose sensitive receptors to excessive noise levels for an excessive period of time.

4.10 CULTURAL ELEMENT

At AVWA and SCWA, several opportunities for management of cultural resources, include the following:

- ▶ the known locations of prehistoric and historic-era resources on Department property;
- ▶ the remoteness of the wildlife areas, which minimizes the likelihood of disturbance to these resources; and
- ▶ available expertise and assistance from cultural experts at the local TNF offices.

Several important constraints on the management of cultural resources in AVWA and SCWA include the following:

- ▶ patterns of heavy land use over a long period of time, such as Native American occupation and historic-era mining, ranching, or timber harvesting that may have left presently unknown remains in the region;
- ▶ the remoteness of the wildlife areas which makes frequent monitoring of cultural resources difficult;
- ▶ the relatively few cultural surveys that have taken place in the wildlife areas; plans for high levels of soil disturbance required for watershed restoration projects, which could disturb unknown cultural resources; and
- ▶ limited staff and funding availability for managing cultural resources.

Cultural Goal 1: Catalog and preserve known significant cultural resources identified within AVWA and SCWA.

These goals are based on the requirements of CEQA and on the intent of the Department to provide long-term stewardship of cultural resources at AVWA and SCWA.

Tasks:

1. Limit public access and vandalism to petroglyphs located on Department property by installing exclusionary fencing. Select fencing location and styles that are consistent with the rural character of the region and the aesthetics of the natural environment in the wildlife areas.
2. Limit public access and discourage vandalism of the historic sawmill site located on Department property by avoiding the construction of trails or roads in the vicinity.
3. Avoid soil disturbance around the petroglyphs and the sawmill. If disturbance is unavoidable, mark these resources as no-entry areas before any soil disturbance activities occur within 100 feet, and retain a qualified professional archaeologist to monitor all ground-disturbing activities.

Cultural Goal 2: Preserve all significant prehistoric and historic-era cultural resources and present-day Native American cultural properties that documentary and/or field investigations identify within AVWA and SCWA.

Tasks:

1. Conduct cultural resource surveys as necessary prior to ground-disturbing activities, including proposed watershed restoration program activities. Prepare an “inadvertent discovery plan” to be utilized during implementation of any project involving ground-disturbance. The inadvertent discovery plan shall refer to and

outline state law regarding the discovery of human remains and include a requirement to consult with a qualified archaeologist in the case of a discovery of cultural resources or human remains during ground-disturbing activities.

2. If cultural resources are found during surveys or excavation, complete and submit resource documentation to the California Historical Resources Information System. If these resources are potentially eligible for listing on the National Register of Historic Places (NRHP) and/or the California Register of Historical Resources (CRHR), submit evaluations of these resources to the State Historic Preservation Officer for concurrence and recommendations.
3. When facility improvements or restoration efforts are proposed that may affect significant (per NRHP/CRHR criteria) cultural resources, consult the CEQA guidelines and/or Section 106 of the National Historic Preservation Act (if federal involvement) for guidance on compliance with regulations.
4. As opportunities and funding allow, conduct pedestrian surveys for cultural resources in areas that have not already been surveyed. Inventory any resources discovered on Department property that may warrant management actions to facilitate preservation of the resources.
5. Support efforts to document the history of human activities at AVWA and SCWA.

5 OPERATIONS AND MAINTENANCE

The purpose of this chapter is to describe the staffing and other resources required to perform the operations and maintenance associated with this LMP. The implementation of this LMP will require staffing and resources in addition to those currently allocated to the AVWA and SCWA to perform the tasks that are described in Chapter 4, “Management Goals.”

In addition to financial resources, this LMP will require constant management to keep it current and revised as necessary. The resources and uses of the wildlife area and of the surrounding region will change, as will the policies and programs guiding resource management. In response to ongoing management and environmental change in the wildlife areas and surrounding region, management priorities may change and the LMP may need to be updated. Procedures to help keep this LMP current and relevant are included in Chapter 6.

5.1 OPERATIONS AND MAINTENANCE TASKS TO IMPLEMENT PLAN

Table 5-1, at the end of this chapter, summarizes goals and tasks identified in Chapter 4, “Management Goals,” and the labor required to implement them.

5.2 EXISTING STAFF AND ADDITIONAL PERSONNEL NEEDS

The two existing Department staff positions are shared among five wildlife areas in Plumas and Sierra counties: Hallelujah Junction, Chilcoot, Crocker Meadows, Antelope Valley, and Smithneck Creek. The current allocation of these positions to the AVWA and SCWA is insufficient to implement the tasks identified in this LMP. A change in the way all five of these Wildlife Areas are managed seems to be in the best interests of appropriate management. The Department is proposing to add two new full-time permanent positions, a Range A–B Wildlife Biologist and a Wildlife Habitat Supervisor, and the upgrade of the existing Fish and Wildlife Technician from a permanent-intermittent to a full-time permanent position. To adequately operate these Wildlife Areas will also require approximately 1.5 personnel years (PYs) of seasonal/scientific aide time. Among each category of staff described below, Table 5-1 distributes the hours necessary to implement each task of the LMP (described in Chapter 4).

5.2.1 SITE MANAGEMENT—ASSOCIATE WILDLIFE BIOLOGIST POSITION

Continued day-to-day operations will require 0.1 PY of an associate wildlife biologist position to be assigned to the AVWA and SCWA. This individual acts as the area manager for the AVWA and SCWA and divides his time among managing the five wildlife areas in Plumas and Sierra counties. This individual is responsible for performing administration, planning, and coordination of management and for the basic communication, monitoring, and support functions that are required for operation and maintenance of the wildlife areas. Implementation of the LMP will require that the area manager allocate approximately 208 hours per year to the AVWA and SCWA (Table 5-1).

5.2.2 SITE MANAGEMENT AND MONITORING—RANGE A-B WILDLIFE BIOLOGIST POSITION

Implementation of the LMP requires the allocation of 0.4 PY of a wildlife biologist to AVWA and SCWA. The Range A–B wildlife biologist’s tasks include species and habitat monitoring, development of specific habitat enhancement projects, developing control measures for invasive species, management review and coordination, and compliance with federal and state environmental and reporting regulations. The individual will assist other Department staff and volunteers performing maintenance and other tasks required to implement this LMP.

Implementation of the LMP will require that the biologist allocate approximately 830 hours per year to the AVWA and SCWA under the guidance of the area manager (Table 5-1).

5.2.3 SITE MANAGEMENT AND MONITORING—WILDLIFE HABITAT SUPERVISOR POSITION

Implementation of the LMP requires the allocation of 0.4 PY of a wildlife habitat supervisor to AVWA and SCWA. Tasks performed by the wildlife habitat supervisor will include the basic communication, planning and support functions that are required for operation and maintenance of the wildlife areas. Implementation of the LMP will require the wildlife habitat supervisor to provide approximately 830 hours per year of support to the AVWA and SCWA under the guidance of the area manager (Table 5-1).

5.2.4 OPERATIONS AND MAINTENANCE SUPPORT—FISH AND WILDLIFE TECHNICIAN POSITION

Implementation of the LMP requires the allocation of 0.25 PY of a wildlife technician to AVWA and SCWA. Under the direction of the wildlife habitat supervisor, the fish and wildlife technician will be required to perform maintenance tasks related to signing, fencing, access, and control of invasive, nonnative species and other habitat improvement projects. The fish and wildlife technician will also participate in habitat restoration activities, collection of habitat and wildlife data, and other monitoring activities. Implementation of the LMP will require the fish and wildlife technician to provide approximately 520 hours per year of support to the AVWA and SCWA under the guidance of the wildlife habitat supervisor.

5.2.5 OPERATIONS AND MAINTENANCE SUPPORT—FISH AND WILDLIFE SEASONAL AIDE/SCIENTIFIC AIDE POSITIONS

Implementation of the LMP will require the allocation of two to four fish and wildlife seasonal aide and/or scientific aide positions to AVWA and SCWA, together totaling approximately 0.5 PY. Under the direction of the wildlife habitat supervisor, the seasonal aides and/or scientific aides will be required to perform routine maintenance tasks and manual labor related to removal of trash and control of invasive, nonnative species and habitat restoration projects. The seasonal aides and/or scientific aides will also participate in habitat restoration activities, collection of habitat and wildlife data, and other monitoring activities. Implementation of the LMP will require that seasonal aides and/or scientific aides provide approximately 1,040 hours per year of support under the guidance of the wildlife habitat supervisor.

5.2.6 LAW ENFORCEMENT—FISH AND GAME WARDEN POSITION

To protect fish and wildlife resources and ecosystems, patrol of the AVWA and SCWA by a fish and game warden will be required. The warden will provide a presence to deter violations and will deal with fish and game violations and enforce other wildlife area regulations, including those related to authorized and unauthorized uses. Fish and game wardens patrol an assigned district, consisting of a county or a portion of a county. They patrol multiple wildlife areas as part of their overall responsibilities. Implementation of the LMP will require a fish and game warden to perform an estimated 208 hours per year of patrols and supporting activities at the AVWA and SCWA under the guidance of the Squad's Lieutenant (Table 5-1).

5.3 CAPITAL EQUIPMENT AND MATERIALS AND SUPPLIES

In addition to proposed staff of the AVWA and SCWA and additional labor (as described above), operation and maintenance of the wildlife area requires capital equipment and materials and supplies. These resources are described below.

5.3.1 CAPITAL EQUIPMENT

Initial additional equipment that would be required for implementation of this LMP will include:

- ▶ three operations vehicles to be shared with the other wildlife areas in Sierra and Plumas Counties (i.e., one-half-ton or three-quarter-ton four-wheel-drive pickups),
- ▶ one snowmobile for patrol and operations,
- ▶ two OHV “quads” for patrol and operations, and
- ▶ office space and equipment (e.g., computers, printer, phone) for the staff described above.

Occasionally, other capital equipment will be required for a particular task. The use of this equipment will be an operations and maintenance expense.

5.3.2 OPERATIONS AND MAINTENANCE

An operations and maintenance budget will be required to provide materials and supplies (e.g., office supplies, fuel) and additional labor (as previously described) to support management. This budget also will need to include costs of vehicle maintenance, small tools and materials for facilities maintenance (e.g., replacement signs), herbicides for control of invasive species, and garbage disposal fees. Costs for materials and supplies can be relatively large for some tasks, such as the eradication of invasive plant infestations; therefore, these tasks may be budgeted separately as capital improvement or habitat restoration projects, and not included in the general materials and supplies budget for the wildlife area.

5.4 FUNDING SOURCES

Several potential funding sources are available for capital improvements and restoration and enhancement projects within the wildlife area. These potential funding sources include:

- ▶ USFWS programs (e.g., State Wildlife Grant Program, Federal Aid in Wildlife Restoration Program);
- ▶ California Wildlife Conservation Board, Habitat Acquisition and Restoration Program;
- ▶ Sierra Nevada Conservancy;
- ▶ State Duck Stamp Program;
- ▶ Neotropical Migratory Bird Conservation Act Grants Program;
- ▶ Department programs (e.g., Comprehensive Wetlands Program);
- ▶ Department of Fish and Game Minor/Major Capital Outlay proposals;
- ▶ Programs authorized under current and future bond acts (e.g., Proposition 84 funds);
- ▶ U.S. Environmental Protection Agency grant programs; and
- ▶ National Fish and Wildlife Foundation grant programs (e.g., Bring Back the Natives, Five Star Restoration Challenge Grants).

**Table 5-1
Summary of Staffing Required to Implement the Land Management Plan**

Goals	Tasks	Annual Staff Hours ^{1, 2}						Frequency ³
		AWB	BIO	WHS	FWT	FGW	SA	
Biological Element								
Biological Goal 1: Protect, restore and enhance habitat, and regulate hunting to support an optimal size of the Loyalton-Truckee mule deer herd.	Task 1.1. Monitor seasonal deer abundance, habitat use, and migration routes to inform deer herd management decisions (see Research and Monitoring Element).	20	80	40	60	-	-	A
	Task 1.2. Protect, enhance, and restore riparian habitat (see Biological Goal 4 and the Watershed Restoration Element) to maintain and improve deer fawning habitat.	20	60	80	40	-	100	A
	Task 1.3. Protect and enhance mountain mahogany and bitterbrush habitat (see Biological Goal 5) to maintain and improve deer foraging habitat.	-	I	I	-	-	40	A
	Task 1.4. Monitor canopy coverage for densities supportive of deer foraging and cover habitat. Thin young conifers (see Biological Goal 6) as needed to maintain and improve deer habitat.	-	I	I	10	-	40	A
	Task 1.5. Manage invasive plant species such as cheatgrass (see Biological Goal 3), to maintain and improve deer foraging and cover habitat.	-	-	20	60	-	200	A
	Task 1.6. Prevent catastrophic fires (see Fuels and Fire Management Element) to maintain and improve all deer habitats, and to prevent deer mortality caused by fire.	I	I	I	I	I	I	A
	Task 1.7. Periodically evaluate the hunting program and regulations and recommend changes as warranted to maintain an optimal deer herd size (see Public Use Element).	20	48	20	-	-	-	P
	Task 1.8. Follow management recommendations provided in the Loyalton-Truckee Deer Herd Management Plan that are applicable to AVWA and SCWA.	I	I	I	-	-	-	P
Biological Goal 2: Maintain, enhance, and restore habitat for special-status species.	Task 2.1. Conduct, support, or encourage surveys and monitoring for willow flycatcher, yellow warbler, goshawk, special-status bat species, special status plant species, and other special-status species that may be present in AVWA and SCWA.	40	40	40	60	-	40	A

**Table 5-1
Summary of Staffing Required to Implement the Land Management Plan**

Goals	Tasks	Annual Staff Hours ^{1,2}						Frequency ³
		AWB	BIO	WHS	FWT	FGW	SA	
	Task 2.2. Periodically visit populations of special-status species to assess overall habitat integrity, to detect changes in species distribution and abundance, and to detect adverse effects of human use, erosion or nonnative species.	-	I	20	40	-	-	P
	Task 2.3. Develop and implement enhancement strategies that use natural processes to improve habitat for special-status species.	-	I	I	40	-	100	P
	Task 2.4. Conduct management activities and manage public uses, especially grazing, timber harvest, and hunting activities, to minimize effects on areas known to be occupied by special-status species (e.g., northern goshawk, yellow warbler, special status plants).	-	20	I	-	20	-	P
	Task 2.5. Restore, protect, and enhance the ecological functions of Antelope Valley Creek and Bear Valley Creek (see Watershed Restoration Element) to enhance riparian and wet meadow habitat for special-status species dependent on this habitat (e.g., willow flycatcher, yellow warbler, bat species).	I	I	I	I	-	I	P
	Task 2.6. Ensure that all actions undertaken in the wildlife areas comply with the federal Endangered Species Act and California Endangered Species Act (including any applicable Habitat Conservation Plans or Natural Community Conservation Plans), Sections 401 and 404 of the Clean Water Act, Section 1602 of Fish and Game Code, and other applicable plans or regulations aimed at the protection of special-status species or their habitat.	20	40	20	-	-	-	P
Biological Goal 3: Prevent the introduction and spread of invasive species, and manage existing infestations.	Task 3.1. Prioritize management of the invasive species described in Section 3.3 based on their potential impacts to ecosystem functions (e.g., deer foraging habitat) and human uses (e.g., hunting and fishing) and the feasibility and impacts of controlling them. Follow existing federal and state priorities where appropriate.	-	20	20	-	-	-	P

**Table 5-1
Summary of Staffing Required to Implement the Land Management Plan**

Goals	Tasks	Annual Staff Hours ^{1,2}						Frequency ³
		AWB	BIO	WHS	FWT	FGW	SA	
	Task 3.2. Determine appropriate prevention, eradication, and control options for priority invasive species; in making this determination, consider guidance available from the Department's Pesticide Use Program and from other organizations, such as the Plumas/Sierra counties Noxious Weed Management Group, UC Davis Weed Research and Information Center, The Nature Conservancy's Wildland Weeds Program, California Invasive Plant Council (CalIPC), California Department of Food and Agriculture Weed Management Area and Encycloweediea programs, Department of Pesticide Regulation the USFWS Nonnative Invasive Species Program.	20	40	40	-	-	-	P
	Task 3.3. Implement appropriate prevention, eradication, and control options for priority invasive species.	-	-	20	20	-	100	A
	Task 3.4. Implement specific cheatgrass control methods as time and budget allow.	-	-	20	20	-	100	A
	Task 3.5. Monitor hot spots of introduction of invasive species to enable early detection and rapid eradication of invasive plant and aquatic species (e.g., sites along Antelope Valley Road, along Bear Valley Road, along illegal or informal trails, at good fishing locations on Bear Valley Creek, and in recently burned or disturbed areas).	-	-	10	20	-	-	A
	Task 3.6. Conduct periodic resource monitoring (see Research and Monitoring Element), to note observations of new invasive plant or wildlife species, including location and abundance.	-	20	20	20	-	10	P
	Task 3.7. Clean vehicles and clothing before entering the wildlife areas (i.e., inspect and remove visible plant materials and mud, spray/rinse vehicles and equipment) if coming from an area known to be infested by invasive plant or aquatic species.	I	I	I	I	I	I	A
	Task 3.8. Use only certified weed-free fill and plant materials (e.g., seed mixtures, straw used for erosion control).	-	-	-	I	-	I	P
	Task 3.9. Coordinate with regional invasive plant control groups, such the Plumas/Sierra Counties Noxious Weed Management Group, and support efforts to manage invasive plants.	10	20	20	-	-	-	A

**Table 5-1
Summary of Staffing Required to Implement the Land Management Plan**

Goals	Tasks	Annual Staff Hours ^{1,2}						Frequency ³
		AWB	BIO	WHS	FWT	FGW	SA	
	Task 3.10. Provide education and outreach regarding efforts to control invasive species, and support education and outreach efforts by other programs.	-	20	20	-	-	-	P
	Task 3.11. Apply pesticides in conformance with the Department's Pesticide Use Program to ensure safe and effective pesticide use that minimizes adverse environmental effects.	-	-	-	I	-	-	P
	Task 3.12. Periodically evaluate effectiveness of monitoring and control methods and adjust methods as needed.	-	20	40	-	-	-	P
Biological Goal 4: Protect, enhance, and restore riparian and wetland vegetation types.	Task 4.1. Monitor existing fencing precluding cattle from riparian areas. Maintain or add fencing as needed to protect important riparian areas from overgrazing, while ensuring that fenced areas remain available for deer fawning.	-	-	-	40	-	80	A
	Task 4.2. Identify specific locations of existing aspen stands with physical, biological, and economic (e.g., ease of access) conditions favorable for restoration or enhancement.	-	-	20	-	-	-	P
	Task 4.3. Develop plans and pursue funding for identified aspen enhancement or restoration projects; include goals, techniques, costs, monitoring, an adaptive management process, and a schedule; include the help of volunteers whenever practical.	10	20	40	-	-	-	P
	Task 4.4. Implement identified restoration and enhancement projects (e.g., removal of conifers to minimize shading) for aspen stands.	-	-	I	I	-	I	P
	Task 4.5. Prepare a THP prior to any timber harvest.	-	I	I	I	-	-	P
	Task 4.6. Restore the natural and historic hydrologic functions of Antelope Valley Creek and Bear Valley Creek watersheds (see Watershed Restoration Element).	I	I	I	I	-	I	P
	Task 4.7. Ensure that all actions undertaken in the wildlife areas comply with Section 401 and 404 of the CWA, Section 1600 of Fish and Game Code, and other applicable regulations aimed at the protection of riparian and wetland areas.	-	I	40	I	-	-	P

**Table 5-1
Summary of Staffing Required to Implement the Land Management Plan**

Goals	Tasks	Annual Staff Hours ^{1,2}						Frequency ³
		AWB	BIO	WHS	FWT	FGW	SA	
Biological Goal 5: Restore and enhance mountain mahogany and bitterbrush vegetation types.	Task 5.1. Identify opportunities for restoration or enhancement in areas that previously supported bitterbrush and mountain mahogany vegetation types but were modified due to fires or other disturbance; assess physical, biological, and economic opportunities and constraints. Record all locations of these vegetation types in the Department's GIS database.	20	60	40	-	-	-	P
	Task 5.2. Develop plans and pursue funding for identified bitterbrush and mountain mahogany restoration or enhancement projects; include goals, techniques, costs, monitoring, an adaptive management process, and a schedule; include the help of volunteers whenever practical.	10	40	40	-	-	-	P
	Task 5.3. Implement restoration and enhancement projects (e.g., seeding, planting, soil amendments, watershed restoration) for the bitterbrush vegetation type, and for the mountain mahogany vegetation type if effective restoration or enhancement methods are developed.	-	20	20	40	-	40	P
	Task 5.4. Research existing literature addressing mountain mahogany regeneration to understand and manage for the current lack of regeneration.	-	10	20	-	-	-	P
	Task 5.5. Identify management practices that may enhance mountain mahogany and bitterbrush vegetation types in areas where they already exist.	-	I	I	-	-	-	P
	Task 5.6. Conduct and support studies of mountain mahogany regeneration and potential restoration or enhancement methods (see Research and Monitoring Element).	-	I	I	-	-	-	P
Biological Goal 6: Protect and enhance other upland vegetation types.	Task 6.1. Monitor regeneration of upland forests that were burned in the Cottonwood and Harding fires (see Research and Monitoring Element). Enhance these forests with additional seeding or planting as needed.	-	-	20	80	-	-	P
	Task 6.2. Evaluate the need to thin young conifers, consistent with the 2001 timber harvest and fire management goals, and conduct timber harvests as needed. Reevaluate the need for thinning approximately every 10–20 years.	-	I	I	-	-	-	P

**Table 5-1
Summary of Staffing Required to Implement the Land Management Plan**

Goals	Tasks	Annual Staff Hours ^{1,2}						Frequency ³
		AWB	BIO	WHS	FWT	FGW	SA	
	Task 6.3. Prepare a THP prior to any timber harvest.	I	I	I	I	-	-	P
	Task 6.4. Restore the natural and historic hydrologic functions of Antelope Valley Creek and Bear Valley Creek watersheds (see Watershed Restoration Element).	I	I	I	I	-	-	P
	Task 6.5. Ensure that all actions undertaken in the wildlife areas comply with regulations and guidelines protecting unique or sensitive communities.	-	I	I	-	-	-	P
Biological Goal 7: Protect and enhance aquatic ecosystems and functions	Task 7.1. Monitor and assess human use, invasive nonnative aquatic species, and other effects on habitat for sport fish and other aquatic species (see Research and Monitoring Element).	20	I	20	40	-	-	P
	Task 7.2. Periodically evaluate angling use and regulations and recommend changes as warranted to maintain and enhance aquatic habitat for sport fish and other aquatic species.	-	I	-	-	-	-	P
	Task 7.3. Monitor existing fencing excluding cattle from riparian areas. Maintain or add fencing as needed to protect important aquatic ecosystems from cattle disturbance or pollution.	-	-	I	I	-	-	P
	Task 7.4. Ensure that all projects proposed within the watersheds of AVWA and SCWA provide protection measures for water quality (particularly erosion and sedimentation control measures), water quantity, stream buffers, and aquatic species.	-	I	I	-	-	-	P
	Task 7.5. Prior to implementing any construction projects including soil disturbance greater than 1 acre (or less, depending on current SWRCB regulations), prepare a SWPPP that identifies BMPs that will be used to eliminate or minimize the potential for construction-related pollution to enter stream flows directly, or through stormwater runoff.	-	-	I	I	-	-	P
	Task 7.6. Ensure that all actions undertaken in the wildlife areas comply with the ESA and CESA, Section 401 and 404 of the CWA, Section 1602 of Fish and Game Code, and other applicable regulations aimed at the protection of aquatic ecosystems.	20	40	40	-	-	-	P

**Table 5-1
Summary of Staffing Required to Implement the Land Management Plan**

Goals	Tasks	Annual Staff Hours ^{1,2}						Frequency ³
		AWB	BIO	WHS	FWT	FGW	SA	
Biological Goal 8: Manage grazing to protect and enhance biological resources.	Task 8.1. Implement design features, Standard Management Requirements, and BMPs described in the BSA Allotment Management Plans Project Environmental Assessment to manage potential grazing impacts to special-status species; mule deer; riparian and wetland vegetation types; aquatic ecosystems; mountain mahogany, bitterbrush, and other upland vegetation types.	-	I	I	-	-	-	P
	Task 8.2. Rotate cattle to facilitate grazing during appropriate seasons and at an appropriate intensity to use grazing as a management tool for invasive plant species management.	-	I	I	-	-	-	P
Watershed Restoration Element								
Watershed Goal 1: Restore hydrologic stability and floodplain functions to Antelope Valley and Bear Valley creeks.	Task 1.1. Implement watershed restoration activities on Department lands as described in the watershed restoration program included herein as Appendix D.	80	80	80	80	-	100	P
	Task 1.2. Following implementation of the restoration activities in Appendix D, reevaluate the need for additional restoration actions approximately every five years.	-	40	40	-	-	-	P
	Task 1.3. Evaluate opportunities, constraints, and potential restoration benefits to identify feasible watershed restoration projects that would support the goals of this LMP, including review of existing documents and/or conduct of additional assessments.	-	40	40	-	-	-	P
	Task 1.4. Pursue funding and develop plans for identified restoration projects that include goals, techniques, costs, monitoring, an adaptive management process, and a schedule.	I	40	40	-	-	-	P
	Task 1.5. Cooperate with the development and implementation of local and regional restoration plans by other programs that are consistent with the goals of this LMP.	20	40	40	-	-	-	P
Watershed Goal 2: Document, understand, and respond to ecological changes and improvements resulting from restoration actions.	Task 2.1. Support and encourage the monitoring of baseline and post-restoration ecological conditions.	10	40	40	40	-	-	P
	Task 2.2. Establish permanent photo stations and seasonally or annually document the progress of hydrologic restoration, and riparian and wet meadow vegetation enhancement.	-	I	I	80	-	-	P

**Table 5-1
Summary of Staffing Required to Implement the Land Management Plan**

Goals	Tasks	Annual Staff Hours ^{1,2}						Frequency ³	
		AWB	BIO	WHS	FWT	FGW	SA		
	Task 2.3. Make adaptive changes to stream restoration design, as necessary, following the results of monitoring.	-	I	I	I	-	-	P	
Research and Monitoring Element									
Research and Monitoring Goal 1: Support appropriate scientific research and encourage or conduct research that contributes to management goals of the AVWA and the SCWA.	Task 1.1. Review and evaluate proposed research projects utilizing the following criteria. <ul style="list-style-type: none"> ▪ Potential for research results to improve management of the AVWA, SCWA or other wildlife areas; ▪ Potential conflicts between the research and compatible public uses; ▪ Potential conflicts between the research and any biological goals stated in this plan; ▪ Potential contribution of the research to science and society; and ▪ Potential for the research to interfere with or preclude certain types of future research at the AVWA or the SCWA. 	20	40	40	I	-	-	P	
	Task 1.2. Provide letters or permits to researchers specifying dates and times of authorized access, and information on regulations and area restrictions.	-	I	-	-	-	-	-	P
	Task 1.3. Require that researchers provide copies of data and/or published papers to the Department, and contact researchers to ensure this requirement is fulfilled.	-	I	-	-	-	-	-	P
	Task 1.4. Actively promote the wildlife areas to regional academic institutions as a resource available for research activities.	-	I	-	-	-	-	-	P
	Task 1.5. Establish long term working relationships with regional academic institutions.	10	20	-	-	-	-	-	P
	Task 1.6. Encourage long-term studies of water quality and quantity, special-status species populations, and other topics that could inform management of the wildlife areas. Encourage consistent monitoring methodology between long-term monitoring efforts and monitoring tasks outlined in the Watershed Restoration Element.	10	20	-	-	-	-	-	P
	Task 1.7. When conducting plant surveys, follow survey protocol outlined by DFG, USFWS, and CNPS, as appropriate according to the species' listing status.	-	I	-	-	-	-	-	P

**Table 5-1
Summary of Staffing Required to Implement the Land Management Plan**

Goals	Tasks	Annual Staff Hours ^{1,2}						Frequency ³
		AWB	BIO	WHS	FWT	FGW	SA	
	Task 1.8. When conducting wildlife surveys, follow DFG, USFWS, or USFS survey protocol as appropriate according to the species listing status.	-	I	-	-	-	-	P
Public Use Element								
Public Use Goal 1: Install signage that provides information to the public about compatible public uses of AVWA and SCWA	Task 1.1. Inform users regarding the location and boundaries of AVWA and SCWA by providing locator signs and property boundary signs at major access points (e.g., Hwy. 89, Bear Valley Road, and at illegal OHV access points).	-	-	I	30	-	-	P
	Task 1.2. Inform users regarding compatible public uses of AVWA and SCWA by providing bulletin boards at formal entrances to the wildlife areas.	-	-	I	I	-	-	P
	Task 1.3. Select signage locations and styles that are consistent with the rural character of the region and the aesthetics of the natural environment in the wildlife areas.	-	-	I	I	-	-	P
Public Use Goal 2: Encourage and support compatible, safe, and legal public use of wildlife areas through public outreach, regulations, and agreements	Task 2.1. Implement a public outreach program to increase the awareness of visitors and potential visitors to the Sierra Valley region about AVWA and SCWA, existing public use opportunities, and regulations. Hold public information meetings periodically to inform the public about particular management issues requiring focused attention.	20	60	60	-	-	-	P
	Task 2.2. Provide information on the Department's website and published outreach materials to inform the public about AVWA and SCWA.	-	20	20	-	-	-	A
	Task 2.3. Develop an agreement with the Feather River Archery Club for a permanent archery range, open to the public and maintained by the club, at one of the wildlife areas.	I	I	I	-	-	-	P
	Task 2.4. Periodically conduct reviews of public uses of the wildlife areas and evaluate rules, regulations, guidelines and materials to ensure compatibility of public uses.	-	I	I	-	-	-	P

**Table 5-1
Summary of Staffing Required to Implement the Land Management Plan**

Goals	Tasks	Annual Staff Hours ^{1,2}						Frequency ³
		AWB	BIO	WHS	FWT	FGW	SA	
Public Use Goal 3: Support the use of AVWA and SCWA for environmental education	Task 3.1. Provide staff assistance, interpretive materials, and provision of permits for environmental education activities.	-	20	40	20	-	-	P
	Task 3.2. Encourage all environmental education and natural resource interpretation (informal education) users to incorporate the Department's guidelines for natural resource education messages in their field environmental education activities, curriculums, and interpretive programs, both on and off-site.	-	40	40	-	-	-	P
	Task 3.3. Coordinate with non-profit groups (e.g., National Audubon Society, Cal Trout, FRCRM) that promote wildlife-dependent recreational opportunities and that can provide additional support to the Department's management of AVWA and SCWA.	20	40	40	-	-	-	P
	Task 3.4. Develop a plan to provide interpretive information at key locations (e.g., the proposed Bear Valley Creek restoration site) where visitors can observe natural resources, resource degradation and management challenges, or the application of methods to restore compromised habitats.	-	20	20	I	-	-	P
	Task 3.5. Enlist the cooperation of local volunteers, such as residents and students of the Sierra Valley, when implementing projects (such as restoration or enhancement projects) that may be educational for the volunteers. Include such volunteer labor as an "in-kind" funding source in grant applications, whenever possible.	-	20	I	-	-	-	P
Public Use Goal 4: Discourage destructive and illegal public use of wildlife areas through enforcement of regulations.	Task 4.1. Assess and monitor where wildlife areas are seeing heaviest OHV use or other forms of illegal resource degradation.	-	-	I	40	-	-	P
	Task 4.2. Install physical barriers (e.g., boulders, split-rail fencing) at points frequently used to access or traverse Department property illegally via OHVs. Select barriers that are consistent with the rural character of the region and the aesthetics of the natural environment in the wildlife areas.	-	-	-	20	20	20	P

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Summary of Staffing Required to Implement the Land Management Plan**

Goals	Tasks	Annual Staff Hours ^{1,2}						Frequency ³
		AWB	BIO	WHS	FWT	FGW	SA	
	Task 4.3. Depending on the fluctuating magnitude and type of illegal public use, such as OHV use, out-of-season hunting, or tree removal, increase Department presence in wildlife areas, and increase the frequency of the assignment of penalties, as necessary. Enforce laws and request assistance from the County Sheriff as necessary to enforce laws.	-	-	-	-	180	-	A
	Task 4.4. Restore ecosystems damaged by unauthorized uses as necessary.	-	20	20	I	-	20	A
Public Use Goal 5: Evaluate requests by Native Americans for use of the wildlife area for activities such as gathering native plant materials for cultural purposes.	Task 5.1. Work with native peoples requesting access to determine the purpose and need for access and/or collections within the wildlife areas based on applicable laws and treaties related to tribal use of state properties.	-	I	I	-	-	-	P
	Task 5.2. Develop access plans and issue permits for native peoples that are compatible with the goals of the LMP. Any authorization for access would identify species, limits, locations, seasons, and include standard liability clauses.	-	I	I	-	-	-	P
Fuels and Fire Management Element								
Fire Goal 1: Coordinate fire preparedness and response with local and regional fire management agencies	Task 1.1. Provide maps to local fire authorities, including the Fire Management Officer at the Sierraville Ranger District and the Fire Chief at the Truckee CAL FIRE Station, which indicate the location of sensitive resources requiring careful consideration during a fire incident. Ensure that details of confidential information are not inappropriately circulated.	10	-	I	I	-	-	A
	Task 1.2. Provide maps to local fire authorities, including the Fire Management Officer at the Sierraville Ranger District and the Fire Chief at the Truckee CAL FIRE Station, which indicate the location and type of fuels treatments previously completed within the AVWA and SCWA.	-	20	I	I	-	-	A
	Task 1.3. Provide contact information for the Department's Agency Representative to the Grass Valley Emergency Command Center (ECC), local fire authorities, and the TNF management office in Nevada City. Obtain comparable contact information from these agencies. Update this information annually.	-	20	I	I	-	-	A

**Table 5-1
Summary of Staffing Required to Implement the Land Management Plan**

Goals	Tasks	Annual Staff Hours ^{1, 2}						Frequency ³
		AWB	BIO	WHS	FWT	FGW	SA	
	Task 1.4. Review existing TNF fire suppression procedures to identify fire suppression tactics that could have long-term effects on ecosystems. Recommend avoidance or modification of those tactics whenever feasible in order to avoid or minimize long-term effects on the ecosystems of the AVWA and the SCWA.	-	20	20	I	-	-	P
	Task 1.5. Coordinate with the Battalion Chief of the TNF Sierraville Ranger District to obtain and review copies of local incident command procedures and agreements applicable to fire suppression at the AVWA or the SCWA. Provide input for these approaches to ensure consistency with Department goals. Determine if the Department could aid appropriate fire suppression responses (e.g., installing locator signs within the wildlife areas for fire-fighting personnel.)	10	16	16	-	-	-	P
	Task 1.6. Meet semi-annually with local fire authorities to discuss fire-related issues relevant to AVWA or SCWA, including vegetation management and other forms of fuels management.	-	8	8	-	-	-	A
Fire Goal 2: Protect people and property from fire hazard while maintaining sensitive resources to the extent practicable.	Task 2.1. Train the Wildlife Area Manager to serve the role of Resource Specialist or Agency Representative through the Incident Command System (ICS). As part of the ICS, make available the Wildlife Area Manager or another local plant, wildlife, and fisheries specialist from the Department's staff to provide advice during fires that threaten habitat at AVWA or SCWA.	16	16	-	-	-	-	P
	Task 2.2. Develop maps identifying critical areas where emergency revegetation or mechanical or structural measures may be necessary to prevent excessive erosion or flooding post-fire. Implement such measures as appropriate following fire or fire suppression.	-	20	40	-	-	-	P
	Task 2.3. Review and comment on any fuels or fire management projects proposed in the future for the AVWA, the SCWA, or the surrounding TNF lands to ensure consistency with Department goals, such as protection of natural resources.	I	40	60	-	-	-	P

**Table 5-1
Summary of Staffing Required to Implement the Land Management Plan**

Goals	Tasks	Annual Staff Hours ^{1,2}						Frequency ³
		AWB	BIO	WHS	FWT	FGW	SA	
	Task 2.4. Develop maps identifying areas of sensitive resources that may require specific management actions for appropriate prescribed burning activities (e.g., season-specific burning in areas of special-status plant or wildlife species, or invasive plant species).	-	-	I	-	-	-	P
	Task 2.5. Implement tasks described in the Biological Element to manage the introduction and spread of invasive plant species that may increase fire hazards (e.g., cheatgrass).	-	20	20	60	-	60	P
	Task 2.6. Review and comment on any fuels or fire management projects proposed in the future for AVWA, SCWA, or the surrounding TNF lands to ensure consistency with Department goals, such as protection of natural resources.	-	40	20	-	-	-	P
	Task 2.7. Identify and implement project-specific BMPs to minimize construction-related fire hazards during any construction activities that require the use of mechanical equipment.	-	20	20	-	-	-	P
Facility Maintenance Element								
Facilities Goal 1: Add, improve, and maintain existing structures for resource protection, education, safety, and appropriate public use of the wildlife areas.	Task 1.1. Install new facilities as described in the Biological, Public Use, Cultural, and Fuels and Fire Management Elements to support attainment of related goals.	20	40	40	20	-	150	A
	Task 1.2. Establish an annual monitoring and reporting program of wildlife area facilities (e.g., condition of signs, structures, etc.).	-	20	20	I	-	-	A
	Task 1.3. Fix or replace facilities as needed, and adapt facility management approach, based on the results of the annual monitoring program.	-	20	20	20	-	100	A
	Task 1.4. Document facilities needs in Department maintenance and capital outlay database.	20	40	20	-	-	-	A

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Summary of Staffing Required to Implement the Land Management Plan**

Goals	Tasks	Annual Staff Hours ^{1,2}						Frequency ³
		AWB	BIO	WHS	FWT	FGW	SA	
Administration Element								
Administration Goal 1: Maintain existing data and agreements concerning the management and resources of the wildlife areas.	Task 1.1. Regularly update GIS data sources as information becomes available.	-	30	I	20	-	-	A
	Task 1.2. Maintain accurate financial records regarding expenditures, staff, maintenance, funding, and other administrative duties.	20	40	80	-	-	-	A
	Task 1.3. Maintain the existing ground lease agreement with the SVRCD to allow local reinvestment of funds generated by the wildlife areas.	-	20	20	-	-	-	A
	Task 1.4. Administer renewal, modification, and termination of grazing allotments and timber sales, as necessary.	-	I	I	-	-	-	P
	Task 1.5. Coordinate with local user groups to obtain volunteer labor when possible. Quantify and record this resource to be referenced as “in kind” contributions in grant applications.	-	-	20	-	-	-	P
	Task 1.6. Investigate options that may be available to obtain consistent, dedicated funding sources that are not dependent on fluctuating State funds for management of the wildlife areas.	I	40	I	-	-	-	P
Administration Goal 2: Streamline administrative requirements and processes by combining AVWA and SCWA as one wildlife area.	Task 2.1. Recommend to Department headquarters that for SCWA Title 14, California Code of Regulations section 551(q), and any other applicable regulations be adopted to be consistent with AVWA.	40	-	-	-	-	-	P
	Task 2.2. Recommend to Department headquarters that AVWA and SCWA be combined as one wildlife area.	I	-	-	-	-	-	P
	Task 2.3. Obtain concurrence from the Director of the Department, and submit the recommendations to the FGC.	I	-	-	-	-	-	P
	Task 2.4. Upon obtaining approval from the FGC, update records, publications, and websites to reflect this change.	I	-	-	-	-	-	P
Management Review and Coordination Element								
Management Goal 1: Ensure regulations and management practices at AVWA and SCWA support attainment of LMP goals.	Task 1.1. Review, and as necessary revise, regulations and management practices at the wildlife areas to be consistent with and to support attainment of the goals of this LMP. Periodically conduct reviews of public uses of AVWA and SCWA and evaluate rules, regulations, guidelines and materials to ensure compatibility of public uses.	I	20	20	-	10	-	A

**Table 5-1
Summary of Staffing Required to Implement the Land Management Plan**

Goals	Tasks	Annual Staff Hours ^{1,2}						Frequency ³
		AWB	BIO	WHS	FWT	FGW	SA	
Management Goal 2: Continue coordination with other law enforcement agencies.	Task 2.1. Meet regularly with law enforcement staff from the Sierra County Sheriff's Department and other agencies (such as the Truckee office of the California Highway Patrol and CAL FIRE) as appropriate to coordinate law enforcement activities and explore options for cooperative programs.	I	40	20	-	10	-	A
	Task 2.2. Pursue joint funding requests with other law enforcement entities to address law enforcement concerns.	-	-	-	-	I	-	P
Management Goal 3: Maintain relationships with neighbors to address management issues.	Task 3.1. Meet or correspond with local landowners and user groups, as needed, to maintain communication about the management needs of AVWA and SCWA, to obtain access and use input regarding the wildlife areas, to convey useful information regarding management activities, to foster a sense of investment in the wildlife areas, to ensure that they know who to contact if they wish to report any issues, to promote educational activities, and to recruit volunteers to assist with management actions when appropriate.	20	40	20	-	-	-	P
Management Goal 4: Coordinate with federal, state, and local organizations regarding plans and projects that may affect resources at AVWA and SCWA, or may be affected by management actions at AVWA and SCWA.	Task 4.1. Review, coordinate, and provide comments and recommendations on federal, state, and local government plans; special plans; and proposed projects, as appropriate, for the purpose of determining the consistency of such plans with the goals of the Department's management plans.	30	10	20	-	-	-	P
	Task 4.2. Participate in other regional planning and resource management efforts, and coordinate with regional non-governmental organizations, as appropriate (e.g., Quincy Library Group, Sierra Nevada Forest Plan, Sierra Nevada Framework, Sierra Nevada Alliance, Sierra Nevada Conservancy, Sierra Fund, Upper Feather River Integrated Regional Water Management Plan, California Wilderness Coalition, High Sierra Rural Alliance) to support the attainment of wildlife area management goals.	40	20	20	-	-	-	P
	Task 4.3. Coordinate with regional agencies, stakeholders, and educational institutions to implement knowledge exchange (e.g., to organize data and create databases relevant to specific resource issues, provide educational workshops.)	I	I	24	I	-	-	P

**Table 5-1
Summary of Staffing Required to Implement the Land Management Plan**

Goals	Tasks	Annual Staff Hours ^{1,2}						Frequency ³
		AWB	BIO	WHS	FWT	FGW	SA	
	Task 4.4. Coordinate with the local school district to encourage environmental education and to recruit volunteers to assist with management actions when appropriate.	-	-	I	I	-	-	P
	Task 4.5. Continue to coordinate with Department wardens, land managers, and resource specialists in surrounding regions for assistance with law enforcement and resource management.	20	20	40	-	I	-	P
	Task 4.6. Continue to participate in the Sierra Valley Coordinated Resource Management Plan and with the other signatories of the plan (including the Sierra Valley Resource Conservation District, the Natural Resources Conservation District, the Plumas Corporation, and the Feather River CRM); encourage and support a renewed interest among signatories to meet regularly to facilitate the coordination of land management and planning activities among public agencies and private landowners; collaborate with signatories in funding management actions when possible.	80	40	40	-	-	-	P
	Task 4.7. Coordinate with the following organizations regarding resource management, knowledge exchange, and the specific topics described below: Sierra County, City of Loyalton, TNF – Sierraville Ranger District, RWQCB/SWRCB, DWR, CALFIRE, Plumas-Sierra Agricultural Commissioner, U.S. Fish & Wildlife Service, and Caltrans.	I	40	40	-	-	-	P
Management Goal 5: Ensure that management actions minimize air quality, noise and hazardous impacts.	Task 5.1. Prior to conducting any construction projects involving the use of hazardous materials typically associated with construction activities, such as oils and fuels, require that contractor(s) establish a construction staging area at which hazardous materials will be stored and disposed of during construction, and prepare an accidental spill prevention and response plan specifying BMPs aimed at reducing the risk of hazardous spills. Implement the plan during construction activities.	-	-	I	-	-	-	P

**Table 5-1
Summary of Staffing Required to Implement the Land Management Plan**

Goals	Tasks	Annual Staff Hours ^{1,2}						Frequency ³
		AWB	BIO	WHS	FWT	FGW	SA	
	Task 5.2. Prior to conducting any management projects that would require an acre or more of soil disturbance, submit a Dust Control Plan to the Northern Sierra Air Quality Management District (NSAQMD) for review and approval. Include in this plan the fugitive dust control BMPs to be implemented to control the release of dust to the atmosphere, and to ensure that fugitive dust does not exceed opacity limits or go beyond construction boundaries.	-	-	I	-	-	-	P
	Task 5.3. Prepare an emissions reduction plan for any management projects that may involve the simultaneous use of more than approximately 6 excavators, 6 rubber tired dozers, and 2 other material handling equipment. Provide the plan to the NSAQMD for review and approval; include a comprehensive list of construction equipment, and demonstrate that heavy-duty vehicles to be used during construction of the project, including owned, leased, and subcontractor vehicles, would not exceed NSAQMD air quality standards for emissions. Outline and implement BMPs (e.g., use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, emulsified diesel fuel, and particulate matter traps; limiting equipment idling; limiting the use of large diesel powered generators; and maintaining equipment to manufacturer specifications) as necessary to minimize construction emissions.	-	-	I	-	-	-	P
	Task 5.4. Prepare a noise reduction plan for any management projects in SCWA that may involve the simultaneous use of multiple pieces of construction equipment within 500 feet of any sensitive receptors (e.g., residences) to ensure that construction activities will not exceed Sierra County General Plan noise standards. Implement BMPs (e.g., limiting the simultaneous use of multiple pieces of construction equipment, limiting work hours, using commercial or plywood noise barriers, consulting with Sierra County and nearby residents) to minimize construction noise such that it does not substantially increase ambient noise levels or expose sensitive receptors to excessive noise levels for an excessive period of time.	-	-	I	-	-	-	P

**Table 5-1
Summary of Staffing Required to Implement the Land Management Plan**

Goals	Tasks	Annual Staff Hours ^{1,2}						Frequency ³
		AWB	BIO	WHS	FWT	FGW	SA	
Cultural Element								
Cultural Goal 1: Catalog and preserve known significant cultural resources identified within AVWA and SCWA.	Task 1.1. Limit public access and further vandalism to petroglyphs located on Department property by installing exclusionary fencing. Select fencing location and styles that are consistent with the rural character of the region and the aesthetics of the natural environment in the wildlife areas.	-	-	20	20	-	100	P
	Task 1.2. Limit public access and discourage vandalism of the historic sawmill site located on Department property by avoiding the construction of trails or roads in the vicinity.	-	-	I	-	-	-	P
	Task 1.3. Avoid soil disturbance around the petroglyphs and the sawmill. If disturbance is unavoidable, mark these resources as no-entry areas before any soil disturbance activities occur within 50 feet, and retain a qualified professional archaeologist to monitor all ground-disturbing activities.	-	-	I	-	-	-	P
Cultural Goal 2: Catalog and preserve all unknown significant prehistoric, historic-era, or present-day Native American cultural resources that documentary and/or field investigations identify within AVWA and SCWA.	Task 2.1. Conduct cultural resource surveys as necessary prior to ground-disturbing activities, including planned watershed restoration projects. Prepare an “inadvertent discovery plan” to be utilized during implementation of any project involving ground-disturbance. The inadvertent discovery plan shall refer to and outline state law regarding the discovery of human remains and include a requirement to consult with a qualified archaeologist in the case of a discovery of cultural resources or human remains during ground-disturbing activities.	-	20	-	-	-	-	P
	Task 2.2. If cultural resources are found during surveys or excavation, complete and submit resource documentation to the California Historical Resources Information System. If these resources are potentially eligible for listing on the National Register of Historic Places and/or the California Register of Historical Resources, submit evaluations of these resources to the State Historic Preservation Officer and the Office of Historic Preservation.	-	20	-	-	-	-	P

**Table 5-1
Summary of Staffing Required to Implement the Land Management Plan**

Goals	Tasks	Annual Staff Hours ^{1, 2}						Frequency ³
		AWB	BIO	WHS	FWT	FGW	SA	
	Task 2.3. When facility improvements or restoration efforts are proposed that may affect significant cultural resources, consult the CEQA guidelines and/or Section 106 of the National Historic Preservation Act (if federal involvement) for guidance on compliance with regulations.	-	20	-	-	-	-	P
	Task 2.4. As opportunities and funding allow, conduct pedestrian surveys for cultural resources in areas that have not already been surveyed. Inventory any resources discovered on Department property that may warrant management actions to facilitate preservation of the resources.	-	20	20	-	-	-	P
	Task 2.5. Support efforts to document the history of human activities at the wildlife areas.	-	20	20	-	-	-	P
TOTALS		208	830	830	520	208	1,040	

Notes:

¹ AWB = associate wildlife biologist – responsible for overall site management, administration, and coordination with other agencies and groups; BIO = biologist—responsible for planning and directing wildlife species monitoring activities, habitat management, and management coordination; WHS = wildlife habitat supervisor—implementation of wildlife habitat management activities, development of survey methods, and ability to identify plants and wildlife in the field; FWT = fish and wildlife technician—responsible for tasks such as operation and maintenance of equipment, weed control, facilities maintenance, monitoring and maintenance; FGW = fish and game warden—responsible for law enforcement; SA = seasonal aides/scientific aides—responsible for executing routine operations and maintenance tasks under supervision of permanent personnel. Hours estimates are approximate.

² I = Hours have been included in those for another closely related task.

³ A = annually; P = periodically (hours entered are assumed to be spent on average over a five-year period).

6 FUTURE REVISIONS TO THIS PLAN

All planning documents eventually become dated and require revision so they can continue to provide practical direction for operational activities. A common and unfortunate situation is that the revision of planning documents is often neglected because the process for revision is considered too involved and too cumbersome. To address this problem, this section incorporates a hierarchy of revision procedures in which the level of process and required involvement is proportionate to the level of change that is proposed. This LMP reflects the best information available during the planning process, but it is understood that new information will become available over time and there will be the need to make adjustments to keep this LMP current. Such new information may include any of the following:

- ▶ feedback generated by adaptive management of the AVWA and SCWA,
- ▶ other scientific research that directs improved techniques of habitat management,
- ▶ documented threats to plant, fish and wildlife species and their habitats,
- ▶ management of related regional facilities, and
- ▶ new legislative or policy direction.

When the new information dictates a change to this LMP, it is important that there is an appropriate process established. Public outreach and public input will be necessary in proportion to the proposed change to the policy established by this LMP. Unless a reasonable and clear revision process exists, this LMP, like plans in many organizations will become outdated and irrelevant.

6.1 MINOR REVISIONS

A process is required to accommodate minor revisions to this plan that may include the addition of new property to the AVWA and SCWA or the adoption of limited changes to the goals and tasks that are directed through adaptive management, by other scientific information or by legislative direction. This procedure will be applicable to revisions that meet the following criteria:

- ▶ No change is proposed to the overall purposes of this LMP.
- ▶ CEQA documentation (if required) is prepared and approved.
- ▶ Appropriate consultation within the Department occurs.
- ▶ Appropriate consultation with other agencies occurs.
- ▶ Adjoining neighbors are consulted regarding the revision, if the revision is related to a specific location or the acquisition of additional area.

The minor revision may be prepared by the staff assigned to AVWA and SCWA or with other Department resources and requires approval by the Regional Manager.

6.2 MAJOR REVISIONS

Major revisions or a new LMP could occur if new policy direction requires a procedure comparable to the LMP planning process. The procedure for major revisions will meet the following criteria:

- ▶ Substantial revision is proposed to this LMP or the adoption of a complete new plan is proposed.
- ▶ Appropriate CEQA documentation is prepared and approved.
- ▶ Appropriate consultation within the Department occurs.
- ▶ Appropriate coordination and consultation with other agencies occurs.

- ▶ A public outreach program is conducted proportionate to the level of the proposed revision.

The major revision or new plan may be prepared utilizing available Department resources. The major revision or new plan requires recommendation by the Regional Manager and approval by the Director of the Department.

If the appropriate procedure for a particular, proposed revision is not apparent, the determination of which of these procedures to use shall be made by the regional manager in consultation with the Department's Lands and Facilities branch.

6.3 FIVE-YEAR PLAN STATUS REPORTS

Periodic evaluation is important to help ensure that the purposes and goals of the LMP are being met. Chapter 4, "Management Goals," contains many specific tasks that include monitoring of the AVWA and SCWA and evaluation the adequacy of the management of the area. Cumulatively, these efforts will provide feedback regarding the success of the overall management effort.

Periodic and detailed analysis of this feedback data will, however, be necessary to assess the status of this LMP.

A comprehensive review of the achievement of the goals of the LMP should be prepared every five years following the date of adoption of this LMP. A status report documenting this review should consist of the following elements:

- ▶ evaluation of the achievement of the purposes and goals of this LMP;
- ▶ evaluation of the completion or annual completion, as appropriate, of each task contained in this LMP;
- ▶ evaluation of the effectiveness of the Department's coordination efforts with TNF, local governments, and other property management and regulatory agencies involved in the region;
- ▶ notation of important, new scientific information that has bearing on the management of the AVWA and SCWA; and
- ▶ recommendations for revisions to this LMP to incorporate new information and improve its effectiveness.

The status report should be prepared by the Area Manager. It should be submitted to the Department's Lands and Facilities branch for review and comment, approved by the Regional Manager and submitted to the Director of the Department. This report should serve as a basis for revision of this LMP and appropriate adjustments to ongoing management practices.

7 DOCUMENT PREPARERS

7.1 CALIFORNIA DEPARTMENT OF FISH AND GAME

Jim Lidberg..... Area Manager/Associate Wildlife Biologist
Paul Raquel.....Senior Biologist
Paul Forsberg..... Environmental Scientist
Terri Weist..... Associate Wildlife Biologist

7.2 CONSULTANTS

EDAW, Inc.

Curtis Alling, AICP..... Principal-in-Charge
Ron Unger Project Director
Gerrit Platenkamp, Ph.D..... Project Manager/Senior Ecologist
Kim Fettke Assistant Project Manager/Ecologist
Chris Fitzer Fisheries Biologist
Dave Epstein..... Fisheries Biologist
Tammie Beyerl Botanist
Thomas Leeman Wildlife Biologist
Jim Vogel Recreation Planner
Brian Ludwig, Ph.D..... Senior Archaeologist
Loren Huddleston..... Archaeologist
Lisa Kashiwase..... Natural Resource Planner
Christy Seifert..... Editor
Lorrie Jo Williams..... Graphic Artist
Christy Anderson..... Graphic Artist
Brain Perry Graphic Artist
Lisa Clement..... GIS Specialist
Phi Ngo..... GIS Specialist
Chris Donohue..... GIS Specialist
Deborah Jew Word Processor
Gayiety Lane Word Processor
Amber Martin Word Processor
Roni Olaizola..... Word Processor

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Lidberg, Jim. Associate Wildlife Biologist (Wildlife Area Land Manager). Department of Fish and Game, Antelope Valley Wildlife Area and Smithneck Creek Wildlife Area, Sierra County, CA. November 14, 2007 and December 19, 2007—telephone conversation with Kim Fettke, EDAW Ecologist, and Thomas Leeman, EDAW Wildlife Ecologist, regarding numerous issues relevant to managing the wildlife areas.

Rinella, Doug. Fire Chief. CAL FIRE Truckee Fire Station, Truckee, CA. November 12, 2007—telephone conversation with Kim Fettke, EDAW Ecologist, regarding fuels and fire management at AVWA and SCWA.

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APPENDIX A

Public Outreach Summary

APPENDIX A. PUBLIC OUTREACH SUMMARY

A public meeting was held in Loyalton on November 14, 2007 to brief the community on the Land Management Plan (LMP) for the Antelope Valley Wildlife Area (AVWA) and Smithneck Creek Wildlife Area (SCWA) and to receive comments from the community on the LMP. This appendix includes a summary of the public comments that were received.

Additional public comments received on the Draft LMP and accompanying initial study/negative declaration (IS/ND) will be included in the Final LMP.

Antelope Valley and Smithneck Creek

Land Management Plan

Public Meeting, November 14, 2007 Public Comments

Participants

A total of 16 public participants were present at the meeting (14 signed in). Responses to some comments were provided by Jim Lidberg (Wildlife Area Manager, DFG), Randy Westmoreland (Hydrologist, USFS), and Ron Unger (Project Director, EDAW).

Oral Comments Received at Public Meeting

- Vallea Rose (self) – Once restored, will the Wildlife Areas be closed to the public?
 - Jim Lidberg – No, the Wildlife Area will remain open.
- Will roads be closed to OHV's?
 - Jim Lidberg – looking for middle ground solution to regulation (new regulation that forbids the use of OHVs if they are not expressly allowed)
- Lee Pinson (self) – I was here during last two floods. USFS needs to do something about downed wood in Bear Valley. Dead and fallen trees will cause log jams that will create problems during floods. This is also a problem on Smithneck Creek.
 - Randy Westmoreland – Restoration of Bear Valley Creek would help by spreading floodwater over a larger area in the meadow.
- Gale Dupree (self) – (topic: Fire Management) Forest along Bear Valley Road (where it is leaving the Sierra Brooks area) needs thinning for fire protection.
 - If there are no off highway vehicles (OHVs) allowed on DFG property, then signs should be posted, people will be using Bear Valley Road, etc.
 - Jim Lidberg – new regulations regarding OHV use on Wildlife Areas have gone into effect and signs will be posted.
- Vallea Rose – Where's the funding for LMP and implementation coming from?
 - Jim Lidberg – funding for implementation will be coming from grants; funding for the LMP came from Wildlife Conservation Board funds originating from Proposition 40.
- Jeff Vasey (self) – I have been here 1 and ½ years. What's the long-term change in creeks? Why do all these restoration activities? People now ride all terrain vehicles (ATVs), ride horses, walk dogs. You are trying to make changes for the better, but it doesn't seem that this will improve things. You need to address Smithneck Creek – that's where damage will be done.
 - Jim Lidberg – We can't address Smithneck Creek because DFG doesn't own the land along it. We will improve wildlife values in areas we own. Loyaltan and Sierra Brooks are affected by problems of Smithneck Creek. It needs help and resources.
 - Randy Westmoreland – changes have occurred, including erosion in Smithneck Creek. People can contact Randy to get more information.

- Jim Smith (Feather River Archery Club) – Restoration of Bear Valley Creek will reduce flows to Smithneck Creek.
- Jeff Vasey – Serious erosion at Antelope Valley Creek, downstream and just upstream from Palen Reservoir.
 - Jim Lidberg – We are talking with the private land owners along Antelope Valley Creek and are trying to get their concurrence [for watershed improvements]. We are trying to address their concerns about costs, etc. They will not be saddled with the cost.
- Jim Lochridge (self) – I ride an ATV on the road to the woods. I would like amenities for ATVs (including motorized trails) and also amenities for hiking. DFG should make concessions for water crossings; make a water crossing that works for horses and ATV's, to provide access to these areas. If there are adverse effects of restoration – like flooding – who is the responsible party?
 - Randy Westmoreland – DFG can answer; we don't anticipate adverse effects. On USFS land the USFS will be responsible.
- Jim Lochridge – Will comments be included and addressed in the LMP/CEQA?
 - Ron Unger – Yes, comments will be addressed in the LMP/CEQA document.
- Jim Lochridge – Where will draft documents be available?
 - Ron Unger – Documents will be available in the local library, probably also at the Sierraville Tahoe National Forest Ranger Station.
- Marilyn Tierney (Sierra County Fish & Game Commission) – Since these areas were purchased for deer herd protection, consider areas and times where deer need protection when planning for public uses (e.g., OHV use vs. deer, herd/timing and deer herd disturbance).
- Marilyn Tierney – Plug-and-pond restoration projects have been very successful. I am very supportive of the plug-and-pond restoration project. The plug-and-pond restoration will disperse energy and restore vegetation.
- Jim Lochridge – This group may be interested in visiting restoration projects on the Tahoe National Forest, such as the Carman Valley Project.
 - Randy Westmoreland – Willing to give a tour to this group, will provide notice of a tour to the group.
- Vallea Rose – Will/can public comments be posted on the web?
 - Jim Lidberg – will check if and how comments can be posted, DFG may need to take privacy issues in consideration.
- Jim Smith (topic: Watershed Restoration) – Area north of Antelope Fork and Bear Valley Fork intersection should also be restored. Will impact of Hastings [Harding] fire erosion be considered in plug and pond restoration of Antelope Valley Creek – concern that erosion could wipe out restoration work.
 - Randy Westmoreland – yes, restoration would address potential for erosion after fire, such as has occurred after the Harding Fire (e.g., storm in 2006 that dropped 3 inches rain in 20 min). Erosion causes natural fill and complementary fill of gullies occurs after storm.

- Jeff Vasey – No offense to the Archery Club- DFG lets them do what they want, has no worries about what they do - but what about other activities? To say OHV, horse, hiking trail use is destructive is overkill – the situation is not as dire as DFG wants us to believe. I can understand not wanting OHV use in meadows. How will enforcement occur? Saw DFG person once in 1.5 years here. Witnessed deer killings in woods for no reason.
- Vallea Rose – How much will restoration and LMP cost?
 - Randy Westmoreland – Bear Valley restoration \$400,000-500,000 (not costed out yet); perhaps \$1,000,000 for both sites.
- Jeff Vasey – What is the plan for existing trails? What is the plan for the Bear Valley Creek area around houses – 1 mile plus or minus from houses. If section is flooded, people will still want use the trails. Provide continued trail use.

Written Comments Received at Public Meeting

Marilyn Tierney (Sierra County Fish and Game Commission):

Just info: Bat biologist (Contact Dr. Joe Szewczak, Humboldt State University (707)834-1932) has bat occurrence data for Antelope Valley Creek (mist netted in ~1997 and possibly annually through present). Also has monitoring data at Carmen Valley. I will send his e-mail to you.

Good watershed projects.

Re: LMP – would like to see management favor restoring and maintaining wildlife over some public uses; if uses are not compatible, i.e., How much OHV use is too much? Consider developing trigger points or thresholds that may initiate different management that may account for increased recreational use over time.

Gale Dupree (Sierra Brooks Homeowners):

Include thinning of young pines along Bear Valley Road adjoining Sierra Brooks.
[WP Please ADD COMMENT FORMS from separate file]



Antelope Valley and Smithneck Creek Wildlife Areas Land Management Plan

Draft Land Management Plan and Initial Study/Mitigated Negative Declaration PUBLIC COMMENTS

(please hand in or mail back by December 5, 2007)

Name: Marilyn Tierney
Organization (if any): Sierra County Fish and Game Commission
Address (optional) : P.O. Box 554
City, State, Zip: Downieville, CA 95936
E-Mail: mtierney@fs.fed.us

The California Department of Fish and Game (DFG) is preparing a Land Management Plan and an Initial Study (IS) for the Antelope Valley and Smithneck Creek Wildlife Areas. DFG invites you to provide specific comments on the scope of issues or topics to be addressed in the Land Management Plan.

If there is information which you believe should be incorporated into the Land Management Plan, or if you have any comments, please provide them below. Thank you!

Comments

Just info: Bat biologist (Contact Dr. Joe Szewczak, Humboldt State University (707)834-1932) has bat occurrence data for Antelope Valley Creek (mist netted in ~1997 and possibly annually through present). Also has monitoring data at Carmen Valley. I will send his e-mail to you.

Good watershed projects.

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Antelope Valley and Smithneck Creek Wildlife Areas Land Management Plan

Draft Land Management Plan and Initial Study/Mitigated Negative Declaration PUBLIC COMMENTS

(please hand in or mail back by December 5, 2007)

Name: Jeff Vasey

Organization (if any): _____

Address (optional) : P.O. Box 1112 OR P.O. Box 454

City, State, Zip: Loyalton, CA 96118 Tahoma, CA 96142

E-Mail: _____

The California Department of Fish and Game (DFG) is preparing a Land Management Plan and an Initial Study (IS) for the Antelope Valley and Smithneck Creek Wildlife Areas. DFG invites you to provide specific comments on the scope of issues or topics to be addressed in the Land Management Plan.

If there is information which you believe should be incorporated into the Land Management Plan, or if you have any comments, please provide them below. Thank you!

Comments

I attended the well put together informational meeting on 11/14/07 at the Loy. Elem. School. Lots of comments were made and my impression that no one was really stressed out by the installation of coffer dams and such, as long as the area remained open to hiking, dog walks, equestrian access etc. OHV use was brought up and to be honest except for some neighborhood kids, most OHV use is to simply pass through from the Sierra Brooks Subdivision to access Bear Valley Road and beyond. Another possible topic was increased mosquito issues due to standing water and if fish would be able to swim upstream or would they be inhibited. All in all as long as the area keeps public access similar to what exists and leaves areas to cross Bear Valley Creek at occasional spots, I don't see anyone trying to stop what actually could turn out to be a good thing.

Good luck in your quest and happy Holidays to all of you

Thanks, Jeff Vasey

Please send updates for future meetings or additional information.

APPENDIX B

Environmental Review

NEGATIVE DECLARATION

Pursuant to Sections 15070 and 15071 of the California Environmental Quality Act (CEQA) guidelines, the California Department of Fish and Game proposed to adopt this Negative Declaration.

1. Title and Short Description of Project: Antelope Valley and Smithneck Creek Wildlife Areas Land Management Plan.

The California Department of Fish and Game (Department) is proposing to adopt a land management plan for the Antelope Valley and Smithneck Creek Wildlife Areas to help guide their planning and operations.

The Antelope Valley Wildlife Area (AVWA) and Smithneck Creek Wildlife Area (SCWA) support a diversity of montane vegetation types including eastside pine forest, big sagebrush scrub, woodlands, chaparral, riparian scrub, and meadows. These extensive natural areas provide valuable habitats for the Loyalton-Truckee mule deer herd and other wildlife and related recreational opportunities.

The Department, as part of the Resources Agency of the State of California, has the following mission to guide its planning and operations: “The mission of the Department of Fish and Game is to manage California’s diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public.”

The purpose of this land management plan (LMP) is to:

1. guide management of habitats, species, and programs described in the LMP to achieve the Department’s mission to protect and enhance wildlife values;
 2. serve as a guide for appropriate public uses of the AVWA and SCWA;
 3. serve as descriptive inventory of fish, wildlife, and native plant habitats that occur on or use the AVWA and SCWA;
 4. provide an overview of the property’s operation and maintenance and of the personnel requirements associated with implementing management goals (this LMP also serves as a budget planning aid for annual regional budget preparation); and
 5. present the environmental documentation necessary for compliance with state and federal statutes and regulations, provide a description of potential and actual environmental impacts that may occur during plan management, and identify mitigation measures to avoid or lessen these impacts.
- 2. Location of Project:** The proposed project is located in the AVWA and SCWA which occupy approximately 5,700 acres and 1,400 acres, respectively, in the Sierra Valley watershed in Sierra County.
- 3. Project Proponent:** California Department of Fish and Game
- 4. Said project will not have a significant effect on the environment for the following reasons:**

The proposed project involves the adoption of a management plan, which of itself would cause no environmental impacts. Implementation of the management plan may include actions that would physically alter the environment. Possible actions that may result from the adoption and implementation of the management plan were anticipated and analyzed at a programmatic level.

Although implementation of some elements of the plan (e.g., restoration or enhancement activities) would have the potential for environmental impacts, these impacts would not be substantial. The LMP includes required tasks which, when implemented, would avoid significant construction impacts, and most projects would enhance rather than degrade environmental resources. In addition, all projects that may be implemented in the future as a result of adopting the LMP must be subjected to CEQA review according to CEQA Guidelines Section 15168, in light of the information in this document, to determine if additional CEQA documentation is necessary. The type of additional CEQA documentation completed would be determined based on CEQA Guidelines Sections 15162–15164.

- 5. As a result thereof, the preparation of an Environmental Impact Report pursuant to CEQA (Division 13 of the Public Resources Code of the State of California) is not required.

In accordance with Section 21082.1 of the California Environmental Quality Act, California Department of Fish and Game (DFG) has independently reviewed and analyzed the Initial Study and Negative Declaration for the proposed project and finds that the Initial Study and Negative Declaration reflect the independent judgment of the DFG.

I hereby approve this project:

_____ Date: _____

APPENDIX B ENVIRONMENTAL REVIEW

PROJECT INFORMATION		
1. Project Title:	Antelope Valley Wildlife Area (AVWA) and Smithneck Creek Wildlife Area (SCWA) Land Management Plan (LMP)	
2. Lead Agency Name and Address:	Department of Fish and Game (Department) North Central Region 1701 Nimbus Road Rancho Cordova, CA 95670	
3. Contact Person and Phone Number:	Jim Lidberg (530) 283-5630	
4. Project Location:	The main unit of AVWA is located 20 miles northwest of Reno, Nevada, and 4 miles southwest of Loyalton in Sierra County, California. AVWA is in Township 21 North, Range 15 East, in Sections 2, 4, 22–24, 26–28, and 33–36 on the Antelope Valley, Sierraville, Loyalton, and Sardine Peak 15-foot USGS quadrangles. It is situated on the southern edge of the Sierra Valley. The Merry-Go-Round Unit is 6 miles northeast of Sierraville and lies to the east of State Route 49. It is located 2 miles northwest of the main Antelope Valley unit in Township 21 North, Range 15 East, in Sections 18–20, and 30 in the Antelope Valley 15-foot USGS quadrangle. The Doe Canyon, Bear Valley Creek, and Badenaugh Units of SCWA are located 2 miles south of Loyalton. The SCWA Units are in Township 21 North, Range 16 East, in Sections 29, 30, 32, and 33, M. D. B. & M. on the Loyalton 15-foot USGS quadrangle.	
5. Project Sponsor's Name and Address:	Department of Fish and Game (Department) North Central Region 1701 Nimbus Road Rancho Cordova, CA 95670	
6. General Plan Designation:	Forest (F) and Open Space (OS)	
7. Zoning:	General Forest (GF)	
8. Description of Project: (Describe the whole action involved, including, but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)	The project being analyzed in this initial study is the LMP, all proposed actions within the LMP, and the proposed watershed restoration projects described in Appendix D. See LMP Chapter 4, Goals and Tasks, and Appendix D for details of the proposed project.	
9. Surrounding Land Uses and Setting: (Briefly describe the project's surroundings)	See LMP Chapter 2, Property Description	
10. Other public agencies whose approval is required: (e.g., permits, financing approval, or participation agreement)	US Army Corp of Engineers (USACE), Central Valley Regional Water Quality Control Board (RWQCB)	
ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:		
The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.		
<input type="checkbox"/> Aesthetics	<input type="checkbox"/> Agriculture Resources	<input type="checkbox"/> Air Quality
<input type="checkbox"/> Biological Resources	<input type="checkbox"/> Cultural Resources	<input type="checkbox"/> Geology / Soils
<input type="checkbox"/> Hazards & Hazardous Materials	<input type="checkbox"/> Hydrology / Water Quality	<input type="checkbox"/> Land Use / Planning
<input type="checkbox"/> Mineral Resources	<input type="checkbox"/> Noise	<input type="checkbox"/> Population / Housing
<input type="checkbox"/> Public Services	<input type="checkbox"/> Recreation	<input type="checkbox"/> Transportation / Traffic
<input type="checkbox"/> Utilities / Service Systems	<input type="checkbox"/> Mandatory Findings of Significance	<input checked="" type="checkbox"/> None

DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial evaluation:

I find that the proposed project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.

I find that although the proposed project **COULD** have a significant effect on the environment, there **WILL NOT** be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.

I find that the proposed project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.

I find that the proposed project **MAY** have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.

I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier **EIR** or **NEGATIVE DECLARATION** pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier **EIR** or **NEGATIVE DECLARATION**, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Sandra Morey

Signature

7/29/08

Date

Sandra Morey

Printed Name

Regional Manager

Title

Dept. of Fish + Game

Agency

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
4. “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less-Than-Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less-than-significant level (mitigation measures from “Earlier Analyses,” as described in (5) below, may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
 - a) Earlier Analysis Used. Identify and state where they are available for review.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project’s environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
the significance criteria or threshold, if any, used to evaluate each question; and
the mitigation measure identified, if any, to reduce the impact to less than significance.

This initial study (IS) was prepared in accordance with the provisions of the California Environmental Quality Act (CEQA) and the State CEQA Guidelines to identify and evaluate the potential environmental impacts of operating Antelope Valley Wildlife Area (AVWA) and Smithneck Creek Wildlife Area (SCWA) under the provisions of the Antelope Valley Wildlife Area and Smithneck Creek Wildlife Area Land Management Plan (LMP). This IS concludes that adoption and implementation of the LMP would result in “less-than-significant impacts” or “no impacts” to the environment.

The goals, tasks, and activities described in the LMP (including watershed restoration activities on Department lands described in Appendix D) were evaluated for their potential effects on the environment. Also, actions that may result from adoption of this LMP were anticipated and potential accompanying impacts were analyzed. The environmental analysis was conducted concurrent with the development of the LMP. Impact minimization measures were incorporated within the LMP wherever possible to help ensure that planned actions described in the LMP, including those to be implemented in the future, will not result in significant environmental impacts. Therefore, the CEQA analysis summarized herein is intended to be adequate for many future projects implemented in a manner consistent with the goals and tasks of the adopted LMP. However, some actions described in the LMP, such as roadway realignments, may require additional CEQA analysis documentation once the project details are known. All projects that may be implemented in the future as a result of adopting the LMP must be subjected to CEQA review according to CEQA Guidelines Section 15168, in light of the information in this document, to determine if additional CEQA documentation is necessary. The type of additional CEQA documentation completed would be determined based on CEQA Guidelines Sections 15162–15164.

The LMP provides the environmental and regulatory setting description, and the project description used for this CEQA analysis. Chapters 1 and 2 describe the geographical and management setting, including legal constraints, existing agreements, and planning influences and considerations. Chapter 3 describes existing resource conditions. Chapter 4 identifies management goals and tasks which, along with the watershed restoration actions described in Appendix D, serve as the project description.

Watershed restoration activities on federal lands described in Appendix D are considered a discretionary federal action subject to the National Environmental Policy Act (NEPA). To determine whether these proposed actions could significantly affect the quality of the human environment, NEPA requires the preparation of an Environmental Assessment (EA). The United States Department of Agriculture, Forest Service (USFS), Tahoe National Forest (TNF), Sierraville Ranger District, will serve as the NEPA Lead Agency in the production of an EA.

B.1 AESTHETICS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. Aesthetics. Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION

a), b), c), d) No impact. Adoption and implementation of the proposed LMP would preserve or enhance existing native vegetation and natural visual resources, would not involve the construction of any new buildings or outdoor lighting, and would not alter views from any scenic vistas. Facility improvements that could result from the implementation of the LMP would be very small in scale (e.g. signage and fencing), and goals and tasks in the LMP require that the style of these facilities be in keeping with the rural character and natural environment of the wildlife areas. Therefore, adoption of the LMP would not adversely affect scenic vistas, views, visual character, or scenic resources, nor would it create light or glare effects.

In addition, prior to the implementation of any projects that are consistent with the LMP, the Department would subject them to CEQA review according to CEQA Guidelines Section 15168, in light of the information in this document, to determine if additional CEQA documentation is necessary. The type of additional CEQA documentation completed would be determined based on CEQA Guidelines Sections 15162–15164.

B.2 AGRICULTURAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<p>II. Agricultural Resources.</p> <p>In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997, as updated) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland.</p> <p>Would the project:</p>				
<p>a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>b) Conflict with existing zoning for agricultural use or a Williamson Act contract?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>c) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION

a), b), c) **No impact.** Adoption and implementation of the proposed LMP would allow continued use of grazing, would conserve existing land resources, and would not result in the building of new structures or impervious surfaces. Therefore, the project would not affect the ability to farm any prime farmland, unique farmland, or farmland of statewide importance, and would not affect any lands under a Williamson Act contract. No impact to agricultural resources would occur.

B.3 AIR QUALITY

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. Air Quality.				
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the following determinations.				
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION

a), b), c), d), e) Less-than-significant impact. Adoption of the proposed LMP would generate no automobile trips, construction activities, or emission of pollutants or odors for operations; therefore, adoption of the LMP would not adversely affect air quality.

Although implementation of some of the management tasks described in the proposed LMP would involve the use of construction equipment (e.g., installation of fencing and signage, restoration projects proposed in Appendix D), thus temporarily increasing equipment emissions, these would be short-term impacts and would involve a limited number of construction machines.

A preliminary modeling effort (Exhibit 1-1) conducted using the assumption that construction actions would include the simultaneous use of one excavator for up to eight hours per work day and one rubber-tired dozer for up to six hours per work day showed that construction emissions (i.e., 2 pounds [lb]/day of reactive organic gases [ROG], 19 lb/day of oxides of nitrogen [NO_x], and 39 lb/day of respirable particulate matter [PM₁₀]) would remain well within significance thresholds established by the Northern Sierra Air Quality Management District (NSAQMD) (i.e., 136 lb/day for ROG, NO_x, and PM₁₀).

In addition, Exhibit 1-2 summarizes a modeling effort which demonstrates that the use of 6 excavators, 6 rubber-tired dozers, and 3 other pieces of material handling equipment would just exceed the NSAQMD significance thresholds of 136 lb/day for ROG, NO_x, and PM₁₀. Therefore, the LMP requires an emissions reduction plan and the use of BMPs for the implementation of projects that may involve the simultaneous use of more than 6 excavators, 6 rubber-tired dozers, and 2 other pieces of material handling equipment to ensure that construction activities would not exceed air quality standards for construction emissions (Management Review and Coordination Element Goal 5 Task 5.3). The LMP also requires the preparation of a Dust Control Plan detailing construction BMPs to be used to minimize the release of fugitive dust during the construction of any projects involving an acre or more of disturbance (Management Review and Coordination Element Goal 5 Task 5.2). The emissions reduction plan, Dust Control Plan, and BMPs must be submitted to the Northern Sierra Air Quality Management District for approval. Therefore, it is anticipated that construction activities resulting from adoption of the LMP would not exceed air quality standards or cause a considerable cumulative increase of air pollutants.

Proposed restoration projects could include the excavation of historic wetlands, which have a small potential to temporarily release objectionable odors. However, because the hydrology of the creek ecosystems proposed for restoration have been so altered by erosion, it is anticipated that most of these historic wetlands are now too dry to maintain the type of anaerobic decay that sometimes creates objectionable odors associated with wetlands. If these types of odors were released, it is not anticipated that they would be released in large quantities or for long durations. Also, because the wildlife areas are relatively isolated, these odors would not be anticipated to reach any sensitive receptors. Therefore, impacts to air quality resources would be less than significant.

In addition, prior to the implementation of any projects that are consistent with the LMP, the Department would subject them to CEQA review according to CEQA Guidelines Section 15168, in light of the information in this document, to determine if additional CEQA documentation is necessary. The type of additional CEQA documentation completed would be determined based on CEQA Guidelines Sections 15162–15164.

B.4 BIOLOGICAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. Biological Resources. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION

e), f) No impact. Adoption of the proposed LMP would require no changes to natural habitats or species; therefore, adoption of the LMP would not impact biological resources or conflict with any management plans or policies. The LMP was prepared consistent with other applicable management plans and regulations (see LMP Chapters 2 and 3). In addition, Goals and Tasks in the LMP require that management actions comply with applicable management plans, policies, and regulations protecting biological resources; therefore, implementation of the LMP would cause no policy conflicts.

a), b), c), d) Less-than-significant impact. Implementation of some of the management actions described in the proposed LMP would involve temporary habitat disturbance, including disturbance to sensitive and protected riparian and wetland habitats (e.g., restoration or enhancement activities, installation of fencing or signage). This disturbance would also have a potential for adverse effects to special-status species (e.g. yellow warbler), fish and

wildlife movement, and fawning deer. However, all restoration and enhancement actions are proposed with the long-term goal of improving habitat conditions and supporting special-status species populations (e.g. Biological Goal 2 Task 5, Biological Goal 4 Task 3, Watershed Restoration Element). In addition, goals and tasks in the LMP require protection measures for sensitive species and habitats which, when implemented, would reduce potential temporary adverse effects to less-than-significant levels (e.g., Biological Goal 2 Task 6, Biological Goal 4 Task 7, Biological Goal 7 Task 5). Furthermore, the proposed watershed restoration program described in LMP Appendix D includes impact avoidance and minimization measures (watershed restoration program Appendix H) which would minimize potential temporary construction-related impacts to less-than-significant levels. LMP goals and tasks also require that all management actions meet applicable regulatory requirements protecting special-status species and sensitive habitats, such as DFG regulations, USFWS regulations, State Water Quality Control Board regulations, Section 404 of the Clean Water Act, and any applicable local plans or ordinances protecting biological resources. Actions necessary to comply with these regulatory requirements would further protect biological resources. Implementing protection requirements included in the LMP would reduce potential temporary impacts to biological resources to less-than-significant levels, and net project impacts would be beneficial.

In addition, prior to the implementation of any projects that are consistent with the LMP, the Department would subject them to CEQA review according to CEQA Guidelines Section 15168, in light of the information in this document, to determine if additional CEQA documentation is necessary. The type of additional CEQA documentation completed would be determined based on CEQA Guidelines Sections 15162–15164.

B.5 CULTURAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. Cultural Resources. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION

a), b), c), d) Less-than-significant impact. Adoption of the proposed LMP would not require any construction or excavation; therefore, adoption of the proposed LMP would not adversely affect archaeological or paleontological resources, or disturb any human remains. Although implementation of some of the management tasks described in the proposed LMP would involve land disturbance (e.g., restoration or enhancement activities, installation of fencing or signage), goals and tasks in the LMP include protection measures for known cultural resources including: requirements for cultural resource surveys prior to ground disturbance, consultation with a qualified archaeologist in the case of an inadvertent discovery, submittal of resource documentation to the California Historical Resources Information System and the National Register of Historic Places, and submittal of evaluations of these resources to the State Historic Preservation Officer and the Office of Historic Preservation, as appropriate. These measures would identify and protect any historic resources prior to their destruction; therefore, impacts to cultural resources would be less than significant.

In addition, prior to the implementation of any projects that are consistent with the LMP, the Department would subject them to CEQA review according to CEQA Guidelines Section 15168, in light of the information in this document, to determine if additional CEQA documentation is necessary. The type of additional CEQA documentation completed would be determined based on CEQA Guidelines Sections 15162–15164.

B.6 GEOLOGY AND SOILS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. Geology and Soils. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION

a), c), d), e) No impact. Adoption and implementation of the proposed LMP would not require construction of buildings or installation of waste water disposal systems; therefore, the proposed project would not change the current exposure of people to geologic hazards or expansive soils, or involve the use of waste water disposal systems in unsuitable soils.

b) Less-than-significant impact. Implementation of the watershed restoration program described in LMP Appendix D would involve substantial ground disturbance which has a potential to increase erosion and the loss of topsoil in the short term. However, these projects would be implemented with a goal of a net decrease in soil erosion or topsoil loss, would include erosion avoidance and minimization measures described in Appendix H of the watershed restoration program, and would be conducted in conformance with regulatory requirements

described in the LMP regarding soil erosion. (See Section B.8 of this Initial Study for additional discussion regarding erosion.) Therefore, net project impacts related to soil erosion or topsoil loss would be beneficial.

In addition, prior to the implementation of any projects that are consistent with the LMP, the Department would subject them to CEQA review according to CEQA Guidelines Section 15168, in light of the information in this document, to determine if additional CEQA documentation is necessary. The type of additional CEQA documentation completed would be determined based on CEQA Guidelines Sections 15162–15164.

B.7 HAZARDS AND HAZARDOUS MATERIALS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. Hazards and Hazardous Materials. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION

a), c), d), e), f), g) **No impact.** Adoption and implementation of the LMP would not involve routine transport, use, or disposal of any hazardous materials; would not pose any risk of hazardous exposure to school children; would not involve any uses that would affect air traffic; and is anticipated to improve emergency response and evacuation through the implementation of fire management goals and tasks. A computerized database search of various agency lists was conducted for the wildlife areas and surrounding properties to identify potential hazardous contamination sites; none were found (EPA 2008, Cal EPA 2008). Therefore, adoption and

implementation of the LMP would not introduce or intensify any of these hazardous risks to the public or the environment.

b), h) Less-than-significant impact. Construction activities could involve the use of heavy construction equipment which use small amounts of hazardous materials such as oils, fuels, and other potentially hazardous substances that are typically associated with construction activities. However, the LMP requires that contractors establish an appropriate staging area, prepare a spill prevention plan, and implement construction BMPs to minimize the risk of hazardous spills.

The wildlife areas are located in a region where wildfire is a large concern. Construction activities (e.g. restoration projects, installation of fencing and signage) that involve the use of mechanical equipment in the wildlife areas would have the potential for increasing wildfire hazard, although not to a significant extent. In addition, adoption and implementation of fuels and fire management goals and tasks included in the LMP, which require the development of a fuels and fire management plan, improved communication with fire response agencies, and the use of BMPs to minimize construction-related fire hazards, is anticipated to decrease potential risks of loss, injury, or death involving wildland fires. Therefore, net project impacts related to wildfire hazards would be beneficial.

In addition, prior to the implementation of any projects that are consistent with the LMP, the Department would subject them to CEQA review according to CEQA Guidelines Section 15168, in light of the information in this document, to determine if additional CEQA documentation is necessary. The type of additional CEQA documentation completed would be determined based on CEQA Guidelines Sections 15162–15164.

B.8 HYDROLOGY AND WATER QUALITY

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. Hydrology and Water Quality. Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial on- or off-site erosion or siltation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Result in inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION

e), g), h), i) No impact. Adoption and implementation of the proposed LMP would not involve the use of storm drain systems, the construction of any structures, or the use of a dam. Therefore, adoption and implementation of the LMP would not threaten storm drain capacity, increase 100-year flood hazards, or increase flooding risks as a result of the failure of a levee or dam.

a), b) c), d), f), j) Less-than-significant impact. Implementation of watershed restoration tasks described in the LMP have a potential for erosion, sedimentation, associated water quality degradation, and a resulting potential for violating water quality standards or waste discharge requirements. Although these tasks would be implemented with a long-term goal and expectation of improving water quality by reducing erosion and sedimentation (see discussions in LMP Chapter 3.2 and Appendix D), construction activities required to implement these tasks could pose a threat of short-term increases in erosion, sedimentation, and other types of construction-related water pollution. However, goals and tasks in the LMP require protection measures for aquatic habitats and water quality which, when implemented, would reduce potential temporary adverse effects to less-than-significant levels (e.g. Biological Goal 4 Task 7, Biological Goal 7 Task 4, Biological Goal 7 Task 5, Biological Goal 7 Task 6, Watershed Restoration Goal 1 Task 1). In addition, the proposed watershed restoration program described in LMP Appendix D includes impact avoidance and minimization measures (watershed restoration program Appendix H) which would reduce potential temporary construction-related water quality impacts to less-than-significant levels. LMP goals and tasks also require that all management actions meet applicable regulatory requirements protecting aquatic habitats and water quality, such as DFG regulations, USFWS regulations, State Water Quality Control Board regulations, Section 404 of the Clean Water Act, and any applicable local plans or ordinances protecting these resources. Actions necessary to comply with these regulatory requirements would further protect water resources. Implementing protection requirements included in the LMP would reduce potential temporary water quality impacts to less-than-significant levels, and net project results would be beneficial.

Implementation of watershed restoration tasks proposed in the LMP are designed to reconnect Antelope Valley Creek and Bear Valley Creek with their historic floodplains and increase groundwater recharge and storage in those historic floodplains during the wet season. Implementation would, therefore, decrease flooding risks by reducing stream volumes during high-flow events while increasing the annual average groundwater table level (see discussions in LMP Chapter 3.2 and Appendix D). Implementation of the LMP would require no new wells or drilling; therefore, it would cause no decrease in aquifer volumes. Net project impacts to flooding risks and groundwater recharge, elevations, and volumes would all be beneficial.

Goals and tasks described in the LMP include actions that would improve slope stability, thus decreasing the threat of landslides (e.g. Biology Goal 3, Biology Goal 6, Biology Goal 8 Task 1, Fuels and Fire Management Goal 2 Task 2). In addition, watershed restoration activities would occur primarily in meadow areas with shallow slopes that would not be prone to landslides. Finally, implementation of the LMP would not require the construction or occupation of any structures or facilities that could be threatened by landslides. The net project impact to landslide risks would be beneficial.

In addition, prior to the implementation of any projects that are consistent with the LMP, the Department would subject them to CEQA review according to CEQA Guidelines Section 15168, in light of the information in this document, to determine if additional CEQA documentation is necessary. The type of additional CEQA documentation completed would be determined based on CEQA Guidelines Sections 15162–15164.

B.9 LAND USE AND PLANNING

ENVIRONMENTAL ISSUES		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX.	Land Use and Planning. Would the project:				
	a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION

a), b), c) No impact. Adoption and implementation of the LMP would require no changes to existing land uses in the wildlife areas. The wildlife area is managed in conformance with applicable land use requirements, and the LMP was developed in conformance with other applicable management (e.g. Sierra County General Plan). The goals of the LMP provide for natural resource protection and preservation and require that any projects implemented following adoption of the proposed LMP conform with any habitat conservation plans and natural community conservation plans that may be applicable at that time. Adoption and implementation of the LMP would have no impact on land use or planning.

B.10 MINERAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. Mineral Resources. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION

a), b) No impact. Adoption and implementation of the LMP would involve no resource extraction. Also, no construction would occur that would prevent future mineral extraction, and no policy changes are proposed regarding mineral recovery. Therefore, the proposed project would not conflict with mineral resource protection plans or result in the loss of a known mineral resource.

B.11 NOISE

ENVIRONMENTAL ISSUES		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI.	Noise. Would the project result in:				
	a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION

c), e), f) No impact. Adoption and implementation of the LMP would involve no permanent change in activities occurring in the wildlife areas that would cause a permanent change in ambient noise levels, nor are any changes proposed that would be affected by air traffic noise.

a), b), d) Less-than-significant impact. Implementation of some of the management tasks described in the proposed LMP would involve the use of construction equipment (e.g., watershed restoration activities), thus temporarily increasing ambient noise and possibly groundborne vibrations. These activities would be short-term and are not anticipated to result in a substantial increase in ambient noise or vibration levels. Furthermore, because the wildlife area is isolated, these types of short term noise impacts would not be anticipated to reach a substantial number of people.

Because the LMP requires that all actions in the wildlife areas comply with state and federal Endangered Species Acts and other applicable regulations aimed at the protection of special-status species and wildlife communities, projects must be managed (e.g. construction scheduling, use of wildlife surveys) such that potential construction noise would not significantly impact wildlife.

An assessment of potential construction-related noise impacts resulting from watershed restoration activities proposed in AVWA showed that no sensitive receptors exist in close enough proximity to the wildlife area to be exposed to temporary noise levels in excess of standards established in the Sierra County General Plan.

A similar assessment for SCWA indicated that three residences (receptors) adjacent to the proposed restoration project area would have the potential of being exposed to temporary noise levels in excess of standards established in the Sierra County General Plan during construction activities occurring at the downstream end of the watershed. However, a preliminary noise modeling effort (Exhibit 2) was conducted using several conservative assumptions (e.g., construction in the downstream portions of the watershed would include the simultaneous use of no more than one excavator and one front end loader over an eight-hour work day). Construction noise attributed to the project was predicted using the Federal Transit Noise and Vibration Impact Assessment method for construction noise prediction (FTA 2006). Reference emission noise levels and usage factors were based on the Federal Highway Administration Roadway Construction Noise Model (FHWA 2006).

This modeling effort predicts that noise levels at receptors 2 and 3 (57.8 and 56.9 decibels over a 24 hour period [dB L_{dn}]), located an estimated 480 and 535 feet from construction activities, would remain well within the Sierra County exterior noise standard of 60 dB L_{dn}. Receptor 1, located an estimated 120 feet from construction activities, has a potential of being exposed to noise levels (69.8 dB L_{dn}) slightly higher than the 60 dB L_{dn} standard. However, referenced equipment noise levels are considered conservative, and this preliminary modeling effort does not take into account site specific noise attenuation features that may be present.

In addition, the LMP requires that a noise reduction plan be prepared for any projects in SCWA that may involve the simultaneous use of multiple pieces of construction equipment within 500 feet of any sensitive receptors (e.g. residences) to ensure that construction activities will not exceed Sierra County General Plan noise standards. Construction BMPs (e.g. limiting the simultaneous use of multiple pieces of construction equipment, limiting work hours, using commercial or plywood noise barriers, consulting with Sierra County and nearby residents) must be implemented to minimize construction noise such that it does not substantially increase ambient noise levels or expose sensitive receptors to excessive noise levels for an excessive period of time. Therefore, it is anticipated that implementation of the LMP would not result in noise levels in excess of Sierra County General Plan standards, and that increases in ambient noise levels and groundborne vibrations would be less than significant.

Finally, prior to the implementation of any projects that are consistent with the LMP, the Department would subject them to CEQA review according to CEQA Guidelines Section 15168, in light of the information in this document, to determine if additional CEQA documentation is necessary. The type of additional CEQA documentation completed would be determined based on CEQA Guidelines Sections 15162–15164.

B.12 POPULATION AND HOUSING

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. Population and Housing. Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION

a), b), c). No impact. Adoption and implementation of the LMP would not involve housing changes, nor would it induce growth by the provision of new infrastructure or by the removal of any barriers to growth. Implementation of some of the management goals and tasks may require a minimal addition of staff hours, but this would not require a substantial change in the numbers of existing homes. Adoption and implementation of the LMP would have no impact on population or housing.

B.13 PUBLIC SERVICES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. Public Services. Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION

a) Less-than-significant impact. Adoption of the proposed LMP would not require substantial changes to existing levels of public services. Implementation of public use, facilities, and fire management goals could require a minimal increase in staff hours per year by the Department, the County Sheriff's department, Sierraville Ranger District, and other cooperating agencies. However, these potential minimal increases would not be anticipated to create the need for new or altered facilities. Additionally, in the long term, fire protection needs may decline with reduction of fuel loads and restoration of a natural mixed age structure forest that is less likely to enable development of large wildfires. Impacts related to the provision of public services would be less than significant.

B.14 RECREATION

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. Recreation. Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION

a), b) Less-than-significant Impact. Adoption of the proposed LMP would require no change in levels of recreational use; therefore, adoption of the LMP would not require the expansion of recreational facilities, or adversely affect recreational facilities or the environment. Implementing several management goals in the LMP would provide support for the continued use of the wildlife area for public recreation activities such as hunting, archery, and birding; however, no increase in these activities is proposed or anticipated. Implementation of Public Use Goal 3 Task 4 could modify the type of recreation that the wildlife areas experience (i.e., a decrease in unauthorized OHV use and an increase in hiking and environmental education), but this is not anticipated to increase existing levels in a manner or to an extent that deterioration of existing resources would occur. A small increase in the number of hikers would not exceed the carrying capacity of the natural resources or degrade existing natural features. Elimination of unauthorized OHV use in the wildlife areas could substantially improve environmental conditions. Recreational impacts would be less than significant.

In addition, prior to the implementation of any projects that are consistent with the LMP, the Department would subject them to CEQA review according to CEQA Guidelines Section 15168, in light of the information in this document, to determine if additional CEQA documentation is necessary. The type of additional CEQA documentation completed would be determined based on CEQA Guidelines Sections 15162–15164.

B.15 TRANSPORTATION/TRAFFIC

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. Transportation/Traffic. Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exceed, individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION

b), c), f), g) No Impact. Adoption and implementation of the proposed LMP would require no permanent changes to automobile or air traffic patterns or volumes, or to existing parking conditions; therefore, adoption and implementation of the proposed LMP would not be anticipated to exceed traffic standards, or interfere with any alternative transportation programs.

a), d), e) Less-than-significant impact. Implementation of some of the management tasks described in the proposed LMP (e.g. watershed restoration projects) could involve a slight increase in construction-related vehicle trips in the region. However, because the existing traffic load is light and the existing street system has available capacity to accommodate a minor and temporary increase in vehicle trips, impacts to traffic or congestion would be less than significant.

The proposed LMP includes goals and tasks intended to eliminate illegal OHV use on County and State roads in and around the wildlife areas, and to improve communication and information exchange with fire response crews. Therefore, implementation of the LMP would be anticipated to reduce incompatible transportation uses and improve emergency access.

B.16 UTILITIES AND SERVICE SYSTEMS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. Utilities and Service Systems. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION

a), b), c), e), f), g). No Impact. Adoption and implementation of the LMP would involve no wastewater treatment, no use of storm drain facilities, and no solid waste disposal. There would be no impact to these utilities.

d) Less-than-significant impact. Bear Valley Creek, which is proposed for restoration, is part of an adjudicated watershed. The Department and several downstream landowners have appropriate and riparian water rights for the water supply conveyed in this creek. It is anticipated that implementation of the watershed restoration program described in Appendix D would improve stream flow timing and maintain total downstream water supply. Following restoration, more water would be stored in the upper watershed areas during the wet season and, therefore, more water would be available for base stream flows during the dry-season. Analyses of water balances resulting from similar watershed restoration projects have shown no change in the volume of water moving through the system, only in the timing. (See LMP Chapter 3.2 and Appendix D for further discussion of anticipated water supply improvements.) Therefore, potential impacts to existing water supplies would be less than significant, and no new or expanded entitlements are anticipated.

In addition, prior to the implementation of any projects that are consistent with the LMP, the Department would subject them to CEQA review according to CEQA Guidelines Section 15168, in light of the information in this document, to determine if additional CEQA documentation is necessary. The type of additional CEQA documentation completed would be determined based on CEQA Guidelines Sections 15162–15164.

B.17 MANDATORY FINDINGS OF SIGNIFICANCE

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. Mandatory Findings of Significance.				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Authority: Public Resources Code Sections 21083 and 21087.

Reference: Public Resources Code Sections 21080(c), 21080.1, 21080.3, 21082.1, 21083, 21083.3, 21093, 21094, 21151; *Sundstrom v. County of Mendocino*, 202 Cal.App.3d 296 (1988); *Leonoff v. Monterey Board of Supervisors*, 222 Cal.App.3d 1337 (1990).

DISCUSSION

a) Less-than-significant impact. The LMP was developed to summarize and document management actions intended for the purpose of protecting natural and cultural resources located within the wildlife areas. Some projects that may be implemented as a result of adoption of the proposed LMP would have a potential for impacts to these resources (e.g., hunting, restoration or enhancement activities). However, goals and tasks in the LMP include protection measures for these resources that would eliminate or minimize potential impacts to less-than-significant levels. Adoption of the LMP and implementation of the goals and tasks contained therein would have a net benefit in protecting and enhancing biological and cultural resources.

b) Less-than-significant impact. Adoption of the proposed LMP and implementation of the goals and tasks contained therein would not require any substantial infrastructure improvements or new construction, and any projects implemented would be conducted following all applicable regulatory requirements. In addition, implementation of the LMP is anticipated to result in a net benefit to environmental conditions. Therefore, although there is a potential for some temporary and less-than-significant impacts to the environment, none of these impacts would be cumulatively considerable.

c) Less-than-significant impact. The proposed project is a land management plan that generally continues the existing uses of the wildlife area with improvements to operations and protection and enhancement of the

environment. Implementation of the LMP would comply with all applicable laws and regulations. As a result, adoption of the proposed LMP and implementation of the goals and tasks contained therein would not have any direct or indirect environmental effects that would cause substantial adverse effects on human beings.

REFERENCES

Cal EPA. *See* California Environmental Protection Agency.

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Federal Transit Administration. 2006 (May). Transit Noise and Vibration Impact Assessment. FTA Report FTA-VA-90-1003-06. Available: <http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf>. Accessed March 2, 2008.

RESPONSE TO COMMENTS

This section provides the Department of Fish and Game's (Department's) responses to comments received during the public review period of the Draft Initial Study and Negative Declaration (IS/ND) for the Antelope Valley and Smithneck Creek Wildlife Areas and Management Plan (LMP). Two comment letters were received during the public review, which are reproduced below. Comments on environmental topics are marked with margin lines and numbered on the reproduced letters.

NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
(916) 657-5390 - Fax



August 18, 2008

Paul Raquel
CA Department of Fish and Game
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670

RE: SCH# 2008082031 Antelope Valley and Smithneck Creek Wildlife Areas Land Management Plan; Sierra County.

Dear Mr. Raquel:

The Native American Heritage Commission has reviewed the Notice of Completion (NOC) regarding the above referenced project. The California Environmental Quality Act (CEQA) states that any project that causes a substantial adverse change in the significance of an historical resource, which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA guidelines 15064(b)). To adequately comply with this provision and mitigate project-related impacts on archaeological resources, the Commission recommends the following actions be required:

- ✓ Contact the appropriate Information Center for a record search to determine:
 - If a part or all of the area of project effect (APE) has been previously surveyed for cultural resources.
 - If any known cultural resources have already been recorded on or adjacent to the APE.
 - If the probability is low, moderate, or high that cultural resources are located in the APE.
 - If a survey is required to determine whether previously unrecorded cultural resources are present.
- ✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
 - The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure.
 - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.
- ✓ Contact the Native American Heritage Commission for:
 - A Sacred Lands File Check. **Sacred Lands File check completed, no sites indicated**
 - A list of appropriate Native American Contacts for consultation concerning the project site and to assist in the mitigation measures. **Native American Contacts List attached**
- ✓ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
 - Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
 - Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.
 - Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely,

A handwritten signature in blue ink that reads "Katy Sanchez".

Katy Sanchez
Program Analyst
(916) 653-4040

CC: State Clearinghouse

Comment 1-1: Contact the appropriate Information Center for a record search.

Response: A records search was conducted for preparation of the LMP. The following text has been added to the LMP in “Section 3.4.4. Documented Cultural Resources” (p. 3.4-6): “Although conducting a record search through the California Historical Resources Information System (CHRIS) is often an initial step in researching a project area within California, it was determined that the Sierraville Ranger Station of the U.S. Forest Service maintained the most detailed and updated files. Consequently, records on file at this location were consulted in lieu of those curated by the CHRIS.”

Comment 1-2: If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.

Response: An archaeological inventory survey was not required for preparation of the LMP. Tasks listed in the LMP as part of “Cultural Goal 2: Preserve all significant prehistoric and historic-era cultural resources and present-day Native American cultural properties that documentary and/or field investigations identify within AVWA and SCWA” include the procedures that should be followed to preserve cultural resources on the wildlife areas, including the preparation of professional reports.

Comment 1-3: Contact the Native American Heritage Commission for: a Sacred Lands File Check.; a list of appropriate Native American Contacts for consultation concerning the project site and to assist in the mitigation measures.

Response: The Sacred Lands File was consulted and no sites were indicated. The following text was added to “Section 3.4.4. Documented Cultural Resources” (p. 3.4-6): “In order to determine if any culturally important sites or locations were within the AVWA or SCWA that might be of concern to the Native American community, the Native American Heritage Commission (NAHC) was contacted and a review of the Sacred Lands File was requested. A list of appropriate Native American tribal organizations and representatives that might have an interest in or concerns with the LMP was identified. The NAHC reported that no sensitive properties were situated within the AVWA or SCWA. The Washoe Tribe of Nevada and California were contacted, in accordance with the NAHC’s suggestion, but no comments were received.”

Comment 1-4: Lack of surface evidence of archaeological resources does not preclude their subsurface existence. Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archaeological resources (...). Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans. Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. (...)

Response: These suggested requirements and recommended activities are covered under Tasks 1, 2 and 3 of “Cultural Goal 2: Preserve all significant prehistoric and historic-era cultural resources and present-day Native American cultural properties that documentary and/or field investigations identify within AVWA and SCWA”.

Gale Dupree
P.O. Box 428
179 Smithneck Road
Loyalton, CA 96118
September 5, 2008

Paul Raquel, Senior Biologist Supervisor (Wildlife)
Department of Fish and Game
Wildlife Management Programs
North Central Region
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670

Dear Mr. Raquel:

I wish to comment on the Antelope Valley and Smithneck Creek Wildlife Areas Draft Management Plan. At the Loyalton public meeting on November 14, 2007 I commented on Fire Management – Need to thin out the young tree thickets along Bear Valley Road (written and verbal) as it enters the WMA from Sierra Brooks to protect the homes from wildfire. This is not addressed in the draft. Apparently OHV's are excluded from using the WMA's, but no posting has been done. Can they use the main roads?


There is no plan for controlling invasive weeds. If the weeds are not controlled before the meadow/stream restoration begins then most likely the weeds will be spread further through the area.

I would like to be made a Fish & Game volunteer coordinator for the weed problems to work with Tim Gibson. I could get volunteers to dig up and dispose of the Musk and other thistles in the area. This is the approved method for eradication. Native Snowy thistle would not be removed.

I concur with meadow restoration of Antelope Valley and Bear Valley.

I recommend additional planning be done to add restoration projects for the Hallelujah Wildlife Area to restore burned vegetation with bitterbrush and other deer friendly plants, including erosion control.

Sincerely,


Gale Dupree
P.O. Box 428
179 Smithneck Road
Loyalton, CA 96118
530-993-6051

*I would also like to
do aspen restoration
I have training*

Comment 2-1: Need to thin out the young tree thickets along Bear Valley Road as it enters the WMA from Sierra Brooks to protect homes from wildfire.

Response: The Department agrees that the vegetation on the Smithneck Creek Wildlife Area along Bear Valley Road should be maintained to meet the goals of the LMP, including “Fire Goal 2: Protect people and property from fire hazards while maintaining sensitive resources to the extent practicable” (p. 4-19). Specifically, this would be part of Task 3 under this goal: “Develop a ‘controlled fire’ and vegetation management program to stabilize fuel loads, encourage natural synecology, and prevent catastrophic fire.” The following text has been added to this task: “The program should include vegetation management measures along Bear Valley Road to reduce potential fire hazards.”

Comment 2-2: Apparently OHV’s are excluded from using the WMA’s, but no posting has been done. Can they use main roads?”

Response: Signs are posted prohibiting access by unauthorized vehicles. Posting additional signage that informs the public about OHV use regulations is part of “Public Use Goal 1: Install signage that provides information to the public about compatible public uses of AVWA and SCWA” (p. 4-21). Specifically, Task 2 under this goal states: “Inform users regarding compatible public uses of AVWA and SCWA by providing bulleting boards at formal entrances to the wildlife areas. Include information such as: (...) OHV use regulations.”

Comment 2-3: There is no plan for controlling invasive weeds. If the weeds are not controlled before meadow/stream restoration begins then most likely the weeds will be spread further through the area.

Response: The LMP includes specific tasks to control invasive weeds, including the tasks under “Biological Goal 3: Prevent the introduction and spread of invasive species, and manage existing infestations.” (p. 4-7). Other invasive plants management tasks in the LMP include: Biological Goal 1 – Task 5 (p. 4-4), Biological Goal 8 – Task 2 (p. 4-9), Fire Goal 2 – Task 5 (p.4-20), and Management Goal 4 – Task 7 (p. 4-24).

Comment 2-4: I concur with meadow restoration on Antelope Valley and Bear Valley.

Response: Comment noted.

Comment 2-5: I recommend additional planning be done to add restoration projects for the Halleluja Wildlife Area.

Response: Restoration planning for the Halleluja Junction Wildlife Area is not a part of this LMP.



State Clearinghouse
1400 Tenth Street
Sacramento, California 95814

August 5, 2008

Proposed Negative Declaration for the Land Management Plan for the Antelope Valley and Smithneck Creek Wildlife Areas.

Enclosed are the Notice of Completion (NOC) and 15 copies of the proposed Environmental Checklist/Negative Declaration for the Management Plan for the Antelope Valley and Smithneck Creek Wildlife Areas.

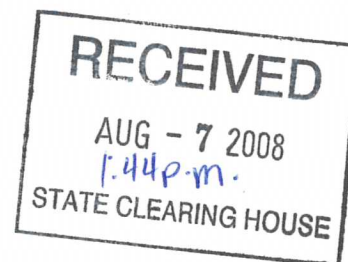
Based upon the Initial Study/Environmental Checklist, the Department of Fish and Game has determined that the project will not have a significant effect on the environment. Because this is a proposed Negative Declaration, we request a 30-day review period starting August 8, 2008. Also enclosed is a courteous electronic copy of the land management plan within each proposed negative declaration.

If you have any questions or need further information, please contact Mr. Paul Raquel Senior Wildlife Biologist, Supervisor at (916) 358-2868.

Kevin Hunting
Deputy Director of Regional Operations

Enclosure

cc: Mr. Paul Raquel, North Central Region
Ms. Teresa Le Blanc, Lands Program



Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P. O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH #

Project Title: Antelope Valley and Smithneck Creek Wildlife Areas Land Management Plan

Lead Agency: CA Department of Fish and Game

Contact Person: Paul Raquel

Mailing Address: 1701 Nimbus Road, Suite A

Phone: 916-358-2868

City: Rancho Cordova

Zip: 95670

County: Sacramento

Project Location: County: Sierra

City/Nearest Community: Loyalton

Cross Streets: SR 49 and Antelope Valley Road

Zip Code: 96118

Lat. / Long.: ' ' ' ' N/ ' ' ' ' W

Total Acres: about 7,100

Assessor's Parcel No.: multiple, see project description

Section: 2-36

Twp.: 21 North

Range: 15-16 E Base:

Within 2 Miles: State Hwy #: SR 49

Waterways: Antelope Valley Creek, Bear Valley Creek

Airports:

Railways:

Schools: Loyalton E, M, HS

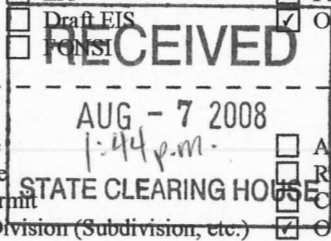
Document Type:

- CEQA: [] NOP [] Early Cons [x] Neg Dec [] Mit Neg Dec

- [] Draft EIR [] Supplement/Subsequent EIR (Prior SCH No.) [] Other

- NEPA: [] NOI [] EA [] Draft EIS [] FONSI

- Other: [] Joint Document [] Final Document [x] Other Lnd Mgt Pln



Local Action Type:

- [] General Plan Update [] Specific Plan [] General Plan Amendment [] Master Plan [] General Plan Element [] Planned Unit Development [] Community Plan [] Site Plan

- [] Rezone [] Prezone [] Use Permit [] Land Division (Subdivision, etc.) [] Annexation [] Redevelopment [] Coastal Permit [x] Other Lnd Mgt Pln

Development Type:

- [] Residential: Units Acres [] Office: Sq.ft. Acres Employees [] Commercial: Sq.ft. Acres Employees [] Industrial: Sq.ft. Acres Employees [] Educational [] Recreational

- [] Water Facilities: Type MGD [] Transportation: Type [] Mining: Mineral [] Power: Type MW [] Waste Treatment: Type MGD [] Hazardous Waste: Type [x] Other: Wildlife Area

Project Issues Discussed in Document:

- [x] Aesthetic/Visual [] Fiscal [x] Recreation/Parks [x] Vegetation [x] Agricultural Land [x] Flood Plain/Flooding [] Schools/Universities [x] Water Quality [x] Air Quality [x] Forest Land/Fire Hazard [] Septic Systems [x] Water Supply/Groundwater [x] Archeological/Historical [x] Geologic/Seismic [] Sewer Capacity [x] Wetland/Riparian [x] Biological Resources [x] Minerals [x] Soil Erosion/Compaction/Grading [x] Wildlife [] Coastal Zone [x] Noise [x] Solid Waste [x] Growth Inducing [x] Drainage/Absorption [] Population/Housing Balance [x] Toxic/Hazardous [x] Land Use [] Economic/Jobs [x] Public Services/Facilities [x] Traffic/Circulation [x] Cumulative Effects [] Other

Present Land Use/Zoning/General Plan Designation:

Forest, Open Space, General Forest

Project Description: (please use a separate page if necessary)

The project being proposed is the adoption and implementation of the Land Management Plan (LMP). The LMP will guide the Department's management, planning, and operations of the Antelope Valley Wildlife Area (AVWA) and Smithneck Creek Wildlife Area (SCWA). The purpose of the LMP is to: 1. guide management of habitats, species, and programs; 2. serve as a guide for appropriate public uses of the AVWA and SCWA; 3. serve as a descriptive inventory of fish, wildlife, and native plant habitats; 4. provide an overview of the property's operation and maintenance and of the personnel requirements associated with implementing management goals; and 5. present the environmental documentation necessary for compliance with state and federal statutes and regulations.

Note: The state Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "X".
If you have already sent your document to the agency please denote that with an "S".

- Air Resources Board
- Boating & Waterways, Department of
- California Highway Patrol
- Caltrans District # _____
- Caltrans Division of Aeronautics
- Caltrans Planning (Headquarters)
- Coachella Valley Mountains Conservancy
- Coastal Commission
- Colorado River Board
- Conservation, Department of
- Corrections, Department of
- Delta Protection Commission
- Education, Department of
- Energy Commission
- Fish & Game Region # _____
- Food & Agriculture, Department of
- Forestry & Fire Protection
- General Services, Department of
- Health Services, Department of
- Housing & Community Development
- Integrated Waste Management Board
- Native American Heritage Commission
- Office of Emergency Services

- Office of Historic Preservation
- Office of Public School Construction
- Parks & Recreation
- Pesticide Regulation, Department of
- Public Utilities Commission
- Reclamation Board
- Regional WQCB # _____
- Resources Agency
- S.F. Bay Conservation & Development Commission
- San Gabriel & Lower L.A. Rivers and Mtns Conservancy
- San Joaquin River Conservancy
- Santa Monica Mountains Conservancy
- State Lands Commission
- SWRCB: Clean Water Grants
- SWRCB: Water Quality
- SWRCB: Water Rights
- Tahoe Regional Planning Agency
- Toxic Substances Control, Department of
- Water Resources, Department of
- Other _____
- Other _____

Local Public Review Period (to be filled in by lead agency)

Starting Date Aug. 8, 2008 Ending Date Sept. 8, 2008

Lead Agency (Complete if applicable):

Consulting Firm: EDAW
 Address: 2022 J St.
 City/State/Zip: Sacramento, CA 95811
 Contact: Gerrit Platenkamp
 Phone: 916-414-5800

Applicant: CA Dept. of Fish and Game
 Address: 1701 Nimbus Road, Suite A
 City/State/Zip: Rancho Cordova, CA 95670
 Phone: _____

Signature of Lead Agency Representative: _____

Date: 8-8-08

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.



DEPARTMENT OF FISH AND GAME

<http://www.dfg.ca.gov>



State Clearinghouse
1400 Tenth Street
Sacramento, California 95814

November 17, 2008

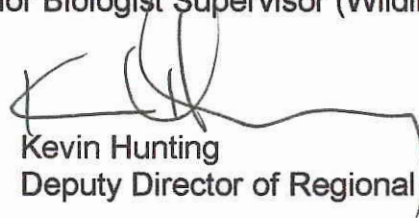
Notice of Determination for the Land Management Plan for the Antelope Valley and Smithneck Creek Wildlife Areas.

Enclosed are the Notice of Determination (NOD) and a copy of the fee exemption form for the Final Management Plan and Negative Declaration for the Antelope Valley and Smithneck Creek Wildlife Areas.

The draft plan and accompanying negative declaration was submitted to the State Clearing House and was subject to public review beginning August 8, 2008 and ending September 8, 2008. Public comments were accepted after the end of the official thirty day review period to provide sufficient opportunity for interested user groups to comment on the proposed draft plan, initial study and mitigated negative declaration.

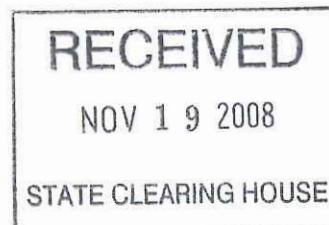
A synopsis of the comments received and the Department's written responses may be found in Appendix A, "Public Outreach Summary" within the Final Plan. The Department has approved the plan and is filing the NOD in compliance with Section 21108 of the Public Resources Code. The environmental documents plus an electronic copy of the Plan on CD is included with this memo.

Copies of the final documents may be viewed at the North Coast Regional office, 1701 Nimbus Road, Rancho Cordova, California and on the Department's website at: <http://www.dfg.ca.gov/news/pubnotice/> If you have any questions or need further information, please contact Paul Raquel, Senior Biologist Supervisor (Wildlife) at (916) 358 -2868


Kevin Hunting
Deputy Director of Regional Operations

Enclosure

cc: Mr. Paul Raquel, North Central Region
Mr. Jim Lidbeg, North Central Region
Ms. Teresa Le Blanc, Lands Program



Notice of Determination

Form C

To:

Office of Planning and Research
For U.S. Mail: P.O. Box 3044 Sacramento, CA 95812-3044
Street Address: 1400 Tenth St. Sacramento, CA 95814

County Clerk
County of:
Address:

From:

Public Agency: Department of Fish and Game
Address: 1701 Nimbus Rd. Suite A, Rancho Cordova, CA 95670

Contact: Paul Raquel
Phone: 916-358-2868

Lead Agency (if different from above):
Address:
Contact:
Phone:

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

State Clearinghouse Number (if submitted to State Clearinghouse): 2008082031

Project Title: Antelope Valley and Smithneck Creek Wildlife Areas Land Management Plan

Project Location (include county): Sierra County, SR 49 and Antelope Valley Road

Project Description:

The project being approved is the adoption and implementation of the Land Management Plan (LMP). The LMP will guide the Department's management, planning, and operations of the Antelope Valley Wildlife Area (AVWA) and Smithneck Creek Wildlife Area (SCWA).

This is to advise that the CA Department of Fish and Game has approved the above described project on

11-18-08 and has made the following determinations regarding the above described project:
(Date)

- 1. The project [] will [X] will not have a significant effect on the environment.
2. [] An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA. [X] A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures [] were [X] were not made a condition of the approval of the project.
4. A mitigation reporting or monitoring plan [] was [X] was not adopted for this project.
4. A statement of Overriding Considerations [] was [X] was not adopted for this project.
5. Findings [] were [X] were not made pursuant to the provisions of CEQA.

This is to certify that the final EIR with comments and responses and record of project approval, or the negative Declaration, is available to the General Public at: 1701 Nimbus Rd. Suite A, Rancho Cordova, CA 95670

Signature (Public Agency) [Signature] Title Deputy Director

Date 11-18-08 Date Received for filing at OPR

Authority cited: Sections 21083, Public Resources Code. Reference Section 21000-21174, Public Resources Code.



Revised 2005

California Department of Fish and Game
Certificate of Fee Exemption
De Minimis Impact Finding

Project Title: Management Plan for the Antelope Valley and Smithneck Creek Wildlife Areas

Project Location (including County): Located in Sierra County, State Route 49 and Antelope Valley Road

Name and Address of Project Proponent: California Department of Fish and Game, North Central Region; 1701 Nimbus Road, Rancho Cordova CA 95670

Project Description: The purpose of the management plan is to serve as a descriptive inventory of fish, wildlife and native plant communities ; provide an overview of the area's operations and maintenance activities and describe goals and general tasks to accomplish effective property stewardship. The Plan also discusses the area's primary purpose and appropriate public use.

Findings of Exemption:

1. An Initial Study has been conducted by California Dept. Fish and Game to evaluate the potential for adverse environmental impacts.
2. A Negative Declaration has been prepared by the California Dept. Fish and Game.
3. The lead agency has no evidence before it, including the information in the Initial Study, the Negative Declaration and public comments, to indicate that the proposed project could have any potential for an adverse effect on fish and wildlife resources or the habitat upon which the fish and wildlife depends.

Certification:

I hereby certify that the lead agency has made the above findings and that based upon the record, the project will not individually or cumulatively have an adverse effect on fish or wildlife resources, as defined in Section 711.2 of the Fish and Game Code.



Reference: CCR Section 753.5

A handwritten signature in blue ink that reads "Teresa Le Blanc".

Signature of Planning Official
Teresa Le Blanc
Title
Senior Wildlife Biologist
Lead Agency Name
Department of Fish and Game
Date 11/19/08

APPENDIX C

Title Packets

Department of Fish and Game
Property Inventory Form

Property #: 02344

Parcel History #: 820774

APN: 00016-0110-0012	Meridian: MDBM	Township: 21N	Range: 16E	Section: 32
APN: 00016-0110-0020	Meridian: MDBM	Township: 21N	Range: 16E	Section: 29
APN: 00016-0110-0021	Meridian: MDBM	Township: 21N	Range: 16E	Section: 29
APN: 00016-0110-0021	Meridian: MDBM	Township: 21N	Range: 16E	Section: 30
APN: 00016-0110-0030	Meridian: MDBM	Township: 21N	Range: 16E	Section: 33
APN: 00016-0110-0033	Meridian: MDBM	Township: 21N	Range: 16E	Section: 29
APN: 00016-0110-0034	Meridian: MDBM	Township: 21N	Range: 16E	Section: 29
APN: 00016-0110-0035	Meridian: MDBM	Township: 21N	Range: 16E	Section: 29
APN: 00016-0110-0036	Meridian: MDBM	Township: 21N	Range: 16E	Section: 32

Last Update: 7/14/2000

SMITHNECK CREEK WILDLIFE AREA

Location: Sierra County - Approximately 1 mile east of Loyalton, Sierra County and 3 miles south of State Route 49 on the Smithneck Road. The area consists of three "units", two of which are accessed by county roads. The area essentially "surrounds" the Sierra Brooks Subdivision.

Description: The area consists of 1,395 acres of a variety of east-side Sierra habitats. Sagebrush-bitterbrush provides critical deer winter range well as a major deer migration corridor. Limited habitats of yellow pine, mountain mahogany and juniper provide a variety of habitats for resident deer. Wet and dry meadows are found along Bear Valley Creek. Riparian habitat consisting of alders, willows and aspen provide a variety of cover along Bear Valley, Smithneck, and Badenaugh Creeks for game and nongame wildlife.

Recreational Use: Opportunities for hunting are quite limited due to safety considerations (Sierra Brooks Subdivision) but the area is open to hunting. Fishing is allowed in the three streams on the area but one should be aware of posted private lands of the subdivision. The area provides access to extensive public lands, i.e. Tahoe National Forest. Camping is not allowed. There are opportunities for hiking, bird watching and photography.

Facilities: None. Access by paved and unimproved county roads.

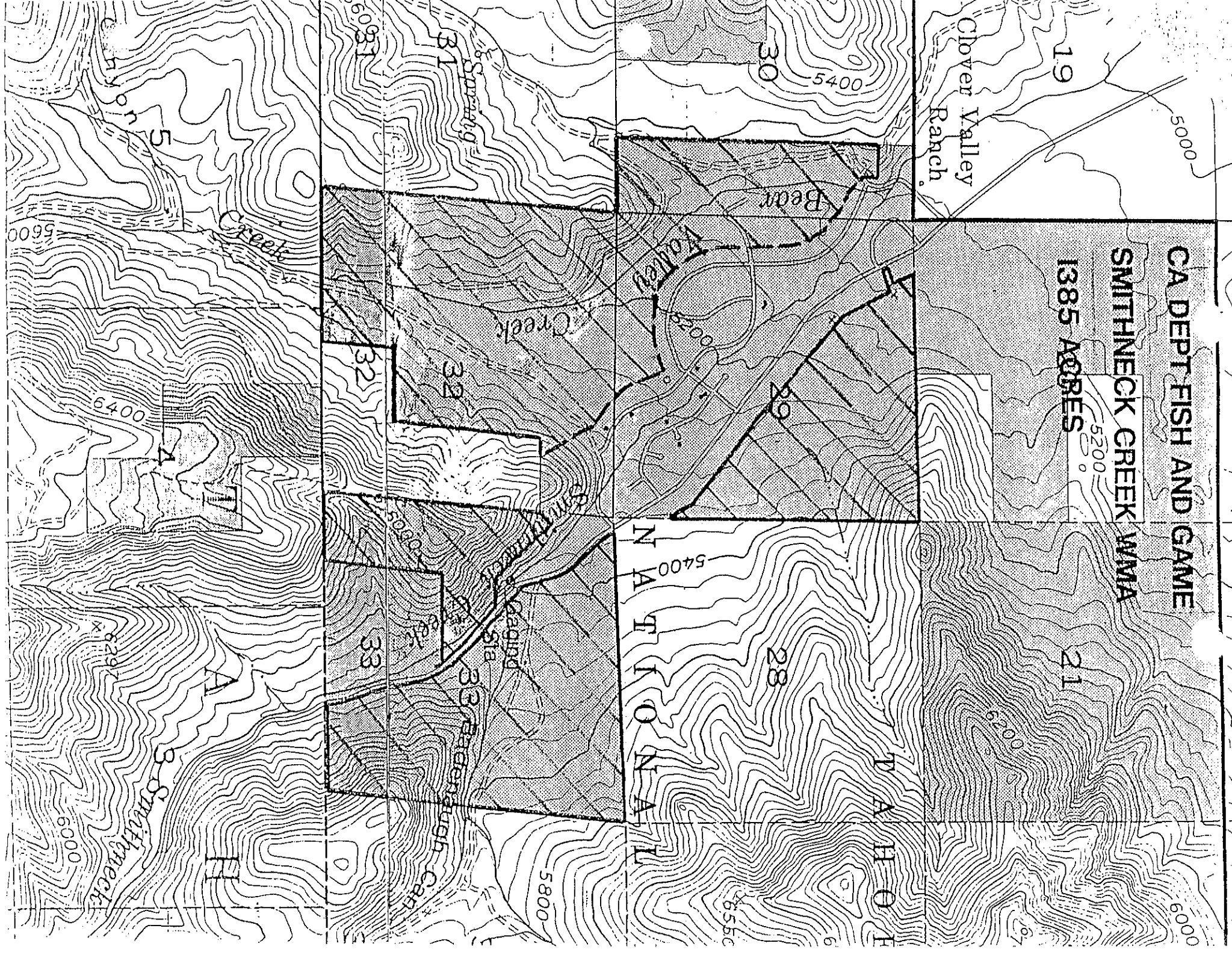
Management Plan: Preserve and enhance all habitats for game and nongame wildlife. Maintain and improve riparian habitats to maintain water quality and high quality fishery habitat.

Acquisition: Acquired from private owners in 1988.

CA DEPT FISH AND GAME

SMITHNECK CREEK WMA

1385 ACRES



SMITHNECK CREEK WILDLIFE AREA

Location: Sierra County -- Approximately 1 mile east of Loyalton and 3 miles south of State Route 49 on the Smithneck Road. The area consists of three units, two of which are accessed by county roads. It essentially "surrounds" the Sierra Brooks Subdivision.

Description: This 1,395 acre wildlife area consists of a variety of habitats typical of the east side of the Sierra. The sagebrush-bitterbrush habitat is a critical deer winter-range area for migratory deer. Limited stands of yellow pine, mountain mahogany and juniper provide additional habitat for resident deer. Wet and dry meadows are found along Bear Valley Creek. Riparian habitat consisting of alders, willows and aspen provide cover along Bear Valley, Smithneck and Badenaugh Creeks for both game and nongame wildlife.

Recreational Use: Opportunities for hunting are quite limited due to safety considerations for residents of the Sierra Brooks Subdivision, but the area is open to hunting. Fishing is allowed in the three streams on the area but one should be aware of posted private lands. The area provides access to extensive public lands such as the Tahoe National Forest. There are opportunities for hiking, birdwatching and photography. Camping is not allowed.

PLEASE NOTE: Area regulations are subject to change. Special restrictions on recreational uses, hunt days and methods of take are listed in the current year's issue of HUNTING AND OTHER PUBLIC USES ON STATE AND FEDERAL AREAS, available at Fish and Game offices and places where licenses are sold.

Facilities: None.

Management Plan: Preserve and enhance all habitats for game and nongame wildlife. Maintain and improve riparian habitats and water quality for high quality fisheries.

Acquisition: Acquired from private owners in 1988.

Department of Fish and Game
Property Inventory Form

Property #: 02344

Parcel History #: 820774

Property Name: SMITHNECK CREEK WA Region: 2
 Property AKA: SIERRA BROOKS & BADENAUGH CANYON MA Code: SFGWASMIT1 Area Class: WA
 County: 46 SIERRA Multiple Counties: No Other Counties:
 Property Purpose: 15 DEER WINTER RANGE Summary Purpose: 09 DEER HABITAT
 Management Plan: Yes Plan Date: 3/2/1990 Type of Plan: DRAFT, INTERIM
 Location of Property: 2 MILES SOUTHEAST OF LOYALTON

Grantor: OCCIDENTAL LAND INC. Transaction Date: 8/18/1987
 Manner Acquired: 0200 COGD Title Insurance: Yes Control #: 46A WA 870930 40000
 [1] State Fund: 447 WRF [2] State Fund: 997 DONA Multiple State Fund: No
 [1] Federal Fund: [2] Federal Fund: O and M Fund:
 Parcel Name: BADENAUGH CANYON, BEAR VALLEY
 Parcel Location: BOTH SIDES OF SMITHNECK ROAD
 Parcel Access: SMITHNECK ROAD VIA SIERRA BROOKS

Topographic (Quad) Name: LOYALTON, SARDINE PEAK
 Topographic Map: Yes Orthophoto Map: Yes Access Map (Arcview): No SNA: No SNA #:
 Acquisition Proposal: Yes Mitigation: No Permit Type:
 [1] HCPB Mitigation #: [2] HCPB Mitigation #: [3] HCPB Mitigation #:
 [1] PCA #: [2] PCA #: [3] PCA #: NCCP: No
 [1] Purpose: 15 DEER WINTER RANGE [2] Purpose:
 Summary Purpose: 09 DEER HABITAT Date Digitized: 3/29/1994 Title 14 Desig. Date: 4/8/1988
 Property Mgmnt: DFG-2 Mgmnt Agrmnt Effective Date: Lease Effective Date:
 Mgmnt Agrmnt Expiration Date: Lease Expiration Date: Term: In-Lieu Fee Date:
 Handicap Access: No Water Rights: Mineral Rights: N Timber Rights: NA
 Easements: SMITHNECK ROAD, POLELINES, WATER SYSTEM

Improvements:

Comments: KEY DEER WINTER RANGE & MIGRATION CORRIDOR FOR SUB-UNIT OF LOYALTON-TRUCKEE DEER HERD.

State Land Cost:	\$500,000.00	WCB Improvement Cost:	Federal Cost:	\$0.00
Acquisition Cost:	\$1,607.50	Donation/Mitigation Value:	Other Cost:	
State Improvement Cost:	\$0.00	City/County Cost:	In-Lieu Fees:	\$11,636.33
Total State Cost:	\$501,607.50	Taxes:		\$0.00

County: 46 SIERRA City Code: TR #:
 Recorded Date: 9/30/1987 Book: 120 Page: 3000 Document #: 96614

Comments: RERECORDED 7/1/88, BK 121, PG 2048 TO CORRECT LEGAL DESCRIPTION & INCLUDE PARCELS 16-110-33 & 36.

Parcel Characteristic: 1000 Original Acreage: 1,385.22 Current Acreage: 1,385.22

09/18/80 - 180 acres using \$258,730 from the WRF. Account closed 10/4/84. Total expenditure \$4,867.74.

04/10/85 - 160 acres using \$277,200 from the WRF. Account closed 11/12/86. Total expenditure \$277,200.

09/17/85 - 20 acres using \$53,000 from the WRF. Account closed 5/16/86. Total expenditure \$50,678.50.

11/12/86 - 640 acres using \$556,000 from the WRF. Account closed 8/18/87. Total expenditure \$552,641.90.

- Smith River - Del Norte County; access development 5 miles upstream from the mouth of the Smith River. Acquisition of 3+ acres and development including access road, two-lane boat ramp, and sanitary facilities approved 3/21/63. \$49,640 was allocated under the Accelerated Public Works Program. Construction was completed early 1964. Total cost of the project was \$47,168.37 for which the Federal Government reimbursed the State \$17,488. Board expenditure was \$29,680.37. Account closed 8/25/66. \$1,549.80 additional expended from allocation of 1/26/65 for restoration after the 1964-65 flood.

On 4/10/85 the Board allocated \$49,900 from the WRF to upgrade this public fishing access area. Improvements included a new restroom equipped with handicapped accessible features, improving the water system, upgrading the ramp, and sealing the parking area. The County is operating and maintaining the project for another 25 year period. Account closed 5/20/87. Total expenditure \$45,724.81. (C-2)

- Smithneck Creek Wildlife Area - Sierra County; acquisition of 1,400 acres located in Sierra County, lying about one mile south of the town of Loyalton for preservation of key deer winter range and migration corridors for a portion of the Loyalton-Truckee deer herd. The appraised value of the subject property is \$885,000 and the owners have agreed to sell for \$500,000. On 5/20/87 the Board allocated \$515,000 from the WRF for the purchase price and related processing costs and accepted a partial donation offered by the owners. The Department will manage this area. Account closed 3/1/88. Total expenditure \$501,668. (E-1)

- Snag Lake Wildlife Area - Butte County; acquisition of 240 acres in northeastern Butte County for the preservation of mountain meadow wetlands and upland habitat adjacent to Snag Lake. The property is located on Humbug Road, a major U.S. Forest Service road, about 12 miles north of Stirling City and 20 miles southwest of Lake Almanor. On 9/17/85 the Board allocated \$104,000 from the 1984 Bond Funds and \$104,000 from the WRF for acquisition and related processing costs. The Department manages this area in conjunction with the Coon Hollow Wildlife Area which is about two miles south of this property. Account closed 11/12/86. Total expenditure \$201,075.80. (E-3)

- Snake Lake - Plumas County, Plumas National Forest, four miles northwest of Quincy; construction of a dam at the lake outlet to increase depth to 7 or 8 feet and from 100 to 150 surface acres. Board allocated \$5,000 on 6/6/51. Constructed by U.S. Forest Service and dedicated 5/17/53. Account closed on 4/16/53; total expenditure \$5,000. (B-1)

- Sonoma Coastal Stream Clearance - Sonoma County; the Board allocated \$14,000 on 7/29/71 to remove logging debris on 19 miles of stream to improve salmon and steelhead habitat. The work was done by conservation camp labor under direction of the Division of Forestry. Work

BY: INTER-COUNTY TITLE

88 JUL -1 PH 4: 22

SIERRA COUNTY, CA
SANDRA LOVING, RECORDER
VOL 121 PG 2048 FEE 71c

WHEN RECORDED MAIL TO

State of California
Department of Fish and Game
Wildlife Conservation Board
1416 Ninth Street
Sacramento, California 95814

SPACE ABOVE THIS LINE FOR RECORDER'S USE
Department of Fish and Game

Agency: Wildlife Conservation Board
Project: Smithneck Creek WLA
Parcel: Sierra Brooks Subdivision

C O R R E C T E D

Corporation Grant Deed

APN 16-110-19, 16-110-20, 16-110-21, 16-110-22, 16-110-30, 16-110-12

This Deed is meant to correct the property description only in that Corporation Grant Deed from Occidental Land Inc. to the State of California recorded in Sierra County on September 30, 1987 as Doc. 96614 in Vol 120 Pg 3000.

Occidental Land Inc.,
a corporation organized under the laws of the State of California hereby GRANTS
to THE STATE OF CALIFORNIA, the following described real property in the County of
Sierra, State of California:

SHOWN AS EXHIBIT 'A', ATTACHED HERETO

AND THEREBY MADE A PART HEREOF.

In Witness Whereof, said corporation has caused its corporate name and seal to be affixed hereto and this instrument to be executed by its Vice President and Assistant Secretary thereunto duly authorized.

Dated: June 15, 1988

OCCIDENTAL LAND, INC.

By Robert F. Mitchell
Vice President

DOCUMENTARY TRANSFER TAX \$ None/Exempt
COMPUTED ON FULL VALUE OF PROPERTY CONVEYED,
OR COMPUTED ON FULL VALUE LESS LIENS AND
ENCUMBRANCES REMAINING AT TIME OF SALE.

By [Signature]
Assistant Secretary

INTER-COUNTY TITLE CO.
SIGNATURE Carmen Martin

COMPARED

2048

STATE OF CALIFORNIA

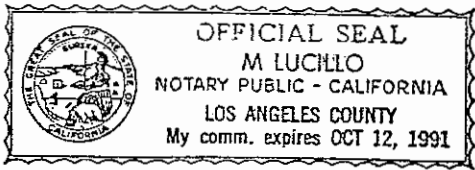
COUNTY OF Los Angeles } ss.

On 15 June 1988 before me, the undersigned, a Notary Public in and for said State, personally appeared Robert F. Mitchell personally known to me or proved to me on the basis of satisfactory evidence to be the person who executed the within Instrument as the Vice President, and Ronald K. Takeuchi personally known to me or proved to me on the basis of satisfactory evidence to be the person who executed the within Instrument as the Assistant Secretary of the Corporation that executed the within Instrument and acknowledged to me that such corporation executed the within Instrument pursuant to its by-laws or a resolution of its Board of Directors.

WITNESS my hand and official seal.

Signature *M. Lucillo*

M. Lucillo
Name (Typed or Printed)
Notary Public in and for the State of California



PARCEL 1:
ALL OF

PARCEL 1:

All of Section 33, Township 21 North, Range 16 East, M.D.M.

EXCEPTING THEREFROM all oil, oil rights, mineral rights, natural gas rights, and other hydrocarbons by whatsoever name known, together with all geothermal steam and steam power that may be within or under the parcel of land hereinafter described together with the perpetual right of drilling mining, exploring and operating therefor and storing in and removing the same from said land, or any other land, including the right to whipstock or directionally drill and mine from lands other than those hereinafter described, oil or gas wells, tunnels and shafts into, through or across the subsurface of the land hereinafter described and to bottom such whipstocked or directionally drilled wells, tunnels and shafts under and beneath or beyond the exterior limits thereof, and to redrill, retunnel, equip maintain, repair, deepen and operate any such wells or mines, TOGETHER WITH the right to drill, mine, store, explore and operate through or on, and to utilize all or any portion of the surface and subsurface of the land, as contained in Quitclaim Deed from Occidental Land, Inc., a California corporation to Eastwood Minerals and Energy Company, a California corporation, dated July 12, 1974, recorded July 22, 1974, in Book 62, Page 30, Official Records, in the Office of the County Recorder of Sierra County, California.

ALSO EXCEPTING THEREFROM all that portion, if any, lying within the exterior boundaries of THE SIERRA BROOKS UNIT NO. 1, in portion of Section 29, 32 and 33, Township 21 North, Range 16 East, M.D.M., Sierra County California, filed in the Office of the County Recorder of Sierra County California, on May 27, 1971, in Book 3, Page 76 of Maps.

ALSO EXCEPTING THEREFROM all that portion conveyed to the County of SIERRA by Deed Recorded November 10, 1972, in Book 56 of Official Records, Page 477.

ALSO EXCEPTING THEREFROM all that portion conveyed to SIERRA BROOKS PROPERTY OWNERS ASSOCIATION by Deed Recorded March 28, 1978, in Book 77 of Official Records, Page 422.

PARCEL 2:

Township 21 North, Range 16 East, M.D.M.

Section 29: Northeast quarter of Northwest quarter;
West half of West half; Southeast quarter of the
Southwest quarter; and the East half.

EXCEPTING FROM the West half of the West half: All that portion there lying within the parcel of land described in the Deed dated April 2, 1971, recorded May 27, 1971, in Book 53, Page 99, Official Records, to Sierra Pacific Power Company, a corporation.

ALSO EXCEPTING THEREFROM: All that portion thereof lying within the exterior boundaries of the Subdivision THE SIERRA BROOKS UNIT NO. 2-A, in portions of Sections 19, 20, 29 and 30, Township 2 North, Range 16 East, M.D.M., Sierra County, California, made by Paul E. Simpson in the year 1960, which Map was filed in the Office of the County Recorder of Sierra County, California, on the 29th day of October, 1971, in Book 3, Page 90, Maps and Surveys.

Section 30: East half of Southeast quarter;
Southeast quarter of Northeast quarter; and
South half of Northeast quarter of Northeast quarter.

EXCEPTING THEREFROM: All that portion thereof lying within the exterior boundaries of the Subdivision THE SIERRA BROOKS UNIT NO. 2-A, in portions of Sections 19, 20, 29 and 30, Township 2 North, Range 16 East, M.D.M., Sierra County, California, made by Paul E. Simpson, in the year 1960, which Map was filed in the Office of the County Recorder of Sierra County, California, on the 29th day of October, 1971, in Book 3, Page 90, Maps and Surveys.

Section 32: West half of Southwest quarter of Southwest quarter;
Northwest quarter;
North half of Southwest quarter;
Southeast quarter of Southwest quarter;
and East half of Southwest quarter of Southwest quarter.

EXCEPTING FROM PARCEL 2, HEREIN DESCRIBED: All oil, oil rights, mineral rights, natural gas rights, and other hydrocarbons by whatsoever name known, together with all geothermal steam and steam power that may be within or under the parcel of land hereinafter described together with the perpetual right of drilling, mining, exploring and operating therefor and storing in and removing the same from said land, or any other land, including the right to whipstock or directionally drill and mine from lands other than those hereinafter described, oil or gas wells, tunnels and shafts into, through or across the subsurface of the land hereinafter described and to bottom such whipstocked or directionally drilled wells, tunnels and shafts under and beneath or beyond the exterior limits thereof, and to redrill, retunnel, equip, maintain, repair, deepen and operate any such wells or mines, TOGETHER WITH the right to drill, mine, store, explore and operate through or on, and utilize, all or any portion of the surface and subsurface of the land, as contained in Quitclaim Deed from Occidental Land, Inc., a California corporation, to Eastwood Minerals and Energy Company, a California corporation, dated July 12, 1974, recorded July 22, 1974, in Book 62, Page 30, Official Records, in the Office of the County Recorder of Sierra County, California.

The Southeast quarter of the Northwest quarter of Section 29, Township 21 North, Range 16 East, M.D.M., according to the official plat thereof.

The North half of the Northeast quarter, the Southwest quarter of the Northeast quarter and the Northwest quarter of the Southeast quarter of Section 32, Township 21 North, Range 16 East, M.D.M., according to the official plat thereof.

EXCEPTING THEREFROM all that portion lying within the exterior boundaries of THE SIERRA BROOKS UNIT NO. 1, in portion of Sections 29, 32 and 33, Township 21 North, Range 16 East, M.D.M., Sierra County, California, filed in the office of the County Recorder of Sierra County, California, on May 27, 1971, in Book 3 of Maps and Surveys, Page 76.

ALSO EXCEPTING THEREFROM all portion lying within the exterior boundaries of THE SIERRA BROOKS UNIT NO. 2-A, in portion of Sections 19, 20, 29 and 30, Township 21 North, Range 16 East, M.D.M., which Map was filed in the Office of the County Recorder, of Sierra County, California, on October 29, 1971, in Book 3 of Maps and Surveys, Page 90.

AND ALSO EXCEPTING THEREFROM all oil, oil rights, mineral rights, natural gas rights, and other hydrocarbons by whatsoever name known, together with all geothermal steam and steam power that may be within or under the parcel of land above described together with the perpetual right of drilling, mining, exploring and operating therefor and storing in and removing the same from said land, or any other land, including the right to whipstock or directionally drill and mine from lands other than those herein above described, oil or gas wells, tunnels and shafts into, through or across the subsurface of the land herein described and to bottom such whipstocked or directionally drilled wells, tunnels and shafts under and beneath or beyond the exterior limits thereof, and to redrill, retunnel, equip, maintain, repair, deepen and operate any such wells or mines, TOGETHER WITH the right to drill, mine, store, explore and operate through or on, and utilize all or any portion of the surface and subsurface of the land, as contained the Quitclaim Deed from Occidental Land, Inc., a California corporation to Eastwood Minerals and Energy Company, a California corporation, dated July 12, 1974, recorded July 22, 1974, in Book 62, Page 30, Official Records, in the office of the County Recorder of Sierra County, California.

CERTIFICATE OF ACCEPTANCE

THIS IS TO CERTIFY that the interest in real property conveyed by the corrected deed or grant, dated June 15, 1988, from Occidental Land Inc. to the STATE OF CALIFORNIA, is hereby accepted by the undersigned officer on behalf of the State of California, pursuant to authority conferred by authorization of the Wildlife Conservation Board, Department of Fish and Game, Resources Agency, State of California, adopted on May 20, 1987, and the grantee consents to the recordation thereof by its duly authorized officer.

STATE OF CALIFORNIA
Resources Agency
Department of Fish and Game

By:

W. John Schmidt
W. John Schmidt
Executive Officer
Wildlife Conservation Board

Date:

6/27/88

1.18

ENDORSEMENT

Order No. S-84832

ISSUED BY

Ticor Title Insurance Company of California

Attached to and forming a part of Policy of Title Insurance No. J05 054191

SEE EXHIBIT "A"
attached

The total liability of the Company under said policy and any endorsements therein shall not exceed, in the aggregate, the face amount of said policy and costs which the Company is obligated under the conditions and stipulations thereof to pay.

This endorsement is made a part of said policy and is subject to the schedules, conditions and stipulations therein, except as modified by the provisions hereof.

IN WITNESS WHEREOF, the Company has caused its corporate name and seal to be hereunto affixed by its duly authorized officers.

Dated: 7/1/88 @ 4:22 p.m.

TICOR TITLE INSURANCE COMPANY OF CALIFORNIA

COPY

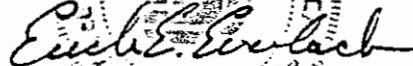
Validating Signatory

By



President

Attest



Secretary

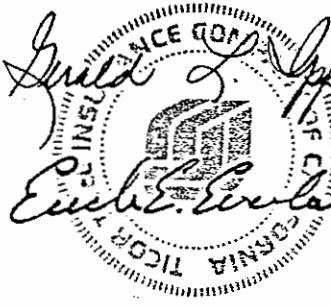


EXHIBIT "A"

Schedule C of this policy is hereby deleted and there is substituted in lieu thereof the following:

PARCEL 1:

All of Section 33, Township 21 North, Range 16 East, M.D.M.

EXCEPTING THEREFROM all oil, oil rights, mineral rights, natural gas rights, and other hydrocarbons by whatsoever name known, together with all geothermal steam and steam power that may be within or under the parcel of land hereinafter described together with the perpetual right of drilling, mining, exploring and operating therefor and storing in and removing the same from said land, or any other land, including the right to whipstock or directionally drill and mine from lands other than those hereinafter described, oil or gas wells, tunnels and shafts into, through or across the subsurface of the land hereinafter described and to bottom such whipstocked or directionally drilled wells, tunnels and shafts under and beneath or beyond the exterior limits thereof, and to redrill, retunnel, equip, maintain, repair, deepen and operate any such wells or mines, TOGETHER WITH the right to drill, mine, store, explore and operate through or on, and utilize all or any portion of the surface and subsurface of the land, as contained in Quitclaim Deed from Occidental Land, Inc., a California corporation to Eastwood Minerals and Energy Company, a California corporation, dated July 12, 1974, recorded July 22, 1974, in Book 52, Page 30, Official Records, in the Office of the County Recorder of Sierra County, California.

ALSO EXCEPTING THEREFROM all that portion, if any, lying within the exterior boundaries of THE SIERRA BROOKS UNIT NO. 1, in portion of Sections 29, 32 and 33, Township 21 North, Range 16 East, M.D.M., Sierra County, California, filed in the Office of the County Recorder of Sierra County, California, on May 27, 1971, in Book 3, Page 76 of Maps.

ALSO EXCEPTING THEREFROM all that portion conveyed to the County of SIERRA by Deed recorded November 10, 1972, in Book 56 of Official Records, Page 477.

ALSO EXCEPTING THEREFROM all that portion conveyed to SIERRA BROOKS PROPERTY OWNERS ASSOCIATION by Deed Recorded March 28, 1978, in Book 77 of Official Records, Page 422.

PARCEL 2:

Township 21 North, Range 16 East, M.D.M.

Section 29: Northeast quarter of Northwest quarter;
West half of West half; Southeast quarter of the
Southwest quarter; and the East half.

EXCEPTING FROM the West half of the West half: All that portion thereof lying within the parcel of land described in the Deed dated April 2, 1971, recorded May 27, 1971, in Book 53, Page 99, Official Records, to Sierra Pacific Power Company, a corporation.

ALSO EXCEPTING THEREFROM: All that portion thereof lying within the exterior boundaries of the Subdivision THE SIERRA BROOKS UNIT NO. 2-A, in portions of Sections 19, 20, 29 and 30, Township 2 North, Range 16 East, M.D.M., Sierra County, California, made by Paul E. Simpson in the year 1960, which Map was filed in the Office of the County Recorder of Sierra County, California, on the 29th day of October, 1971, in Book 3, Page 90, Maps and Surveys.

Section 30: East half of Southeast quarter;
Southeast quarter of Northeast quarter; and
South half of Northeast quarter of Northeast quarter.

EXCEPTING THEREFROM: All that portion thereof lying within the exterior boundaries of the Subdivision THE SIERRA BROOKS UNIT NO. 2-A, in portions of Sections 19, 20, 29 and 30, Township 2 North, Range 16 East, M.D.M., Sierra County, California, made by Paul E. Simpson, in the year 1960, which Map was filed in the Office of the County Recorder of Sierra County, California, on the 29th day of October, 1971, in Book 3, Page 90, Maps and Surveys.

Section 32: West half of Southwest quarter of Southwest quarter;
Northwest quarter;
North half of Southwest quarter;
Southeast quarter of Southwest quarter;
and East half of Southwest quarter of Southwest quarter.

EXCEPTING FROM PARCEL 2, HEREIN DESCRIBED: All oil, oil rights, mineral rights, natural gas rights, and other hydrocarbons by whatsoever name known, together with all geothermal steam and steam power that may be within or under the parcel of land hereinafter described together with the perpetual right of drilling, mining, exploring and operating therefor and storing in and removing the same from said land, or any other land, including the right to whipstock or directionally drill and mine from lands other than those hereinafter described, oil or gas wells, tunnels and shafts into, through or across the subsurface of the land hereinafter described and to bottom such whipstocked or directionally drilled wells, tunnels and shafts under and beneath or beyond the exterior limits thereof, and to redrill, retunnel, equip, maintain, repair, deepen and operate any such wells or mines, TOGETHER WITH the right to drill, mine, store, explore and operate through or on, and utilize, all or any portion of the surface and subsurface of the land, as contained in Quitclaim Deed from Occidental Land, Inc., a California corporation, to Eastwood Minerals and Energy Company, a California corporation, dated July 12, 1974, recorded July 22, 1974, in Book 62, Page 30, Official Records, in the Office of the County Recorder of Sierra County, California.

PARCEL 3:

The Southeast quarter of the Northwest quarter of Section 29, Township 21 North, Range 16 East, M.D.M., according to the Official Plat thereof.

The North half of the Northeast quarter, the Southwest quarter of the Northeast quarter and the Northwest quarter of the Southeast quarter of Section 32, Township 21 North, Range 16 East, M.D.M., according to the Official Plat thereof.

EXCEPTING THEREFROM all that portion lying within the exterior boundaries of THE SIERRA BROOKS UNIT NO. 1, in portion of Sections 29, 32 and 33, Township 21 North, Range 16 East, M.D.M., Sierra County, California, filed in the Office of the County Recorder of Sierra County, California on May 27, 1971, in Book 3 of Maps and Surveys, Page 76.

ALSO EXCEPTING THEREFROM all portion lying within the exterior boundaries of THE SIERRA BROOKS UNIT NO. 2-A, in portion of Sections 19, 20, 29 and 30, Township 21 North, Range 16 East, M.D.M., which Map was filed in the Office of the County Recorder of Sierra County, California on October 29, 1971, in Book 3 of Maps and Surveys, Page 90.

AND ALSO EXCEPTING THEREFROM all oil, oil rights, mineral rights, natural gas rights and other hydrocarbons by whatsoever name known, together with all geothermal steam and steam power that may be within or under the parcel of land above described together with the perpetual right of drilling, mining, exploring and operating therefor and storing in and removing the same from said land or any other land, including the right to whipstock or directionally drill and mine from lands other than those herein above described, oil or gas wells, tunnels and shafts into, through or across the subsurface of the land herein described and to bottom such whipstocked or directionally drilled wells, tunnels and shafts under and beneath or beyond the exterior limits thereof and to redrill, retunnel, equip, maintain, repair, deepen and operate any such wells or mines, TOGETHER WITH the right to drill, mine, store, explore and operate through or on and utilize all or any portion of the surface and subsurface of the lands, as contained the Quitclaim Deed from Occidental Land, Inc., a California corporation to Eastwood Minerals and Energy Company, a California corporation, dated July 12, 1974, recorded July 22, 1974, in Book 62, Page 30, Official Records, in the Office of the County Recorder of Sierra County, California.

Recording Requested By
Inter-County Title Co.
#S-84832-rs
WHEN RECORDED MAIL TO

96614

96614

OFFICIAL RECORDS
RECORDING REQUESTED

BY: Inter County Title Co.

87 SEP 30 AM 10:35

SIERRA COUNTY, CA
SANDRA LOVING, RECORDER

VOL. 120 PG. 3000 FEE 71/c

State of California
Department of Fish and Game
Wildlife Conservation Board
1416 Ninth Street, Room 1206-22
Sacramento, California 95814

SPACE ABOVE THIS LINE FOR RECORDER'S USE

Department of Fish and Game

Agency: Wildlife Conservation Board

Project: Smithneck Creek WLA

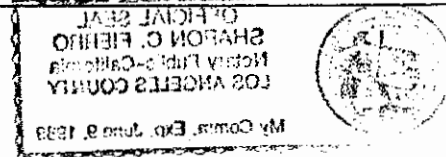
Parcel: Sierra Brooks Subdivision

Corporation Grant Deed

APN 16-110-19, 16-110-20, 16-110-21, 16-110-22, 16-110-30, 16-110-12

TR87-88

OCCIDENTAL LAND INC.,



a corporation organized under the laws of the State of California hereby GRANTS
to THE STATE OF CALIFORNIA, the following described real property in the County of
Sierra, State of California:

SHOWN AS EXHIBIT "A", ATTACHED HERETO
AND THEREBY MADE A PART HEREOF.

In Witness Whereof, said corporation has caused its corporate name and seal to be affixed hereto and this instrument to be executed by its _____ President and _____ Asst. Secretary thereunto duly authorized.

Dated: August 18, 1987

OCCIDENTAL LAND, INC.

By [Signature] President

By [Signature] Asst. Secretary

DOCUMENTARY TRANSFER TAX \$ None/Exempt
COMPUTED ON FULL VALUE OF PROPERTY CONVEYED,
OR COMPUTED ON FULL VALUE LESS LIENS AND
ENCUMBRANCES REMAINING AT TIME OF SALE.

SIGNATURE [Signature]
INTER-COUNTY TITLE CO.

EXHIBIT "A"

PARCEL 1:

16-110-030

All of Section 33, Township 21 North, Range 16 East, M.D.M., lying Easterly of the Easterly line of Smithneck Road, as said centerline is shown on that certain Record of Survey filed in Book 3 of Maps and Surveys, Page 68, according to the Official Plat thereof.

EXCEPTING THEREFROM all oil, oil rights, mineral rights, natural gas rights, and other hydrocarbons by whatsoever name known, together with all geothermal steam and steam power that may be within or under the parcel of land hereinafter described together with the perpetual right of drilling, mining, exploring and operating therefor and storing in and removing the same from said land, or any other land, including the right to whipstock or directionally drill and mine from lands other than those hereinafter described, oil or gas wells, tunnels and shafts into, through or across the subsurface of the land hereinafter described and to bottom such whipstocked or directionally drilled wells, tunnels and shafts under and beneath or beyond the exterior limits thereof, and to redrill, retunnel, equip, maintain, repair, deepen and operate any such wells or mines, TOGETHER WITH the right to drill, mine, store, explore and operate through or on, and utilize all or any portion of the surface and subsurface of the land, as contained in Quitclaim Deed from Occidental Land, Inc., a California corporation to Eastwood Minerals and Energy Company, a California corporation, dated July 12, 1974, recorded July 22, 1974, in Book 62, Page 30, Official Records, in the Office of the County Recorder of Sierra County, California.

ALSO EXCEPTING THEREFROM all that portion, if any, lying within the exterior boundaries of THE SIERRA BROOKS UNIT NO. 1, in portion of Sections 29, 32 and 33, Township 21 North, Range 16 East, M.D.M., Sierra County, California, filed in the Office of the County Recorder of Sierra County, California, on May 27, 1971, in Book 3, Page 76 of Maps.

PARCEL 2:

Township 21 North, Range 16 East, M.D.M.

Section 29: Northeast quarter of Northwest quarter; ^{16-110-020 37.11ac.}
¹⁶⁻¹¹⁰⁻⁰²¹ West half of West half; Southeast quarter of the ^{16-110-35 30.21ac.}
^{ac ?} Southwest quarter; and the East half. ^{16-110-34 193.16ac.}

Total ac. Sect 29 & 30 = 196.84

EXCEPTING FROM the West half of the West half: All that portion thereof lying within the parcel of land described in the Deed dated April 2, 1971, recorded May 27, 1971, in Book 53, Page 99, Official Records, to Sierra Pacific Power Company, a corporation.

ALSO EXCEPTING THEREFROM: All that portion thereof lying within the exterior boundaries of the Subdivision THE SIERRA BROOKS UNIT NO. 2-A, in portions of Sections 19, 20, 29 and 30, Township 2 North, Range 16 East, M.D.M., Sierra County, California, made by Paul E. Simpson in the year 1960, which Map was filed in the Office of the County Recorder of Sierra County, California, on the 29th day of October, 1971, in Book 3, Page 90, Maps and Surveys.

Section 30: East half of Southeast quarter;
part of 16-110-21 Southeast quarter of Northeast quarter; and
South half of Northeast quarter of Northeast quarter.

EXCEPTING THEREFROM: All that portion thereof lying within the exterior boundaries of the Subdivision THE SIERRA BROOKS UNIT NO. 2-A, in portions of Sections 19, 20, 29 and 30, Township 2 North, Range 16 East, M.D.M., Sierra County, California, made by Paul E. Simpson, in the year 1960, which Map was filed in the Office of the County Recorder of Sierra County, California, on the 29th day of October, 1971, in Book 3, Page 90, Maps and Surveys.

Section 32: West half of Southwest quarter of Southwest quarter;
16-110-12 Northwest quarter;
308.36 ac. North half of Southwest quarter;
Southeast quarter of Southwest quarter;
and East half of Southwest quarter of Southwest quarter.

EXCEPTING FROM PARCEL 2, HEREIN DESCRIBED: All oil, oil rights, mineral rights, natural gas rights, and other hydrocarbons by whatsoever name known, together with all geothermal steam and steam power that may be within or under the parcel of land hereinafter described together with the perpetual right of drilling, mining, exploring and operating therefor and storing in and removing the same from said land, or any other land, including the right to whipstock or directionally drill and mine from lands other than those hereinafter described, oil or gas wells, tunnels and shafts into, through or across the subsurface of the land hereinafter described and to bottom such whipstocked or directionally drilled wells, tunnels and shafts under and beneath or beyond the exterior limits thereof, and to redrill, retunnel, equip, maintain, repair, deepen and operate any such wells or mines, TOGETHER WITH the right to drill, mine, store, explore and operate through or on, and utilize, all or any portion of the surface and subsurface of the land, as contained in Quitclaim Deed from Occidental Land, Inc., a California corporation, to Eastwood Minerals and Energy Company, a California corporation, dated July 12, 1974, recorded July 22, 1974, in Book 62, Page 30, Official Records, in the Office of the County Recorder of Sierra County, California.

CERTIFICATE OF ACCEPTANCE

THIS IS TO CERTIFY that the interest in real property conveyed by the deed or grant, dated August 18, 1987 from Occidental Land Inc. to the STATE OF CALIFORNIA, is hereby accepted by the undersigned officer on behalf of the State of California, pursuant to authority conferred by authorization of the Wildlife Conservation Board, Department of Fish and Game, Resources Agency, State of California, adopted on May 20, 1987, and the grantee consents to the recordation thereof by its duly authorized officer.

STATE OF CALIFORNIA
Resources Agency
Department of Fish and Game
By: W. John Schmidt
W. John Schmidt
Executive Officer
Wildlife Conservation Board

Date: September 11, 1987

TR 87-168-A





Policy of Title Insurance

SUBJECT TO SCHEDULE B AND THE CONDITIONS AND STIPULATIONS HEREOF, TICOR TITLE INSURANCE COMPANY OF CALIFORNIA, a California corporation, herein called the Company, insures the insured, as of Date of Policy shown in Schedule A, against loss or damage, not exceeding the amount of insurance stated in Schedule A, and costs, attorneys' fees and expenses which the Company may become obligated to pay hereunder, sustained or incurred by said insured by reason of:

1. Title to the estate or interest described in Schedule A being vested other than as stated therein;
2. Any defect in or lien or encumbrance on such title;
3. Unmarketability of such title; or
4. Any lack of the ordinary right of an abutting owner for access to at least one physically open street or highway if the land, in fact, abuts upon one or more such streets or highways;

and in addition, as to an insured lender only;

5. Invalidity of the lien of the insured mortgage upon said estate or interest except to the extent that such invalidity, or claim thereof, arises out of the transaction evidenced by the insured mortgage and is based upon

- a. usury, or
- b. any consumer credit protection or truth in lending law;

6. Priority of any lien or encumbrance over the lien of the insured mortgage, said mortgage being shown in Schedule B in the order of its priority; or

7. Invalidity of any assignment of the insured mortgage, provided such assignment is shown in Schedule B.

This policy shall not be valid or binding until countersigned below by a validating signatory of the Company.

TICOR TITLE INSURANCE COMPANY OF CALIFORNIA

By  President

Attest  Secretary

Countersigned:

By _____

Validating Signatory

Schedule B Part I

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.

Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.

2. Any facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.

3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.

4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.

5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the public records.

6. Any right, title, interest, estate or easement in land beyond the lines of the area specifically described or referred to in Schedule C, or in abutting streets, roads, avenues, alleys, lanes, ways or waterways, but nothing in this paragraph shall modify or limit the extent to which the ordinary right of an abutting owner for access to a physically open street or highway is insured by this policy.

7. Any law, ordinance or governmental regulation (including but not limited to building and zoning ordinances) restricting or regulating or prohibiting the occupancy, use or enjoyment of the land, or regulating the character, dimensions or location of any improvement now or hereafter erected on the land, or prohibiting a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part, whether or not shown by the public records at Date of Policy, or the effect of any violation of any such law, ordinance or governmental regulation, whether or not shown by the public records at Date of Policy.

8. Rights of eminent domain or governmental rights of police power unless notice of the exercise of such rights appears in the public records.

9. Defects, liens, encumbrances, adverse claims, or other matters (a) whether or not shown by the public records at Date of Policy, but created, caused, suffered, assumed or agreed to by the insured claimant; (b) not shown by the public records and not otherwise excluded from coverage but known to the insured claimant either at Date of Policy or at the date such claimant acquired an estate or interest insured by this policy or acquired the insured mortgage and not disclosed in writing by the insured claimant to the Company prior to the date such insured claimant became an insured hereunder; (c) resulting in no loss or damage to the insured claimant; (d) attaching or created subsequent to Date of Policy; or (e) resulting in loss or damage which would not have been sustained if the insured claimant had been a purchaser or encumbrancer for value without knowledge.

10. Any facts, rights, interests or claims which are not shown by the public records but which could be ascertained by making inquiry of the lessors in the lease or leases described or referred in Schedule A.

11. The effect of any failure to comply with the terms, covenants and conditions of the lease or leases described or referred to in Schedule A.

Conditions and Stipulations

1. Definition of Terms

The following terms when used in this policy mean:

(a.) "insured": the insured named in Schedule A, and, subject to any rights or defenses the Company may have had against the named insured, those who succeed to the interest of such insured by operation of law as distinguished from purchase including, but not limited to, heirs, distributees, devisees, survivors, personal representatives, next of kin, or corporate or fiduciary successors. The term "insured" also includes (i) the owner of the indebtedness secured by the insured mortgage and each successor in ownership of such indebtedness (reserving, however, all rights and defenses as to any such successor who acquires the indebtedness by operation of law as described in the first sentence of this subparagraph (a) that the Company would have had against the successor's transferor), and further includes (ii) any governmental agency or instrumentality which is an insurer or guarantor under an insurance contract or guaranty insuring or guaranteeing said indebtedness, or any part thereof, whether named as an insured herein or not, and (iii) the parties designated in paragraph 2(a) of

these Conditions and Stipulations.

(b.) "insured claimant": an insured claiming loss or damage hereunder.

(c.) "insured lender": the owner of an insured mortgage.

(d.) "insured mortgage": a mortgage shown in Schedule B, the owner of which is named as an insured in Schedule A.

(e.) "knowledge": actual knowledge, not constructive knowledge or notice which may be imputed to an insured by reason of any public records.

(f.) "land": the land described specifically or by reference in Schedule C, and improvements affixed thereto which by law constitute real property; provided, however, the term "land" does not include any area excluded by Paragraph No. 6 of Part I of Schedule B of this Policy.

(g.) "mortgage": mortgage, deed of trust, trust deed, or other security instrument.

(h.) "public records": those records which by law impart constructive notice of matters relating to the land.

Schedule A
Agent's Order No.:
S-84832

Number	Amount of Insurance	Date of Policy	Premium
J05 054191	\$ 500,000.00	9/30/87 @ 10:35 A.M.	\$ 1,450.00

1. Name of Insured:

THE STATE OF CALIFORNIA

2. The estate or interest referred to herein is at Date of Policy vested in:

THE STATE OF CALIFORNIA

3. The estate or interest in the land described in Schedule C and which is covered by this policy is a fee.

Schedule B

This policy does not insure against loss or damage, nor against costs, attorneys' fees or expenses, any or all of which arise by reason of the following:

Part I

All matters set forth in paragraphs numbered 1 (one) to 11 (eleven) inclusive on the inside cover sheet of this policy under the heading of Schedule B Part I.

Part II

1. All public improvements of Sierra Brooks Property Owner's Association.
2. Rights of the public in and to so much of the herein described land as lies within the boundaries of any public highway or road.
3. Any easements for diverting, conducting, or storing water or for incidental purposes affecting the realty herein described, as may be indicated by Judgment and Decree, State of California, Division of Water Resources, to F. E. Humphrey, Jr., et al, dated January 19, 1940, entered in the Superior Court of the State of California, in and for the County of Plumas, Case No. 3095, entitled: "In the Matter of the Determination of the Rights of the Various Claimants to the Water of that portion of Middle Fork of Feather River and its tributaries situate above Beckwith in Plumas County and being within Sierra and Plumas Counties, California," recorded February 1, 1940, in Book 39 of Deeds at page 1, Sierra County Records.
4. An easement affecting the portion of said land and for the purposes stated herein, and incidental purposes,
In Favor Of: United States of America
For : a road
Recorded : April 16, 1959, in Book 22, Page 99, Official Records.
Affects : along the existing Bear Valley Road across the West half of Section 32, Township 21 North, Range 16 East.
5. An easement affecting the portion of said land and for the purposes stated herein, and incidental purposes,
In Favor Of: Sierra Pacific Power Company, a corporation
For : an electric power line
Recorded : October 16, 1970, in Book 51, Page 659, Official Records.
6. Agreement respecting water facilities and service for The Sierra Brooks Subdivision by and between
Parties : Sierra County Service Area No. 4, a County Service Area (the Service Area), Occidental Petroleum Land and Development Corporation, a California corporation (Occidental)
For : water, water service and water system
Recorded: May 10, 1971, in Book 53, Page 17, Official Records
Affects : the realty herein described (no Exhibit "A" attached).

Schedule B (Continued)

7. Covenants, conditions and restrictions in the declaration of restrictions

Executed By: Occidental Petroleum Land and Development Corporation, a corporation

Recorded : May 27, 1971, in Book 53, Page 107, Official Records.

Amendment of covenants, conditions and restrictions in instrument

Executed By: Occidental Land, Inc., a corporation

Recorded : July 7, 1975, in Book 65, Page 413, Official Records.

Schedule C

The land referred to herein is described as follows:

All that real property situate in the unincorporated area of the County of Sierra, State of California, described as follows:

PARCEL 1:

All of Section 33, Township 21 North, Range 16 East, M.D.M., lying Easterly of the Easterly line of Smithneck Road, as said centerline is shown on that certain Record of Survey filed in Book 3 of Maps and Surveys, Page 68, according to the Official Plat thereof.

EXCEPTING THEREFROM all oil, oil rights, mineral rights, natural gas rights, and other hydrocarbons by whatsoever name known, together with all geothermal steam and steam power that may be within or under the parcel of land hereinafter described together with the perpetual right of drilling, mining, exploring and operating therefor and storing in and removing the same from said land, or any other land, including the right to whipstock or directionally drill and mine from lands other than those hereinafter described, oil or gas wells, tunnels and shafts into, through or across the subsurface of the land hereinafter described and to bottom such whipstocked or directionally drilled wells, tunnels and shafts under and beneath or beyond the exterior limits thereof, and to redrill, retunnel, equip, maintain, repair, deepen and operate any such wells or mines, TOGETHER WITH the right to drill, mine, store, explore and operate through or on, and utilize all or any portion of the surface and subsurface of the land, as contained in Quitclaim Deed from Occidental Land, Inc., a California corporation to Eastwood Minerals and Energy Company, a California corporation, dated July 12, 1974, recorded July 22, 1974, in Book 62, Page 30, Official Records, in the Office of the County Recorder of Sierra County, California.

ALSO EXCEPTING THEREFROM all that portion, if any, lying within the exterior boundaries of THE SIERRA BROOKS UNIT NO. 1, in portion of Sections 29, 32 and 33, Township 21 North, Range 16 East, M.D.M., Sierra County, California, filed in the Office of the County Recorder of Sierra County, California, on May 27, 1971, in Book 3, Page 76 of Maps.

PARCEL 2:

Township 21 North, Range 16 East, M.D.M.

Section 29: Northeast quarter of Northwest quarter;
West half of West half; Southeast quarter of the
Southwest quarter; and the East half.

EXCEPTING FROM the West half of the West half: All that portion thereof lying within the parcel of land described in the Deed dated April 2, 1971, recorded May 27, 1971, in Book 53, Page 99, Official Records, to Sierra Pacific Power Company, a corporation.

ALSO EXCEPTING THEREFROM: All that portion thereof lying within the exterior boundaries of the Subdivision THE SIERRA BROOKS UNIT NO. 2-A, in portions of Sections 19, 20, 29 and 30, Township 2 North, Range 16 East, M.D.M., Sierra County, California, made by Paul E. Simpson in the year 1960, which Map was filed in the Office of the County Recorder of Sierra County, California, on the 29th day of October, 1971, in Book 3, Page 90, Maps and Surveys.

Section 30: East half of Southeast quarter;
Southeast quarter of Northeast quarter; and
South half of Northeast quarter of Northeast quarter.

EXCEPTING THEREFROM: All that portion thereof lying within the exterior boundaries of the Subdivision THE SIERRA BROOKS UNIT NO. 2-A, in portions of Sections 19, 20, 29 and 30, Township 2 North, Range 16 East, M.D.M., Sierra County, California, made by Paul E. Simpson, in the year 1960, which Map was filed in the Office of the County Recorder of Sierra County, California, on the 29th day of October, 1971, in Book 3, Page 90, Maps and Surveys.

Section 32: West half of Southwest quarter of Southwest quarter;
Northwest quarter;
North half of Southwest quarter;
Southeast quarter of Southwest quarter;
and East half of Southwest quarter of Southwest quarter.

EXCEPTING FROM PARCEL 2, HEREIN DESCRIBED: All oil, oil rights, mineral rights, natural gas rights, and other hydrocarbons by whatsoever name known, together with all geothermal steam and steam power that may be within or under the parcel of land hereinafter described together with the perpetual right of drilling, mining, exploring and operating therefor and storing in and removing the same from said land, or any other land, including the right to whipstock or directionally drill and mine from lands other than those hereinafter described, oil or gas wells, tunnels and shafts into, through or across the subsurface of the land hereinafter described and to bottom such whipstocked or directionally drilled wells, tunnels and shafts under and beneath or beyond the exterior limits thereof, and to redrill, retunnel, equip, maintain, repair, deepen and operate any such wells or mines, TOGETHER WITH the right to drill, mine, store, explore and operate through or on, and utilize, all or any portion of the surface and subsurface of the land, as contained in Quitclaim Deed from Occidental Land, Inc., a California corporation, to Eastwood Minerals and Energy Company, a California corporation, dated July 12, 1974, recorded July 22, 1974, in Book 62, Page 30, Official Records, in the Office of the County Recorder of Sierra County, California.

2. (a.) Continuation of Insurance after Acquisition of Title by Insured Lender

If this policy insures the owner of the indebtedness secured by the insured mortgage, this policy shall continue in force as of Date of Policy in favor of such insured who acquires all or any part of said estate or interest in the land described in Schedule C by foreclosure, trustee's sale, conveyance in lieu of foreclosure, or other legal manner which discharges the lien of the insured mortgage, and if such insured is a corporation, its transferee of the estate or interest so acquired, provided the transferee is the parent or wholly owned subsidiary of such insured; and in favor of any governmental agency or instrumentality which acquires all or any part of the estate or interest pursuant to a contract of insurance or guaranty insuring or guaranteeing the indebtedness secured by the insured mortgage. After any such acquisition the amount of insurance hereunder, exclusive of costs, attorneys' fees and expenses which the Company may be obligated to pay, shall not exceed the least of:

- (i) the amount of insurance stated in Schedule A;
- (ii) the amount of the unpaid principal of the indebtedness plus interest thereon, as determined under paragraph 6(a) (iii) hereof, expenses of foreclosure and amounts advanced to protect the lien of the insured mortgage and secured by said insured mortgage at the time of acquisition of such estate or interest in the land; or (iii) the amount paid by any governmental agency or instrumentality, if such agency or instrumentality is the insured claimant, in acquisition of such estate or interest in satisfaction of its insurance contract or guaranty.

(b.) Continuation of Insurance After Conveyance of Title

The coverage of this policy shall continue in force as of Date of Policy, in favor of an insured so long as such insured retains an estate or interest in the land, or owns an indebtedness secured by a purchase money mortgage given by a purchaser from such insured, or so long as such insured shall have liability by reason of covenants of warranty made by such insured in any transfer or conveyance of such estate or interest; provided, however, this policy shall not continue in force in favor of any purchaser from such insured of either said estate or interest or the indebtedness secured by a purchase money mortgage given to such insured.

3. Defense and Prosecution of Actions—Notice of Claim to be Given by an Insured Claimant

(a.) The Company, at its own cost and without undue delay, shall provide for the defense of an insured in litigation to the extent that such litigation involves an alleged defect, lien, encumbrance or other matter insured against by this policy.

(b.) The insured shall notify the Company promptly in writing (i) in case of any litigation as set forth in (a) above, (ii) in case knowledge shall come to an insured hereunder of any claim of title or interest which is adverse to the title to the estate or interest or the lien of the insured mortgage, as insured, and which might cause loss or damage for which the Company may be liable by virtue of this policy, or (iii) if title to the estate or interest or the lien of the insured mortgage, as insured, is rejected as unmarketable. If such prompt notice shall not be given to the Company, then as to such insured all liability of the Company shall cease and terminate in regard to the matter or matters for which such prompt notice is required; provided, however, that failure to notify shall in no case prejudice the rights of any such insured under this policy unless the Company shall be prejudiced by such failure and then only to the extent of such prejudice.

(c.) The Company shall have the right at its own cost to institute and without undue delay prosecute any action or proceeding or to do any other act which in its opinion may be necessary or desirable to establish the title to the estate or interest or the lien of the insured mortgage, as insured; and the Company may take any appropriate action, whether or not it shall be liable under the terms of this policy, and shall not thereby concede liability or waive any provision of this policy.

(d.) Whenever the Company shall have brought any action or interposed a defense as required or permitted by the provisions of this policy, the Company may pursue any such litigation to final determination by a court of competent jurisdiction and expressly reserves the right, in its sole discretion, to appeal from any adverse judgment or order.

(e.) In all cases where this policy permits or requires the Company to prosecute or provide for the defense of any action or proceeding, the insured hereunder shall secure to the Company the right to so prosecute or provide defense in such action or proceeding, and all appeals therein, and permit the Company to use, at its option, the name of such insured for such purpose. Whenever requested by the Company, such insured shall give the Company, at the Company's expense, all reasonable aid (1) in any such action or proceeding in effecting settlement, securing evidence, obtaining

witnesses, or prosecuting or defending such action or proceeding, and (2) in any other act which in the opinion of the Company may be necessary or desirable to establish the title to the estate or interest or the lien of the insured mortgage, as insured, including but not limited to executing corrective or other documents.

4. Proof of Loss or Damage—Limitation of Action

In addition to the notices required under Paragraph 3(b) of these Conditions and Stipulations, a proof of loss or damage, signed and sworn to by the insured claimant shall be furnished to the Company within 90 days after the insured claimant shall ascertain or determine the facts giving rise to such loss or damage. Such proof of loss or damage shall describe the defect in, or lien or encumbrance on the title, or other matter insured against by this policy which constitutes the basis of loss or damage, and, when appropriate, state the basis of calculating the amount of such loss or damage.

Should such proof of loss or damage fail to state facts sufficient to enable the Company to determine its liability hereunder, insured claimant, at the written request of the Company, shall furnish such additional information as may reasonably be necessary to make such determination.

No right of action shall accrue to insured claimant until 30 days after such proof of loss or damage shall have been furnished. Failure to furnish such proof of loss or damage shall terminate any liability of the Company under this policy as to such loss or damage.

5. Options to Pay or Otherwise Settle Claims and Options to Purchase Indebtedness

The Company shall have the option to pay or otherwise settle for or in the name of an insured claimant any claim insured against, or to terminate all liability and obligations of the Company hereunder by paying or tendering payment of the amount of insurance under this policy together with any costs, attorneys' fees and expenses incurred up to the time of such payment or tender of payment by the insured claimant and authorized by the Company. In case loss or damage is claimed under this policy by the owner of the indebtedness secured by the insured mortgage, the Company shall have the further option to purchase such indebtedness for the amount owing thereon together with all costs, attorneys' fees and expenses which the Company is obligated hereunder to pay. If the Company offers to purchase said indebtedness as herein provided, the owner of such indebtedness shall transfer and assign said indebtedness and the mortgage and any collateral securing the same to the Company upon payment therefor as herein provided. Upon such offer being made by the Company, all liability and obligations of the Company hereunder to the owner of the indebtedness secured by said insured mortgage, other than the obligation to purchase said indebtedness pursuant to this paragraph, are terminated.

6. Determination and Payment of Loss

(a.) The liability of the Company under this policy shall in no case exceed the least of:

- (i) the actual loss of the insured claimant; or
- (ii) the amount of insurance stated in Schedule A, or, if applicable, the amount of insurance as defined in paragraph 2(a) hereof; or
- (iii) if this policy insures the owner of the indebtedness secured by the insured mortgage, and provided said owner is the insured claimant, the amount of the unpaid principal of said indebtedness, plus interest thereon, provided such amount shall not include any additional principal indebtedness created subsequent to Date of Policy, except as to amounts advanced to protect the lien of the insured mortgage and secured thereby.

(b.) The Company will pay, in addition to any loss insured against by this policy, all costs imposed upon an insured in litigation carried on by the Company for such insured, and all costs, attorneys' fees and expenses in litigation carried on by such insured with the written authorization of the Company.

(c.) When the amount of loss or damage has been definitely fixed in accordance with the conditions of this policy, the loss or damage shall be payable within 30 days thereafter.

7. Limitation of Liability

No claim shall arise or be maintainable under this policy (a) if the Company, after having received notice of an alleged defect, lien or encumbrance insured against hereunder, by litigation or otherwise, removes such defect, lien or encumbrance or establishes the title, or the lien of the insured mortgage, as insured, within a reasonable time after receipt of such notice; (b) in the event of litigation until there has been a final determination by a court of competent jurisdiction, and disposition of all appeals therefrom, adverse to the title or to the lien of the insured mortgage, as insured, as provided in paragraph 3 hereof; or (c) for liability voluntarily admitted or assumed by an insured without prior written consent of the Company.

8. Reduction of Insurance; Termination of Liability

All payments under this policy, except payment made for costs, attorneys' fees and expenses, shall reduce the amount of the insurance pro tanto; provided, however, if the owner of the indebtedness secured by the insured mortgage is an insured hereunder, then such payments, prior to the acquisition of title to said estate or interest as provided in paragraph 2(a) of these Conditions and Stipulations, shall not reduce pro tanto the amount of the insurance afforded hereunder as to any such insured, except to the extent that such payments reduce the amount of the indebtedness secured by such mortgage.

Payment in full by any person or voluntary satisfaction or release of the insured mortgage shall terminate all liability of the Company to an insured owner of the indebtedness secured by the insured mortgage, except as provided in paragraph 2(a) hereof.

9. Liability Noncumulative

It is expressly understood that the amount of insurance under this policy as to the insured owner of the estate or interest covered by this policy, shall be reduced by any amount the Company may pay under any policy insuring (a) a mortgage shown or referred to in Schedule B hereof which is a lien on the estate or interest covered by this policy, or (b) a mortgage hereafter executed by an insured which is a charge or lien on the estate or interest described or referred to in Schedule A, and the amount so paid shall be deemed a payment under this policy. The Company shall have the option to apply to the payment of any such mortgage any amount that otherwise would be payable hereunder to the insured owner of the estate or interest covered by this policy and the amount so paid shall be deemed a payment under this policy to said insured owner.

The provisions of this paragraph 9 shall not apply to an owner of the indebtedness secured by the insured mortgage, unless such insured acquires title to said estate or interest in satisfaction of said indebtedness or any part thereof.

10. Subrogation Upon Payment or Settlement

Whenever the Company shall have paid or settled a claim under this policy, all right of subrogation shall vest in the Company unaffected by any act of the insured claimant, except that the owner of the indebtedness secured by the insured mortgage may release or substitute the personal liability of any debtor or guarantor, or extend or otherwise modify the terms of payment, or release a portion of the estate or interest from the lien of the insured mortgage, or release any collateral security for the indebtedness, provided such act occurs prior to receipt by such insured of notice of any

claim of title or interest adverse to the title to the estate or interest or the priority of the lien of the insured mortgage and does not result in any loss of priority of the lien of the insured mortgage. The Company shall be subrogated to and be entitled to all rights and remedies which such insured claimant would have had against any person or property in respect to such claim had this policy not been issued, and the Company is hereby authorized and empowered to sue, compromise or settle in its name or in the name of the insured to the full extent of the loss sustained by the Company. If requested by the Company, the insured shall execute any and all documents to evidence the within subrogation. If the payment does not cover the loss of such insured claimant, the Company shall be subrogated to such rights and remedies in the proportion which said payment bears to the amount of said loss, but such subrogation shall be in subordination to an insured mortgage. If loss should result from any act of such insured claimant, such act shall not void this policy, but the Company, in that event, shall as to such insured claimant be required to pay only that part of any losses insured against hereunder which shall exceed the amount, if any, lost to the Company by reason of the impairment of the right of subrogation.

11. Liability Limited to this Policy

This instrument together with all endorsements and other instruments, if any, attached hereto by the Company is the entire policy and contract between the insured and the Company. Any claim of loss or damage, whether or not based on negligence, and which arises out of the status of the lien of the insured mortgage or of the title to the estate or interest covered hereby, or any action asserting such claim, shall be restricted to the provisions and Conditions and Stipulations of this policy.

No amendment of or endorsement to this policy can be made except by writing endorsed hereon or attached hereto signed by either the President, a Vice President, the Secretary, an Assistant Secretary, or validating officer or authorized signatory of the Company.

No payment shall be made without producing this policy for endorsement of such payment unless the policy be lost or destroyed, in which case proof of such loss or destruction shall be furnished to the satisfaction of the Company.

12. Notices, Where Sent

All notices required to be given the Company and any statement in writing required to be furnished the Company shall include the number of this policy and shall be addressed to it at the office which issued this policy or to its Principal Office, 6300 Wilshire Boulevard, P.O. Box 92792, Los Angeles, California 90009.



**TICOR
TITLE**



Ticor Title Insurance Company of California

6300 Wilshire Boulevard
P.O. Box 92792
Los Angeles, CA 90009
(213) 852-6000

Department of Fish and Game
Property Inventory Form

Property #: 00216

Parcel History #: 820547

Property Name: ANTELOPE VALLEY WA Region: 2
 Property AKA: MA Code: SFGWAANTE1 Area Class: WA
 County: 46 SIERRA Multiple Counties: No Other Counties:
 Property Purpose: 15 DEER WINTER RANGE Summary Purpose: 09 DEER HABITAT
 Management Plan: Yes Plan Date: 10/1/1992 Type of Plan: DRAFT
 Location of Property: 4 MILES SOUTHWEST OF LOYALTON

Grantor: NEVIS INDUSTRIES, INC. Transaction Date: 9/19/1980
 Manner Acquired: 0200 COGD Title Insurance: Yes Control #: 46A WA 801030 40000
 [1] State Fund: 447 WRF [2] State Fund: 742 SUCP Multiple State Fund: Yes
 [1] Federal Fund: LWCF [2] Federal Fund: O and M Fund:
 Parcel Name: PHASE II
 Parcel Location: TV HILL; ANTELOPE VALLEY SOUTH & EAST OF PALEN RESERVOIR
 Parcel Access: ANTELOPE VALLEY ROAD SOUTH OF HWY 49

Topographic (Quad) Name: ANTELOPE VALLEY, SIERRAVILLE, LOYALTON, SARDINE PEAK
 Topographic Map: Yes Orthophoto Map: No Access Map (Arcview): No SNA: No SNA #:
 Acquisition Proposal: No Mitigation: No Permit Type:
 [1] HCPB Mitigation #: [2] HCPB Mitigation #: [3] HCPB Mitigation #:
 [1] PCA #: [2] PCA #: [3] PCA #: NCCP: No
 [1] Purpose: 15 DEER WINTER RANGE [2] Purpose:
 Summary Purpose: 09 DEER HABITAT Date Digitized: 3/14/1994 Title 14 Desig. Date: 8/29/1980
 Property Mgmt: DFG-2 Mgmt Agrmnt Effective Date: Lease Effective Date:
 Mgmt Agrmnt Expiration Date: Lease Expiration Date: Term: In-Lieu Fee Date: 10/30/1980
 Handicap Access: No Water Rights: Mineral Rights: Y Timber Rights: N
 Easements:

Improvements:

Comments: WINTER RANGE FOR THE SIERRA VALLEY SUB-UNIT OF THE LOYALTON-TRUCKEE DEER HERD.

State Land Cost:	\$401,650.76	WCB Improvement Cost:	Federal Cost:	\$202,349.24
Acquisition Cost:	\$9,261.53	Donation/Mitigation Value:	Other Cost:	
State Improvement Cost:	\$0.00	City/County Cost:	In-Lieu Fees:	\$924.13
Total State Cost:	\$410,912.29	Taxes:		\$0.00

County: 46 SIERRA City Code: TR #: 2-903
 Recorded Date: 10/30/1980 Book: 88 Page: 681 Document #: 72065

Comments:

Parcel Characteristic: 1000 Original Acreage: 2,400.00 Current Acreage: 2,400.00

Department of Fish and Game
Property Inventory Form

Property #: 00216

Parcel History #: 820547

APN: 00016-0050-0017	Meridian: MDBM	Township: 21N	Range: 15E	Section: 28
APN: 00016-0050-0026	Meridian: MDBM	Township: 21N	Range: 15E	Section: 28
APN: 00016-0050-0026	Meridian: MDBM	Township: 21N	Range: 15E	Section: 33
APN: 00016-0060-0018	Meridian: MDBM	Township: 21N	Range: 15E	Section: 26
APN: 00016-0060-0021	Meridian: MDBM	Township: 21N	Range: 15E	Section: 22
APN: 00016-0060-0021	Meridian: MDBM	Township: 21N	Range: 15E	Section: 27
APN: 00016-0240-0007	Meridian: MDBM	Township: 21N	Range: 15E	Section: 23
APN: 00016-0240-0007	Meridian: MDBM	Township: 21N	Range: 15E	Section: 24
APN: 00016-0240-0007	Meridian: MDBM	Township: 21N	Range: 15E	Section: 26
APN: 00018-0140-0002	Meridian: MDBM	Township: 21N	Range: 15E	Section: 33
APN: 00018-0140-0004	Meridian: MDBM	Township: 20N	Range: 15E	Section: 04

Last Update: 7/17/2000

- Antelope Valley - Sierra County; acquisition of 2,080 acres in Antelope Valley for preservation of deer winter range. The property is reached by County Road 885, proceeding south from State Highway 49. On 5/2/80 the Board allocated \$535,000 from the 1976 Bond Funds and WRF for the acquisition and related costs. Because it affords hunting and general outdoor recreational opportunities to the public, federal funding under the LWCF program was received. The Department is managing the area.

On 9/18/80 the Board authorized the acquisition of an additional 2,400 acres in Antelope Valley lying generally to the north and west of the previously acquired lands. \$606,000 was allocated from the 1976 Bond Funds and the WRF for acquisition and related costs. Account closed 2/15/83. Board expenditures were \$207,475.31. Federal reimbursement in the amount of \$202,349.24 was received. (E-1)

- Antioch Bridge Fishing Pier - Contra Costa County; conversion of the southerly end of the old Antioch Bridge to a fishing pier, 535' long and 16' wide with a 46' x 25' platform at the outer end. Lights, benches, drinking fountains and trash receptacles were included. \$300,000 was allocated by the Board on 2/7/79 from the WRF and federal funding under the LWCF program was received. On 9/20/79 and 9/2/81, the Board allocated \$92,000 and \$29,431.55 from the WRF, respectively, to accept the low bid received for construction and to cover actual project costs which had escalated due to increases in unit cost and quantity of structural concrete. The East Bay Regional Park District leased the project area to the Department, provided on-shore facilities, and operated and maintained the project.

On 5/30/84 the Board allocated \$15,000 from the WRF to provide for minor modifications to the pier to facilitate angler access to the beach and to provide shore protection at the foot of the pier for protection of both the pier abutment and the adjacent beach area. The O&M agreement with the East Bay Regional Park District was extended for another 25-year term. Account closed 4/10/85. Total expenditure \$14,926.84. (C-4)

- Antioch Fishing Pier - Contra Costa County; construction of a new fishing pier at the foot of H Street in the city of Antioch on a matching fund basis with the City. The pier provides fishing in the San Joaquin River and is a timber structure, approximately 500 feet long and 14 feet wide with public use facilities at the pier approach. City provided a long term free lease of 19+ acres of land. \$40,000 was allocated by the Board on 9/8/65 which was matched by the City of Antioch. Construction of pier completed and dedication held 2/18/67. Project account closed

JCB 45th Yr
Report 1992

DEPARTMENT OF FISH AND GAME
LAND HOLDINGS

COUNTY	ADJACENT CITY	NAME/PURPOSE/USE		
Sierra		ANTELOPE VALLEY DEER WINTER RANGE (Phase II)		
ACREAGE	ACQUISITION COST	FUNDED BY	DEVELOPED/UNDEVELOPED	
2,400 Acres	\$604,000.00*	WCB/Reg. 2 SUCP/Reg. 2 (10-80 PAR)		
MANAGED BY	AREA MANAGER	MANAGEMENT PLAN	TITLE 14 REGULATIONS	
Region 2				
BOUNDARY SURVEYED	FENCED	SIGNED	POSTED	
INSTRUMENT	GRANTOR	INSTRUMENT DATE	FILED	
Grant Deed	Nevis Industries, Inc.	9/19/80		
RECORDATION DATA - DATE / TIME / BOOK / PAGE (S) / DOCUMENT NO. (S)				
10/30/80, 1:22 p.m.; Vol. 88, page 681; #72065				
INSURED BY		POLICY NUMBER	FEE	
Western Title Insurance Co.		S73-413456	\$1,511.00	
MISCELLANEOUS EXPENSES				
AVAILABLE SUPPORTING DOCUMENTATION				
CORRESPONDENCE	NEWS CLIPS	MAPS	AERIAL PHOTOS	GROUND PHOTOS
OTHER:				
ASSESSOR PARCEL NUMBER (S)				
LEGAL DESCRIPTION				
See attached.				
* From Wildlife Restoration Fund.....\$591,026.21				
From State Urban & Coastal Park Fund..... 12,973.79				
Total..... 604,000.00				
Copy to RAO Reg. _____ Date _____				

Recording Requested By

Recording Requested by

Judy Van Natta
DATE 10-20-88 TIME 1:22

WESTERN TITLE INSURANCE COMPANY

VOL. 88 PAGE 621

WHEN RECORDED MAIL TO
DEPARTMENT OF FISH AND GAME
Wildlife Conservation Board
1416 Ninth Street, Room 1206-22
Sacramento, California 95814

GEORGIE M. PETERMAN
COUNTY RECORDER

FEEL 6 DEPUTY *Theresa M. ...*

SPACE ABOVE THIS LINE FOR RECORDER'S USE

57312 KEP/58268 KS No Transfer Tax Due, Government Code section 6103

GRANT DEED
(CORPORATION)

Project Antelope Valley Deer Winter Range

Parcel No. Phase II

NEVIS INDUSTRIES, INC.

a corporation organized and existing under and by virtue of the laws of the State of California,
does hereby GRANT to the STATE OF CALIFORNIA all that real property in the unincorporated,
County of Sierra, State of California, described as:

SEE ATTACHED LEGAL DESCRIPTION

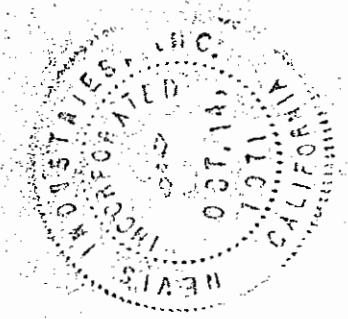
- APN. 16-050-17
- 16-050-25
- 16-060-15
- 16-160-17
- 16-240-07
- 18-140-02
- 18-140-04

ORIGINAL

IN WITNESS WHEREOF, said corporation has caused its corporate name to be hereunto subscribed and its corporate seal to be affixed hereto, this 19th day of September, 1980.

NEVIS INDUSTRIES, INC.
By [Signature] President
By [Signature] Secretary

[CORPORATE SEAL]



STATE OF CALIFORNIA

County of Sutter ss.

On this 19th day of September, 1980, before me, the undersigned, a Notary Public in and for the State of California, personally appeared Thomas E. Nevis,

known to me to be the President, and Samuel A. Nevis

known to me to be the Secretary

STATE OF CALIFORNIA
COUNTY OF YUBA

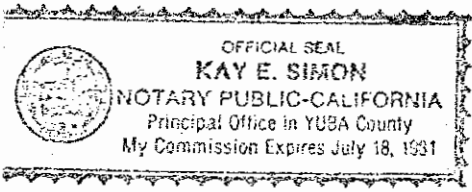
On this 23rd day of September in the year one thousand nine hundred and 80, before me, KAY E. SIMON, a Notary Public, State of California, duly commissioned and sworn, personally appeared THOMAS E. NEVIS and SAMUEL A. NEVIS

known to me to be the President and Secretary of the corporation described in and that executed the within instrument, and also known to me to be the person ^S who executed the within instrument on behalf of the corporation therein named, and acknowledged to me that such corporation executed the same

IN WITNESS WHEREOF I have hereunto set my hand and affixed my official seal in the YUBA County of YUBA the day and year in this certificate first above written.

[Signature]
Notary Public, State of California

My commission expires 7-18-80



This document is only a general form which may be proper for use in simple transactions and in no way acts, or is intended to act, as a substitute for the advice of an attorney. The publisher does not make any warranty, either express or implied, as to the legal validity of any provision or the suitability of these forms in any specific transaction.

Cowdery's Form No. 28 — Acknowledgement Corporation (C. C. Secs. 1190-1190.1)

The land referred to in this report is situated in the State of California, County of Sierra and is described as follows:

PARCEL 1:

In Township 21 North, Range 15 East, Section 28; the Northeast quarter of the Northwest quarter; the Southwest quarter of the Northeast quarter; the Northwest quarter of the Southeast quarter; the South half of the Southeast quarter; the Southeast quarter of the Southwest quarter.

PARCEL 2:

In Township 21 North, Range 15 East, Section 33; the Northeast quarter of the Northwest quarter; the North half of the Northeast quarter; the Southeast quarter of the Northeast quarter; the South half.

PARCEL 3:

In Township 20 North, Range 15 East, Section 4; the Northeast quarter; the North half of the Southeast quarter, the Southeast quarter of the Southeast quarter.

PARCEL 4:

In Township 21 North, Range 15 East, Section 22; the South half of the Southwest quarter.

PARCEL 5:

In Township 21 North, Range 15 East, Section 27; the North half of the Northwest quarter; the East half; the East half of the Southwest quarter; the Southwest quarter of the Southwest quarter.

PARCEL 6:

In Township 21 North, Range 15 East, Section 23; the East half of the Southeast quarter, the Southwest quarter of the Southeast quarter; the Southeast quarter of the Southwest quarter.

PARCEL 7:

In Township 21 North, Range 15 East, Section 24; the West half of the Southeast quarter; the Southwest quarter.

PARCEL 8:

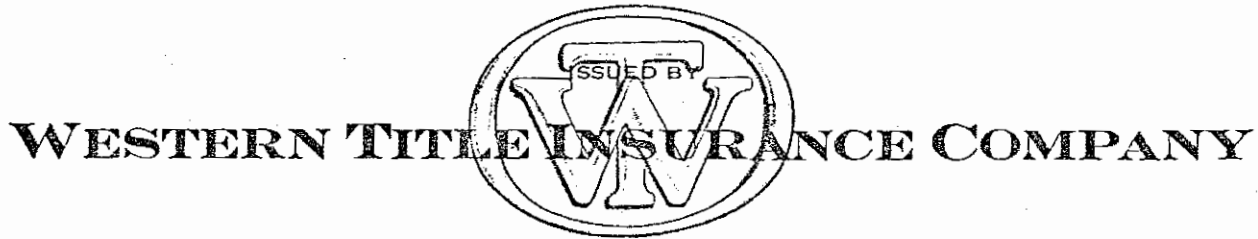
In Township 21 North, Range 15 East, Section 26; the East half of the Northwest quarter; the Northeast quarter; the Southeast quarter.

9j

NEVADA COUNTY
POLICY NUMBER

S73 413456

POLICY OF TITLE INSURANCE



SUBJECT TO SCHEDULE B AND THE CONDITIONS AND STIPULATIONS HEREOF, WESTERN TITLE INSURANCE COMPANY, a California corporation, herein called the Company, insures the insured, as of Date of Policy shown in Schedule A, against loss or damage, not exceeding the amount of insurance stated in Schedule A, and costs, attorneys' fees and expenses which the Company may become obligated to pay hereunder, sustained or incurred by said insured by reason of:

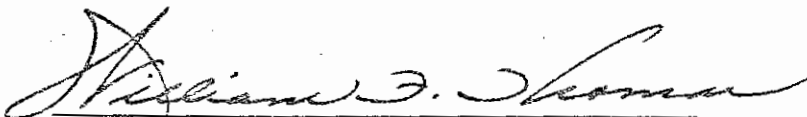
1. Title to the estate or interest described in Schedule A being vested other than as stated therein;
2. Any defect in or lien or encumbrance on such title;
3. Unmarketability of such title; or
4. Any lack of the ordinary right of an abutting owner for access to at least one physically open street or highway if the land, in fact, abuts upon one or more such streets or highways;

and in addition, as to an insured lender only:

5. Invalidity of the lien of the insured mortgage upon said estate or interest except to the extent that such invalidity, or claim thereof, arises out of the transaction evidenced by the insured mortgage and is based upon
 - a. usury, or
 - b. any consumer credit protection or truth in lending law;
6. Priority of any lien or encumbrance over the lien of the insured mortgage, said mortgage being shown in Schedule B in the order of its priority; or
7. Invalidity of any assignment of the insured mortgage, provided such assignment is shown in Schedule B.

IN WITNESS WHEREOF, WESTERN TITLE INSURANCE COMPANY has caused this policy to be signed and sealed by its duly authorized officers as of Date of Policy shown in Schedule A.

Countersigned:


Vice President



CONDITIONS AND STIPULATIONS

1. DEFINITION OF TERMS

The following terms when used in this policy mean:

(a) "insured": the insured named in Schedule A, and subject to any rights or defenses the Company may have had against the named insured, those who succeed to the interest of such insured by operation of law as distinguished from purchase including, but not limited to, heirs, distributees, devisees, survivors, personal representatives, next of kin, or corporate or fiduciary successors. The term "insured" also includes (i) the owner of the indebtedness secured by the insured mortgage and each successor in ownership of such indebtedness (reserving, however, all rights and defenses as to any such successor who acquires the indebtedness by operation of law as described in the first sentence of this sub-paragraph (a) that the company would have had against the successor's transferor), and further includes (ii) any governmental agency or instrumentality which is an insurer or guarantor under an insurance contract or guaranty insuring or guaranteeing said indebtedness, or any part thereof, whether named as an insured herein or not, and (iii) the parties designated in paragraph 2 (a) of these Conditions and Stipulations.

(b) "insured claimant": an insured claiming loss or damage hereunder.

(c) "insured lender": the owner of an insured mortgage.

(d) "insured mortgage": a mortgage shown in Schedule B, the owner of which is named as an insured in Schedule A.

(e) "knowledge": actual knowledge, not constructive knowledge or notice which may be imputed to an insured by reason of any public records.

(f) "land": the land described, specifically or by reference in Schedule C, and improvements affixed thereto which by law constitute real property; provided, however, the term "land" does not include any area excluded by Paragraph No. 6 of Part One of Schedule B of this Policy.

(g) "mortgage": mortgage, deed of trust, trust deed, or other security instrument.

(h) "public records": those records which by law impart constructive notice of matters relating to the land.

2(a). CONTINUATION OF INSURANCE AFTER ACQUISITION OF TITLE BY INSURED LENDER

If this policy insures the owner of the indebtedness secured by the insured mortgage, this policy shall continue in force as of Date of Policy in favor of such insured who acquires all or any part of the estate or interest in the land described in Schedule C by foreclosure, trustee's sale, conveyance in lieu of foreclosure, or other legal manner which discharges the lien of the insured mortgage, and if such insured is a corporation, its transferee of the estate or interest so acquired, provided the transferee is the parent or wholly owned subsidiary of such insured; and in favor of any governmental agency or instrumentality which acquires all or any part of the estate or interest pursuant to a contract of insurance or guaranty insuring or guaranteeing the indebtedness secured by the insured mortgage. After any such acquisition the amount of insurance hereunder, exclusive of costs, attorneys' fees and expenses which the Company may be obligated to pay, shall not exceed the least of:

- the amount of insurance stated in Schedule A;
- the amount of the unpaid principal of the indebtedness plus interest thereon, as determined under paragraph 6 (a) (iii) hereof, expenses of foreclosure and amounts advanced to protect the lien of the insured mortgage and secured by said insured mortgage at the time of acquisition of such estate or interest in the land; or
- the amount paid by any governmental agency or instrumentality, if such agency or instrumentality is the insured claimant, in acquisition of such estate or interest in satisfaction of its insurance contract or guaranty.

(b). CONTINUATION OF INSURANCE AFTER CONVEYANCE OF TITLE

The coverage of this policy shall continue in force as of Date of Policy, in favor of an insured so long as such insured retains an estate or interest in the land, or owns an indebtedness secured by a purchase money mortgage given by a purchaser from such insured, or so long as such insured shall have liability by reason of covenants of warranty made by such insured in any transfer or conveyance of such estate or interest; provided, however, this policy shall not continue in force in favor of any purchaser from such insured of either said estate or interest or the indebtedness secured by a purchase money mortgage given to such insured.

3. DEFENSE AND PROSECUTION OF ACTIONS - NOTICE OF CLAIM TO BE GIVEN BY AN INSURED CLAIMANT

(a) The Company, at its own cost and without undue delay, shall provide for the defense of an insured in litigation to the extent that such litigation involves an alleged defect, lien, encumbrance or other matter insured against by this policy.

(b) The insured shall notify the Company promptly in writing (i) in case of any litigation as set forth in (a) above, (ii) in case knowledge shall come to an insured hereunder of any claim of title or interest which is adverse to the title to the estate or interest or the lien of the insured mortgage, as insured, and which might cause loss or damage for which the Company may be liable by virtue of this policy, or (iii) if title to the estate or interest or the lien of the insured mortgage, as insured, is rejected as unmarketable. If such prompt notice shall not be given to the Company, then as to such insured all liability of the Company shall cease and terminate in regard to the matter or matters for which such prompt notice is required; provided, however, that failure to notify shall in no case prejudice the rights of any such insured under this policy unless the Company shall be prejudiced by such failure and then only to the extent of such prejudice.

(c) The Company shall have the right at its own cost to institute and without undue delay prosecute any action

proceeding or to do any other act which in its opinion may be necessary or desirable to establish the title to the estate or interest or the lien of the insured mortgage, as insured; and the Company may take any appropriate action, whether or not it shall be liable under the terms of this policy, and shall not thereby concede liability or waive any provision of this policy.

(d) Whenever the Company shall have brought any action or interposed a defense as required or permitted by the provisions of this policy, the Company may pursue any such litigation to final determination by a court of competent jurisdiction and expressly reserves the right, in its sole discretion, to appeal from any adverse judgment or order.

(e) In all cases where this policy permits or requires the Company to prosecute or provide for the defense of any action or proceeding, the insured hereunder shall secure to the Company the right to so prosecute or provide defense in such action or proceeding, and all appeals therein, and permit the Company to use, at its option, the name of such insured for such purpose. Whenever requested by the Company, such insured shall give the Company, at the Company's expense, all reasonable aid (1) in any such action or proceeding in effecting settlement, securing evidence, obtaining witnesses, or prosecuting or defending such action or proceeding, and (2) in any other act which in the opinion of the Company may be necessary or desirable to establish the title to the estate or interest or the lien of the insured mortgage, as insured, including but not limited to executing corrective or other documents.

4. PROOF OF LOSS OR DAMAGE - LIMITATION OF ACTION

In addition to the notices required under Paragraph 3 (b) of these Conditions and Stipulations, a proof of loss or damage, signed and sworn to by the insured claimant shall be furnished to the Company within 90 days after the insured claimant shall ascertain or determine the facts giving rise to such loss or damage. Such proof of loss or damage shall describe the defect in, or lien or encumbrance on the title, or other matter insured against by this policy which constitutes the basis of loss or damage, and, when appropriate, state the basis of calculating the amount of such loss or damage.

Should such proof of loss or damage fail to state facts sufficient to enable the Company to determine its liability hereunder, insured claimant, at the written request of Company, shall furnish such additional information as may reasonably be necessary to make such determination.

No right of action shall accrue to insured claimant until 30 days after such proof of loss or damage shall have been furnished.

Failure to furnish such proof of loss or damage shall terminate any liability of the Company under this policy as to such loss or damage.

5. OPTIONS TO PAY OR OTHERWISE SETTLE CLAIMS AND OPTIONS TO PURCHASE INDEBTEDNESS

The Company shall have the option to pay or otherwise settle for or in the name of an insured claimant any claim insured against, or to terminate all liability and obligations of the Company hereunder by paying or tendering payment of the amount of insurance under this policy together with any costs, attorneys' fees and expenses incurred up to the time of such payment or tender of payment by the insured claimant and authorized by the Company. In case loss or damage is claimed under this policy by the owner of the indebtedness secured by the insured mortgage, the Company shall have the further option to purchase such indebtedness for the amount owing thereon together with all costs, attorneys' fees and expenses which the Company is obligated hereunder to pay. If the Company offers to purchase said indebtedness as herein provided, the owner of such indebtedness shall transfer and assign said indebtedness and the mortgage and any collateral securing the same to the Company upon payment thereof as herein provided. Upon such offer being made by the Company, all liability and obligations of the Company hereunder to the owner of the indebtedness secured by said insured mortgage, other than the obligation to purchase said indebtedness pursuant to this paragraph, are terminated.

6. DETERMINATION AND PAYMENT OF LOSS

(a) The liability of the Company under this policy shall in no case exceed the least of:

- the actual loss of the insured claimant; or
- the amount of insurance stated in Schedule A, or, if applicable, the amount of insurance as defined in paragraph 2 (a) hereof; or
- if this policy insures the owner of the indebtedness secured by the insured mortgage, and provided said owner is the insured claimant, the amount of the unpaid principal of said indebtedness, plus interest thereon, provided such amount shall not include any additional principal indebtedness created subsequent to Date of Policy, except as to amounts advanced to protect the lien of the insured mortgage and secured thereby.

(b) The Company will pay, in addition to any loss insured against by this policy, all costs imposed upon an insured in litigation carried on by the Company for such insured, and all costs, attorneys' fees and expenses in litigation carried on by such insured with the written authorization of the Company.

(c) When the amount of loss or damage has been definitely fixed in accordance with the conditions of this policy, the loss or damage shall be payable within 30 days thereafter.

7. LIMITATION OF LIABILITY

No claim shall arise or be maintainable under this policy (a) if the Company, after having received notice of an alleged defect, lien or encumbrance insured against hereunder, by litigation or otherwise, removes such defect, lien or encumbrance or establishes the title, or the lien of the insured mortgage, as insured, within a reasonable time after

ipt of such notice; (b) in the event of litigation until there has been a final determination by a court of competent jurisdiction, and disposition of all appeals therefrom, adverse to the title or to the lien of the insured mortgage, as insured, as provided in paragraph 3 hereof; or (c) for liability voluntarily admitted or assumed by an insured without prior written consent of the Company.

8. REDUCTION OF INSURANCE; TERMINATION OF LIABILITY

All payments under this policy, except payment made for costs, attorneys' fees and expenses, shall reduce the amount of the insurance pro tanto; provided, however, if the owner of the indebtedness secured by the insured mortgage is an insured hereunder, then such payments, prior to the acquisition of title to said estate or interest as provided in paragraph 2 (a) of these Conditions and Stipulations, shall not reduce pro tanto the amount of the insurance afforded hereunder as to any such insured, except to the extent that such payments reduce the amount of the indebtedness secured by such mortgage.

Payment in full by any person or voluntary satisfaction or release of the insured mortgage shall terminate all liability of the Company to an insured owner of the indebtedness secured by the insured mortgage, except as provided in paragraph 2 (a) hereof.

9. LIABILITY NONCUMULATIVE

It is expressly understood that the amount of insurance under this policy, as to the insured owner of the estate or interest covered by this policy, shall be reduced by any amount the Company may pay under any policy insuring (a) a mortgage shown or referred to in Schedule B hereof which is a lien on the estate or interest covered by this policy, or (b) a mortgage hereafter executed by an insured which is a charge or lien on the estate or interest described or referred to in Schedule A, and the amount so paid shall be deemed a payment under this policy. The Company shall have the option to apply to the payment of any such mortgage any amount that otherwise would be payable hereunder to the insured owner of the estate or interest covered by this policy and the amount so paid shall be deemed a payment under this policy to said insured owner.

The provisions of this paragraph 9 shall not apply to an owner of the indebtedness secured by the insured mortgage, unless such insured acquires title to said estate or interest in satisfaction of said indebtedness or any part thereof.

10. SUBROGATION UPON PAYMENT OR SETTLEMENT

Whenever the Company shall have paid or settled a claim under this policy, all right of subrogation shall vest in the Company unaffected by any act of the insured claimant, except that the owner of the indebtedness secured by the insured mortgage may release or substitute the personal liability of any debtor or guarantor, or extend or otherwise modify the terms of payment, or release a portion of the estate or interest from the lien of the insured mortgage, or release any collateral security for the indebtedness, provided such act occurs prior to receipt by such insured of notice of any claim of title or interest adverse to the title to the estate or interest or the priority of the lien of the insured mortgage and does not result in any loss of priority of the lien of the insured mortgage. The Company shall be subrogated to and be entitled to all rights and remedies which such insured claimant would have had against any person or property in respect to such claim had this policy not been issued, and the Company is hereby authorized and empowered to sue, compromise or settle in its name or in the name of the insured to the full extent of the loss sustained by the Company. If requested by the Company, the insured shall execute any and all documents to evidence the within subrogation. If the payment does not cover the loss of such insured claimant, the Company shall be subrogated to such rights and remedies in the proportion which said payment bears to the amount of said loss, but such subrogation shall be in subordination to an insured mortgage. If loss should result from any act of such insured claimant, such act shall not void this policy, but the Company, in that event, shall as to such insured claimant be required to pay only that part of any losses insured against hereunder which shall exceed the amount, if any, lost to the Company by reason of the impairment of the right of subrogation.

11. LIABILITY LIMITED TO THIS POLICY

This instrument together with all endorsements and other instruments, if any, attached hereto by the Company is the entire policy and contract between the insured and the Company.

Any claim of loss or damage, whether or not based on negligence, and which arises out of the status of the lien of the insured mortgage or of the title to the estate or interest covered hereby, or any action asserting such claim, shall be restricted to the provisions and conditions and stipulations of this policy.

This policy shall not be valid until countersigned by a Vice President or an Assistant Vice President of the Company. No amendment of or endorsement to this policy can be made except by writing endorsed hereon or attached hereto signed by either the President, a Vice President, an Assistant Vice President or the Secretary of the Company.

No payment shall be made without producing this policy for endorsement of such payment unless the policy be lost or destroyed, in which case proof of such loss or destruction shall be furnished to the satisfaction of the Company.

12. NOTICES, WHERE SENT

All notices required to be given the Company and any statement in writing required to be furnished the Company shall be addressed to it at its Main Office, 350 Bush Street, San Francisco, California 94104.

13. THE FEE SPECIFIED IN SCHEDULE A IS THE ENTIRE CHARGE FOR TITLE SEARCH, TITLE EXAMINATION AND TITLE INSURANCE.

INFLATION INDORSEMENT

Attached to Policy No. S73 413456

Issued by

WESTERN TITLE INSURANCE COMPANY
a corporation

The Company, recognizing the current effect of inflation on real property valuation and intending to provide additional monetary protection to the insured owner, hereby modifies said Policy, as follows:

1. Notwithstanding anything contained in said Policy to the contrary, the amount of insurance provided by said Policy, as stated in Schedule A thereof, is subject to cumulative annual upward adjustments in the manner and to the extent hereinafter specified.
2. "Adjustment Date" is defined, for the purpose of this Indorsement, to be 12:01 a.m. on the first January 1 which occurs more than six months after the Date of Policy, as shown in Schedule A of the Policy to which this Indorsement is attached, and on each succeeding January 1.
3. An upward adjustment will be made on each of the Adjustment Dates, as defined above, by increasing the maximum amount of insurance provided by said Policy (as said amount may have been increased theretofore under the terms of this Indorsement) by the same percentage, if any, by which the United States Department of Commerce Composite Construction Cost Index (base period 1967) for the month of September immediately preceding exceeds such Index for the month of September one year earlier; provided, however, that the maximum amount of insurance in force shall never exceed 150% of the amount of insurance stated in Schedule A of said Policy, less the amount of any claim paid under said Policy which, under the terms of the Conditions and Stipulations, reduces the amount of insurance in force. There shall be no annual adjustment in the amount of insurance for years in which there is no increase in said Construction Cost Index.
4. In the settlement of any claim against the Company under said Policy, the amount of insurance in force shall be deemed to be the amount which is in force as of the date on which the insured claimant first learned of the assertion or possible assertion of such claim, or as of the date of receipt by the Company of the first notice of such claim, whichever shall first occur.

For the purpose of this Indorsement the term "insured owner" is defined as any insured described in paragraph 3. of Schedule A and, subject to any rights or defenses the Company may have had under said Policy and all indorsements, such insured's heirs, distributees, devisees, survivors, personal representatives or next of kin.

Nothing herein contained shall be construed as extending or changing the effective date of said Policy.

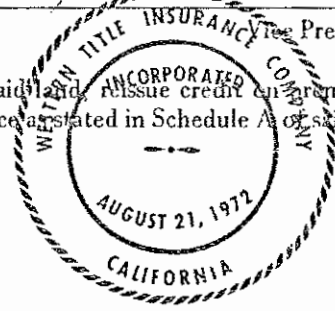
This Indorsement is made a part of said Policy and is subject to the schedules, conditions and stipulations therein, except as modified by the provisions hereof.

Dated: October 30, 1980

WESTERN TITLE INSURANCE COMPANY

By  President

NOTE: In connection with a future application for title insurance covering said land, reissue credit on premium charges (if applicable at all) will be allowed only upon the original face amount of insurance as stated in Schedule A of said Policy.



SCHEDULE A

Policy Number S73 413456 Fee \$ 1,511.00 Order Number 57312
 Amount \$ 604,000.00 Date of Policy October 30, 1980 at 1:20 o'clock p.m.

1. Name of Insured:

STATE OF CALIFORNIA

2. The estate or interest in the land described in Schedule C and which is covered by this policy is:

FEE

3. The estate or interest referred to herein is at Date of Policy vested in:

STATE OF CALIFORNIA.

SCHEDULE B

This policy does not insure against loss or damage, nor against costs, attorneys' fees or expenses, any or all of which arise by reason of the following:

PART ONE

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
 Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Any facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water.
6. Any right, title, interest, estate or easement in land beyond the lines of the area specifically described or referred to in Schedule C, or in abutting streets, roads, avenues, alleys, lanes, ways or waterways, but nothing in this paragraph shall modify or limit the extent to which the ordinary right of an abutting owner for access to a physically open street or highway is insured by this policy.
7. Any law, ordinance or governmental regulation (including but not limited to building and zoning ordinances) restricting or regulating or prohibiting the occupancy, use or enjoyment of the land, or regulating the character, dimensions or location of any improvement now or hereafter erected on the land, or prohibiting a separation in ownership or a reduction in the dimensions or area of the land, or the effect of any violation of any such law, ordinance or governmental regulation.
8. Rights of eminent domain or governmental rights of police power unless notice of the exercise of such rights appears in the public records.
9. Defects, liens, encumbrances, adverse claims, or other matters (a) created, suffered, assumed or agreed to by the insured claimant; (b) not shown by the public records and not otherwise excluded from coverage but known to the insured claimant either at Date of Policy or at the date such claimant acquired an estate or interest insured by this policy or acquired the insured mortgage and not disclosed in writing by the insured claimant to the Company prior to the date such insured claimant became an insured hereunder; (c) resulting in no loss or damage to the insured claimant; (d) attaching or created subsequent to Date of Policy; or (e) resulting in loss or damage which would not have been sustained if the insured claimant had been a purchaser or encumbrancer for value without knowledge.

SCHEDULE B (Continued)

PART TWO

1. 1980-81 taxes a lien, not yet payable.
2. Rights of the public in and to so much of the herein described land as lies within the boundaries of any public road.

SCHEDULE C

The land referred to in this Policy is described as follows:

All that certain real property situate in the County of Sierra, State of California more particularly described as follows:

PARCEL 1:

In Township 21 North, Range 15 East, Section 28; the Northeast quarter of the Northwest quarter; the Southwest quarter of the Northeast quarter; the Northwest quarter of the Southeast quarter; the South half of the Southeast quarter; the Southeast quarter of the Southwest quarter. ^{40 ac} ¹⁶⁻⁰⁵⁰⁻¹⁷ ^{16-050-26 = 200 ac}

PARCEL 2:

In Township 21 North, Range 15 East, Section 33; (the Northeast quarter of the Northwest quarter; the North half of the Northeast quarter;) the Southeast quarter of the Northeast quarter; the South half. ^{18-140-002 = 360 ac} ^{16-050-26 = 1200 ac}

PARCEL 3:

In Township 20 North, Range 15 East, Section 4; the Northeast quarter; the North half of the Southeast quarter, the Southeast quarter of the Southeast quarter. ^{18-140-004 = 280 ac}

PARCEL 4:

In Township 21 North, Range 15 East, Section 22; the South half of the Southwest quarter. ^{16-060-21 = 80 ac}

PARCEL 5:

In Township 21 North, Range 15 East, Section 27; the North half of the Northwest quarter; the East half; the East half of the Southwest quarter; the Southwest quarter of the Southwest quarter. ^{16-060-21 = 520 ac}

PARCEL 6:

In Township 21 North, Range 15 East, Section 23; the East half of the Southeast quarter, the Southwest quarter of the Southeast quarter; the Southeast quarter of the Southwest quarter. ^{16-240-07 = 160 ac}

PARCEL 7:

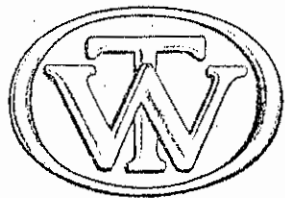
In Township 21 North, Range 15 East, Section 24; the West half of the Southeast quarter; the Southwest quarter. ^{16-240-07 = 240 ac}

PARCEL 8:

In Township 21 North, Range 15 East, Section 26; the East half of the Northwest quarter; the Northeast quarter; (the Southeast quarter.) ^{16-240-07 = 240 ac} ^{16-060-18 = 160 ac}

gj

Total 2,400 ac

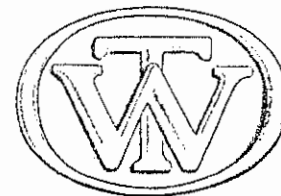


**WESTERN TITLE
INSURANCE COMPANY**
SAN FRANCISCO, CALIFORNIA



ISSUED THROUGH THE OFFICE OF
**WESTERN TITLE INSURANCE
COMPANY**
GRASS VALLEY, CALIFORNIA

MEMBER



MP	1980	ASSESSMENT	ROLL	COUNTY OF	SIERRA	PAGE 165			
OWNERS NAME	ADDRESS MAIL (+)-SITUS (#)-SAME (=)	RECORDERS NO. -DATE	USE	TRA	PARCEL NO.	LAND	IMPRVMTS OTHER/ASMTS	EXEMPTIONS	ASSMT NET
	MCKEE ROBERT B ETAL 590 GREENSTONE, RENO NV 89501 LOT 4 LOYALTON PINES SUBDIVISION	0075131 * 1977		52-027	16 230 004	4421			4421
	BROOKS MICHAEL & DONNA JT 25072 GREENBAY DRIVE, EL TORO CA 92630 LOT 5 LOYALTON PINES SUBDIVISION	0081378 * 1979		52-027	16 230 005	4542			4542
	ANDREWS C PAUL & SHARON L JT 7222 WYOMING ST., WESTMINSTER CA 92683 LOT 6 LOYALTON PINES SUBDIVISION	0079210 * 1978		52-016	16 230 006	4335			4335
	ANDREWS C PAUL & SHARON L JT 7222 WYOMING ST., WESTMINSTER CA 92683	0079210 * 1978		52-027	16 230 007	92			92
	WALLEN JERRY W & JEANNETTE JT 3535 HAWK ST., CARSON CITY NV 89701 LOT 7 LOYALTON PINES SUBDIVISION	0079226 * 1978		52-016	16 230 008	4335			4335
	WALLEN JERRY W & JEANNETTE JT 3535 HAWK ST., CARSON CITY NV 89701	0079226 * 1978		52-027	16 230 009	30			30
	PREUSS HANS J & JULIE A JT 3558 CEDAR FLAT CT., SAN JOSE CA 95127 LOT 8 LOYALTON PINES SUBDIVISION	0080616 * 1979		52-016	16 230 010	6375			6375
	PREUSS HANS J & JULIE ANN JT 1673 GRIZILO DR., SAN JOSE CA 95124	0080616 * 1979		52-027	16 230 011	10			10
	ANDERSON GREGORY & ANDERSON TIMOTHY JT 3061 10TH AVE., SACRAMENTO CA 95817 LOT 9 LOYALTON PINES SUBDIVISION	0077609 * 1978		52-016	16 230 012	4681			4681
	WARREN RAY M & BARBARA JT 1716 8TH, OLIVEHURST CA 95961 LOT 10 LOYALTON PINES SUBDIVISION	0074586 * 1977		52-016	16 230 013	4681	743		5424
	VULLO ANTHONY & MARY JT 7954 MCLAREN AVE., CANOGA PARK CALIF 91304 LOT 11 LOYALTON PINES SUBDIVISION	0071467 * 1976		52-016	16 230 014	4681			4681
	HAGGARD ROBERT C MD & MARY H JT 9-A NEALY AVE., LANGLEY AFB VA 23665 LOT 12 LOYALTON PINES SUBDIVISION	0074103 * 1977		52-016	16 230 015	4941			4941
	DAHL ALBIN J 1535 CALIFORNIA AVE., RENO NV 89509 LOT 13 LOYALTON PINES SUBDIVISION	0076325 * 1977		52-016	16 230 016	4421			4421
	CARROLL ARTHUR M & BEVERLY J JT P O BOX 468, LOYALTON CA 96118 LOT 14 LOYALTON PINES SUBDIVISION	0079123 * 1978		52-016	16 230 017	4590			4590
	LAMBERT MARK A & EVELYN L JT ETAL P O BOX 326, LOYALTON CA 96118 LOT 15 LOYALTON PINES SUBDIVISION	0079047 * 1978		52-016	16 230 018	4335			4335
	PECORINO MICHAEL A & KAREN E JT 3465 ZION LN., RENO NV 89503 LOT 16 LOYALTON PINES SUBDIVISION	0076185 * 1977		52-016	16 230 019	3121			3121

Antelope Valley WA

MP	1980-81	ASSESSMENT	ROLL	COUNTY OF	SIERRA	PAGE 166			
OWNERS NAME	ADDRESS MAIL (+)-SITUS (#)-SAME (=)	RECORDERS NO. -DATE	USE	TRA	PARCEL NO.	LAND	IMPRVMTS OTHER/ASMTS	EXEMPTIONS	ASSMT NET
	CARROLL ARTHUR M & BEVERLY J JT P O BOX 468, LOYALTON CA 96118 LOT 17 LOYALTON PINES SUBDIVISION	0078092 * 1978		52-016	16 230 020	4335			4335
	PECORINO MICHAEL A & KAREN E JT 3465 ZION LN., RENO NV 89503 LOT 18 LOYALTON PINES SUBDIVISION	0076185 * 1977		52-016	16 230 021	3121			3121
	HAGGARD ROBERT C ETAL P O BOX 276, LOYALTON CALIF 96118 LOT 19 LOYALTON PINES SUBDIVISION	0071447 * 1976		52-016	16 230 022	5722			5722
	TIZZARD THOMAS W & RENA D JT 1863 CAMINO ESTRADA, CONCORD CA 94521 LOT 20 LOYALTON PINES SUBDIVISION	0075419 * 1977		52-016	16 230 023	3121			3121
	OVERMAN ROBERT E JR & NANCY 3831 LARIAT DR., SHINGLE SPRINGS CA 95682	0071663 * 1977		52-027	16 240 001	12733			12733
	USFS NO MAILING ADDRESS FOR THIS OWNER	0080557 * 1979		52-027	16 240 002				
	USA NO MAILING ADDRESS FOR THIS OWNER	0080557 * 1979		52-017	16 240 003				
	SCETRINI IDA M SCETRINI J C, 1207 MARSHALL ST., TURLOCK CA 95380	*		52-017	16 240 004	3755			3755
	USA NO MAILING ADDRESS FOR THIS OWNER	0080557 * 1979		52-017	16 240 005				
	FORD W. & MABEL ETAL 1678 ORDWAY AVE., RENO NEVADA 89502	0067040 * 1975		52-017	16 240 006	4421			4421
	NEVIS INDUSTRIES INC 3199 E ONSTOTT RD., YUBA CITY CA 95991	0080557 * 1979		52-017	16 240 007	24137			24137
	GRANDI LEO & BETTY F LOYALTON CALIF 96118	0032219 * 1962		01-001	17 011 001	218			218
	CITY OF LOYALTON NO MAILING ADDRESS FOR THIS OWNER	*		01-001	17 011 002				
	WINCHELL ROBERT J & IRENE E JT BOX 335, LOYALTON CA 96118	0078287 * 1978		01-001	17 011 003	1275	8415		9690
	GRANDI LEO & BETTY F	0032219 * 1962		01-001	17 011 006	72			72

GRANDI JOSEPH ETUX P O BOX 391, LOYALTON CA 96118	*	52-016	16 040 075	6097	516		
GRANDI JOSEPH ETUX P O BOX 391, LOYALTON CA 96118	*	52-013	16 040 076	176			176
GRANDI JOSEPH ETUX P O BOX 391, LOYALTON CA 96118	*	52-017	16 040 077	4630	10654 1162PP	1750HO	14696
LYNCH GWENDOLYN P O BOX 556, LOYALTON CA 96118	*	52-017	16 040 078	7209			7209
AIJELLO FRANK & BEVERLY R P O BOX 4101, WOODSIDE CA 94062	*	0079193 1978	52-017	16 040 079	25500	1185333 2500PP	1213333
RAMOS IRENE C P O BOX 297, DAVIS CA 95616	*	0084589 1979	52-017	16 040 080	25000	12500 2500PP	40000
HOLDEN LEROY ETAL P O BOX 602, LOYALTON CA 96118	*	0084579 1979	52-017	16 040 081	581	1275 3500HO	1644
U S A NO MAILING ADDRESS FOR THIS OWNER	*		52-027	16 050 001			
U S F S NO MAILING ADDRESS FOR THIS OWNER	*		52-027	16 050 002			
ISLE RAYMOND W 1706 CLAY ST. PORT TOWNSEND WA 98368	*		52-027	16 050 003	3307		3307
U S A NO MAILING ADDRESS FOR THIS OWNER	*		52-027	16 050 004			
U S F S NO MAILING ADDRESS FOR THIS OWNER	*		52-027	16 050 005			
U S F S NO MAILING ADDRESS FOR THIS OWNER	*		52-027	16 050 006			
U S F S NO MAILING ADDRESS FOR THIS OWNER	*		52-027	16 050 008			
U S A NO MAILING ADDRESS FOR THIS OWNER	*		52-027	16 050 009			
VANETTI ALICE STAR ROUTE, LOYALTON CA 96118	*		52-027	16 050 010	1653		1653
U S F S NO MAILING ADDRESS FOR THIS OWNER	*		52-027	16 050 011			
U S A NO MAILING ADDRESS FOR THIS OWNER	*		52-027	16 050 012			
U S F S NO MAILING ADDRESS FOR THIS OWNER	*		52-027	16 050 013			
U S F S NO MAILING ADDRESS FOR THIS OWNER	*		52-027	16 050 014			

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Antelope Valley WA

MP	1980-81	ASSESSMENT ROLL	COUNTY OF	SIERRA	PAGE 130		
OWNERS NAME ADDRESS MAIL (*)-SITUS (#)-SAME (=)	RECORDERS NO. - DATE	TRA	PARCEL NO.	LAND	IMPRVMENTS OTHER/ASMTS	EXEMPTIONS	ASSMT NET
NEVIS INDUSTRIES INC 3199 EAST ONSTOTT RD. YUBA CITY CA 95991	* 0076273 1977	52-027	16 050 015	18102			18102
NEVIS INDUSTRIES INC 3199 EAST ONSTOTT RD. YUBA CITY CA 95991	* 0076273 1977	52-027	16 050 016	7542			7542
NEVIS INDUSTRIES INC 3199 E ONSTOTT RD. YUBA CITY CA 95991	* 0076273 1977	52-027	16 050 017	1508	40 ac		1508
CASANOVA PHILIP & SANDRA FAY JT ETAL 5030 AMETHYST CT. SAN JOSE CA 95136	* 0154145 1971	52-027	16 050 021	2205			2205
VAN SANT FRED W P O BOX 314, WEIMAR CA 95736	* 0054145 1971	52-027	16 050 022	1948			1948
PEARSON LLOYD & JOAN JT ET AL 614 W JULIAN, SAN JOSE CA 95126	* 0057483 1973	52-027	16 050 023	2205			2205
PEARSON LLOYD & JOAN JT ET AL 614 W JULIAN, SAN JOSE CA 95126	* 0057275 1973	52-027	16 050 024	2757			2757
NEVIS INDUSTRIES INC 3199 E ONSTOTT RD. YUBA CITY CA 95991	* 0080557 1979	52-027	16 050 025 → 26	22628			22628
200AC=16-050-16 120AC=16-050-15 280AC=16-060							
U S F S NO MAILING ADDRESS FOR THIS OWNER	*		52-027	16 060 001			
U S F S NO MAILING ADDRESS FOR THIS OWNER	*		52-017	16 060 003			
NEVIS INDUSTRIES INC 3199 E ONSTOTT RD. YUBA CITY CA 95991	* 0076273 1977	52-017	16 060 004	15085			15085
U S A NO MAILING ADDRESS FOR THIS OWNER	*		52-017	16 060 005			
U S F S NO MAILING ADDRESS FOR THIS OWNER	*		52-027	16 060 006			
NEVIS INDUSTRIES INC 3199 E ONSTOTT RD. YUBA CITY CA 95991	* 0076273 1977	52-027	16 060 007	18102			18102
U S F S NO MAILING ADDRESS FOR THIS OWNER	*		52-027	16 060 008			
NEVIS INDUSTRIES INC 3199 E ONSTOTT RD. YUBA CITY CA 95991	* 0076273 1977	52-017	16 060 009	24137			24137
NEVIS INDUSTRIES INC 3199 E ONSTOTT RD. YUBA CITY CA 95991	* 0076273 1977	52-017	16 060 010	24137			24137
NEVIS INDUSTRIES INC 3199 E ONSTOTT RD. YUBA CITY CA 95991	* 0076273 1977	52-027	16 060 012	18102			18102
KRUMWIEDE EDWARD & C JT ET AL 12391 RABOYKA DR. SARATOGA CA 95070	* 0064063 1975	52-027	16 060 013	550			550
KRUMWIEDE EDWARD P & CHARLOTTE A JT 12391 RABOYKA DRIVE, SARATOGA CA 95070	* 0064063 1975	52-027	16 060 013 01	3037			3037
NEVIS INDUSTRIES INC 3199 E ONSTOTT RD. YUBA CITY CA 95991	* 0076273 1977	52-027	16 060 014	4525			4525
NEVIS INDUSTRIES INC 3199 E ONSTOTT RD. YUBA CITY CA 95991	* 0080557 1979	52-017	16 060 015	18102			18102
160AC 16-060-04 320AC 16-060-09							
NEVIS INDUSTRIES INC 3199 E ONSTOTT RD. YUBA CITY CA 95991	* 0080557 1979	52-027	16 060 016	6034			6034
160 AC OF 16-060-07							
NEVIS INDUSTRIES INC 3199 E ONSTOTT RD. YUBA CITY CA 95991	* 0080557 1979	52-027	16 060 017 → 21	24137			24137
LUCKY HERFORD RANCH P O BOX C-19560, IRVINE CA 92713	* 0081415 1979	52-013	16 070 001	11678			11678
EASTWOOD MINERALS & ENERGY CO PROPERTY TAX DEPT. P O BOX 868, HOUSTON TEXAS 77001	* 0062030 1974	52-013	16 070 001 01	600			600

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MP	15	31	ASSESSMENT	ROLL	COUNTY OF	SIERRA	PAGE 188			
OWNERS NAME	ADDRESS MAIL (*)-SITUS(#)-SAME(=)	RECORDERS NO. -DATE	USE	TRA	PARCEL NO.	LAND	IMPRVMTS OTHER/ASMTS	EXEMPTIONS	ASSMT	NET
U S A	NO MAILING ADDRESS FOR THIS OWNER	*		52-017	18 110 002					
U S A	NO MAILING ADDRESS FOR THIS OWNER	*		52-017	18 110 003					
U S A	NO MAILING ADDRESS FOR THIS OWNER	*		52-017	18 110 004					
U S F S	NO MAILING ADDRESS FOR THIS OWNER	*		52-017	18 110 005					
U S F S	NO MAILING ADDRESS FOR THIS OWNER	*		52-017	18 110 006					
U S A	NO MAILING ADDRESS FOR THIS OWNER	*		52-017	18 110 007					
U S F S	NO MAILING ADDRESS FOR THIS OWNER	*		52-017	18 110 008					
U S F S	NO MAILING ADDRESS FOR THIS OWNER	*		52-019	18 120 001					
U S A	NO MAILING ADDRESS FOR THIS OWNER	*		52-019	18 120 004					
U S A	NO MAILING ADDRESS FOR THIS OWNER	*		52-019	18 120 005					
U S F S	NO MAILING ADDRESS FOR THIS OWNER	*		52-019	18 120 006					
U S F S	NO MAILING ADDRESS FOR THIS OWNER	*		52-029	18 120 007					
U S A	NO MAILING ADDRESS FOR THIS OWNER	*		52-019	18 120 008					
U S A	NO MAILING ADDRESS FOR THIS OWNER	*		52-019	18 120 009					
U S F S	NO MAILING ADDRESS FOR THIS OWNER	*		52-019	18 120 010					
U S F S	NO MAILING ADDRESS FOR THIS OWNER	*		52-029	18 120 011					
U S A	NO MAILING ADDRESS FOR THIS OWNER	*	0047450	52-029	18 120 013					
U S A	NO MAILING ADDRESS FOR THIS OWNER	*	1968							
CLARK VIRGIE & YOST MERRILL ERMA A	YOST ERMA, 13333 WHITE ROCK RD. RANCHO CORDOVA CA 95670	* 0064607	1975	52-029	18 120 014	170				170
U S A	NO MAILING ADDRESS FOR THIS OWNER	*		52-029	18 130 001					
U S A	NO MAILING ADDRESS FOR THIS OWNER	*		52-029	18 130 002					
U S F S	NO MAILING ADDRESS FOR THIS OWNER	*		52-029	18 130 003					
U S F S	NO MAILING ADDRESS FOR THIS OWNER	*		52-017	18 130 005					
U S F S	NO MAILING ADDRESS FOR THIS OWNER	*		52-029	18 130 006					
U S F S	NO MAILING ADDRESS FOR THIS OWNER	*		52-029	18 130 007					
U S A	NO MAILING ADDRESS FOR THIS OWNER	*		52-017	18 130 008					
WADE HERBERT B & MAXINE JT	2520 DYER WAY, RENO NEVADA 89502	* 0047480	1968	52-017	18 130 012	5406	499			6175
LAMBERT LELAND F & EMYLINE MAY JT	1450 S MARSH AVE, RENO NEVADA 89502	* 0047482	1968	52-017	18 130 013	5514	270PP			5514
LAMBERT LELAND F & EMYLINE MAY JT	1450 S MARSH AVE, RENO NEVADA 89502	* 0047482	1968	52-017	18 130 014	5514				5514
LUDLOW JAMES A & LYNN M JT	P O BOX 5943, RENO NEVADA 89503	* 0079104	1978	52-017	18 130 015	5514	382			5896



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Antelope Valley WA

MP	1980-81	ASSESSMENT	ROLL	COUNTY OF	SIERRA	PAGE 189				
OWNERS NAME	ADDRESS MAIL (*)-SITUS(#)-SAME(=)	RECORDERS NO. -DATE	USE	TRA	PARCEL NO.	LAND	IMPRVMTS OTHER/ASMTS	EXEMPTIONS	ASSMT	NET
LUDLOW JAMES A	NO MAILING ADDRESS FOR THIS OWNER	*		52-012	18 130 016	5514				5514
MEYER ROBERT L & GLORIA O JT	1040 SKYLINE BLVD, RENO NEVADA 89502	* 0047488	1968	52-017	18 130 017	5514				5514
PACHECO CHARLES C & RITA E JT	2000 STARDUST ST, RENO NV 89503	* 0047489	1968	52-017	18 130 018	5514				5514
NENZEL H A & JOAN L JT	1230 FAIRFIELD AVE, RENO NEVADA 89502	* 0047490	1968	52-017	18 130 019	5514				5514
WHITE STANLEY G ETAL	WHITE STANLEY, 1832 N NEVADA ST, CARSON CITY NV 89701	* 0075595	1977	52-017	18 130 021	2215				2215
KOSTAKIS DENO W ETAL	1001 CAMELIA AVE, ROSEVILLE CA 95678	* 0068085	1974	52-017	18 130 022	2111				2111
BAIDA JOHN	1930 STEWART ST #D-3, SANTA MONICA CA 90404	* 0075203	1977	52-017	18 130 023	2215				2215
CROSSLEY GERALD W & LA RITA A JT	796 GLEN MOLLY DR, SPARKS NEVADA 89431	* 0054154	1971	52-017	18 130 024	1653				1653
USFS	NO MAILING ADDRESS FOR THIS OWNER	* 0080557	1979	52-027	18 140 001					
NEVIS INDUSTRIES INC	3199 E ONSTOIT RD, YUBA CITY CA 95991	* 0080557	1979	52-027	18 140 002	13577	360 ac			13577
NEVIS INDUSTRIES INC	3199 E ONSTOIT RD, YUBA CITY CALIF 95991	*		52-017	18 140 003	12068				12068
NEVIS INDUSTRIES INC	3199 E ONSTOIT RD, YUBA CITY CA 95991	* 0080557	1979	52-019	18 140 004	10560	280 ac			10560
USA	NO MAILING ADDRESS FOR THIS OWNER	* 0080557	1979	52-019	18 140 005					
USA	NO MAILING ADDRESS FOR THIS OWNER	* 0080557	1979	52-019	18 140 006					
USFS	NO MAILING ADDRESS FOR THIS OWNER	* 0080557	1979	52-019	18 140 007					
NEVIS INDUSTRIES INC	3199 E ONSTOIT RD, YUBA CITY CA 95991	* 0080557	1979	52-019	18 140 008	12068				12068
USFS	NO MAILING ADDRESS FOR THIS OWNER	* 0080557	1979	52-019	18 140 009					
U S A	NO MAILING ADDRESS FOR THIS OWNER	*		52-019	19 010 001					
U S A	NO MAILING ADDRESS FOR THIS OWNER	*		52-019	19 010 002					

7-31-80

31-80

PARCEL NO.	TRA	OWNER ADDRESS PROP	DESCRIPTION	ZIP	DOCUMENT NUMBER	ASSESSED VALUES
016 050 002 8	52019	FERGUSON, BOB ETAL HWY C BOX 4 #12, LOYALTON CA 96118-9702, 702	HARDING PT CATTLE ALLOTMENT			1,914 LND
016 050 003	52027	ISLE, RAYMOND W 1534 JEFFERSON ST., PORT TOWNSEND WA	T21 R15 S30 S 1/2 OF SE 1/4	98368		15,959 LND
016 050 004	52027	U S A NO MAILING ADDR FOR THIS OWNER	T21 R15 S29			LND
016 050 005	52027	U S F S NO MAILING ADDR FOR THIS OWNER	T21 R15 S29 30			LND
016 050 006	52027	U S F S NO MAILING ADDR FOR THIS OWNER	T21 R15 S28 NW1/4 NW1/4			LND
016 050 008	52027	U S F S NO MAILING ADDR FOR THIS OWNER	T21 R15 S28			LND
016 050 009	52027	U S A NO MAILING ADDR FOR THIS OWNER	T21 R15 S31 W1/2			LND
016 050 010	52027	FERGUSON, BOB E JR JT FERGUSON, JENNIFER JT P O BOX 943, LOYALTON CA	T21 R15 S31 NE 1/4 OF NE 1/4	96118	114-030	1,641 LND
016 050 011	52027	U S F S NO MAILING ADDR FOR THIS OWNER	T21 R15 S31			LND
016 050 012	52027	U S A NO MAILING ADDR FOR THIS OWNER	T21 R15 S28 32 33			LND
016 050 013	52027	U S F S NO MAILING ADDR FOR THIS OWNER	T21 R15 S32			LND
016 050 017	52027	CALIFORNIA FISH GAME WILDLIFE CONSERVATION BD 1416 NINTH ST RM 1206-22, SACRAMENTO CA	T21 R15 S28 NE 1/2 NW 1/4	95814	88-681	LND
016 050 021	52027	CASANOVA, PHILIP ET AL 5030 AMETHYST CT, SAN JOSE CA	T21 R15 S28 NE 1/4 SW 1/4	95136	1225-197	51,000 LND
016 050 022	52027	VAN SANT, FRED W P O BOX 980, COLFAX CA	T21 R15 S28 NW 1/4 SW 1/4	95713	54-145	9,396 LND
016 050 023	52027	PEARSON, LLOYD E ETAL P O BOX 785, GROVELAND CA	T21 R15 S28 SW 1/4 NW 1/4	95321	57-483	10,640 LND

K18

Antelope Valley WA



- REAL ESTATE INFORMATION SERVICES -

1-800-827-9663

PARCEL NO.	TRA	OWNER ADDRESS PROPERTY DESCRIPTION	ZIP	DOCUMENT NUMBER	ASSESSED VALUES
* PARCEL LIST		SIERRA	1990-91		PAGE 249 *
016 050 024	52027	PEARSON, LLOYD E ETAL P O BOX 785, GROVELAND CA	95321	57-275	13,304 LND
016 050 026	52027	CALIFORNIA FISH GAME WILDLIFE CONSERVATION BD 1416 NINTH ST RM 1206-22, SACRAMENTO CA	95814	88-681	LND
016 060 001	52027	U S F S NO MAILING ADDR FOR THIS OWNER			LND
016 060 003	52017	U S F S NO MAILING ADDR FOR THIS OWNER			LND
016 060 005	52034	U S A NO MAILING ADDR FOR THIS OWNER			LND
016 060 006	52027	U S F S NO MAILING ADDR FOR THIS OWNER			LND
016 060 008	52027	U S F S NO MAILING ADDR FOR THIS OWNER			LND
016 060 010	52034	CALIFORNIA FISH GAME WILDLIFE CONSERVATION BD 1416 NINTH ST RM 1206-22, SACRAMENTO CA	95814	87-655	LND
016 060 013	52027	TENNECO MINERALS CO P O BOX 281300, LAKEWOOD CO	80228	1230-888	51,415 LND
016 060 013 3	52027	HOGSTROM, RAYMOND W ETAL C/O TENNECO MINERALS CO, P O BOX 281300, LAKEWOOD	80228	1230-884	892,897 LND
016 060 018	52034	CALIFORNIA FISH GAME WILDLIFE CONSERVATION BD 1416 NINTH ST RM 1206-22, SACRAMENTO CA	95814	88-681	LND
016 060 019	52034	CALIFORNIA FISH GAME WILDLIFE CONSERVATION BD 1416 NINTH ST RM 1206-22, SACRAMENTO CA	95814	87-655	LND
016 060 020	52027	CALIFORNIA FISH GAME WILDLIFE CONSERVATION BD 1416 NINTH ST RM 1206-22, SACRAMENTO CA	95814	87-655	LND
016 060 021	52027	CALIFORNIA FISH GAME WILDLIFE CONSERVATION BD 1416 NINTH ST RM 1206-22, SACRAMENTO CA	95814	88-681	LND
016 070 004	52017	FEATHER RIVER RANCH PARTNRSHP C/O LUSK COMPANY THE, P O BOX C 19560, IRVINE CA	92713	1230-190	75,313 LND

PARCEL NO.	TRA	OWNER ADDRESS PROPERTY DESCRIPTION	ZIP	DOCUMENT NUMBER	ASSESSED VALUES
016 230 009	52027	BROWNE, MIKE JT TAGUI TONI JT 101 FIRST ST, LOS / CA T21 R15 S15 R/L 19,20	94022	1201-197	40,647 NET 449 LND
016 230 010	52016	PREUSS, HANS J SS 3605 WESTVIEW DR, SAN JOSE CA LOT 8 LYTON PINES R/S 5/18-20	95148	111-431	30,781 LND 85,680 IMP 116,461 NET
016 230 011	52027	PREUSS, HANS J SS 3605 WESTVIEW DR, SAN JOSE CA T21 R15 S15 R/S 5/18,19 20	95148	111-431	40 LND
016 230 012	52016	ANDERSON, GREGORY LEE JT ANDERSON, TIMOTHY J JT 3061 10TH AVE, SACRAMENTO CA LOT 9 LYTON PINES R/S 5/18-20	95817	77-609	22,593 LND
016 230 013	52016	WARREN, RAY M BARBARA JT 1716 8TH AVE, OLIVEMURST CA LOT10 LYTON PINES R/S 5/18-20	95961	PHN-(916) 74-586 742-3997	22,593 LND 116,360 IMP 139,153 NET
016 230 014	52016	VULLO, ANTHONY MARY JT 632 FAIRVIEW DR., WOODLAND CA LOT11 LYTON PINES R/S 5/18-20	95695	71-467	22,593 LND
016 230 015	52016	HAGGARD, ROBERT C MD JT HAGGARD, MARY H JT 6412 MONTEVERDE CT, CITRUS HEIGHTS CA LOT12 LYTON PINES R/S 5/18-20	95621	74-103	23,848 LND
016 230 016	52016	DAHL, ALBIN J 1535 CALIFORNIA AVE, RENO NV LOT13 LYTON PINES R/S 5/18-20	89509	76-325	21,339 LND
016 230 017	52016	CARROLL, ARTHUR M JT CARROLL, BEVERLY J JT P O BOX 468, LOYALTON CA LOT14 LYTON PINES R/S 5/18-20	96118	79-123	22,152 LND
016 230 018	52016	LAMBERT, ALEXANDER SS ETAL 3405 TIFFANI PLACE, HIGHLAND CA LOT15 LYTON PINES R/S 5/18-20	92346	118-644	29,183 LND

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1-800-527-9663

PARCEL NO.	TRA	OWNER ADDRESS PROPERTY DESCRIPTION	ZIP	DOCUMENT NUMBER	ASSESSED VALUES
016 230 019	52016	SWACKHAMMER, CHARLES L JT SWACKHAMMER, BECKY G JT P O BOX 895, VERDI NV LOT16 LYTON PINES R/S 5/18-20	89439	94-535	40,022 LND
016 230 020	52016	CARROLL, ARTHUR M JT CARROLL, BEVERLY J JT P O BOX 468, LOYALTON CA LOT 17 LOYALTON PINES SUBDIV	96118	78-092	20,925 LND 279,697 IMP 7,000-HO 295,622 NET
016 230 021	52016	PECORINO, MICHAEL A JT PECORINO, KAREN E JT 1401 O'FARRELL, RENO NV LOT18 LYTON PINES R/S 5/18-20	89503	76-185	15,061 LND
016 230 022	52016	GUNTER, DENEY D JT GUNTER, OMIE L JT P O BOX 773, LOYALTON CA LOT 19 LOYALTON PINES	96118	103-081	40,517 LND 58,226 IMP 7,000-HO 91,743 NET
016 230 023	52016	JAMES, DAVID IAN ANTHONY 1538 LAKE STREET, SAN FRANCISCO CA LOT20 LYTON PINES R/S 5/18-20	94118	102-593	37,806 LND
016 240 001	52027	OVERMAN FAMILY TRUST C/O OVERMAN, NANCY TRUSTEE, 3831 LARIAT DR, CAMERON PARK CA T21 R15 S22	95682	1220-147	61,468 LND
016 240 002	52027	U S F S NO MAILING ADDR FOR THIS OWNER T21 R14 S22		80-557	LND
016 240 002 8	52027	BALDERSTON, FREDERICK BALDERSTON, JUDITH 641 ALVARADO RD, BERKELEY CA UPPER ANTELOPE CATTLE ALLOT	94705		4,403 LND
016 240 003	52034	U S A NO MAILING ADDR FOR THIS OWNER T21 R14 S23		80-557	LND
016 240 004	52034	SCETRINI, IDA M EST OF C/O BOUCHER, ERNESTINE, 2505 EMERALD WAY, TURLOC 95380 T21 R15 S23			18,124 LND
016 240 005	52034	U S A NO MAILING ADDR FOR THIS OWNER T21 R15 S23 24		80-557	LND
016 240 006	52017	PETERS, LEWIS R ANNA V JT 609 BUNKER HILL, CARSON CITY NV T21 R15 S24	89701	89-010	94,667 LND
016 240 007	52034	CALIFORNIA FISH GAME C/O WILDLIFE CONSERVATION BD, 1416 NINTH ST RM 1206-22, SACRAMENTO CA T21 R15 S23,24 26	95814	88-681	LND
016 250 701	52017	NO OWNER ON FILE NO MAILING ADDR FOR THIS OWNER SP 1 16-040-80 SMITHNECK VLG			LND

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Antelope Valley WA



- REAL ESTATE INFORMATION SERVICES -

1-800-527-9663

PARCEL NO.	TRA	OWNER ADDRESS PROPERTY DESCRIPTION	ZIP	DOCUMENT NUMBER	ASSESSED VALUES
016 250 702	52017	NO OWNER ON FILE NO MAILING ADDR FOR THIS OWNER			LND

018 130 003	52029	U S F S NO MAILING A' T20 R16	OR THIS OWNER		LND
018 130 003 8	52017	GRANDI, JEPH P O BOX 320, LOYALTON CA SMITHACK CATTLE ALLOTMENT		96118	7,406 LND

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* PARCEL LIST		SIERRA		1990-91	PAGE 339
PARCEL NO.	TRA	OWNER ADDRESS PROPERTY DESCRIPTION	ZIP	DOCUMENT NUMBER	ASSESSED VALUES
018 130 005	52017	U S F S NO MAILING ADDR FOR THIS OWNER T20 R16 S25			LND
018 130 006	52029	U S F S NO MAILING ADDR FOR THIS OWNER T20 R16 S34 ALL			LND
018 130 007	52029	U S F S NO MAILING ADDR FOR THIS OWNER T20 R16 S35 ALL			LND
018 130 008	52017	U S A NO MAILING ADDR FOR THIS OWNER T20 R16 S36 ALL			LND
018 130 012	52017	WADE, HERBERT B JT WADE, MAXINE JT 2520 DYER WAY, RENO NV T20 R16 S25 W1/2 SE1/4 NW1/4	89502	47-480	26,095 LND 2,400 IMP 28,495 NET
018 130 013	52017	LAMBERT, EMYLINE MAY 1450 S MARSH AVE, RENO NV T20 R16 S25 E1/2 SE 1/4 NW1/4	89509	96-618	26,615 LND
018 130 014	52017	LAMBERT, EMYLINE MAY 1450 S MARSH AVE, RENO NV T20 R16 S25 S1/2 SW1/4 NE1/4	89509	96-618	26,615 LND
018 130 015	52017	LUDLOW, JAMES A JT LUDLOW, LYNN M JT P O BOX 5943, RENO NV T20 R16 S25 N1/2 SW1/4 NE1/4	89503	79-104	26,615 LND 1,837 IMP 28,452 NET
018 130 017	52017	MEYER, ROBERT L JT MEYER, GLORIA O JT 1040 SKYLINE BLVD, RENO NV T20 R16 S25 E1/2 NE1/4 NE1/4	89502	47-488	26,615 LND
018 130 018	52017	PACHECO, CHARLES C JT PACHECO, RITA E JT 194 POPPY LANE, RENO NV T20 R 16 S25 S1/2 NW1/4 SE1/4	89512	47-489	26,615 LND
018 130 019	52017	PAYEN, LOUIS J JT PAYEN, ERNESTINE JT ETAL 175 SUNROCK DRIVE, FOLSOM CA T20 R16 S25 N1/2 NW1/4 SE1/4	95630	1226-006	49,683 LND
018 130 021	52017	HUFFMAN FAMILY TRUST C/O HUFFMAN, HARVEY SERENA, HWY 2 BOX 6275, SANDPOINT ID T20 R16 S25	83864	1203-915	12,737 LND
018 130 022	52017	KOSTAKIS, DEND H ETAL 1001 CAMELIA AVE, ROSEVILLE CA T20 R16 S25	95678	68-085	10,186 LND 38,691 IMP 48,877 NET
018 130 023	52017	BAIDA, JOHN 1930 STEWART ST #D-3, SANTA MONICA CA T20 R16 S25	90404	75-203	10,688 LND
018 130 024	52017	CROSSLEY, GERALD W JT CROSSLEY, LA-RITA A JT P O BOX 4263, SPARKS NV 89432-4263, 3 T20 R16 S25		54-154	7,975 LND

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Antelope Valley WA



- REAL ESTATE INFORMATION SERVICES -

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* PARCEL LIST		SIERRA		1990-91	PAGE 340
PARCEL NO.	TRA	OWNER ADDRESS PROPERTY DESCRIPTION	ZIP	DOCUMENT NUMBER	ASSESSED VALUES
018 140 001	52027	U S F S NO MAILING ADDR FOR THIS OWNER T21 R15 S33 SW1/4 NE1/4		80-557	LND
018 140 002	52027	CALIFORNIA FISH GAME C/O WILDLIFE CONSERVATION BD, 1416 NINTH ST RM 1206-22, SACRAMENTO CA T21 R15 S33	95814	88-681	LND
018 140 004	52019	CALIFORNIA FISH GAME C/O WILDLIFE CONSERVATION BD, 1416 NINTH ST RM 1206-22, SACRAMENTO CA T20 R15 S04	95814	88-681	LND
018 140 005	52019	U S A NO MAILING ADDR FOR THIS OWNER T20 R15 S03 ALL		80-557	LND
018 140 006	52019	U S A NO MAILING ADDR FOR THIS OWNER T20 R15 S02 W1/2 W1/2		80-557	LND
018 140 007	52019	U S F S NO MAILING ADDR FOR THIS OWNER T20 R15 S02		80-557	LND
018 140 007 8	52027	BALDERSTON, FREDERICK BALDERSTON, JUDITH 641 ALVARADO RD, BERKELEY CA LOWER ANTELOPE CATTLE ALLOT	94705		3,955 LND
018 140 008	52019	CALIFORNIA FISH GAME WILDLIFE CONSERV BD 1416 NINTH ST RM 1206-22, SACRAMENTO CA T20 R15 S02	95814	87-655	LND
018 140 009	52019	U S F S NO MAILING ADDR FOR THIS OWNER T20 R15 S04 SW1/4 SE1/4		80-557	LND

13) Situs: , CA
 APN: 016-050-013-0 Rec Date: Total Value:
 County: SIERRA, CA Sale Price: Imprv Value:
 Use: Document #: Land Value:
 Zoning: 1st TD Amt: Lot Size:
 Map Pg: New Pg: Rooms: Bedrms: Bldg/Liv Area:
 Phone: Full Baths: Half: Yr Built/Eff:
 Owners: U S F S Stories:
 Pool:

Mail:

* 14) Situs: , CA
 APN: 016-050-017-0 Rec Date: 10/30/80 Total Value:
 County: SIERRA, CA Sale Price: Imprv Value:
 Use: Document #: 88-681 Land Value:
 Zoning: 1st TD Amt: Lot Size:
 Map Pg: New Pg: Rooms: Bedrms: Bldg/Liv Area:
 Phone: Full Baths: Half: Yr Built/Eff:
 Owners: CALIFORNIA FISH & GAME Stories:
 WILDLIFE CONSERVATION BD Pool:
 Mail: 1416 9TH ST #1206-22; SACRAMENTO CA 95814-5511 C091 C/O %WILDLIFE CONSE

Antelope Valley WA

15) Situs: UNDEVELOPED , LOYALTON CA
 APN: 016-050-021-0 Rec Date: Total Value:
 County: SIERRA, CA Sale Price: Imprv Value:
 Use: Document #: 1320-198 Land Value:
 Zoning: 1st TD Amt: Lot Size:
 Map Pg: New Pg: Rooms: Bedrms: Bldg/Liv Area:
 Phone: Full Baths: Half: Yr Built/Eff:
 Owners: CALIFORNIA FISH & GAME Stories:
 Pool:
 Mail: 801 K ST SUITE 806; SACRAMENTO CA 95814-3518 C012 C/O %WILDLIFE CONSERVAT

16) Situs: UNDEVELOPED , LOYALTON CA
 APN: 016-050-022-0 Rec Date: Total Value:
 County: SIERRA, CA Sale Price: Imprv Value:
 Use: Document #: 1320-41 Land Value:
 Zoning: 1st TD Amt: Lot Size:
 Map Pg: New Pg: Rooms: Bedrms: Bldg/Liv Area:
 Phone: Full Baths: Half: Yr Built/Eff:
 Owners: CALIFORNIA FISH & GAME Stories:
 Pool:
 Mail: 801 K ST SUITE 806; SACRAMENTO CA 95814-3518 C012 C/O %WILDLIFE CONSERVAT

17) Situs: UNDEVELOPED , LOYALTON CA
 APN: 016-050-023-0 Rec Date: Total Value:
 County: SIERRA, CA Sale Price: Imprv Value:
 Use: Document #: 1320-173 Land Value:
 Zoning: 1st TD Amt: Lot Size:
 Map Pg: New Pg: Rooms: Bedrms: Bldg/Liv Area:
 Phone: Full Baths: Half: Yr Built/Eff:
 Owners: CALIFORNIA FISH & GAME Stories:
 Pool:
 Mail: 801 K ST SUITE 806; SACRAMENTO CA 95814-3518 C012 C/O %WILDLIFE CONSERVAT

Antelope Valley WA

18) Situs: UNDEVELOPED , LOYALTON CA
 APN: 016-050-024-0 Rec Date: Total Value:
 County: SIERRA, CA Sale Price: Imprv Value:
 Use: Document #: 1320-173 Land Value:
 Zoning: 1st TD Amt: Lot Size:
 Map Pg: New Pg: Rooms: Bedrms: Bldg/Liv Area:
 Phone: Full Baths: Half: Yr Built/Eff:
 Owners: CALIFORNIA FISH & GAME Stories:
 Pool:
 Mail: 801 K ST SUITE 806; SACRAMENTO CA 95814-3518 C012 C/O %WILDLIFE CONSERVAT

19) Situs: , CA
 * APN: 016-050-026-0 Rec Date: 10/30/80 Total Value:
 County: SIERRA, CA Sale Price: Imprv Value:
 Use: Document #: 88-681 Land Value:
 Zoning: 1st TD Amt: Lot Size:
 Map Pg: New Pg: Rooms: Bedrms: Bldg/Liv Area:
 Phone: Full Baths: Half: Yr Built/Eff:
 Owners: CALIFORNIA FISH & GAME Stories:
 WILDLIFE CONSERVATION BD Pool:
 Mail: 1416 9TH ST #1206-22; SACRAMENTO CA 95814-5511 C091 C/O %WILDLIFE CONSE

9) Situs: , CA
 * APN: 016-060-018-0 Rec Date: 10/30/80 Total Value:
 County: SIERRA, CA Sale Price: Imprv Value:
 Use: Document #: 88-681 Land Value:
 Zoning: 1st TD Amt: Lot Size:
 Map Pg: New Pg: Rooms: Bedrms: Bldg/Liv Area:
 Phone: Full Baths: Half: Yr Built/Eff:
 Owners: CALIFORNIA FISH & GAME Stories:
 WILDLIFE CONSERVATION BD Pool:
 Mail: 1416 9TH ST #1206-22; SACRAMENTO CA 95814-5511 C091 C/O %WILDLIFE CONSE

10) Situs: , CA
 APN: 016-060-019-0 Rec Date: Total Value:
 County: SIERRA, CA Sale Price: Imprv Value:
 Use: Document #: 87-655 Land Value:
 Zoning: 1st TD Amt: Lot Size:
 Map Pg: New Pg: Rooms: Bedrms: Bldg/Liv Area:
 Phone: Full Baths: Half: Yr Built/Eff:
 Owners: CALIFORNIA FISH & GAME Stories:
 WILDLIFE CONSERVATION BD Pool:
 Mail: 1416 9TH ST #1206-22; SACRAMENTO CA 95814-5511 C091 C/O %WILDLIFE CONSE

Antelope Valley WA

11) Situs: , CA
 APN: 016-060-020-0 Rec Date: Total Value:
 County: SIERRA, CA Sale Price: Imprv Value:
 Use: Document #: 87-655 Land Value:
 Zoning: 1st TD Amt: Lot Size:
 Map Pg: New Pg: Rooms: Bedrms: Bldg/Liv Area:
 Phone: Full Baths: Half: Yr Built/Eff:
 Owners: CALIFORNIA FISH & GAME Stories:
 WILDLIFE CONSERVATION BD Pool:
 Mail: 1416 9TH ST #1206-22; SACRAMENTO CA 95814-5511 C091 C/O %WILDLIFE CONSE

12) Situs: , CA
 * APN: 016-060-021-0 Rec Date: 10/30/80 Total Value:
 County: SIERRA, CA Sale Price: Imprv Value:
 Use: Document #: 88-681 Land Value:
 Zoning: 1st TD Amt: Lot Size:
 Map Pg: New Pg: Rooms: Bedrms: Bldg/Liv Area:
 Phone: Full Baths: Half: Yr Built/Eff:
 Owners: CALIFORNIA FISH & GAME Stories:
 WILDLIFE CONSERVATION BD Pool:
 Mail: 1416 9TH ST #1206-22; SACRAMENTO CA 95814-5511 C091 C/O %WILDLIFE CONSE

9) Situs: , CA

* APN: 016-240-007-0

County: SIERRA, CA

Use:

Zoning:

Map Pg: New Pg:

Phone:

Owners: CALIFORNIA FISH & GAME

Mail: 1416 9TH ST #1206-22; SACRAMENTO CA 95814-5511 C091 C/O %WILDLIFE CONSE

Rec Date: 10/30/80

Sale Price:

Document #: 88-681

1st TD Amt:

Rooms: Bedrms:

Full Baths: Half:

Total Value:

Imprv Value:

Land Value:

Lot Size:

Bldg/Liv Area:

Yr Built/Eff:

Stories:

Pool:

Antelope Valley WA

10) Situs: , CA

APN: 016-240-007-8

County: SIERRA, CA

Use:

Zoning:

Map Pg: New Pg:

Phone: 530/257-5203

Owners: MORAN CURTIS

DUFFY THOMAS

Mail: 702-100 JOHNSTONVILLE RD; SUSANVILLE CA 96130-9705 H004

Rec Date:

Sale Price:

Document #:

1st TD Amt:

Rooms: Bedrms:

Full Baths: Half:

Total Value: \$2,805

Imprv Value:

Land Value: \$2,805

Lot Size:

Bldg/Liv Area:

Yr Built/Eff:

Stories:

Pool:

1) Situs: , CA
APN: 018-140-001-0 Rec Date: Total Value:
County: SIERRA, CA Sale Price: Imprv Value:
Use: Document #: 80-557 Land Value:
Zoning: 1st TD Amt: Lot Size:
Map Pg: New Pg: Rooms: Bedrms: Bldg/Liv Area:
Phone: Full Baths: Half: Yr Built/Eff:
Owners: U S F S Stories:
Pool:
Mail:

2) Situs: , CA
* APN: 018-140-002-0 Rec Date: 10/30/80 Total Value:
County: SIERRA, CA Sale Price: Imprv Value:
Use: Document #: 88-681 Land Value:
Zoning: 1st TD Amt: Lot Size:
Map Pg: New Pg: Rooms: Bedrms: Bldg/Liv Area:
Phone: Full Baths: Half: Yr Built/Eff:
Owners: CALIFORNIA FISH & GAME Stories:
Pool:
Mail: 1416 9TH ST #1206-22; SACRAMENTO CA 95814-5511 C091 C/O %WILDLIFE CONSE

Antelope Valley WA

3) Situs: , CA
* APN: 018-140-004-0 Rec Date: 10/30/80 Total Value:
County: SIERRA, CA Sale Price: Imprv Value:
Use: Document #: 88-681 Land Value:
Zoning: 1st TD Amt: Lot Size:
Map Pg: New Pg: Rooms: Bedrms: Bldg/Liv Area:
Phone: Full Baths: Half: Yr Built/Eff:
Owners: CALIFORNIA FISH & GAME Stories:
Pool:
Mail: 1416 9TH ST #1206-22; SACRAMENTO CA 95814-5511 C091 C/O %WILDLIFE CONSE

4) Situs: , CA
APN: 018-140-005-0 Rec Date: Total Value:
County: SIERRA, CA Sale Price: Imprv Value:
Use: Document #: 80-557 Land Value:
Zoning: 1st TD Amt: Lot Size:
Map Pg: New Pg: Rooms: Bedrms: Bldg/Liv Area:
Phone: Full Baths: Half: Yr Built/Eff:
Owners: U S A Stories:
Pool:
Mail:

Department of Fish and Game
Property Inventory Form

Property #: 00216

Parcel History #: 821350

Property Name: ANTELOPE VALLEY WA Region: 2
 Property AKA: MA Code: SFGWAANTE1 Area Class: WA
 County: 46 SIERRA Multiple Counties: No Other Counties:
 Property Purpose: 15 DEER WINTER RANGE Summary Purpose: 09 DEER HABITAT
 Management Plan: Yes Plan Date: 10/1/1992 Type of Plan: DRAFT
 Location of Property: 4 MILES SOUTHWEST OF LOYALTON

Grantor: FERGUSON, BOB E. SR, ET AL Transaction Date: 9/30/1993
 Manner Acquired: 0100 GRD Title Insurance: Yes Control #: 46A WA 940527 40000
 [1] State Fund: 262 HCF-P117 [2] State Fund: Multiple State Fund: No
 [1] Federal Fund: [2] Federal Fund: O and M Fund:
 Parcel Name: MERRY-GO-ROUND UNIT

WCB Project Name:
 Parcel Location: 6 MILES NE OF SIERRAVILLE, SOUTH (EAST) SIDE OF HWY 49
 Parcel Access: HWY 49, 4 MILES WEST OF LOYALTON

Topographic (Quad) Name: ANTELOPE VALLEY
 Topographic Map: Yes Orthophoto Map: No Access Map (Arcview): No SNA: No SNA #:
 Acquisition Proposal: Yes Mitigation: No Permit Type:
 [1] HCPB Mitigation #: [2] HCPB Mitigation #: [3] HCPB Mitigation #:
 [1] PCA #: [2] PCA #: [3] PCA #: NCCP: No
 [1] Purpose: 15 DEER WINTER RANGE [2] Purpose:
 Summary Purpose: 09 DEER HABITAT Date Digitized: 7/28/1994 Title 14 Desig. Date: 8/29/1980
 Property Mgmt: DFG-2 Mgmt Agrmnt Effective Date: Lease Effective Date:
 Mgmt Agrmnt Expiration Date: Lease Expiration Date: Term: In-Lieu Fee Date: 5/27/1994

Handicap Access: No Water Rights: Mineral Rights: Y Timber Rights: N
 Easements: ELECTRIC & PHONE LINES, ROAD, ANY EASEMENTS FOR DIVERTING, STORING WATER PER COURT DECREE JAN. 1940

Improvements:

Comments: WINTER RANGE FOR LOYALTON-TRUCKEE DEER HERD. GRANTOR RETAINED RESIDENCE, OUTBUILDINGS, STORAGE TANK & RESERVOIR. ACQUISITION COSTS ABOUT \$10,000

State Land Cost:	\$439,110.00	WCB Improvement Cost:	Federal Cost:
Acquisition Cost:		Donation/Mitigation Value:	Other Cost:
State Improvement Cost:		City/County Cost:	In-Lieu Fees: \$749.02
Total State Cost:	\$439,110.00	Taxes:	

County: 46 SIERRA City Code: TR #: 93-154A
 Recorded Date: 5/27/1994 Book: 127 Page: 1822 Document #: 116737

Comments: 915.71 ACRES/ AP MAPS, 975.80/ WCB.

Parcel Characteristic: 1000 Original Acreage: 975.80 Current Acreage: 975.80

Department of Fish and Game
Property Inventory Form

Property #: 00216

Parcel History #: 821350

APN: 00012-0130-0023	Meridian: MDBM	Township: 21N	Range: 14E	Section: 13
APN: 00016-0030-0024	Meridian: MDBM	Township: 21N	Range: 15E	Section: 17
APN: 00016-0030-0025	Meridian: MDBM	Township: 21N	Range: 15E	Section: 18
APN: 00016-0030-0028	Meridian: MDBM	Township: 21N	Range: 15E	Section: 17
APN: 00016-0030-0028	Meridian: MDBM	Township: 21N	Range: 15E	Section: 18
APN: 00016-0030-0028	Meridian: MDBM	Township: 21N	Range: 15E	Section: 19
APN: 00016-0030-0030	Meridian: MDBM	Township: 21N	Range: 15E	Section: 19
APN: 00016-0030-0033	Meridian: MDBM	Township: 21N	Range: 15E	Section: 18
APN: 00016-0050-0010	Meridian: MDBM	Township: 21N	Range: 15E	Section: 31

Last Update: 7/17/2000

116737

116737

OFFICIAL RECORDS
RECORDING REQUESTED

*Sierra County
Title Co.*

30 MAY 27 PM 5:00

SIERRA COUNTY, CA
NAOMI ADAMS, RECORDER

127 1822-11c

WHEN RECORDED MAIL TO

State of California
WILDLIFE CONSERVATION BOARD
801 K Street, Suite 806
Sacramento, California 95814

SPACE ABOVE THIS LINE FOR RECORDER'S USE

Department of Fish and Game
Agency: Wildlife Conservation Board
Project: Antelope Valley Wildlife Area
Parcel: Expansion #2, Sierra County
Ferguson

Grant Deed

APP'S 16-03-23, 24, 25, 26, 27, 28; 16-05-10

BOB E. FERGUSON, SR., AND VIRGINIA FERGUSON, husband and wife, as joint tenants, as to Parcel One, and BOB E. FERGUSON, JR., AND JENNIFER FERGUSON, husband and wife, as joint tenants, as to Parcels Two and Three, hereby GRANT to THE STATE OF CALIFORNIA, the following described real property in the County of Sierra, State of California:

Described on Exhibit "A" attached hereto
and thereby made a part hereof.

Dated: September 30, 1993

Subscribing Witness:

[Handwritten signature]

Bob E. Ferguson Sr.
BOB E. FERGUSON, SR.

Virginia Ferguson
VIRGINIA FERGUSON

Bob E. Ferguson Jr.
BOB E. FERGUSON, JR.

Jennifer Ferguson
JENNIFER FERGUSON

1822

GRANTOR(S)

STATE OF CALIFORNIA)
COUNTY OF _____)

On _____ before me, the undersigned, a Notary Public in and for said State, personally appeared

_____ personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Signature: _____
Notary Public
State of California

(Seal)

3/92 (Forma/Notary)

SUBSCRIBING WITNESS

STATE OF CALIFORNIA)
COUNTY OF Sacramento)

On November 15, 1993 before me, the undersigned, a Notary Public in and for said State, personally appeared Frank G. Giordano personally known to me (~~or proved to me on the oath of _____ who is personally known to me~~) to be the person whose name is subscribed to the within instrument, as a witness thereto, who, being by me duly sworn, deposes and says that he/~~she~~ was present and saw E. Ferguson, Sr. Virginia Ferguson, Bob E. Ferguson, Jr. Jennifer Ferguson the same persons described in and whose names ~~is~~ subscribed to the within and annexed instrument as party thereto, execute the same, and that said affiant subscribed ~~his/her~~ name to the within instrument as a witness at the request of the Fergusons

WITNESS my hand and official seal.

Signature: Sandy Daniel
Notary Public
State of California

(Seal)



12/87 (Forma/Notary, Witness-Individual)

DESCRIPTION

All that real property situated in the unincorporated area of the County of Sierra, State of California, more particularly described as follows:

PARCEL ONE:

All that real property situate in portions of Sections 13 and 24, Township 21 North, Range 14 East and portions of Sections 17, 18 and 19, Township 21 North, Range 15 East, M.D.M., County of Sierra, State of California, as shown on that certain map entitled "Record of Survey for the Alice M. Vanetti Trust" filed in Book 7 of Maps and Surveys, at Page 79, in the Office of Recorder of said County of Sierra and being more particularly described as follows:

BEGINNING at the Section Corner common to said Sections 13, 24 and Sections 14 and 23, Township 21 North, Range 14 East; thence Northerly along the West line of said Section 13, North $0^{\circ} 28' 45''$ East, 1053.80 feet to a point on the Southeasterly bank of an existing irrigation canal as conveyed to D. H. Russell, et ux, by Grant Deed recorded in Volume 43, Page 359 in said office of Recorder of County of Sierra; thence Northeasterly along said bank, North $32^{\circ} 08' 53''$ East, 312.93 feet to a point of intersection with the North line of the South half of the South half of Section 13; thence leaving said bank, Easterly along said North line of the South half of the South half of Section 13, South $89^{\circ} 45' 26''$ East, 5081.77 feet to the West line of said Township 21 North, Range 15 East, (said West line being also the West line of said Section 18, Township 21 North, Range 15 East); thence Southerly along said West line of Township 21 North, Range 15 East, South $0^{\circ} 12' 51''$ West, 311.02 feet to a point on the Westerly line of 100.00 foot wide highway right-of-way from which a radial line bears South $64^{\circ} 48' 25''$ East; thence leaving said Westerly right-of-way line along said radial line South $64^{\circ} 48' 25''$ East, 100.00 feet to the Easterly line of said 100.00 foot wide highway right-of-way; thence along said Easterly right-of-way Northeasterly, the following two (2) courses:

- 1) Along the arc of a 2450.00 foot radius curve to the right, consuming a central angle of $27^{\circ} 01' 56''$, and an arc length of 1155.91 feet;
- 2) North $52^{\circ} 13' 30''$ East, 1218.00 feet to a point of intersection with East-West centerline of said Section 18;

Thence leaving said Easterly right-of-way line Easterly, along said East-West centerline, South $89^{\circ} 30' 53''$ East, 875.99 feet to the center corner of Section 18; thence Northerly along the North-South center line of Section 18, North $0^{\circ} 13' 57''$ East, 182.56 feet to a point on the Southwesterly line of Parcel 1, as shown in Book 4 of Maps and Surveys, at Page 78, on file in said Office of Recorder, County of Sierra; thence along the lines of said Parcel 1, the following three courses:

(Continued)

DESCRIPTION (continued)

- 1) South 48° 08' 48" East, 300.31 feet;
- 2) North 42° 19' 35" East, 1338.04 feet;
- 3) North 47° 40' 00" West, 660.00 feet to said Easterly line of a 100.00 foot wide highway right-of-way;

Thence leaving said Easterly right-of-way line North 47° 40' 00" West, 100.00 feet to the Westerly right-of-way line of said 100.00 foot wide highway right-of-way; thence Southwesterly along said Westerly right-of-way line the following (2) courses:

- 1) South 42° 20' 00" West, 820.00 feet;
- 2) Along the arc of a tangent 2950.00 foot radius curve to the right, consuming a central angle of 0° 13' 31", and an arc length of 11.60 feet to a point of intersection with said East-West centerline of Section 18;

Thence leaving said Easterly right-of-way line Northerly along the East-West centerline of Section 18, North 0° 13' 57" East, 1751.34 feet to the North one-quarter (N. 1/4) of Section 18; thence Easterly along the North line of Section 18, South 89° 49' 56" East, 2645.55 feet to the Section Corner common to said Sections 7, 8, 17, 18, Township 21 North, Range 15 East; thence Easterly along the North line of Section 17, South 89° 14' 29" East, 1331.155 feet to the Northeast corner of the West half of the West half of Section 17; thence leaving said North line, Southerly along the East line of said West half of the West half of Section 17, South 0° 23' 58" West, 3949.00 feet to the Northeast corner of the Southwest quarter of the Southwest quarter of Section 17; thence Westerly along the North line of the Southwest quarter of the Southwest quarter of Section 17, North 89° 21' 36" West, 1329.80 feet to the West line of Section 17 (said point being also the Northwest corner of the Southwest quarter of the Southwest quarter of said Section 17); thence Westerly along the North line of the Northeast quarter of the Southeast quarter of the Southeast quarter of said Section 18, Township 21 North, Range 15 East, North 89° 20' 21" West, 658.86 feet to the Northwest corner of the Northeast quarter of the Southeast quarter of the Southeast quarter of said Section 18; thence Southerly along the West line of said Northeast quarter of the Southeast quarter of the Southeast quarter of Section 18, South 0° 20' 36" West, 657.62 feet to the Southwest corner of the Northeast quarter of the Southeast quarter of the Southeast quarter of Section 18; thence Westerly along the North line of the South half of the South half of the Southeast quarter of Section 18, North 89° 15' 05" West, 1707.14 feet to a point; thence leaving said North line of the South half of the South half of the Southeast quarter of Section 18, South 0° 13' 59" West, 655.01 feet to the South line of Section 18; thence Westerly along said south line of Section 18, North 89° 09' 48" West, 268.20 feet to the South one-quarter (S 1/4) corner of Section 18; thence continuing Westerly along the South line of Section 18, North 89° 09' 48" West, 1316.07 feet to the Northeast corner of the North half of the Northwest quarter of the Northwest quarter of said Section 19, Township 21 North, Range 15 East; thence Southerly

(Continued)

DESCRIPTION (continued)

along the East line of said North half of the Northwest quarter of the Northwest quarter of Section 19, South $0^{\circ} 04' 03''$ West, 654.02 feet to the Southeast corner of the North half of the Section 19; thence Westerly along the South line of the North half of the Northwest quarter of the Northwest quarter of Section 19, North $89^{\circ} 25' 40''$ West, 1322.48 feet to the Southwest corner of the North half of the Northwest quarter of the Northwest quarter of Section 19 (said point being also on the West line of said Township 21 North, Range 15 East); thence leaving said West line of Township 21 North, Range 15 East, the following eight (8) courses:

- 1) South $82^{\circ} 08' 26''$ West, 483.66 feet;
- 2) South $2^{\circ} 51' 15''$ West, 30.00 feet;
- 3) South $28^{\circ} 54' 50''$ West, 192.00 feet;
- 4) North $77^{\circ} 26' 54''$ West, 190.66 feet;
- 5) North $32^{\circ} 52' 00''$ East, 147.14 feet;
- 6) North $52^{\circ} 35' 23''$ West, 275.63 feet;
- 7) North $45^{\circ} 45' 26''$ East, 361.61 feet;
- 8) North $29^{\circ} 14' 25''$ East, 389.49 feet to the North line of said Section 24, Township 21 North, Range 14 East;

Thence Westerly, along said North line of Section 24, North $89^{\circ} 57' 26''$ West, 4802.18 feet to said point of beginning.

EXCEPTING THEREFROM, two (2) 100.00 foot wide highway right-of-ways, being more particularly described as follows:

RIGHT-OF-WAY NO. 1

BEGINNING a point on the Westerly line of said 100.00 foot wide highway right-of-way from which the Northeast corner of the South half of the South half of Section 13, Township 21 North, Range 14 East, bears North $0^{\circ} 12' 51''$ East, 311.02 feet and also which a radial line bears South $64^{\circ} 48' 25''$ East; thence leaving said Westerly right-of-way line along said radial line South $64^{\circ} 48' 25''$ East, 100.00 feet to the Easterly line of said 100.00 foot wide highway right-of-way; thence Southwesterly, along said Easterly right-of-way line, the following four (4) courses:

- 1) Along the arc of a 2450.00 foot radius curve to the left, consuming a central angle of $6^{\circ} 39' 04''$, and an arc length of 284.41 feet;
- 2) South $18^{\circ} 32' 30''$ West, 637.35 feet;
- 3) Along the arc of a 2050.00 foot radius curve to the right, consuming a central angle of $14^{\circ} 19' 30''$, and an arc length of 512.54 feet;
- 4) South $32^{\circ} 52' 00''$ West, 450.16 feet;

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DESCRIPTION (continued)

Thence leaving said Easterly right-of-way line, North 52° 35' 23" West, 100.32 feet to said Westerly right-of-way line; thence Northeasterly along the Westerly right-of-way line the following four (4) courses:

- 1) North 32° 52' 00" East, 442.22 feet;
- 2) Along the arc of a 1950.00 foot radius curve to the left, consuming a central angle of 14° 19' 30", and an arc length of 487.54 feet;
- 3) North 18° 32' 30" East, 637.35 feet;
- 4) Along the arc of a 2550.00 foot radius curve to the right, consuming a central angle of 6° 39' 05", and an arc length of 296.02 feet to said point of beginning.

RIGHT-OF-WAY NO. 2

BEGINNING at a point on the Easterly line of said 100.00 foot wide right-of-way, (said point being at a point of intersection with the North line of said Section 18, Township 21 North, Range 15 East) from which the Northeast corner of said Section bears South 89° 49' 56" East, 926.48 feet; thence Southwesterly, along said Easterly right-of-way line, South 42° 20' 00" West, 1621.82 feet; thence leaving said Easterly right-of-way line, North 47° 40' 00" West, 100.00 feet to the Westerly line of said 100.00 foot wide highway right-of-way; thence Northeasterly along said Westerly right-of-way line, North 42° 20' 00" East, 1531.25 feet to said North line of Section 18; thence leaving said Westerly right-of-way line along the North line of Section 18, South 89° 49' 56" East, 134.92 feet to said point of beginning.

Said 100.00 foot wide right-of-ways No. 1 and No. 2 containing 7.92 acres, more or less.

PARCEL TWO:

All that real property situate in portions of Sections 23 and 24, Township 21 North, Range 14 East and portions of Sections 17, 18 and 19, Township 21 North, Range 15 East, M.D.M., County of Sierra, State of California, as shown on that certain Map entitled "Record of Survey for the Alice M. Vanetti Trust" filed in Book 7 of Maps and Surveys, at Page 79, in the Office of Recorder of said County of Sierra and being more particularly described as follows:

(Continued)

DESCRIPTION (continued)

BEGINNING at the Section Corner common to said Sections 17, 18, 19 and 20, Township 21 North, Range 15 East; thence Southerly along the East line of said Section 19, South $0^{\circ} 18' 05''$ West, 1271.71 feet to the Southeast corner of the Northeast quarter of the Northeast quarter of Section 19; thence Westerly along the South line of the Northeast quarter of the Northeast quarter of Section 19, North $89^{\circ} 41' 23''$ West, 1311.82 feet to the Southwest corner of the Northeast quarter of the Northeast quarter of Section 19; thence Southerly along the East line of the Southwest quarter of the Northeast quarter of Section 19, South $0^{\circ} 06' 52''$ West, 1283.81 feet to the East-West centerline of Section 19; thence Westerly along the East-West centerline of Section 19, South $89^{\circ} 46' 50''$ West, 1307.69 feet to the center corner of Section 19; thence Southerly along the North-South centerline of Section 19, South $0^{\circ} 04' 08''$ East, 1326.615 feet to the Southeast corner of the Northeast quarter of the Southwest quarter of Section 19; thence Westerly along the South line of the North half of the Southwest quarter of Section 19, South $89^{\circ} 55' 08''$ West, 2647.18 feet to the West line of said Township 21 North, Range 15 East, (said West line being also the East line of said Section 24, Township 21 North, Range 14 East); thence Northerly along said West line of Township 21 North, Range 15 East, North $0^{\circ} 03' 30''$ East, 2640.48 feet to the Southeast corner of the North half of the North half of said Section 24, Township 21 North, Range 14 East; thence Westerly along the South line of said North half of the North half of Section 24, North $89^{\circ} 56' 54''$ West 5265.74 feet to the West line of Section 24; thence Southerly along the said West line of Section 24, South $0^{\circ} 38' 49''$ West, 1319.495 feet to the East one-quarter (E. 1/4) of Section 23, Township 21 North, Range 14 East; thence Westerly along the East-West centerline of said Section 23, South $89^{\circ} 48' 26''$ West, 1294.28 feet to the Southwest corner of the East half of the Northeast quarter of Section 23; thence Northerly along the West line of said East half of the Northeast quarter of Section 23, North $0^{\circ} 03' 37''$ East, 1889.65 feet to a point on the Southeasterly bank of an existing irrigation canal as conveyed to D. H. Russell, et ux, by Grant Deed, recorded in Volume 43, Page 359, in said Office of the Recorder of County of Sierra; thence Northeasterly along said bank, North $36^{\circ} 37' 42''$ East, 937.21 feet to a point of intersection with the North line of said Section 23; thence leaving said bank Easterly along said North line of Section 23, North $89^{\circ} 53' 40''$ East, 762.93 feet to the Section corner common to said Sections 13, 14, 23, 24, Township 21 North, Range 14 East; thence Easterly along the North line of Section 24, South $89^{\circ} 57' 26''$ East, 4802.18 feet to a point; thence leaving said North line of Section 24, the following eight (8) courses:

(Continued)

DESCRIPTION (continued)

- 1) South 29° 14' 25" West, 389.49 feet;
- 2) South 45° 45' 26" West, 361.61 feet;
- 3) South 52° 35' 23" East, 275.63 feet;
- 4) South 32° 52' 00" West, 147.14 feet;
- 5) South 77° 26' 54" East, 190.66 feet;
- 6) North 28° 54' 50" East, 192.00 feet;
- 7) North 2° 51' 15" East, 30.00 feet;
- 8) North 82° 08' 26" East, 483.66 feet to the Southwest corner of the North half of the Northwest quarter of the Northwest quarter of said Section 19, Township 21 North, Range 15 East, (said point being also on West line of said Township 21 North, Range 15 East);

Thence Easterly along the South line of said North half of the Northwest quarter of the Northwest quarter of Section 19, South 89° 25' 40" East, 1322.48 feet to the Southeast corner of the North half of the Northwest quarter of the Northwest quarter of Section 19; thence Northerly along the East line of the North half of the Northwest quarter of the Northwest quarter of Section 19, North 0° 04' 03" East, 654.02 feet to the Northeast corner of the North half of the Northwest quarter of the Northwest quarter of the Section 19 (said point being also on the South line of said Section 18, Township 21 North, Range 15 East); thence Easterly along said line of Section 18, South 89° 09' 48" East, 1316.07 feet to the South one-quarter (S 1/4) of said Section 18; thence continuing Easterly along the South line of Section 18, South 89° 09' 48" East, 268.20 feet to a point; thence leaving said South line of Section 18, North 0° 13' 59" East, 655.01 feet to a point on the North line of the South half of the South half of the Southeast quarter of Section 18; thence Easterly along said North line of the South half of the South half of the Southeast quarter of Section 18, South 89° 15' 05" East, 1707.14 feet to the Southwest corner of the Northeast quarter of the Southeast quarter of the Southeast quarter of Section 18; thence Northerly along the West line of said Northeast quarter of the

(Continued)

DESCRIPTION (continued)

Southeast quarter of the Southeast quarter of Section 18, North $0^{\circ} 20' 36''$ East, 657.62 feet to the Northwest corner of the Northeast quarter of the Southeast quarter of the Southeast quarter of Section 18; thence Easterly along the North line of the Northeast quarter of the Southeast quarter of the Southeast quarter of Section 18, South $89^{\circ} 20' 21''$ East, 658.86 feet to the West line of said Section 17, Township 21 North, Range 15 East, (said point being also the Northwest corner of the Southwest quarter of the Southwest quarter of said Section 17); thence Easterly along the North line of said Southwest quarter of the Southwest quarter of Section 17, South $89^{\circ} 21' 36''$ East, 1329.80 feet to the Northeast corner of the Southwest quarter of the Southwest quarter of Section 17; thence Southerly along the East line of the Southwest quarter of the Southwest quarter of Section 17, South $0^{\circ} 23' 58''$ West, 1319.72 feet to the Southeast corner of the Southwest quarter of the Southwest quarter of Section 17 (said point being also on the South line of said Section 17); thence Westerly along the South line of Section 17, North $89^{\circ} 15' 14''$ West, 1329.37 feet to said point of beginning.

EXCEPTING THEREFROM, a Highway right-of-way being 100.00 feet wide, said right-of-way being more particularly described as follows:

BEGINNING at a point on said South line of the North half of the North half of Section 24, Township 21 North, Range 14 East, from which said Southeast corner of the North half of the North half of Section 24 bears South $89^{\circ} 56' 54''$ East, 1035.92 feet; said point of beginning being also a point of intersection with the Easterly line of said 100.00 foot wide right-of-way; thence Westerly along the South line of the North half of the North half of Section 24, North $89^{\circ} 56' 54''$ West, 114.60 feet to a point from which a radial line bears South $61^{\circ} 14' 26''$ East (said point being a point of intersection with the Westerly line of said 100.00 foot wide highway right-of-way; thence leaving the South line of the North half of the North half of Section 24 Northeasterly along said Westerly right-of-way line the following two (2) courses:

- 1) Along the arc of a 3050.00 foot radius curve to the right, consuming a central angle of $4^{\circ} 06' 26''$, and an arc length of 218.64 feet;
- 2) North $32^{\circ} 52' 00''$ East, 515.66 feet:

Thence leaving said Westerly right-of-way line South $52^{\circ} 35' 23''$ East, 100.23 feet to said Easterly right-of-way line; thence along said Easterly right-of-way line Southwesterly the following two (2) courses:

- 1) South $32^{\circ} 52' 00''$ West, 507.71 feet to a point from which a radial line bears South $57^{\circ} 08' 00''$ East;
- 2) Along the arc of a 2950.00 foot radius curve to the left, consuming a central angle of $3^{\circ} 02' 17''$, and an arc length of 156.42 feet to said point of beginning.

(Continued)

Excepting from Parcels One and Two any portion thereof lying Northwesterly of the Southeasterly line of State Highway 49.

ALSO EXCEPTING THEREFROM the following two parcels:

Parcel A:

Commencing at the Northwest corner of Section 19, T21N, R15E, MDM, as shown on that Record of Survey for the Alice M. Vanetti Trust, filed in Book 7 of Surveys at Pages 79 through 87 in the office of the Sierra County Recorder, and running thence S 44° 55' 24" E 823.93 feet; thence S 18° 30' 06"E 87.34 feet to a point on the South line of the N 1/2 of the NW 1/4 of the NW 1/4 of said Section 19, being the true point of beginning; thence N 89° 25' 40" W 610.25 feet to the Southwest corner of said N 1/2 of the NW 1/4 of the NW 1/4; thence S 82° 08' 26" W 483.66 feet; thence S 2° 51' 15" W 30.00 feet; thence S 28° 54' 50" W 192.00 feet; thence N 77° 26' 54" W 190.65 feet to the Easterly line of California State Highway No. 49; thence along said Easterly line of Highway No. 49, Southwesterly 517.02 feet to the South line of the NE 1/4 of the NE 1/4 of Section 24, T21N, R14E, MDM; thence S 89° 56' 54" E 1035.92 feet to the Southeast corner of said NE 1/4 of the NE 1/4; thence N 46° 39' 19" E 867.10 feet to a point which lies S 18° 30' 06" E 62.07 feet from the true point of beginning; thence N 18° 30' 06" W 62.07 feet to the true point of beginning.

Parcel B:

Beginning at the Northwest corner of Section 19, T21N, R15E, MDM, as shown on that Record of Survey for the Alice M. Vanetti Trust, filed in Book 7 of Surveys at Pages 79 through 87 in the office of the Sierra County Recorder, and running thence S 44° 55' 24" E 823.93 feet; thence S 18° 30' 06"E 87.34 feet to a point on the South line of the N 1/2 of the NW 1/4 of the NW 1/4 of said Section 19; thence N 89° 25' 40" W 610.25 feet to the Southwest corner of said N 1/2 of the NW 1/4 of the NW 1/4; thence S 82° 08' 26" W 483.66 feet; thence S 2° 51' 15" W 30.00 feet; thence S 28° 54' 50" W 192.00 feet; thence N 77° 26' 54" W 190.65 feet to the Easterly line of California State Highway No. 49; thence along said Easterly line of Highway No. 49, Northeasterly 1109.81 feet to a monument lying N 69° 40' 00" W 228.60 feet from the point of beginning; thence S 69° 40' 00" E 228.60 feet to the point of beginning.

PARCEL THREE:

The Northeast quarter of the Northeast quarter of Section 31, Township 21 North, Range 15 East, M. D. M., according to the Official Plat thereof.

PARCEL FOUR:

An easement for ingress and egress over the Southerly 30 feet of that portion of the Northeast 1/4 of the Northeast 1/4 of Section 24 Township 21 North, Range 15 East, M. D. M., lying Easterly of the Southeasterly line of State Highway 49.

Antelope Valley Wildlife Area
Expansion #2, Sierra County

CERTIFICATE OF ACCEPTANCE

THIS IS TO CERTIFY that the interest in real property conveyed by the deed or grant, dated September 30, 1993, from Bob E. Ferguson, Sr., to the STATE OF CALIFORNIA, is hereby accepted by the undersigned officer on behalf of the State of California, pursuant to authority conferred by authorization of the Wildlife Conservation Board, Department of Fish and Game, Resources Agency, State of California, adopted on November 9, 1993, and the grantee consents to the recordation thereof by its duly authorized officer.

STATE OF CALIFORNIA
Resources Agency
Department of Fish and Game

By:

W. John Schmidt
W. John Schmidt
Executive Director
Wildlife Conservation Board

APPROVED:
DEPARTMENT OF GENERAL SERVICES

By:

F. Warren Caldwell
F. WARREN CALDWELL, Senior Real Estate Officer
Office of Real Estate and Design Services
TR93-154A

Date:

12-2-93

POLICY OF TITLE INSURANCE

ISSUED BY

POLICY NUMBER

628-034173



Commonwealth.
Land Title Insurance Company

SUBJECT TO THE EXCLUSIONS FROM COVERAGE, THE EXCEPTIONS FROM COVERAGE CONTAINED IN SCHEDULE B AND THE CONDITIONS AND STIPULATIONS, COMMONWEALTH LAND TITLE INSURANCE COMPANY, a Pennsylvania corporation, herein called the Company, insures, as of Date of Policy shown in Schedule A, against loss or damage, not exceeding the Amount of Insurance stated in Schedule A, sustained or incurred by the insured by reason of:

1. Title to the estate or interest described in Schedule A being vested other than as stated therein;
2. Any defect in or lien or encumbrance on the title;
3. Unmarketability of the title;
4. Lack of a right of access to and from the land;
and in addition, as to an insured lender only;
5. The invalidity or unenforceability of the lien of the insured mortgage upon the title;
6. The priority of any lien or encumbrance over the lien of the insured mortgage, said mortgage being shown in Schedule B in the order of its priority;
7. The invalidity or unenforceability of any assignment of the insured mortgage, provided the assignment is shown in Schedule B, or the failure of the assignment shown in Schedule B to vest title to the insured mortgage in the named insured assignee free and clear of all liens.

The Company will also pay the costs, attorneys' fees and expenses incurred in defense of the title or the lien of the insured mortgage, as insured, but only to the extent provided in the Conditions and Stipulations.

IN WITNESS WHEREOF, Commonwealth Land Title Insurance Company has caused its corporate name and seal to be hereunto affixed by its duly authorized officers, the Policy to become valid when countersigned on Schedule A by an authorized officer or agent of the Company.

COMMONWEALTH LAND TITLE INSURANCE COMPANY



Attest:

James J. Lynch, Jr.
Secretary

By

Frederick A. Sullivan
President

President

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
(b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
 - (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
 - (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
 - (c) resulting in no loss or damage to the insured claimant;
 - (d) attaching or created subsequent to Date of Policy; or
 - (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate or interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

CONDITIONS AND STIPULATIONS

1. DEFINITION OF TERMS.

The following terms when used in this policy mean:

(a) "insured": the insured named in Schedule A, and, subject to any rights or defenses the Company would have had against the named insured, those who succeed to the interest of the named insured by operation of law as distinguished from purchase including, but not limited to, heirs, distributees, devisees, survivors, personal representatives, next of kin, or corporate or fiduciary successors. The term "insured" also includes

(i) the owner of the indebtedness secured by the insured mortgage and each successor in ownership of the indebtedness except a successor who is an obligor under the provisions of Section 12(c) of these Conditions and Stipulations (reserving, however, all rights and defenses as to any successor that the Company would have had against any predecessor insured, unless the successor acquired the indebtedness as a purchaser for value without knowledge of the asserted defect, lien, encumbrance, adverse claim or other matter insured against by this policy as affecting title to the estate or interest in the land);

(ii) any governmental agency or governmental instrumentality which is an insurer or guarantor under an insurance contract or guaranty insuring or guaranteeing the indebtedness secured by the insured mortgage, or any part thereof, whether named as an insured herein or not;

(iii) the parties designated in Section 2 (a) of these Conditions and Stipulations.

(b) "insured claimant": an insured claiming loss or damage.

(c) "insured lender": the owner of an insured mortgage.

(d) "insured mortgage": a mortgage shown in Schedule B, the owner of which is named as an insured in Schedule A.

(e) "knowledge" or "known": actual knowledge, not constructive knowledge or notice which may be imputed to an insured by reason of the public records as defined in this policy or any other records which impart constructive notice of matters affecting the land.

(f) "land": the land described or referred to in Schedule (A), and improvements affixed thereto which by law constitute real property. The term "land" does not include any property beyond the lines of the area described or referred to in Schedule (A), nor any right, title, interest, estate or easement in abutting streets, roads, avenues, alleys, lanes, ways or waterways, but nothing herein shall modify or limit the extent to which a right of access to and from the land is insured by this policy.

(g) "mortgage": mortgage, deed of trust, trust deed, or other security instrument.

(h) "public records": records established under state statutes at Date of Policy for the purpose of imparting constructive notice of matters relating to real property to purchasers for value and without knowledge.

(i) "unmarketability of the title": an alleged or apparent matter affecting the title to the land, not excluded or excepted from coverage, which would entitle a purchaser of the estate or interest described in Schedule A or the insured mortgage to be released from the obligation to purchase by virtue of a contractual condition requiring the delivery of marketable title.

2. CONTINUATION OF INSURANCE.

(a) After Acquisition of Title by Insured Lender. If this policy insures the owner of the indebtedness secured by the insured mortgage, the coverage of this policy shall continue in force as of Date of Policy in favor of (i) such insured lender who acquires all or any part of the estate or interest in the land by foreclosure, trustee's sale, conveyance in lieu of foreclosure, or other legal manner which discharges the lien of the insured mortgage; (ii) a transferee of the estate or interest so acquired from an insured corporation, provided the transferee is the parent or wholly-owned subsidiary of the insured corporation, and their corporate successors by operation of law and not by purchase, subject to any rights or defenses the Company may have against any predecessor insureds; and (iii) any governmental agency or governmental instrumentality which acquires all or any part of the estate or interest pursuant to a contract of insurance or guaranty insuring or guaranteeing the indebtedness secured by the insured mortgage.

(b) After Conveyance of Title by an Insured. The coverage of this policy shall continue in force as of Date of Policy in favor of an insured only so long as the insured retains an estate or interest in the land, or holds an indebtedness secured by a purchase money mortgage given by a purchaser from the insured, or only so long as the insured shall have liability by reason of covenants of warranty made by the insured in any transfer or conveyance of the estate or interest. This policy shall not continue in force in favor of any purchaser from an insured of either (i) an estate or interest in the land, or (ii) an indebtedness secured by a purchase money mortgage given to an insured.

(c) Amount of Insurance. The amount of insurance after the acquisition or after the conveyance by an insured lender shall in neither event exceed the least of:

(i) The amount of insurance stated in Schedule A;

(ii) The amount of the principal of the indebtedness secured by the insured mortgage as of Date of Policy, interest thereon, expenses of foreclosure, amounts advanced pursuant to the insured mortgage to assure compliance with laws or to protect the lien of the insured mortgage prior to the time of acquisition of the estate or interest in the land and secured thereby and reasonable amounts expended to prevent deterioration of improvements, but reduced by the amount of all payments made; or

(iii) The amount paid by any governmental agency or governmental instrumentality, if the agency or the instrumentality is the insured claimant, in the acquisition of the estate or interest in satisfaction of its insurance contract or guaranty.

3. NOTICE OF CLAIM TO BE GIVEN BY INSURED CLAIMANT.

An insured shall notify the Company promptly in writing (i) in case of any litigation as set forth in 4(a) below, (ii) in case knowledge shall come to an insured hereunder of any claim of title or interest which is adverse to the title to the estate or interest or the lien of the insured mortgage, as insured, and which might cause loss or damage for which the Company may be liable by virtue of this policy, or (iii) if title to the estate or interest or the lien of the insured mortgage, as insured, is rejected as unmarketable. If prompt notice shall not be given to the Company, then as to that insured all liability of the Company shall terminate with regard to the matter or matters for which prompt notice is required; provided, however, that failure to notify the Company shall in no case prejudice the rights of any insured under this policy unless the Company shall be prejudiced by the failure and then only to the extent of the prejudice.

4. DEFENSE AND PROSECUTION OF ACTIONS; DUTY OF INSURED CLAIMANT TO COOPERATE.

(a) Upon written request by an insured and subject to the options contained in Section 6 of these Conditions and Stipulations, the Company, at its own cost and without unreasonable delay, shall provide for the defense of such insured in litigation in which any third party asserts a claim adverse to the title or interest as insured, but only as to those stated causes of action alleging a defect, lien or encumbrance or other matter insured against by this policy. The Company shall have the right to select counsel of its choice (subject to the right of such insured to object for reasonable cause) to represent the insured as to those stated causes of action and shall not be liable for and will not pay the fees of any other counsel. The Company will not pay any fees, costs or expenses incurred by an insured in the defense of those causes of action which allege matters not insured against by this policy.

(b) The Company shall have the right, at its own cost, to institute and prosecute any action or proceeding or to do any other act which in its opinion may be necessary or desirable to establish the title to the estate or interest or the lien of the insured mortgage, as insured, or to prevent or reduce loss or damage to an insured. The Company may take any appropriate action under the terms of this policy, whether or not it shall be liable hereunder, and shall not thereby concede liability or waive any provision of this policy. If the Company shall exercise its rights under this paragraph, it shall do so diligently.

(c) Whenever the Company shall have brought an action or interposed a defense as required or permitted by the provisions of this policy, the Company may pursue any litigation to final determination by a court of competent jurisdiction and expressly reserves the right, in its sole discretion, to appeal from any adverse judgment or order.

(d) In all cases where this policy permits or requires the Company to prosecute or provide for the defense of any action or proceeding, an insured shall secure to the Company the right to so prosecute or provide defense in the action or proceeding, and all appeals therein, and permit the Company to use, at its option, the name of such insured for this purpose. Whenever requested by the Company, an insured, at the Company's expense, shall give the Company all reasonable aid (i) in any action or proceeding, securing evidence, obtaining witnesses, prosecuting or defending the action or proceeding, or effecting settlement, and (ii) in any other lawful act which in the opinion of the Company may be necessary or desirable to establish the title to the estate or interest or the lien of the insured mortgage, as insured. If the Company is prejudiced by the failure of an insured to furnish the required cooperation, the Company's obligations to such insured under the policy shall terminate, including any liability or obligation to defend, prosecute, or continue any litigation, with regard to the matter or matters requiring such cooperation.

5. PROOF OF LOSS OR DAMAGE.

In addition to and after the notices required under Section 3 of these Conditions and Stipulations have been provided the Company, a proof of loss or damage signed and sworn to by each insured claimant shall be furnished to the Company within 90 days after the insured claimant shall ascertain the facts giving rise to the loss or damage. The proof of loss or damage shall describe the defect in, or lien or encumbrance on the title, or other matter insured against by this policy which constitutes the basis of loss or damage and shall state, to the extent possible, the basis of calculating the amount of the loss or damage. If the Company is prejudiced by the failure of an insured claimant to provide the required proof of loss or damage, the Company's obligations to such insured under the policy shall terminate, including any liability or obligation to defend, prosecute, or continue any litigation, with regard to the matter or matters requiring such proof of loss or damage.

In addition, an insured claimant may reasonably be required to submit to examination under oath by any authorized representative of the Company and shall produce for examination, inspection and copying, at such reasonable times and places as may be designated by any authorized representative of the Company, all records, books, ledgers, checks, correspondence and memoranda, whether bearing a date before or after Date of Policy, which reasonably pertain to the loss or damage. Further, if requested by any authorized representative of the Company, the insured claimant shall grant its permission, in writing, for any authorized representative of the Company to examine, inspect and copy all records, books, ledgers, checks, correspondence and memoranda in the custody or control of a third party, which reasonably pertain to the loss or damage. All information designated as confidential by an insured claimant provided to the Company pursuant to this Section shall not be disclosed to others unless, in the reasonable judgment of the Company, it is necessary in the administration of the claim. Failure of an insured claimant to submit for examination under oath, produce other reasonably requested information or grant permission to secure reasonably necessary information from third parties as required in this paragraph, unless prohibited by law or governmental regulation, shall terminate any liability of the Company under this policy as to that insured for that claim.

6. OPTIONS TO PAY OR OTHERWISE SETTLE CLAIMS; TERMINATION OF LIABILITY.

In case of a claim under this policy, the Company shall have the following additional options:

(a) To Pay or Tender Payment of the Amount of Insurance or to Purchase the Indebtedness.

(i) to pay or tender payment of the amount of insurance under this policy together with any costs, attorneys' fees and expenses incurred by the insured claimant, which were authorized by the Company, up to the time of payment or tender of payment and which the Company is obligated to pay; or

(ii) in case loss or damage is claimed under this policy by the owner of the indebtedness secured by the insured mortgage, to purchase the indebtedness secured by the insured mortgage for the amount owing thereon together with any costs, attorneys' fees and expenses incurred by the insured claimant which were authorized by the Company up to the time of purchase and which the Company is obligated to pay.

If the Company offers to purchase the indebtedness as herein provided, the owner of the indebtedness shall transfer, assign, and convey the indebtedness and the insured mortgage, together with any collateral security, to the Company upon payment therefor.

Upon the exercise by the Company of the option provided for in paragraph (a) (i), all liability and obligations to the insured under this policy, other than to make the payment required in that paragraph, shall terminate, including any liability or obligation to defend, prosecute, or continue any litigation, and the policy shall be surrendered to the Company for cancellation.

Upon the exercise by the Company of the option provided for in paragraph (a) (ii) the Company's obligation to an insured Lender under this policy for the claimed loss or damage, other than the payment required to be made, shall terminate, including any liability or obligation to defend, prosecute or continue any litigation.

(b) To Pay or Otherwise Settle With Parties Other than the Insured or With the Insured Claimant.

(i) to pay or otherwise settle with other parties for or in the name of an insured claimant any claim insured against under this policy, together with any costs, attorneys' fees and expenses incurred by the insured claimant which were authorized by the Company up to the time of payment and which the Company is obligated to pay; or

(ii) to pay or otherwise settle with the insured claimant the loss or damage provided for under this policy, together with any costs, attorneys' fees and expenses incurred by the insured claimant which were authorized by the Company up to the time of payment and which the Company is obligated to pay.

Upon the exercise by the Company of either of the options provided for in paragraphs (b) (i) or (b) (ii), the Company's obligations to the insured under this policy for the claimed loss or damage, other than the payments required to be made, shall terminate, including any liability or obligation to defend, prosecute or continue any litigation.

SCHEDULE A

Order No.: 100199

Policy No.: 628-034173

Date of Policy: 05/27/94 at 5:00 p.m.

Amount of Insurance: \$439,110.00

Premium: \$1,178.00

1. Name of Insured:

THE STATE OF CALIFORNIA

2. The estate or interest in the land which is covered by this policy is:

a fee

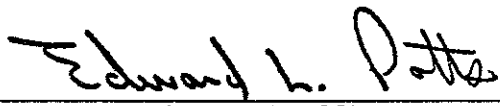
3. Title to the estate or interest in the land is vested in :

THE STATE OF CALIFORNIA

4. The land referred to in this policy is situated in the State of California, County of Sierra and described as follows:

See Schedule "C" attached hereto and incorporated herein by reference

Countersigned:



Authorized Officer or Agent

SCHEDULE B

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

Part I

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
2. Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records or such agency or by the public records.
3. Any facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
4. Easements, liens of encumbrances, or claims thereof, which are not shown by the public records.
5. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
6. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.

Part II

1. Rights of the public in and to so much of the herein described land as lies within the boundaries of any public highway or road.
2. An easement affecting the portion of said land for the purposes stated herein, and incidental purposes,
In Favor Of : The Sierra Valley Telegraph Company
For : that certain telegraph line running from Sierraville in Sierra Co. to Beckwith in Plumas Co., State of California
Recorded : December 22, 1891, in Book 6, Page 20, of Deeds.
Affects : route not defined.
3. An easement affecting the portion of said land for the purposes stated herein, and incidental purposes,
In Favor Of : Plumas-Sierra Rural Electric Co-Operative, a corporation
For : electric transmission or distribution line or system
Recorded : February 1, 1939, in Book 37, Page 222, of Deeds.
Affects : route not defined.

(Continued)

SCHEDULE B, PART II (continued)

4. Any easements for diverting, conducting, or storing water or for incidental purposes affecting the realty herein described, as may be indicated by Judgment and Decree, State of California, Division of Water Resources, to F. E. Humphrey, Jr., et al, dated January 19, 1940, entered in the Superior Court of the State of California, in and for the County of Plumas, Case No. 3095, entitled: "In the Matter of the Determination of the Rights of the Various Claimants to the Water of that portions of Middle Fork of Feather River and its tributaries situate above Beckwith in Plumas County and being within Sierra and Plumas Counties, California," recorded February 1, 1940, in Book 39 of Deeds at page 1, Sierra County Records.

5. An easement affecting the portion of said land for the purposes stated herein, and incidental purposes,

In Favor Of : United States of America

For : the construction, maintenance and full, free and quiet use and enjoyment of a road for the purposes of hauling forest products for fire protection and for general forest administration

Recorded : July 6, 1956, in Book 14, Page 197, Official Records.

Affects : Parcel No. 2.

A Correction Deed dated May 16, 1980, recorded December 7, 1980 in Book 89 of Official Records, Page 467, deleting a portion of said easement and adding a portion of the West half of the Northwest quarter and a portion of the North half of the Southwest quarter of Section 19, Township 21 North, Range 15 East, M.D.M.

6. An easement affecting the portion of said land for the purposes stated herein, and incidental purposes,

In Favor Of : The Pacific Telephone and Telegraph Company, a corporation

For : communication facilities

Recorded : November 2, 1976, in Book 70, Page 620, Official Records.

Affects : easterly portion of Sections 13 and 24, Township 21 North, Range 14 East.

SCHEDULE C

The land referred to in this policy is described as follows:

All that real property situated in the unincorporated area of the County of Sierra, State of California, more particularly described as follows:

PARCEL ONE:

All that real property situate in portions of Sections 13 and 24, Township 21 North, Range 14 East and portions of Sections 17, 18 and 19, Township 21 North, Range 15 East, M.D.M., County of Sierra, State of California, as shown on that certain map entitled "Record of Survey for the Alice M. Vanetti Trust" filed in Book 7 of Maps and Surveys, at Page 79, in the Office of Recorder of said County of Sierra and being more particularly described as follows:

BEGINNING at the Section Corner common to said Sections 13, 24 and Sections 14 and 23, Township 21 North, Range 14 East; thence Northerly along the West line of said Section 13, North $0^{\circ} 28' 45''$ East, 1053.80 feet to a point on the Southeasterly bank of an existing irrigation canal as conveyed to D. H. Russell, et ux, by Grant Deed recorded in Volume 43, Page 359 in said office of Recorder of County of Sierra; thence Northeasterly along said bank, North $32^{\circ} 08' 53''$ East, 312.93 feet to a point of intersection with the North line of the South half of the South half of Section 13; thence leaving said bank, Easterly along said North line of the South half of the South half of Section 13, South $89^{\circ} 45' 26''$ East, 5081.77 feet to the West line of said Township 21 North, Range 15 East, (said West line being also the West line of said Section 18, Township 21 North, Range 15 East); thence Southerly along said West line of Township 21 North, Range 15 East, South $0^{\circ} 12' 51''$ West, 311.02 feet to a point on the Westerly line of 100.00 foot wide highway right-of-way from which a radial line bears South $64^{\circ} 48' 25''$ East; thence leaving said Westerly right-of-way line along said radial line South $64^{\circ} 48' 25''$ East, 100.00 feet to the Easterly line of said 100.00 foot wide highway right-of-way; thence along said Easterly right-of-way Northeasterly, the following two (2) courses:

- 1) Along the arc of a 2450.00 foot radius curve to the right, consuming a central angle of $27^{\circ} 01' 56''$, and an arc length of 1155.91 feet;
- 2) North $52^{\circ} 13' 30''$ East, 1218.00 feet to a point of intersection with East-West centerline of said Section 18;

Thence leaving said Easterly right-of-way line Easterly, along said East-West centerline, South $89^{\circ} 30' 53''$ East, 875.99 feet to the center corner of Section 18; thence Northerly along the North-South center line of Section 18, North $0^{\circ} 13' 57''$ East, 182.56 feet to a point on the Southwesterly line of Parcel 1, as shown in Book 4 of Maps and Surveys, at Page 78, on file in said Office of Recorder, County of Sierra; thence along the lines of said Parcel 1, the following three courses:

(Continued)

- 1) South 48° 08' 48" East, 300.31 feet;
- 2) North 42° 19' 35" East, 1338.04 feet;
- 3) North 47° 40' 00" West, 660.00 feet to said Easterly line of a 100.00 foot wide highway right-of-way;

Thence leaving said Easterly right-of-way line North 47° 40' 00" West, 100.00 feet to the Westerly right-of-way line of said 100.00 foot wide highway right-of-way; thence Southwesterly along said Westerly right-of-way line the following (2) courses:

- 1) South 42° 20' 00" West, 820.00 feet;
- 2) Along the arc of a tangent 2950.00 foot radius curve to the right, consuming a central angle of 0° 13' 31", and an arc length of 11.60 feet to a point of intersection with said East-West centerline of Section 18;

Thence leaving said Easterly right-of-way line Northerly along the East-West centerline of Section 18, North 0° 13' 57" East, 1751.34 feet to the North one-quarter (N. 1/4) of Section 18; thence Easterly along the North Line of Section 18, South 89° 49' 56" East, 2645.55 feet to the Section Corner common to said Sections 7, 8, 17, 18, Township 21 North, Range 15 East; thence Easterly along the North Line of Section 17, South 89° 14' 29" East, 1331.155 feet to the Northeast corner of the West half of the West half of Section 17; thence leaving said North Line, Southerly along the East line of said West half of the West half of Section 17, South 0° 23' 58" West, 3949.00 feet to the Northeast corner of the Southwest quarter of the Southwest quarter of Section 17; thence Westerly along the North Line of the Southwest quarter of the Southwest quarter of Section 17, North 89° 21' 36" West, 1329.80 feet to the West Line of Section 17 (said point being also the Northwest corner of the Southwest quarter of the Southwest quarter of said Section 17); thence Westerly along the North line of the Northeast quarter of the Southeast quarter of the Southeast quarter of said Section 18, Township 21 North, Range 15 East, North 89° 20' 21" West, 658.86 feet to the Northwest corner of the Northeast quarter of the Southeast quarter of the Southeast quarter of said Section 18; thence Southerly along the West line of said Northeast quarter of the Southeast quarter of the Southeast quarter of Section 18, South 0° 20' 36" West, 657.62 feet to the Southwest corner of the Northeast quarter of the Southeast quarter of the Southeast quarter of Section 18; thence Westerly along the North line of the South half of the South half of the Southeast quarter of Section 18, North 89° 15' 05" West, 1707.14 feet to a point; thence leaving said North line of the South half of the South half of the Southeast quarter of Section 18, South 0° 13' 59" West, 655.01 feet to the South line of Section 18; thence Westerly along said south line of Section 18, North 89° 09' 48" West, 268.20 feet to the South one-quarter (S 1/4) corner of Section 18; thence continuing Westerly along the South line of Section 18, North 89° 09' 48" West, 1316.07 feet to the Northeast corner of the North half of the Northwest quarter of the Northwest quarter of said Section 19, Township 21 North, Range 15 East; thence Southerly along the East Line of said North half of the Northwest quarter of the Northwest quarter of Section 19, South 0° 04' 03" West, 654.02 feet to the Southeast corner of the North half of the Section 19; thence Westerly along the South Line of the North half of the Northwest quarter of the Northwest quarter of Section 19, North 89° 25' 40" West, 1322.48 feet to the Southwest corner of the North half of the Northwest quarter of the Northwest quarter of Section 19 (said point being also on the West Line of said Township 21 North, Range 15

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East); thence leaving said West line of Township 21 North, Range 15 East, the following eight (8) courses:

- 1) South 82° 08' 26" West, 483.66 feet;
- 2) South 2° 51' 15" West, 30.00 feet;
- 3) South 28° 54' 50" West, 192.00 feet;
- 4) North 77° 26' 54" West, 190.66 feet;
- 5) North 32° 52' 00" East, 147.14 feet;
- 6) North 52° 35' 23" West, 275.63 feet;
- 7) North 45° 45' 26" East, 361.61 feet;
- 8) North 29° 14' 25" East, 389.49 feet to the North Line of said Section 24, Township 21 North, Range 14 East;

Thence Westerly, along said North line of Section 24, North 89° 57' 26" West, 4802.18 feet to said point of beginning.

EXCEPTING THEREFROM, two (2) 100.00 foot wide highway right-of-ways, being more particularly described as follows:

RIGHT-OF-WAY NO. 1

BEGINNING a point on the Westerly line of said 100.00 foot wide highway right-of-way from which the Northeast corner of the South half of the South half of Section 13, Township 21 North, Range 14 East, bears North 0° 12' 51" East, 311.02 feet and also which a radial line bears South 64° 48' 25" East; thence leaving said Westerly right-of-way line along said radial line South 64° 48' 25" East, 100.00 feet to the Easterly line of said 100.00 foot wide highway right-of-way; thence Southwesterly, along said Easterly right-of-way line, the following four (4) courses:

- 1) Along the arc of a 2450.00 foot radius curve to the left, consuming a central angle of 6° 39' 04", and an arc length of 284.41 feet;
- 2) South 18° 32' 30" West, 637.35 feet;
- 3) Along the arc of a 2050.00 foot radius curve to the right, consuming a central angle of 14° 19' 30", and an arc length of 512.54 feet;
- 4) South 32° 52' 00" West, 450.16 feet;

Thence leaving said Easterly right-of-way line, North 52° 35' 23" West, 100.32 feet to said Westerly right-of-way line; thence Northeasterly along the Westerly right-of-way line the following four (4) courses:

- 1) North 32° 52' 00" East, 442.22 feet;
- 2) Along the arc of a 1950.00 foot radius curve to the left, consuming a central angle of 14° 19' 30", and an arc length of 487.54 feet;
- 3) North 18° 32' 30" East, 637.35 feet;
- 4) Along the arc of a 2550.00 foot radius curve to the right, consuming a central angle of 6° 39' 05", and an arc length of 296.02 feet to said point of beginning.

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RIGHT-OF-WAY NO. 2

BEGINNING at a point on the Easterly line of said 100.00 foot wide right-of-way, (said point being at a point of intersection with the North line of said Section 18, Township 21 North, Range 15 East) from which the Northeast corner of said Section bears South 89° 49' 56" East, 926.48 feet; thence Southwesterly, along said Easterly right-of-way line, South 42° 20' 00" West, 1621.82 feet; thence leaving said Easterly right-of-way line, North 47° 40' 00" West, 100.00 feet to the Westerly line of said 100.00 foot wide highway right-of-way; thence Northeasterly along said Westerly right-of-way line, North 42° 20' 00" East, 1531.25 feet to said North line of Section 18; thence leaving said Westerly right-of-way line along the North line of Section 18, South 89° 49' 56" East, 134.92 feet to said point of beginning.

Said 100.00 foot wide right-of-ways No. 1 and No. 2 containing 7.92 acres, more or less.

PARCEL TWO:

All that real property situate in portions of Sections 23 and 24, Township 21 North, Range 14 East and portions of Sections 17, 18 and 19, Township 21 North, Range 15 East, M.D.M., County of Sierra, State of California, as shown on that certain Map entitled "Record of Survey for the Alice M. Vanetti Trust" filed in Book 7 of Maps and Surveys, at Page 79, in the Office of Recorder of said County of Sierra and being more particularly described as follows:

BEGINNING at the Section Corner common to said Sections 17, 18, 19 and 20, Township 21 North, Range 15 East; thence Southerly along the East line of said Section 19, South 0° 18' 05" West, 1271.71 feet to the Southeast corner of the Northeast quarter of the Northeast quarter of Section 19; thence Westerly along the South line of the Northeast quarter of the Northeast quarter of Section 19, North 89° 41' 23" West, 1311.82 feet to the Southwest corner of the Northeast quarter of the Northeast quarter of Section 19; thence Southerly along the East line of the Southwest quarter of the Northeast quarter of Section 19, South 0°

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06' 52" West, 1283.81 feet to the East-West centerline of Section 19; thence Westerly along the East-West centerline of Section 19, South 89° 46' 50" West, 1307.69 feet to the center corner of Section 19; thence Southerly along the North-South centerline of Section 19, South 0° 04' 08" East, 1326.615 feet to the Southeast corner of the Northeast quarter of the Southwest quarter of Section 19; thence Westerly along the South line of the North half of the Southwest quarter of Section 19, South 89° 55' 08" West, 2647.18 feet to the West line of said Township 21 North, Range 15 East, (said West line being also the East line of said Section 24, Township 21 North, Range 14 East); thence Northerly along said West line of Township 21 North, Range 15 East, North 0° 03' 30" East, 2640.48 feet to the Southeast corner of the North half of the North half of said Section 24, Township 21 North, Range 14 East; thence Westerly along the South line of said North half of the North half of Section 24, North 89° 56' 54" West 5265.74 feet to the West line of Section 24; thence Southerly along the said West line of Section 24, South 0° 38' 49" West, 1319.495 feet to the East one-quarter (E. 1/4) of Section 23, Township 21 North, Range 14 East; thence Westerly along the East-West centerline of said Section 23, South 89° 48' 26" West, 1294.28 feet to the Southwest corner of the East half of the Northeast quarter of Section 23; thence Northerly along the West line of said East half of the Northeast quarter of Section 23, North 0° 03' 37" East, 1889.65 feet to a point on the Southeasterly bank of an existing irrigation canal as conveyed to D. H. Russell, et ux, by Grant Deed, recorded in Volume 43, Page 359, in said Office of the Recorder of County of Sierra; thence Northeasterly along said bank, North 36° 37' 42" East, 937.21 feet to a point of intersection with the North line of said Section 23; thence leaving said bank Easterly along said North line of Section 23, North 89° 53' 40" East, 762.93 feet to the Section corner common to said Sections 13, 14, 23, 24, Township 21 North, Range 14 East; thence Easterly along the North line of Section 24, South 89° 57' 26" East, 4802.18 feet to a point; thence leaving said North line of Section 24, the following eight (8) courses:

- 1) South 29° 14' 25" West, 389.49 feet;
- 2) South 45° 45' 26" West, 361.61 feet;
- 3) South 52° 35' 23" East, 275.63 feet;
- 4) South 32° 52' 00" West, 147.14 feet;
- 5) South 77° 26' 54" East, 190.66 feet;
- 6) North 28° 54' 50" East, 192.00 feet;
- 7) North 2° 51' 15" East, 30.00 feet;
- 8) North 82° 08' 26" East, 483.66 feet to the Southwest corner of the North half of the Northwest quarter of the Northwest quarter of said Section 19, Township 21 North, Range 15 East, (said point being also on West line of said Township 21 North, Range 15 East);

(Continued)

Thence Easterly along the South line of said North half of the Northwest quarter of the Northwest quarter of Section 19, South $89^{\circ} 25' 40''$ East, 1322.48 feet to the Southeast corner of the North half of the Northwest quarter of the Northwest quarter of Section 19; thence Northerly along the East line of the North half of the Northwest quarter of the Northwest quarter of Section 19, North $0^{\circ} 04' 03''$ East, 654.02 feet to the Northeast corner of the North half of the Northwest quarter of the Northwest quarter of the Section 19 (said point being also on the South line of said Section 18, Township 21 North, Range 15 East); thence Easterly along said line of Section 18, South $89^{\circ} 09' 48''$ East, 1316.07 feet to the South one-quarter (S 1/4) of said Section 18; thence continuing Easterly along the South line of Section 18, South $89^{\circ} 09' 48''$ East, 268.20 feet to a point; thence leaving said South line of Section 18, North $0^{\circ} 13' 59''$ East, 655.01 feet to a point on the North line of the South half of the South half of the Southeast quarter of Section 18; thence Easterly along said North line of the South half of the South half of the Southeast quarter of Section 18, South $89^{\circ} 15' 05''$ East, 1707.14 feet to the Southwest corner of the Northeast quarter of the Southeast quarter of the Southeast quarter of Section 18; thence Northerly along the West line of said Northeast quarter of the Southeast quarter of the Southeast quarter of Section 18, North $0^{\circ} 20' 36''$ East, 657.62 feet to the Northwest corner of the Northeast quarter of the Southeast quarter of the Southeast quarter of Section 18; thence Easterly along the North line of the Northeast quarter of the Southeast quarter of the Southeast quarter of Section 18, South $89^{\circ} 20' 21''$ East, 658.86 feet to the West line of said Section 17, Township 21 North, Range 15 East, (said point being also the Northwest corner of the Southwest quarter of the Southwest quarter of said Section 17); thence Easterly along the North line of said Southwest quarter of the Southwest quarter of Section 17, South $89^{\circ} 21' 36''$ East, 1329.80 feet to the Northeast corner of the Southwest quarter of the Southwest quarter of Section 17; thence Southerly along the East line of the Southwest quarter of the Southwest quarter of Section 17, South $0^{\circ} 23' 58''$ West, 1319.72 feet to the Southeast corner of the Southwest quarter of the Southwest quarter of Section 17 (said point being also on the South line of said Section 17); thence Westerly along the South line of Section 17, North $89^{\circ} 15' 14''$ West, 1329.37 feet to said point of beginning.

EXCEPTING THEREFROM, a Highway right-of-way being 100.00 feet wide, said right-of-way being more particularly described as follows:

BEGINNING at a point on said South line of the North half of the North half of Section 24, Township 21 North, Range 14 East, from which said Southeast corner of the North half of the North half of Section 24 bears South $89^{\circ} 56' 54''$ East, 1035.92 feet; said point of beginning being also a point of intersection with the Easterly line of said 100.00 foot wide right-of-way; thence Westerly along the South line of the North half of the North half of Section 24, North $89^{\circ} 56' 54''$ West, 114.60 feet to a point from which a radial line bears South $61^{\circ} 14' 26''$ East (said point being a point of intersection with the Westerly line of said 100.00 foot wide highway right-of-way; thence leaving the South line of the North half of the North half of Section 24 Northeasterly along said Westerly right-of-way line the following two (2) courses:

- 1) Along the arc of a 3050.00 foot radius curve to the right, consuming a central angle of $4^{\circ} 06' 26''$, and an arc length of 218.64 feet;
- 2) North $32^{\circ} 52' 00''$ East, 515.66 feet:

Continued-

Thence leaving said Westerly right-of-way line South 52° 35' 00" East, 100.23 feet to said Easterly right-of-way line; thence along said Easterly right-of-way line Southwesterly the following two (2) courses:

- 1) South 32° 52' 00" West, 507.71 feet to a point from which a radial line bears South 57° 08' 00" East;
- 2) Along the arc of a 2950.00 foot radius curve to the left, consuming a central angle of 3° 02' 17", and an arc length of 156.42 feet to said point of beginning.

Excepting from Parcels One and Two any portion thereof lying Northwesternly of the Southeasterly line of State Highway 49.

ALSO EXCEPTING THEREFROM the following two parcels:

Parcel A:

Commencing at the Northwest corner of Section 19, T21N, R15E, MDM, as shown on that Record of Survey for the Alice M. Vanetti Trust, filed in Book 7 of Surveys at Pages 79 through 87 in the office of the Sierra County Recorder, and running thence S 44° 55' 24" E 823.93 feet; thence S 18° 30' 06" E 87.34 feet to a point on the South line of the N 1/2 of the NW 1/4 of the NW 1/4 of said Section 19, being the true point of beginning; thence N 89° 25' 40" W 610.25 feet to the Southwest corner of said N 1/2 of the NW 1/4 of the NW 1/4; thence S 82° 08' 26" W 483.66 feet; thence S 2° 51' 15" W 30.00 feet; thence S 28° 54' 50" W 192.00 feet; thence N 77° 26' 54" W 190.65 feet to the Easterly line of California State Highway No. 49; thence along said Easterly line of Highway No. 49, Southwesterly 517.02 feet to the South line of the NE 1/4 of the NE 1/4 of Section 24, T21N, R14E, MDM; thence S 89° 56' 54" E 1035.92 feet to the Southeast corner of said NE 1/4 of the NE 1/4; thence N 46° 39' 19" E 867.10 feet to a point which lies S 18° 30' 06" E 62.07 feet from the true point of beginning; thence N 18° 30' 07" W 62.06 feet to the true point of beginning.

Parcel B:

Beginning at the Northwest corner of Section 19, T21N, R15E, MDM, as shown on that Record of Survey for the Alice M. Vanetti Trust, filed in Book 7 of Surveys at Pages 79 through 87 in the office of the Sierra County Recorder, and running thence S 44° 55' 24" E 823.93 feet; thence S 18° 30' 06" E 87.34 feet to a point on the South line of the N 1/2 of the NW 1/4 of the NW 1/4 of said Section 19; thence N 89° 25' 40" W 610.25 feet to the Southwest corner of said N 1/2 of the NW 1/4 of the NW 1/4; thence S 82° 08' 26" W 483.66 feet; thence S 2° 51' 15" W 30.00 feet; thence S 28° 54' 50" W 192.00 feet; thence N 77° 26' 54" W 190.65 feet to the Easterly line of California State Highway No. 49; thence along said Easterly line of Highway No. 49, Northeasterly 1109.81 feet to a monument lying N 69° 40' 00" W 228.60 feet from the point of beginning; thence S 69° 40' 00" E 228.60 feet to the point of beginning.

PARCEL THREE:

The Northeast quarter of the Northeast quarter of Section 31, Township 21 North, Range 15 East, M. D. M., according to the Official Plat thereof.

PARCEL FOUR:

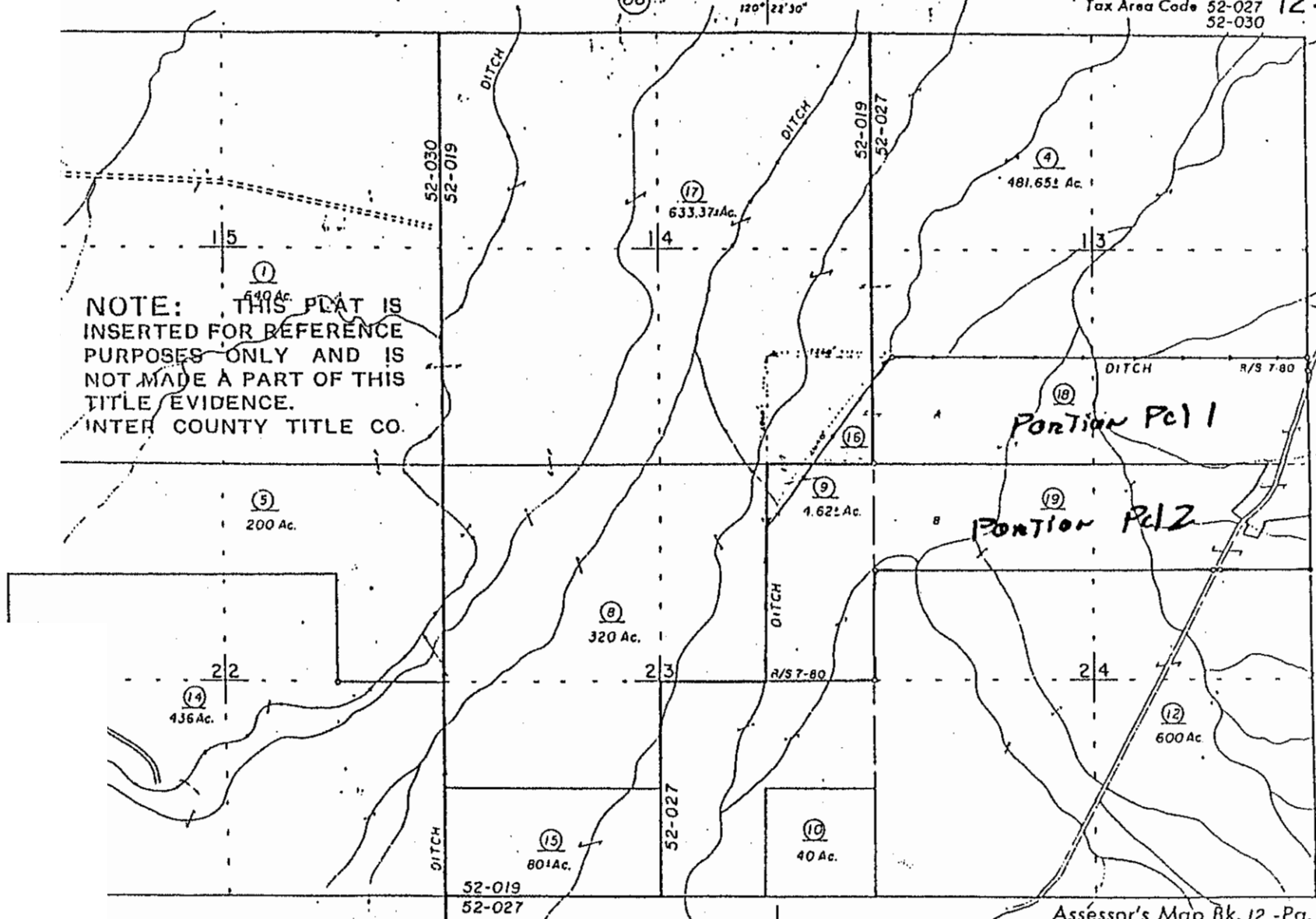
An easement for ingress and egress over the Southerly 30 feet of that portion of the Northeast 1/4 of the Northeast 1/4 of Section 24 Township 21 North, Range 15 East, M. D. M., lying Easterly of the Southeasterly line of State Highway 49.

T. 21 N., R. 14 E., M. D. B. & M.

Tax Area Code 52-019 12-13
52-027
52-030

NOTE:
This map was prepared for assessment purposes only, and is not intended to illustrate legal building sites or supersede local ordinances. Official information concerning size or use of any parcel should be obtained from recorded documents and local governing agencies.

NOTE: THIS PLAT IS
INSERTED FOR REFERENCE
PURPOSES ONLY AND IS
NOT MADE A PART OF THIS
TITLE EVIDENCE.
INTER COUNTY TITLE CO.



39°40'00"

09

39°40'00"

Bk. 16

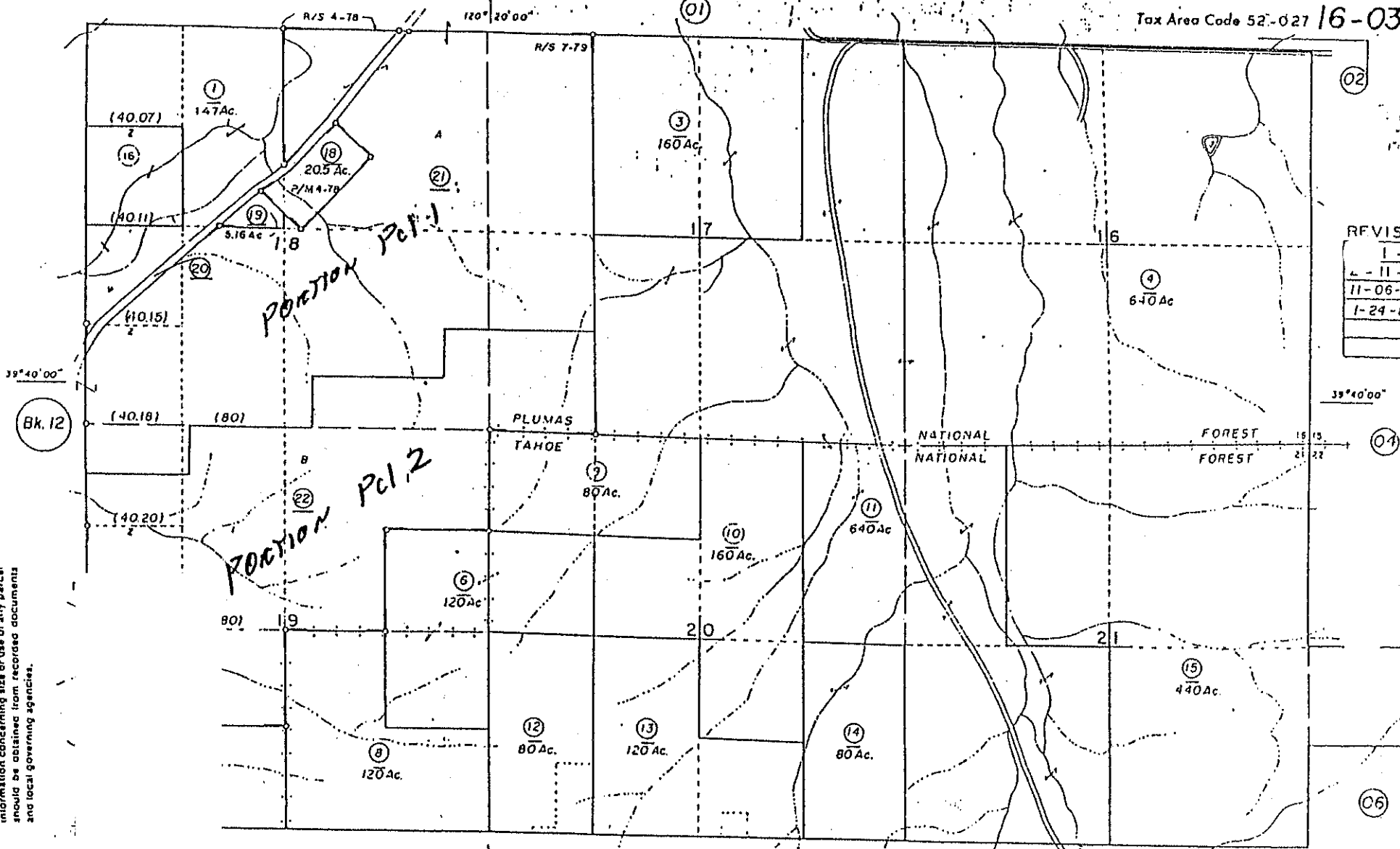
REVISE
2-22-8
11-06-8
1-24-8

NOTE—Assessor's Block Numbers Shown In Ellipses.
Assessor's Parcel Numbers Shown In Circles.

Assessor's Map Bk. 12 -Pg. 13
County of Sierra, Calif.
1956

T. 21N., R. 15E., M. D. B. & M.

Tax Area Code 52-027 16-03



REVISED
1 -
11 -
11-06-6
1-24-8

NOTE: This map was prepared for assessment purposes only, and is not intended to illustrate legal building sites or supercede local ordinances. Official information concerning size or use of any parcel should be obtained from recorded documents and local governing agencies.

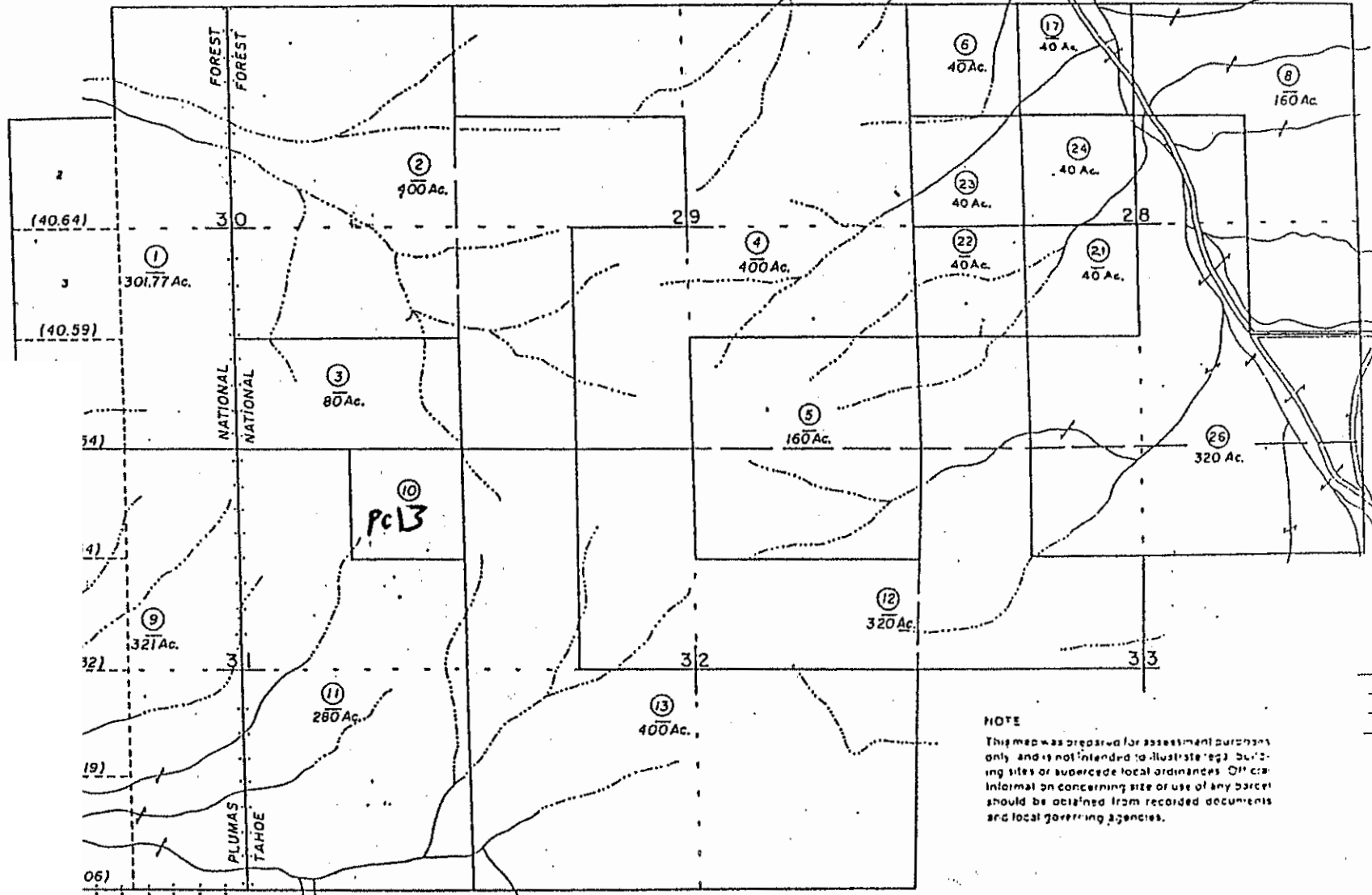
NOTE: THIS PLAT IS INSERTED FOR REFERENCE PURPOSES ONLY AND IS NOT MADE A PART OF THIS TITLE EVIDENCE.

NOTE—Assessor's Block Numbers Shown in Ellipses, Assessor's Parcel Numbers Shown in Circles.

Assessor's Map Bk. 16 -Pg. 03
County of Sierra, Calif.
1964

T. 21N., R. 15E., (03) M. D. B. & M.

Tax Area Code 52-02716-05



Bk. 12

REVISION
1-29-70
12-8-71
1-14-77
4-25-78
8-11-80

NOTE
 This map was prepared for assessment purposes only and is not intended to illustrate legal building sites or supercede local ordinances. Official information concerning size or use of any parcel should be obtained from recorded documents and local governing agencies.

NOTE: THIS PLAT IS INSERTED FOR REFERENCE PURPOSES ONLY AND IS NOT MADE A PART OF THIS TITLE EVIDENCE.

Bk. 18

NOTE—Assessor's Block Numbers Shown in Ellipses.
 Assessor's Parcel Numbers Shown in Circles.

Assessor's Map Bk. 16 - Pg. 05
 County of Sierra, Calif.
 1964



Department of Fish and Game
Property Inventory Form

Property #: 00216

Parcel History #: 821760

Property Name: ANTELOPE VALLEY WA Region: 2
Property AKA: MA Code: SFGWAANTE1 Area Class: WA
County: 46 SIERRA Multiple Counties: No Other Counties:
Property Purpose: 15 DEER WINTER RANGE Summary Purpose: 09 DEER HABITAT
Management Plan: Yes Plan Date: 10/1/1992 Type of Plan: DRAFT
Location of Property: 4 MILES SOUTHWEST OF LOYALTON

Grantor: VAN SANT, FRED WILLARD Transaction Date: 9/10/1998
Manner Acquired: 0100 GRTD Title Insurance: Yes Control #: 46A WA 990106 40000
[1] State Fund: 262 HCF-P117 [2] State Fund: Multiple State Fund: No
[1] Federal Fund: [2] Federal Fund: O and M Fund:
Parcel Name: EXPANSION #3
Parcel Location: 1/2 MILE SOUTH OF PALEN RESERVOIR, WEST OF ANTELOPE VALLEY ROAD
Parcel Access: ANTELOPE VALLEY ROAD

Topographic (Quad) Name: ANTELOPE VALLEY
Topographic Map: Yes Orthophoto Map: No Access Map (Arcview): No SNA: No SNA #:
Acquisition Proposal: Yes Mitigation: No Permit Type:
[1] HCPB Mitigation #: [2] HCPB Mitigation #: [3] HCPB Mitigation #:
[1] PCA #: [2] PCA #: [3] PCA #: NCCP: No
[1] Purpose: 15 DEER WINTER RANGE [2] Purpose:
Summary Purpose: 09 DEER HABITAT Date Digitized: 5/3/1999 Title 14 Desig. Date: 8/29/1980
Property Mgmt: DFG-2 Mgmt Agrmnt Effective Date: Lease Effective Date:
Mgmt Agrmnt Expiration Date: Lease Expiration Date: Term: In-Lieu Fee Date: 1/6/1999
Handicap Access: No Water Rights: Mineral Rights: Y Timber Rights:

Easements:
Improvements:
Comments:

State Land Cost:	\$60,000.00	WCB Improvement Cost:	Federal Cost:
Acquisition Cost:	\$4,311.40	Donation/Mitigation Value:	Other Cost:
State Improvement Cost:		City/County Cost:	In-Lieu Fees: \$108.22
Total State Cost:	\$64,311.40	Taxes:	

County: 46 SIERRA City Code: TR #: 98-121A
Recorded Date: 1/6/1999 Book: 132 Page: 41 Document #: 127480

Comments:

Parcel Characteristic: 1000 Original Acreage: 40.00 Current Acreage: 40.00

Department of Fish and Game
Property Inventory Form

Property #: 00216

Parcel History #: 821760

APN: 00016-0050-0022

Meridian: MDBM

Township: 21N

Range: 15E

Section: 28

Last Update: 5/19/2000

127480

127480

OFFICIAL RECORDS
RECORDING REQUESTED

ICTC

WHEN RECORDED MAIL TO

State of California
Wildlife Conservation Board
801 K Street, Suite 806
Sacramento, CA 95814
104653-70

AFNF

99 JAN -6 PM 1:23

SIERRA COUNTY, CA
MARY J. JUNGI, RECORDER

VOL. 32 P. 0041 FEE N/C

SPACE ABOVE THIS LINE FOR RECORDER'S USE

Agency: Department of Fish and Game
Wildlife Conservation Board
Project: Antelope Valley Wildlife Area, Exp. #3
Parcel: Sierra County APN 016-050-022

Grant Deed

FRED WILLARD VAN SANT, Trustee of the Fred Willard Van Sant Revocable Living Trust, hereby GRANTS to the STATE OF CALIFORNIA the following described real property in the County of Sierra, State of California:

The Northwest quarter of the South^{WEST} quarter of Section 28, Township 21 North, Range 15 East, M.D.B.&M.

AKA AP 16-050-22

DOCUMENTARY TRANSFER TAX \$ 0

- COMPUTED ON FULL VALUE OF PROPERTY CONVEYED.
- COMPUTED ON FULL VALUE LESS LIENS AND ENCUMBRANCES REMAINING THEREON AT TIME OF SALE.

Signature of declarant or agent determining tax-firm name

Dated:

Sept. 10, 1998

Fred W. Van Sant
Fred Willard Van Sant, Trustee

82-1760

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

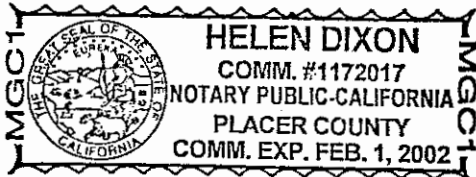
State of California }
County of Placer } ss.

On September 10, 1998 before me, HELEN DIXON
Date Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared FRED W Van Sant
Name(s) of Signer(s)

- personally known to me
- proved to me on the basis of satisfactory evidence

to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



Place Notary Seal Above

WITNESS my hand and official seal.

Helen Dixon
Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: GRANT DEED

Document Date: 9-10-98 Number of Pages: 1

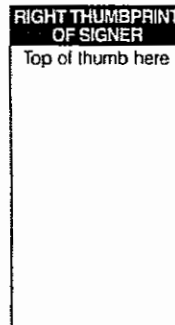
Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer

Signer's Name: _____

- Individual
- Corporate Officer — Title(s): _____
- Partner — Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____

Signer Is Representing: _____



Antelope Valley WA, Exp. #3
Sierra County

CERTIFICATE OF ACCEPTANCE

THIS IS TO CERTIFY that the interest in real property conveyed by the deed or grant, dated September 10, 1998 from Fred Willard Van Sant, Trustee, to the STATE OF CALIFORNIA, is hereby accepted by the undersigned officer on behalf of the State of California, pursuant to authority conferred by authorization of the Wildlife Conservation Board, Department of Fish and Game, Resources Agency, State of California, adopted on November 3, 1998, and the grantee consents to the recordation thereof by its duly authorized officer.

STATE OF CALIFORNIA
Resources Agency
Department of Fish and Game

By W. John Schmidt
W. John Schmidt
Executive Director
Wildlife Conservation Board

Date 11/3/98

APPROVED
Department of General Services
By [Signature]
Senior Real Estate Officer
Real Estate Services

TR98-121A

POLICY OF TITLE INSURANCE

ISSUED BY



C
SUBJECT TO THE EXCLUSIONS FROM COVERAGE, THE EXCEPTIONS FROM COVERAGE CONTAINED IN SCHEDULE B AND THE CONDITIONS AND STIPULATIONS, NORTH AMERICAN TITLE INSURANCE COMPANY, a California corporation, herein called the Company, insures, as of Date of Policy shown in Schedule A, against loss or damage, not exceeding the Amount of Insurance stated in Schedule A, sustained or incurred by the insured by reason of:

1. Title to the estate or interest described in Schedule A being vested otherwise than as stated therein;
2. Any defect in or lien or encumbrance on such title;
3. Unmarketability of the title;
4. Lack of a right of access to and from the land;
5. The invalidity or unenforceability of the lien of the insured mortgage upon the title;
6. The priority of any lien or encumbrance over the lien of the insured mortgage;
7. Lack of priority of the lien of the insured mortgage over any statutory lien for services, labor or material:
 - (a) arising from an improvement or work related to the land which is contracted for or commenced prior to Date of Policy; or
 - (b) arising from an improvement or work related to the land which is contracted for or commenced subsequent to Date of Policy and which is financed in whole or in part by proceeds of the indebtedness secured by the insured mortgage which at Date of Policy the insured has advanced or is obligated to advance.
8. Any assessments for street improvements under construction or completed at Date of Policy which now have gained or hereafter may gain priority over the insured mortgage; or
9. The invalidity or unenforceability of any assignment of the insured mortgage, provided the assignment is shown in Schedule A, or the failure of the assignment shown in Schedule A to vest title to the insured mortgage in the named insured assignee free and clear of all liens.

The Company will also pay the costs, attorneys' fees and expenses incurred in defense of the title or the lien of the insured mortgage, as insured, but only to the extent provided in the Conditions and Stipulations.

NORTH AMERICAN TITLE INSURANCE COMPANY

BY *Shirley B. Berry* PRESIDENT

ATTEST *[Signature]* SECRETARY



EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
- (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
 - (a) created, suffered, assumed or agreed to by the insured claimant;
 - (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
 - (c) resulting in no loss or damage to the insured claimant;
 - (d) attaching or created subsequent to Date of Policy (except to the extent that this policy insures the priority of the lien of the insured mortgage over any statutory lien for services, labor or material or the extent

insurance is afforded herein as to assessments for street improvements under construction or completed at Date of Policy); or

- (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any statutory lien for services, labor or materials (or the claim of priority of any statutory lien for services, labor or materials over the lien of the insured mortgage) arising from an improvement or work related to the land which is contracted for and commenced subsequent to Date of Policy and is not financed in whole or in part by proceeds of the indebtedness secured by the insured mortgage which at Date of Policy the insured has advanced or is obligated to advance.
7. Any claim, which arises out of the transaction creating the interest of the mortgagee insured by this policy, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that is based on:
 - (i) the transaction creating the interest of the insured mortgagee being deemed a fraudulent conveyance or fraudulent transfer; or
 - (ii) the subordination of the interest of the insured mortgagee as a result of the application of the doctrine of equitable subordination; or
 - (iii) the transaction creating the interest of the insured mortgagee being deemed a preferential transfer except where the preferential transfer results from the failure:
 - (a) to timely record the instrument of transfer; or
 - (b) of such recordation to impart notice to a purchaser for value or a judgment or lien creditor.

CONDITIONS AND STIPULATIONS

1. DEFINITIONS OF TERMS.

The following terms when used in this policy mean:

(a) "insured": the insured named in Schedule A. The term "insured" also includes:

(i) the owner of the indebtedness secured by the insured mortgage and each successor in ownership of the indebtedness except a successor who is an obligor under the provisions of Section 12(c) of these Conditions and Stipulations (reserving, however, all rights and defenses as to any successor that the Company would have had against any predecessor insured, unless the successor acquired the indebtedness as a purchaser for value without knowledge of the asserted defect, lien, encumbrance, adverse claim or other matter insured against by this policy as affecting title to the estate or interest in the land);

(ii) any governmental agency or governmental instrumentality which is an insurer or guarantor under an insurance contract or guaranty insuring or guaranteeing the indebtedness secured by the insured mortgage, or any part thereof, whether named as an insured herein or not;

(iii) the parties designated in Section 2(a) of these Conditions and Stipulations.

(b) "insured claimant": an insured claiming loss or damage.

(c) "knowledge" or "known": actual knowledge, not constructive knowledge or notice which may be imputed to an insured by reason of the public records as defined in this policy or any other records which impart constructive notice of matters affecting the land.

(d) "land": the land described or referred to in Schedule A, and improvements affixed thereto which by law constitute real property. The term "land" does not include any property beyond the lines of the area described or referred to in Schedule A, nor any right, title, interest, estate or easement in abutting streets, roads, avenues, alleys, lanes, ways or waterways, but nothing herein shall modify or limit the extent to which a right of access to and from the land is insured by this policy.

(e) "mortgage": mortgage, deed of trust, trust deed, or other security instrument.

(f) "public records": records established under state statutes at Date of Policy for the purpose of imparting constructive notice of matters relating to real property to purchasers for value and without knowledge. With respect to Section 1(a)(iv) of the Exclusions From Coverage, "public records" shall also include environmental protection liens filed in the records of the clerk of the United States district court for the district in which the land is located.

(g) "unmarketability of the title": an alleged or apparent matter affecting the title to the land, not excluded or excepted from coverage, which would entitle a purchaser of the estate or interest described in Schedule A or the insured mortgage to be released from the obligation to purchase by virtue of a contractual condition requiring the delivery marketable title.

or desirable to establish the title to the estate or interest or the lien of the insured mortgage, as insured. If the Company is prejudiced by the failure of the insured to furnish the required cooperation, the Company's obligations to the insured under the policy shall terminate, including any liability or obligation to defend, prosecute, or continue any litigation, with regard to the matter or matters requiring such cooperation.

5. PROOF OF LOSS OR DAMAGE.

In addition to and after the notices required under Section 3 of these Conditions and Stipulations have been provided the Company, a proof of loss or damage signed and sworn to by the insured claimant shall be furnished to the Company within 90 days after the insured claimant shall ascertain the facts giving rise to the loss or damage. The proof of loss or damage shall describe the defect in, or lien or encumbrance on the title, or other matter insured against by this policy which constitutes the basis of loss or damage and shall state, to the extent possible, the basis of calculating the amount of the loss or damage. If the Company is prejudiced by the failure of the insured claimant to provide the required proof of loss or damage, the Company's obligations to the insured under the policy shall terminate, including any liability or obligation to defend, prosecute, or continue any litigation, with regard to the matter or matters requiring such proof of loss or damage.

In addition, the insured claimant may reasonably be required to submit to examination under oath by any authorized representative of the Company and shall produce for examination, inspection and copying, at such reasonable times and places as may be designated by any authorized representative of the Company, all records, books, ledgers, checks, correspondence and memoranda, whether bearing a date before or after Date of Policy, which reasonably pertain to the loss or damage. Further, if requested by any authorized representative of the Company, the insured claimant shall grant its permission, in writing, for any authorized representative of the Company to examine, inspect and copy all records, books, ledgers, checks, correspondence and memoranda in the custody or control of a third party, which reasonably pertain to the loss or damage. All information designated as confidential by the insured claimant provided to the Company pursuant to this Section shall not be disclosed to others unless, in the reasonable judgment of the Company, it is necessary in the administration of the claim. Failure of the insured claimant to submit for examination under oath, produce other reasonably requested information or grant permission to secure reasonably necessary information from third parties as required in this paragraph, unless prohibited by law or governmental regulation, shall terminate any liability of the Company under this policy as to that claim.

6. OPTIONS TO PAY OR OTHERWISE SETTLE CLAIMS; TERMINATION OF LIABILITY.

In case of a claim under this policy, the Company shall have the following options:

9. REDUCTION OF INSURANCE; REDUCTION OR TERMINATION OF LIABILITY.

(a) All payments under this policy, except payments made for costs, attorneys' fees and expenses, shall reduce the amount of the insurance pro tanto. However, any payments made prior to the acquisition of title to the estate or interest as provided in Section 2(a) of these Conditions and Stipulations shall not reduce pro tanto the amount of the insurance afforded under this policy except to the extent that the payments reduce the amount of the indebtedness secured by the insured mortgage.

(b) Payment in part by any person of the principal of the indebtedness, or any other obligation secured by the insured mortgage, or any voluntary partial satisfaction or release of the insured mortgage, to the extent of the payment, satisfaction or release, shall reduce the amount of insurance pro tanto. The amount of insurance may thereafter be increased by accruing interest and advances made to protect the lien of the insured mortgage and secured thereby, with interest thereon, provided in no event shall the amount of insurance be greater than the amount of insurance stated in Schedule A.

(c) Payment in full by any person or the voluntary satisfaction or release of the insured mortgage shall terminate all liability of the Company except as provided in Section 2(a) of these Conditions and Stipulations.

10. LIABILITY NONCUMULATIVE.

If the insured acquires title to the estate or interest in satisfaction of the indebtedness secured by the insured mortgage, or any part thereof, it is expressly understood that the amount of insurance under this policy shall be reduced by any amount the Company may pay under any policy insuring a mortgage to which exception is taken in Schedule B or to which the insured has agreed, assumed, or taken subject, or which is hereafter executed by an insured and which is a charge or lien on the estate or interest described or referred to in Schedule A, and the amount so paid shall be deemed a payment under this policy.

11. PAYMENT OF LOSS.

(a) No payment shall be made without producing this policy for endorsement of the payment unless the policy has been lost or destroyed, in which case proof of loss or destruction shall be furnished to the satisfaction of the Company.

(b) When liability and the extent of loss or damage has been definitely fixed in accordance with these Conditions and Stipulations, the loss or damage shall be payable within 30 days thereafter.

12. SUBROGATION UPON PAYMENT OR SETTLEMENT.

(a) The Company's Right of Subrogation.

Whenever the Company shall have settled and paid a claim under this policy, all right of subrogation shall vest in the Company unaffected

2. CONTINUATION OF INSURANCE.

(a) **After Acquisition of Title.** The coverage of this policy shall continue in force as of Date of Policy in favor of (i) an insured who acquires all or any part of the estate or interest in the land by foreclosure, trustee sale, conveyance in lieu of foreclosure or other legal manner which discharges the lien of the insured mortgage; (ii) a transferee of the estate or interest so acquired from an insured corporation, provided the transferee is the parent or wholly-owned subsidiary of the insured corporation, and their corporate successors by operation of law and not by purchase, subject to any rights or defenses the Company may have against any predecessor insureds; and (iii) any governmental agency or governmental instrumentality which acquires all or any part of the estate or interest pursuant to a contract of insurance or guaranty insuring or guaranteeing the indebtedness secured by the insured mortgage.

(b) **After Conveyance of Title.** The coverage of this policy shall continue in force as of Date of Policy in favor of an insured only so long as the insured retains an estate or interest in the land, or holds an indebtedness secured by a purchase money mortgage given by a purchaser from the insured, or only so long as the insured shall have liability by reason of covenants of warranty made by the insured in any transfer or conveyance of the estate or interest. This policy shall not continue in force in favor of any purchaser from the insured of either (i) an estate or interest in the land, or (ii) an indebtedness secured by a purchase money mortgage given to the insured.

(c) **Amount of Insurance.** The amount of insurance after the acquisition or after the conveyance shall in neither event exceed the least of:

- (i) The amount of insurance stated in Schedule A;
- (ii) the amount of the principal of the indebtedness secured by the insured mortgage as of Date of Policy, interest thereon, expenses of foreclosure, amounts advanced pursuant to the insured mortgage to assure compliance with laws or to protect the lien of the insured mortgage prior to the time of acquisition of the estate or interest in the land and secured thereby and reasonable amounts expended to prevent deterioration of improvements, but reduced by the amount of all payments made; or
- (iii) the amount paid by any governmental agency or governmental instrumentality, if the agency or instrumentality is the insured claimant, in the acquisition of the estate or interest in satisfaction of its insurance contract or guaranty.

3. NOTICE OF CLAIM TO BE GIVEN BY INSURED CLAIMANT.

The insured shall notify the Company promptly in writing (i) in case of any litigation as set forth in Section 4(a) below, (ii) in case knowledge shall come to an insured hereunder of any claim of title or interest which is adverse to the title to the estate or interest or the lien of the insured mortgage, as insured, and which might cause loss or damage for which the Company may be liable by virtue of this policy, or (iii) if title to the estate or interest or the lien of the insured mortgage, as insured, is rejected as unmarketable. If prompt notice shall not be given to the Company, then as to the insured all liability of the Company shall terminate with regard to the matter or matters for which prompt notice is required; provided, however, that failure to notify the Company shall in no case prejudice the rights of any insured under this policy unless the Company shall be prejudiced by the failure and then only to the extent of the prejudice.

4. DEFENSE AND PROSECUTION OF ACTIONS; DUTY OF INSURED CLAIMANT TO COOPERATE.

(a) Upon written request by the insured and subject to the options contained in Section 6 of these Conditions and Stipulations, the Company, at its own cost and without unreasonable delay, shall provide for the defense of an insured in litigation in which any third party asserts a claim adverse to the title or interest as insured, but only as to those stated causes of action alleging a defect, lien or encumbrance or other matter insured against by this policy. The Company shall have the right to select counsel of its choice (subject to the right of the insured to object for reasonable cause) to represent the insured as to those stated causes of action and shall not be liable for and will not pay the fees of any other counsel. The Company will not pay any fees, costs or expenses incurred by the insured in the defense of those causes of action which allege matters not insured against by this policy.

(b) The Company shall have the right, at its own cost, to institute and prosecute any action or proceeding or to do any other act which in its opinion may be necessary or desirable to establish the title to the estate or interest or the lien of the insured mortgage, as insured, or to prevent or reduce loss or damage to the insured. The Company may take any appropriate action under the terms of this policy, whether or not it shall be liable hereunder, and shall not thereby concede liability or waive any provision of this policy. If the Company shall exercise its rights under this paragraph, it shall do so diligently.

(c) Whenever the Company shall have brought an action or interposed a defense as required or permitted by the provisions of this policy, the Company may pursue any litigation to final determination by a court of competent jurisdiction and expressly reserves the right, in its sole discretion, to appeal from any adverse judgment or order.

(d) In all cases where this policy permits or requires the Company to prosecute or provide for the defense of any action or proceeding, the insured shall secure to the Company the right to so prosecute or provide defense in the action or proceeding, and all appeals therein, and permit the Company to use, at its option, the name of the insured for this purpose. Whenever requested by the Company, the insured, at the Company's expense, shall give the Company all reasonable aid (i) in any action or proceeding, securing evidence, obtaining witnesses, prosecuting or defending the action or proceeding, or effecting settlement, and (ii) in any other lawful act which in the opinion of the Company may be necessary

(a) to Pay or Tender Payment of the Amount of Insurance or to Purchase the Indebtedness.

(i) to pay or tender payment of the amount of insurance under this policy together with any costs, attorneys' fees and expenses incurred by the insured claimant, which were authorized by the Company, up to the time of payment or tender of payment and which the Company is obligated to pay; or

(ii) to purchase the indebtedness secured by the insured mortgage for the amount owing thereon together with any costs, attorneys' fees and expenses incurred by the insured claimant which were authorized by the Company up to the time of purchase and which the Company is obligated to pay.

If the Company offers to purchase the indebtedness as herein provided, the owner of the indebtedness shall transfer, assign, and convey the indebtedness and the insured mortgage, together with any collateral security, to the Company upon payment therefor.

Upon the exercise by the Company of either of the options provided for in paragraphs a(i) or (ii), all liability and obligations to the insured under this policy, other than to make the payment required in those paragraphs, shall terminate, including any liability or obligation to defend, prosecute, or continue any litigation, and the policy shall be surrendered to the Company for cancellation.

(b) **To Pay or Otherwise Settle With Parties Other than the Insured or With the Insured Claimant.**

(i) to pay or otherwise settle with other parties for or in the name of an insured claimant any claim insured against under this policy, together with any costs, attorneys' fees and expenses incurred by the insured claimant which were authorized by the Company up to the time of payment and which the Company is obligated to pay; or

(ii) to pay or otherwise settle with the insured claimant the loss or damage provided for under this policy, together with any costs, attorneys' fees and expenses incurred by the insured claimant which were authorized by the Company up to the time of payment and which the Company is obligated to pay.

Upon the exercise by the Company of either of the options provided for in paragraphs b(i) or (ii), the Company's obligations to the insured under this policy for the claimed loss or damage, other than the payments required to be made, shall terminate, including any liability or obligation to defend, prosecute or continue any litigation.

7. DETERMINATION AND EXTENT OF LIABILITY.

This policy is a contract of indemnity against actual monetary loss or damage sustained or incurred by the insured claimant who has suffered loss or damage by reason of matters insured against by this policy and only to the extent herein described.

(a) The liability of the Company under this policy shall not exceed the least of:

(i) the amount of insurance stated in Schedule A, or, if applicable, the amount of insurance as defined in Section 2(c) of these Conditions and Stipulations;

(ii) the amount of unpaid principal indebtedness secured by the insured mortgage as limited or provided under Section 8 of these Conditions and Stipulations or as reduced under Section 9 of these Conditions and Stipulations, at the time the loss or damage insured against by this policy occurs, together with interest thereon; or

(iii) the difference between the value of the insured estate or interest as insured and the value of the insured estate or interest subject to the defect, lien or encumbrance insured against by this policy.

(b) In the event the insured has acquired the estate or interest in the manner described in Section 2(a) of these Conditions and Stipulations or has conveyed the title, then the liability of the Company shall continue as set forth in Section 7(a) of these Conditions and Stipulations.

(c) The Company will pay only those costs, attorneys' fees and expenses incurred in accordance with Section 4 of these Conditions and Stipulations.

8. LIMITATION OF LIABILITY.

(a) If the Company establishes the title, or removes the alleged defect, lien or encumbrance, or cures the lack of a right of access to or from the land, or cures the claim of unmarketability of title, or otherwise establishes the lien of the insured mortgage, all as insured, in a reasonably diligent manner by any method, including litigation and the completion of any appeals therefrom, it shall have fully performed its obligations with respect to that matter and shall not be liable for any loss or damage caused thereby.

(b) In the event of any litigation, including litigation by the Company or with the Company's consent, the Company shall have no liability for loss or damage until there has been a final determination by a court of competent jurisdiction, and disposition of all appeals therefrom, adverse to the title or to the lien of the insured mortgage, as insured.

(c) The Company shall not be liable for loss or damage to any insured for liability voluntarily assumed by the insured in settling any claim or suit without the prior written consent of the Company.

(d) The Company shall not be liable for:

(i) any indebtedness created subsequent to Date of Policy except for advances made to protect the lien of the insured mortgage and secured thereby and reasonable amounts expended to prevent deterioration of improvements; or

(ii) construction loan advances made subsequent to Date of Policy, except construction loan advances made subsequent to Date of Policy for the purpose of financing in whole or in part the construction of an improvement to the land which at Date of Policy were secured by the insured mortgage and which the insured was and continued to be obligated to advance at and after Date of Policy.

by any act of the insured claimant.

The Company shall be subrogated to and be entitled to all rights and remedies which the insured claimant would have had against any person or property in respect to the claim had this policy not been issued. If requested by the Company, the insured claimant shall transfer to the Company all rights and remedies against any person or property necessary in order to perfect this right of subrogation. The insured claimant shall permit the Company to sue, compromise or settle in the name of the insured claimant and to use the name of the insured claimant in any transaction or litigation involving these rights or remedies.

If a payment on account of a claim does not fully cover the loss of the insured claimant, the Company shall be subrogated to all rights and remedies of the insured claimant after the insured claimant shall have recovered its principal, interest, and costs of collection.

(b) The Insured's Rights and Limitations.

Notwithstanding the foregoing, the owner of the indebtedness secured by the insured mortgage, provided the priority of the lien of the insured mortgage or its enforceability is not affected, may release or substitute the personal liability of any debtor or guarantor, or extend or otherwise modify the terms of payment, or release a portion of the estate or interest from the lien of the insured mortgage, or release any collateral security for the indebtedness.

When the permitted acts of the insured claimant occur and the insured has knowledge of any claim of title or interest adverse to the title to the estate or interest or the priority or enforceability of the lien of the insured mortgage, as insured, the Company shall be required to pay only that part of any losses insured against by this policy which shall exceed the amount, if any, lost to the Company by reason of the impairment by the insured claimant of the Company's right of subrogation.

(c) The Company's Rights Against Non-insured Obligor.

The Company's right of subrogation against non-insured obligors shall exist and shall include, without limitation, the rights of the insured to indemnities, guaranties, other policies of insurance or bonds, notwithstanding any terms or conditions contained in those instruments which provide for subrogation rights by reason of this policy.

The Company's right of subrogation shall not be avoided by acquisition of the insured mortgage by an obligor (except an obligor described in Section 1(a)(ii) of these Conditions and Stipulations) who acquires the insured mortgage as a result of an indemnity, guarantee, other policy of insurance, or bond and the obligor will not be an insured under this policy, notwithstanding Section 1(a)(i) of these Conditions and Stipulations.

13. ARBITRATION.

Unless prohibited by applicable law, either the Company or the insured may demand arbitration pursuant to the Title Insurance Arbitration Rules of the American Arbitration Association. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the insured arising out of or relating to this policy, any service of the Company in connection with its issuance or the breach of a policy provision or other obligation. All arbitrable matters when the Amount of Insurance is \$1,000,000 or less shall be arbitrated at the option of either the Company or the insured. All arbitrable matters when the Amount of Insurance is in excess of \$1,000,000 shall be arbitrated only when agreed to by both the Company and the insured. Arbitration pursuant to this policy and under the Rules in effect on the date the demand for arbitration is made or, at the option of the insured, the Rules in effect at Date of Policy shall be binding upon the parties. The award may include attorneys' fees only if the laws of the state in which the land is located permit a court to award attorneys' fees to a prevailing party. Judgment upon the award rendered by the Arbitrator(s) may be entered in any court having jurisdiction thereof.

The laws of the situs of the land shall apply to an arbitration under the Title Insurance Arbitration Rules.

A copy of the Rules may be obtained from the Company upon request.

14. LIABILITY LIMITED TO THIS POLICY; POLICY ENTIRE CONTRACT.

(a) This policy together with all endorsements, if any, attached hereto by the Company is the entire policy and contract between the insured and the Company. In interpreting any provision of this policy, this policy shall be construed as a whole.

(b) Any claim of loss or damage, whether or not based on negligence, and which arises out of the status of the lien of the insured mortgage or of the title to the estate or interest covered hereby or by any action asserting such claim, shall be restricted to this policy.

(c) No amendment of or endorsement to this policy can be made except by a writing endorsed hereon or attached hereto signed by either the President, a Vice President, the Secretary, an Assistant Secretary, or validating officer or authorized signatory of the Company.

15. SEVERABILITY.

In the event any provision of this policy is held invalid or unenforceable under applicable law, the policy shall be deemed not to include that provision and all other provisions shall remain in full force and effect.

16. NOTICES, WHERE SENT.

All notices required to be given the Company and any statement in writing required to be furnished the Company shall include the number of this policy and shall be addressed to the Company at 114 East Fifth Street, Santa Ana, California 92701, or to the office which issued this policy.

SCHEDULE A

Order No.: 104653

Policy No.: 183293

Date of Policy: 01/06/99 at 1:23 P.M.

Amount of Insurance: \$60,000.00

Premium: \$395.00

1. Name of Insured:

State of California

2. The estate or interest in the land which is covered by this policy is:

A Fee

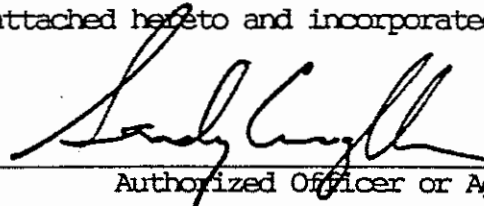
3. Title to the estate or interest in the land is vested in :

State of California

4. The land referred to in this policy is situated in the State of California, County of
and described as follows:

See Schedule "C" attached hereto and incorporated herein by reference

Countersigned:



A handwritten signature in cursive script, appearing to read "Sandy Cuyler", is written over a horizontal line.

Authorized Officer or Agent

SCHEDULE B

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

Part I

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
2. Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records or such agency or by the public records.
3. Any facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
4. Easements, liens of encumbrances, or claims thereof, which are not shown by the public records.
5. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
6. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.

Part II

1. General and special taxes, including any assessments collected with taxes, to be levied for the fiscal year 1998 to 1999, which are a lien not yet payable.
2. The lien of supplemental taxes, if any, assessed pursuant to the provisions of Section 75, et seq., of the Revenue and Taxation Code of the State of California.
3. Rights of the public in and to so much of the herein described land as lies within the boundaries of any public highway or road.
4. Any adverse claim based upon the assertion that:
 - (a) Some portion of said land has been created by artificial means or has accreted to such portion so created.
 - (b) Some portion of said land has been brought within the boundaries thereof by an avulsive movement of the river or stream hereinafter mentioned, or has been formed by accretion to any such portion.

River or Stream: unnamed creek or stream.

Continued.....

SCHEDULE B, PART II (continued)

5. Rights and easements for navigation and fishery which may exist over that portion of said land lying beneath the waters of the river or stream above-mentioned.

Policy No. 183293

SCHEDULE C

The land referred to in this policy is described as follows:

All that real property situated in the unincorporated area of the County of Sierra, State of California, more particularly described as follows:

Northwest quarter of the Southwest quarter of Section 28, Township 21 North, Range 15 East, M.D.M., according to the Official Map thereof.

APN: 016-050-022

T. 21N., R. 15E., 03 M. D. B. & M.

120° 20' 00"

03

Tax Area C

16-05

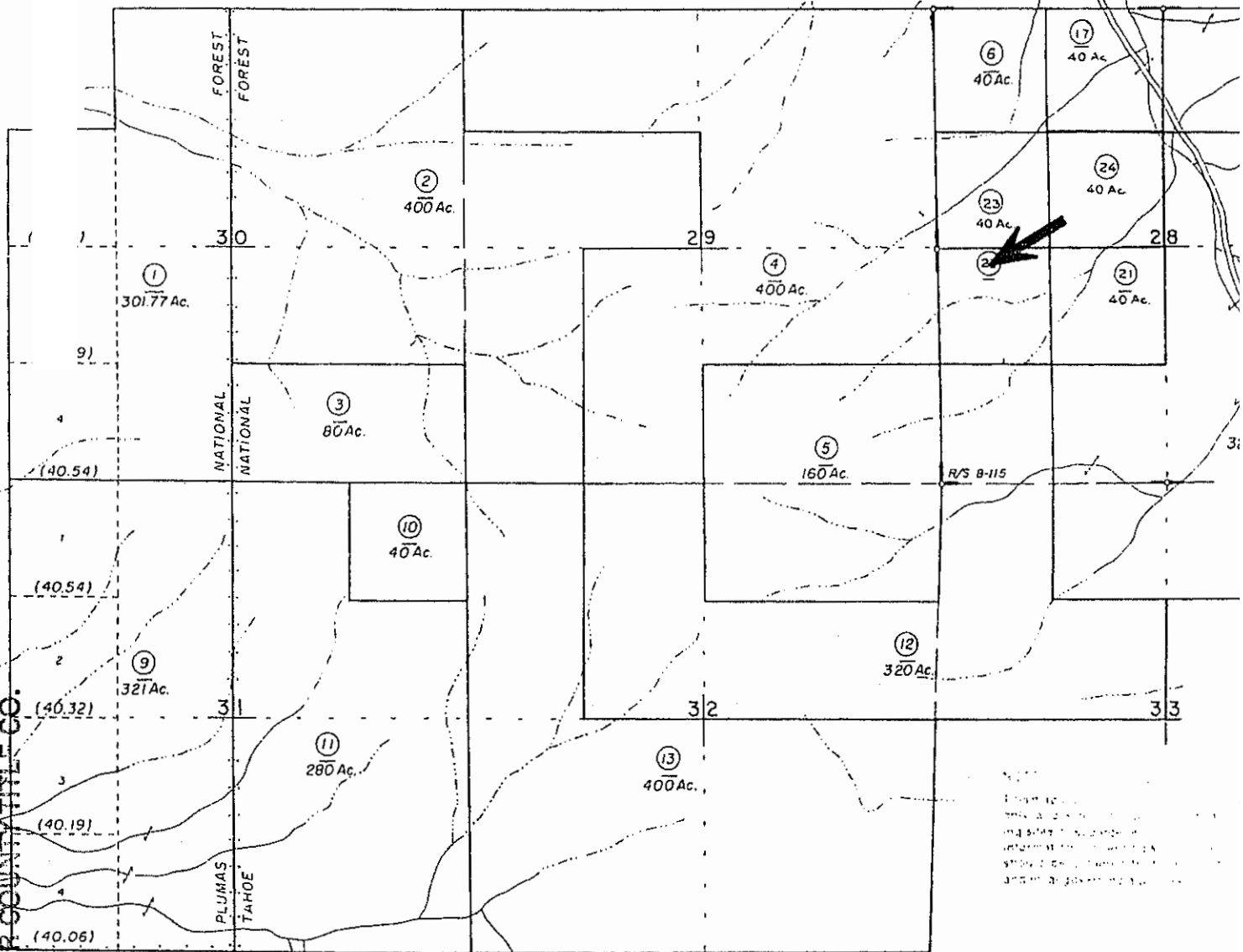
21 22
28 27



06

REVISED
1-29-70
12-8-71
1-14-72
4-25-79
8-11-80
10-25-86

39° 37' 30"



Bk. 12

"The information on this plat is provided for your convenience as a guide to the general location of the subject property. The accuracy of this plat is not guaranteed, and it is a part of any policy, report or guarantee in which it may be attached."

INTER-COUNTY TITLE CO.

Bk. 18

NOTE—Assessor's Block Numbers Shown in Ellipses.
Assessor's Parcel Numbers Shown in Circles.

Assessor's /
County (

-Pg. 05
olif.

DRAFT

LAND ACQUISITION EVALUATION Expansion of Antelope Valley Wildlife Area

1. Site Name

This project is a proposed 160 acre addition to the 5,455.8 acre Antelope Valley Wildlife Area (WA) in eastern Sierra County.

2. Summary

The subject property is surrounded by the WA and lands of the Tahoe National Forest (TNF). It is important deer winter range and on the edge of a major deer migration corridor. Deer move through this area seasonally to and from winter ranges further east in California and in the State of Nevada. Deer also use it as summer range.

The property is utilized by a variety of other game and non-game species including California and mountain quail, doves, grouse, coyotes, bobcats and bear. Mountain lions have been well documented on the adjacent WA.

Incompatible uses of these private lands are/could be adverse to the goals and objectives of the management plan for the WA.

3. Geographical Location and Description

The project is located approximately four miles west of the town of Loyalton and two miles south of State Route 49 in eastern Sierra County. Access to the property is from highway 49 via the Antelope Valley Road, a dirt Sierra County road - Road 855.

The parcel is flat to moderately sloped with a north-east aspect. The elevation varies from 5120 to 5800 feet. The land is currently open space with the exception of one 40-acre parcel which is presently used as a year-round residence.

There are no improvements on the parcels except for the minimal, temporary improvements on the parcel which is used year-around. (Reitinger)

DRAFT

This project property is actually four 40-acre parcels owned by three individuals. The project is found in T21N, R15E, S28, MDBM. The titled owners are:

APN 016 050 0230 - 40 acres
APN 016 050 0240 - 40 acres
Owner - Lloyd Pearson
P.O. Box 785
Groveland, CA 95321

APN 016 050 0220 - 40 acres
Owner - Fred Van Sant
P.O. Box 980
Colfax, CA 95713

APN 016 050 0210 - 40 acres
Owner - John Reitingger
P.O. Box 892
Loyalton, CA 96118

4. Purpose of Acquisition

Acquisition of these parcels would enhance and protect the integrity of the WA by bringing these lands into public ownership. Conversely, development of these private lands would result in degradation of the existing WA through loss of habitat on the private land and result in unnecessary disturbance of wintering deer on the private, WA, and adjacent TNF lands. This disturbance would occur on-site as well as off-site along the county road which must be traversed for the two miles to gain access to these parcels from Highway 49.

The 160 acres is an in-holding within the WA and TNF lands. One mile of its two-mile property boundary is shared with the existing WA. The remainder is shared with the TNF. Acquisition would eliminate the inholding which, if developed, would compromise the integrity of the WA.

Habitats vary on the property. Those found on the subject property include eastside pine, juniper, bitterbrush and sagebrush. Some seasonally wet meadow is found on the property. Mountain mahogany provides an important understory. It is estimated that approximately 25% of the project is mixed eastside pine and juniper, with sagebrush and bitterbrush comprising about 60 %, and the remainder annual and perennial grasses, seasonal wet meadow and rock.

5. Management Objectives

Management objectives of this proposal are to preserve the integrity of the existing Antelope Valley WA as well as preservation of the habitat found on the parcel.

The DFG, Region 2, is signatory to the Antelope Valley Coordinated Resource Management Plan (CRMP) which promotes deer as the motivating resource consideration for management goals and activities in the drainage. Both private owners and public agencies (TNF and DFG) are signatory to the CRMP, although the owners of the subject parcels are not. The CRMP enables agencies to conduct wildlife habitat projects at any location in the CRMP area regardless of ownership, so long as the signatory owner/manager agrees to the activity.

6. Financial Information

a. Name and addresses of property owners:

Lloyd Pearson
P.O. Box 785
Groveland, CA 95321

Fred Van Sant
P.O. Box 980
Colfax, CA 96713

John Reitingger
P.O. Box 892
Loyalton, CA 96118

b. Outside contacts.

None available.

c. Sales price.

Not available.

d. Most suitable method for protection.

Mr. Pearson and Mr. Van Sant initiated contact with the LAE author and during these conversations indicated that they would be willing sellers if the appraisal meets their expectations. Mr. Reitingger has not been contacted.

Land Acquisition - Antelope Valley Wildlife Area

Fee-title is considered the best method of protection as this is the last significant parcel of private land in the upper drainage.

- e. Quality and quantity of encumbrances.

Not known.

- f. Rough estimate of ongoing operations and maintenance expenses to maintain and restore the property.

Negligible. There also is potential income from timber harvest and grazing fees.

- g. Rough estimate of personnel requirements.

None needed.

- h. Does the property meet the criteria under Prop 70?

No.

- I. Required start-up funds needed?

No.

7. Cultural Resources

None known, although there are recorded locations nearby on the WA.

8. Hazardous Materials

None known.

9. Local and Regional Issues

No significant opposition would be expected. The Sierra County Fish and Game Commission would be expected to support the proposal. The payment of in-lieu fees would mollify most local concerns.

Land Acquisition - Antelope Valley Wildlife Area

State Senator - Tim Leslie

State Assembly Person - Bernie Richter

10. Threats

Mr. Reitingers property is presently being developed for year-round residency. Mr. Pearson and Mr. Van Sant have indicated that they would be willing sellers.

11. Contact Persons in Region 2

Regional Lands Committee Representative:

Patricia Perkins, Senior Biologist

Person preparing this LAE:

Karl S. Kahre, Associate Wildlife Biologist,
Plumas-Sierra Unit.

Appendices

Vicinity map
USGS quad map
County Assessor's Parcel Map

Department of Fish and Game
Property Inventory Form

Property #: 00216

Parcel History #: 821761

Property Name: ANTELOPE VALLEY WA Region: 2
 Property AKA: MA Code: SFGWAANTE1 Area Class: WA
 County: 46 SIERRA Multiple Counties: No Other Counties:
 Property Purpose: 15 DEER WINTER RANGE Summary Purpose: 09 DEER HABITAT
 Management Plan: Yes Plan Date: 2/1/1997 Type of Plan: DRAFT
 Location of Property: 4 MILES SOUTHWEST OF LOYALTON

Grantor: REITINGER, JOHN Transaction Date: 9/24/1998
 Manner Acquired: 0100 GRD Title Insurance: Yes Control #: 46A WA 990122 4000
 [1] State Fund: 262 HCF-P117 [2] State Fund: Multiple State Fund: No
 [1] Federal Fund: [2] Federal Fund: O and M Fund:

Parcel Name: EXPANSION #4

WCB Project Name: ANTELOPE VALLEY WA, EXP. #3, 4, 5
 Parcel Location: 1/2 MILE SOUTH OF PALEN RESERVOIR, WEST OF ANTELOPE VALLEY ROAD
 Parcel Access: ANTELOPE VALLEY ROAD SOUTH OF HWY 49

Topographic (Quad) Name: ANTELOPE VALLEY
 Topographic Map: Yes Orthophoto Map: No Access Map (Arcview): No SNA: No SNA #:
 Acquisition Proposal: No Mitigation: No Permit Type:
 [1] HCPB Mitigation #: [2] HCPB Mitigation #: [3] HCPB Mitigation #:
 [1] PCA #: [2] PCA #: [3] PCA #: NCCP: No

[1] Purpose: 15 DEER WINTER RANGE [2] Purpose:
 Summary Purpose: 09 DEER HABITAT Date Digitized: 5/3/1999 Title 14 Desig. Date: 8/29/1980
 Property Mgmt: DFG-2 Mgmt Agrmnt Effective Date: Lease Effective Date:
 Mgmt Agrmnt Expiration Date: Lease Expiration Date: Term: In-Lieu Fee Date: 1/22/1999

Handicap Access: No Water Rights: Mineral Rights: Y Timber Rights:

Easements: ROAD, UTILITY, LOGGING

Improvements:

Comments: WINTER RANGE FOR LOYALTON-TRUCKEE DEER HERD.

State Land Cost:	\$60,000.00	WCB Improvement Cost:	Federal Cost:
Acquisition Cost:	\$480.00	Donation/Mitigation Value:	Other Cost:
State Improvement Cost:		City/County Cost:	In-Lieu Fees: \$408.00
Total State Cost:	\$60,480.00	Taxes:	

County: 46 SIERRA City Code: TR #: 98-120A
 Recorded Date: 1/22/1999 Book: 132 Page: 198 Document #: 127544

Comments: ACQUISITION COSTS APPROX \$5,000.

Parcel Characteristic: 1000 Original Acreage: 40.00 Current Acreage: 40.00

Department of Fish and Game
Property Inventory Form

Property #: 00216

Parcel History #: 821761

APN: 00016-0050-0021

Meridian: MDBM

Township: 21N

Range: 15E

Section: 28

Last Update: 6/8/2001

127544

127544

OFFICIAL RECORDS
RECORDING REQUESTED

104652-70

ICTC

WHEN RECORDED MAIL TO

AFNF 99 JAN 22 PH 1:29

State of California
Wildlife Conservation Board
801 K Street, Suite 806
Sacramento, CA 95814

SIERRA COUNTY, CA
MARY J. JUNGI, RECORDER

VOL. 132 PG. 98 FEE. n/c

SPACE ABOVE THIS LINE FOR RECORDER'S USE

Agency: Department of Fish and Game
Wildlife Conservation Board
Project: Antelope Valley Wildlife Area, Exp. #4
Parcel: Sierra County APN 016-050-021

Grant Deed

JOHN REITINGER, an unmarried man, hereby GRANTS to the STATE OF CALIFORNIA the following described real property in the County of Sierra, State of California:

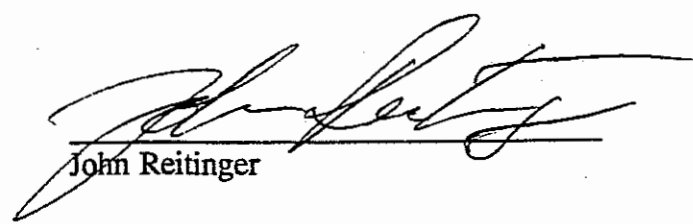
The Northeast quarter of the Southwest quarter of Section 28, Township 21 North, Range 15 East, M.D.B.&M.

DOCUMENTARY TRANSFER TAX \$ 0

- COMPUTED ON FULL VALUE OF PROPERTY CONVEYED. OR
- COMPUTED ON FULL VALUE LESS LIENS AND ENCUMBRANCES REMAINING THEREON AT TIME OF SALE.

Signature of declarant or agent determining tax-firm name

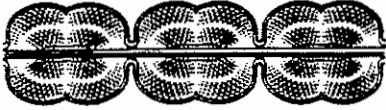
Dated: 9-24-98


John Reitingger

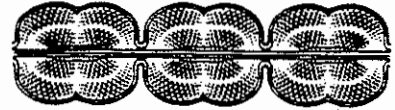
82-1761

4700

CALIFORNIA



ALL-PURPOSE



ACKNOWLEDGEMENT

STATE OF CALIFORNIA)

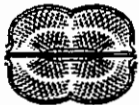
COUNTY OF NEVADA)

On Sept 24 98 before me, HANNA JARMOC, NOTARY PUBLIC
DATE NAME, TITLE OF OFFICER - E.G., "JANE DOE, NOTARY PUBLIC"

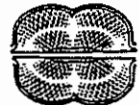
personally appeared, JOHN REITINGER
personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

[Signature] (SEAL)
NOTARY PUBLIC SIGNATURE



OPTIONAL INFORMATION



TITLE OR TYPE OF DOCUMENT GRANT DEED

DATE OF DOCUMENT Sept 24, 98 NUMBER OF PAGES 1

SIGNER(S) OTHER THAN NAMED ABOVE N/A

Antelope Valley WA, Exp. #4
Sierra County

CERTIFICATE OF ACCEPTANCE

THIS IS TO CERTIFY that the interest in real property conveyed by the deed or grant, dated September 24, 1998 from John Reiting to the STATE OF CALIFORNIA, is hereby accepted by the undersigned officer on behalf of the State of California, pursuant to authority conferred by authorization of the Wildlife Conservation Board, Department of Fish and Game, Resources Agency, State of California, adopted on November 3, 1998, and the grantee consents to the recordation thereof by its duly authorized officer.

STATE OF CALIFORNIA
Resources Agency
Department of Fish and Game

By W. John Schmidt
W. John Schmidt
Executive Director
Wildlife Conservation Board

Date 11/3/98



7298-120A

POLICY OF TITLE INSURANCE

ISSUED BY



C
SUBJECT TO THE EXCLUSIONS FROM COVERAGE, THE EXCEPTIONS FROM COVERAGE CONTAINED IN SCHEDULE B AND THE CONDITIONS AND STIPULATIONS, NORTH AMERICAN TITLE INSURANCE COMPANY, a California corporation, herein called the Company, insures, as of Date of Policy shown in Schedule A, against loss or damage, not exceeding the Amount of Insurance stated in Schedule A, sustained or incurred by the insured by reason of:

1. Title to the estate or interest described in Schedule A being vested other than as stated therein;
2. Any defect in or **lien** or encumbrance on the title;
3. Unmarketability of the title;
4. Lack of a right of access to and from the land;

and in addition, as to an insured lender only:

5. The invalidity or unenforceability of the lien of the insured mortgage upon the title;
6. The priority of any lien or encumbrance over the lien of the insured mortgage; said mortgage being shown in Schedule B in the order of its priority;
7. The invalidity or unenforceability of any assignment of the insured mortgage, provided the assignment is shown in Schedule B, or the failure of the assignment shown in Schedule B to vest title to the insured mortgage in the named insured assignee free and clear of all liens.

The Company will also pay the costs, attorneys' fees and expenses incurred in defense of the title or the lien of the insured mortgage, as insured, but only to the extent provided in the Conditions and Stipulations.

IN WITNESS WHEREOF, North American Title Insurance Company has caused this policy to be signed and sealed by its duly authorized officers as of Date of Policy shown in Schedule A.

NORTH AMERICAN TITLE INSURANCE COMPANY

BY

Gerold B. Beery

PRESIDENT

ATTEST

[Signature]

SECRETARY



EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
- (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims, or other matters:
 - (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
 - (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
 - (c) resulting in no loss or damage to the insured claimant;
 - (d) attaching or created subsequent to Date of Policy; or
 - (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate or interest insured by their policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

CONDITIONS AND STIPULATIONS

1. DEFINITION OF TERMS.

The following terms when used in this policy mean:

(a) "insured": the insured named in Schedule A, and, subject to any rights or defenses the Company would have had against the named insured, those who succeed to the interest of the named insured by operation of law as distinguished from purchase including, but not limited to, heirs, distributees, devisees, survivors, personal representatives, next of kin, or corporate or fiduciary successors. The term "insured" also includes

(i) the owner of the indebtedness secured by the insured mortgage and each successor in ownership of the indebtedness except a successor who is an obligor under the provisions of Section 12(c) of these Conditions and Stipulations (reserving, however, all rights and defenses as to any such successor that the Company would have had against any predecessor insured, unless the successor acquired the indebtedness as a purchaser for value without knowledge of the asserted defect, lien, encumbrance, adverse claim or other matter insured against by this policy as affecting title to the estate or interest in the land;

(ii) any governmental agency or governmental instrumentality which is an insurer or guarantor under an insurance contract or guaranty insuring or guaranteeing the indebtedness secured by the insured mortgage, or any part thereof, whether named as an insured herein or not;

(iii) the parties designated in Section 2(a) of these Conditions and Stipulations.

(b) "insured claimant": an insured claiming loss or damage.

(c) "insured lender": the owner of an insured mortgage.

(d) "insured mortgage": a mortgage shown in Schedule B, the owner of which is named as an insured in Schedule A.

(e) "knowledge" or "known": actual knowledge, not constructive knowledge or notice which may be imputed to an insured by reason of any public records as defined in this policy or any other records which impart constructive notice of matters affecting the land.

(f) "land": the land described or referred to in Schedule (A), and improvements affixed thereto which by law constitute real property. The term "land" does not include any property beyond the lines of the area specifically described or referred to in Schedule (A), nor any right, title, interest, estate or easement in abutting streets, roads, avenues, alleys, lanes, ways or waterways, but nothing herein shall modify or limit the extent to which a right of access to and from the land is insured by this policy.

(g) "mortgage": mortgage, deed of trust, trust deed, or other security instrument.

(h) "public records": records established under state statutes at Date of Policy for the purpose of imparting constructive notice of matters relating to real property to purchasers for value and without knowledge.

(i) "unmarketability of the title": an alleged or apparent matter affecting the title to the land, not excluded or excepted from coverage, which would entitle a purchaser of the estate or interest described in Schedule A or the insured mortgage to be released from the obligation to purchase by virtue of a contractual condition requiring the delivery of marketable title.

2. CONTINUATION OF INSURANCE.

(a) **After Acquisition of Title.** If this policy insures the owner of the indebtedness secured by the insured mortgage, the coverage of this policy shall continue in force as of Date of Policy in favor of (i) insured lender who acquires all or any part of the estate or interest in the land by foreclosure, trustee's sale, conveyance in lieu of

proceedings, or otherwise, or (ii) insured claimant, if the insured claimant is the insured lender, or the insured lender's successor in interest, provided the insured claimant is not a transferee of the insured lender's interest in the land by foreclosure, trustee's sale, conveyance in lieu of

5. PROOF OF LOSS OR DAMAGE.

In addition to and after the notices required under Section 3 of these Conditions and Stipulations have been provided the Company, a proof of loss or damage signed and sworn to by each insured claimant shall be furnished to the Company within 90 days after the insured claimant shall ascertain the facts giving rise to the loss or damage. The proof of loss or damage shall describe the defect in, or lien or encumbrance on the title, or other matter insured against by this policy which constitutes the basis of loss or damage and shall state, to the extent possible, the basis of calculating the amount of the loss or damage. If the Company is prejudiced by the failure of an insured claimant to provide the required proof of loss or damage, the Company's obligations to such insured under the policy shall terminate, including any liability or obligation to defend, prosecute, or continue any litigation, with regard to the matter or matters requiring such proof of loss or damage.

In addition, an insured claimant may reasonably be required to submit to examination under oath by any authorized representative of the Company and shall produce for examination, inspection and copying, at such reasonable times and places as may be designated by any authorized representative of the Company, all records, books, ledgers, checks, correspondence and memoranda, whether bearing a date before or after Date of Policy, which reasonably pertain to the loss or damage. Further, if requested by any authorized representative of the Company, the insured claimant shall grant its permission, in writing, for any authorized representative of the Company to examine, inspect and copy all records, books, ledgers, checks, correspondence and memoranda in the custody or control of a third party, which reasonably pertain to the loss or damage. All information designated as confidential by an insured claimant provided to the Company pursuant to this Section shall not be disclosed to others unless, in the reasonable judgment of the Company, it is necessary in the administration of the claim. Failure of an insured claimant to submit for examination under oath, produce other reasonably requested information or grant permission to secure reasonably necessary information from third parties as required in this paragraph, unless prohibited by law or governmental regulation, shall terminate any liability of the Company under this policy as to that insured for that claim.

6. OPTIONS TO PAY OR OTHERWISE SETTLE CLAIMS; TERMINATION OF LIABILITY.

In case of a claim under this policy, the Company shall have the following additional options:

(a) To Pay or Tender Payment of the Amount of Insurance or to Purchase the Indebtedness.

(i) to pay or tender payment of the amount of insurance under this policy together with any costs, attorneys' fees and expenses incurred by the insured claimant, which were authorized by the Company, up to the time of payment or tender of payment and which the Company is obligated to pay; or

(ii) in case loss or damage is claimed under this policy by the owner of the indebtedness secured by the insured mortgage, to purchase the indebtedness secured by the insured mortgage for the amount owing thereon together with any costs, attorneys' fees and expenses incurred by the insured claimant which were authorized by the Company up to the time of purchase and which the Company is obligated to pay.

If the Company offers to purchase the indebtedness as hereinafter provided, the owner of the indebtedness shall transfer assign and

continued to be obligated to advance at and after Date of Policy.

9. REDUCTION OF INSURANCE; REDUCTION OR TERMINATION OF LIABILITY.

(a) All payments under this policy, except payments made for costs, attorneys' fees and expenses, shall reduce the amount of the insurance pro tanto. However, as to an insured lender, any payments made prior to the acquisition of title to the estate or interest as provided in Section 2(a) of these Conditions and Stipulations shall not reduce pro tanto the amount of insurance afforded under this policy as to any such insured, except to the extent that the payments reduce the amount of the indebtedness secured by the insured mortgage.

(b) Payment in part by any person of the principal of the indebtedness, or any other obligation secured by the insured mortgage, or any voluntary partial satisfaction or release of the insured mortgage, to the extent of the payment, satisfaction or release, shall reduce the amount of insurance pro tanto. The amount of insurance may thereafter be increased by accruing interest and advances made to protect the lien of the insured mortgage and secured thereby, with interest thereon, provided in no event shall the amount of insurance be greater than the Amount of Insurance stated in Schedule A.

(c) Payment in full by any person or the voluntary satisfaction or release of the insured mortgage shall terminate all liability of the Company to an insured lender except as provided in Section 2(a) of these Conditions and Stipulations.

10. LIABILITY NONCUMULATIVE.

It is expressly understood that the amount of insurance under this policy shall be reduced by any amount the Company may pay under any policy insuring a mortgage to which exception is taken in Schedule B or to which the insured has agreed, assumed or taken subject, or which is hereafter executed by an insured and which is a charge or lien on the estate or interest described or referred to in Schedule A, and the amount so paid shall be deemed a payment under this policy to the insured owner.

The provisions of this Section shall not apply to an insured lender, unless such insured acquires title to said estate or interest in satisfaction of the indebtedness secured by an insured mortgage.

11. PAYMENT OF LOSS.

(a) No payment shall be made without producing this policy for endorsement of the payment unless the policy has been lost or destroyed, in which case proof of loss or destruction shall be furnished to the satisfaction of the Company.

(b) When liability and the extent of loss or damage has been definitely fixed in accordance with these Conditions and Stipulations, the loss or damage shall be payable within 30 days thereafter.

12. SUBROGATION UPON PAYMENT OR SETTLEMENT.

(a) The Company's Right of Subrogation.

Whenever the Company shall have settled and paid a claim under this policy, all right of subrogation shall vest in the Company unaffected by any act of the insured claimant.

The Company shall be subrogated to and be entitled to all rights and remedies which the insured claimant would have had against any person or property in respect to the claim had this policy not been issued. If requested by the Company, the insured claimant shall transfer to the Company all rights and remedies against any person or property necessary in order to perfect this right of subrogation. The insured claimant shall permit the Company to sue, compromise or settle in the name of the insured claimant and to use the name of the insured claimant in any transaction or litigation involving these rights or

wholly owned subsidiary of the insured corporation and their corporate successors by operation of law and not by purchase, subject to any rights or defenses the Company may have against any predecessor insureds; and (iii) any governmental agency or governmental instrumentality which acquires all or any part of the estate or int. pursuant to a contract of insurance or guaranty insuring or guaranteeing the indebtedness secured by the insured mortgage.

(b) **After Conveyance of Title.** The coverage of this policy shall continue in force as of Date of Policy in favor of an insured only so long as the insured retains an estate or interest in the land, or holds an indebtedness secured by a purchase money mortgage given by a purchaser from the insured, or only so long as the insured shall have liability by reason of covenants of warranty made by the insured in any transfer or conveyance of the estate or interest. This policy shall not continue in force in favor of any purchaser from the insured of either (i) an estate or interest in the land, or (ii) an indebtedness secured by a purchase money mortgage given to an insured.

(c) **Amount of Insurance:** The amount of insurance after the acquisition or after the conveyance by an insured lender shall in neither event exceed the least of:

- (i) The amount of insurance stated in Schedule A;
- (ii) The amount of the principal of the indebtedness secured by the insured mortgage as of Date of Policy, interest thereon, expenses of foreclosure, amounts advanced pursuant to the insured mortgage to assure compliance with laws or to protect the lien of the insured mortgage prior to the time of acquisition of the estate or interest in the land and secured thereby and reasonable amounts expended to prevent deterioration of improvements, but reduced by the amount of all payments made; or
- (iii) The amount paid by any governmental agency or governmental instrumentality, if the agency or instrumentality is the insured claimant, in the acquisition of the estate or interest in satisfaction of its insurance contract or guaranty.

3. NOTICE OF CLAIM TO BE GIVEN BY INSURED CLAIMANT.

The insured shall notify the Company promptly in writing (f) in case of any litigation as set forth in Section 4(a) below, (ii) in case knowledge shall come to an insured hereunder of any claim of title or interest which is adverse to the title to the estate or interest or the lien of the insured mortgage, as insured, and which might cause loss or damage for which the Company may be liable by virtue of this policy, or (iii) if title to the estate or interest or the lien of the insured mortgage, as insured, is rejected as unmarketable. If prompt notice shall not be given to the Company, then as to that insured all liability of the Company shall terminate with regard to the matter or matters for which prompt notice is required; provided, however, that failure to notify the Company shall in no case prejudice the rights of any insured under this policy unless the Company shall be prejudiced by the failure and then only to the extent of the prejudice.

4. DEFENSE AND PROSECUTION OF ACTIONS; DUTY OF INSURED CLAIMANT TO COOPERATE.

(a) Upon written request by the insured and subject to the options contained in Section 6 of these Conditions and Stipulations, the Company, at its own cost and without unreasonable delay, shall provide for the defense of such insured in litigation in which any third party asserts a claim adverse to the title or interest as insured but only as to those stated causes of action alleging a defect, lien or encumbrance or other matter insured against by this policy. The Company shall have the right to select counsel of its choice (subject to the right of such insured to object for reasonable cause) to represent the insured as to those stated causes of action and shall not be liable for and will not pay the fees of any other counsel. The Company will not pay any fees, costs or expenses incurred by an insured in the defense of those causes of action which allege matters not insured against by this policy.

(b) The Company shall have the right, at its own cost, to institute and prosecute any action or proceeding or to do any other act which in its opinion may be necessary or desirable to establish the title to the estate or interest or the lien of the insured mortgage, as insured, or to prevent or reduce loss or damage to an insured. The Company may take any appropriate action under the terms of this policy, whether or not it shall be liable hereunder, and shall not thereby concede liability or waive any provision of this policy. If the Company shall exercise its rights under this paragraph, it shall do so diligently.

(c) Whenever the Company shall have brought an action or interposed a defense as required or permitted by the provisions of this policy, the Company may pursue any litigation to final determination by a court of competent jurisdiction and expressly reserves the right, in its sole discretion, to appeal from any adverse judgment or order.

(d) In all cases where this policy permits or requires the Company to prosecute or provide for the defense of any action or proceeding, the insured shall secure to the Company the right to so prosecute or provide defense in the action or proceeding, and all appeals therein, and permit the Company to use, at its option, the name of such insured for this purpose. Whenever requested by the Company, an insured, at the Company's expense, shall give the Company all reasonable aid (i) in any action or proceeding, securing evidence, obtaining witnesses, prosecuting or defending the action or proceeding, or effecting settlement, and (ii) in any other lawful act which in the opinion of the Company may be necessary or desirable to establish the title to the estate or interest or the lien of the insured mortgage, as insured. If the Company is prejudiced by the failure of an insured to furnish the required cooperation, the Company's obligations to such

insured owner, to all rights and remedies in the proportion which the Company's payment bears to the whole amount of the loss; and (ii) as to an insured lender, to all rights and remedies of the insured claimant after the insured claimant shall have recovered its principal, interest, and costs of collection.

If loss should result from any act of the insured claimant, as stated above, that act shall not void this policy, but the Company, in that event, shall be required to pay only that part of any losses insured against by this policy which shall exceed the amount, if any, lost to the Company by reason of the impairment by the insured claimant of the Company's right of subrogation.

(b) **The Insured's Rights and Limitations.** Notwithstanding the foregoing, the owner of the indebtedness secured by an insured mortgage, provided the priority of the lien of the insured mortgage or its enforceability is not affected, may release or substitute the personal liability of any debtor or guarantor, or extend or otherwise modify the terms of payment, or release a portion of the estate or interest from the lien of the insured mortgage, or release any collateral security for the indebtedness.

When the permitted acts of the insured claimant occur and the insured has knowledge of any claim of title or interest adverse to the title to the estate or interest or the priority or enforceability of the lien of the insured mortgage, as insured, the Company shall be required to pay only that part of any losses insured against by this policy which shall exceed the amount, if any, lost to the Company by reason of the impairment by the insured claimant of the Company's right of subrogation.

(c) **The Company's Rights Against Non-insured Obligors.** The Company's right of subrogation against non-insured obligors shall exist and shall include, without limitation, the rights of the insured to indemnities, guaranties, other policies of insurance or bonds, notwithstanding any terms or conditions contained in those instruments which provide for subrogation rights by reason of this policy.

The Company's right of subrogation shall not be avoided by acquisition of the insured mortgage by an obligor (except an obligor described in Section 1(a)(ii) of these Conditions and Stipulations) who acquires the insured mortgage as a result of an indemnity, guarantee, other policy of insurance, or bond and the obligor will not be an insured under this policy, notwithstanding Section 1(a)(i) of these Conditions and Stipulations.

7. DETERMINATION AND EXTENT OF LIABILITY.

This policy is a contract of indemnity against actual monetary loss or damage sustained or incurred by the insured claimant who has suffered loss or damage by reason of matters insured against by this policy and only to the extent herein described.

(a) The liability of the Company under this policy to an insured lender shall in no case exceed the least of:

(i) The Amount of Insurance stated in Schedule A, or, if applicable, the amount of insurance as defined in Section 2(c) of these Conditions and Stipulations;

(ii) the amount of the unpaid principal indebtedness secured by the insured mortgage as limited or provided under Section 8 of these Conditions and Stipulations or as reduced under Section 9 of these Conditions and Stipulations, at the time the loss or damage insured against by this policy occurs, together with interest thereon; or

(iii) the difference between the value of the insured estate or interest as insured and the value of the insured estate or interest subject to the defect, lien or encumbrance insured against by this policy.

(b) In the event the insured lender has acquired the estate or interest in the manner described in Section 2(a) of these Conditions and Stipulations or has conveyed the title, then the liability of the Company shall continue as set forth in Section 7(a) of these Conditions and Stipulations.

(c) The liability of the Company under this policy to an insured owner of the estate or interest in the land described in Schedule A shall not exceed the least of:

(i) The Amount of Insurance stated in Schedule A; or

(ii) the difference between the value of the insured estate or interest as insured and the value of the insured estate or interest subject to the defect, lien or encumbrance insured against by this policy.

(d) The Company will pay only those costs, attorneys' fees and expenses incurred in accordance with Section 4 of these Conditions and Stipulations.

8. LIMITATION OF LIABILITY.

(a) If the Company establishes the title, or removes the alleged defect, lien or encumbrance, or cures the lack of a right of access to or from the land, or cures the claim of unmarketability of title, or otherwise establishes the lien of the insured mortgage, all as insured, in a reasonably diligent manner by any method, including litigation and the completion of any appeals therefrom, it shall have fully performed its obligations with respect to that matter and shall not be liable for any loss or damage caused thereby.

(b) In the event of litigation, including litigation by the Company or with the Company's consent, the Company shall have no liability for loss or damage until there has been a final determination by a court of competent jurisdiction, and disposition of all appeals therefrom, adverse to the title, or, if applicable, to the lien of the insured mortgage, as insured.

(c) The Company shall not be liable for loss or damage to any insured for liability voluntarily assumed by the insured in settling any claim or suit without the prior written consent of the Company.

(d) The Company shall not be liable for:

(i) any indebtedness created subsequent to Date of Policy except for advances made to protect the lien of the insured mortgage and secured thereby and reasonable amounts expended to prevent deterioration of improvements; or

(ii) construction loan advances made subsequent to Date of Policy, except construction loan advances made subsequent to Date of Policy for the purpose of financing in whole or in part the construction of an improvement to the land which at Date of Policy were secured by the insured mortgage and which the insured was and

insured owner, to all rights and remedies in the proportion which the Company's payment bears to the whole amount of the loss; and (ii) as to an insured lender, to all rights and remedies of the insured claimant after the insured claimant shall have recovered its principal, interest, and costs of collection.

If loss should result from any act of the insured claimant, as stated above, that act shall not void this policy, but the Company, in that event, shall be required to pay only that part of any losses insured against by this policy which shall exceed the amount, if any, lost to the Company by reason of the impairment by the insured claimant of the Company's right of subrogation.

(b) The Insured's Rights and Limitations.

Notwithstanding the foregoing, the owner of the indebtedness secured by an insured mortgage, provided the priority of the lien of the insured mortgage or its enforceability is not affected, may release or substitute the personal liability of any debtor or guarantor, or extend or otherwise modify the terms of payment, or release a portion of the estate or interest from the lien of the insured mortgage, or release any collateral security for the indebtedness.

When the permitted acts of the insured claimant occur and the insured has knowledge of any claim of title or interest adverse to the title to the estate or interest or the priority or enforceability of the lien of the insured mortgage, as insured, the Company shall be required to pay only that part of any losses insured against by this policy which shall exceed the amount, if any, lost to the Company by reason of the impairment by the insured claimant of the Company's right of subrogation.

(c) The Company's Rights Against Non-insured Obligors.

The Company's right of subrogation against non-insured obligors shall exist and shall include, without limitation, the rights of the insured to indemnities, guaranties, other policies of insurance or bonds, notwithstanding any terms or conditions contained in those instruments which provide for subrogation rights by reason of this policy.

The Company's right of subrogation shall not be avoided by acquisition of the insured mortgage by an obligor (except an obligor described in Section 1(a)(ii) of these Conditions and Stipulations) who acquires the insured mortgage as a result of an indemnity, guarantee, other policy of insurance, or bond and the obligor will not be an insured under this policy, notwithstanding Section 1(a)(i) of these Conditions and Stipulations.

13. ARBITRATION.

Unless prohibited by applicable law, either the Company or the insured may demand arbitration pursuant to the Title Insurance Arbitration Rules of the American Arbitration Association. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the insured arising out of or relating to this policy, any service of the Company in connection with its issuance or the breach of a policy provision or other obligation. All arbitrable matters when the Amount of Insurance is \$1,000,000 or less shall be arbitrated at the option of either the Company or the insured. All arbitrable matters when the Amount of Insurance is in excess of \$1,000,000 shall be arbitrated only when agreed to by both the Company and the insured. Arbitration pursuant to this policy and under the Rules in effect on the date the demand for arbitration is made or, at the option of the insured, the Rules in effect at Date of Policy shall be binding upon the parties. The award may include attorneys' fees only if the laws of the state in which the land is located permit a court to award attorneys' fees to a prevailing party. Judgment upon the award rendered by the Arbitrator(s) may be entered in any court having jurisdiction thereof.

The law of the situs of the land shall apply to an arbitration under the Title Insurance Arbitration Rules.

A copy of the Rules may be obtained from the Company upon request.

14. LIABILITY LIMITED TO THIS POLICY; POLICY ENTIRE CONTRACT.

(a) This policy together with all endorsements, if any, attached hereto by the Company is the entire policy and contract between the insured and the Company. In interpreting any provision of this policy, this policy shall be construed as a whole.

(b) Any claim of loss or damage, whether or not based on negligence, and which arises out of the status of the lien of the insured mortgage or of the title to the estate or interest covered hereby or by any action asserting such claim, shall be restricted to this policy.

(c) No amendment of or endorsement to this policy can be made except by a writing endorsed hereon or attached hereto signed by either the President, a Vice President, the Secretary, an Assistant Secretary, or validating officer or authorized signatory of the Company.

15. SEVERABILITY.

In the event any provision of this policy is held invalid or unenforceable under applicable law, the policy shall be deemed not to include that provision and all other provisions shall remain in full force and effect.

16. NOTICES, WHERE SENT

All notices required to be given the Company and any statement in writing required to be furnished the Company shall include the number of this policy and shall be addressed to the Company at its main office at 114 East Fifth Street, Santa Ana, California, or to the office which issued this policy.

**POLICY
OF
TITLE
INSURANCE**

 **NORTH
AMERICAN
TITLE
INSURANCE
COMPANY**

SCHEDULE A

Order No.: 104652

Policy No.: 189196

Date of Policy: 01/22/99 at 1:29 P.M.

Amount of Insurance: \$60,000.00

Premium: \$500.00

1. Name of Insured:

State of California

2. The estate or interest in the land which is covered by this policy is:

A Fee

3. Title to the estate or interest in the land is vested in :

State of California

4. The land referred to in this policy is situated in the State of California, County of Sierra and described as follows:

See Schedule "C" attached hereto and incorporated herein by reference

Countersigned:


Authorized Officer or Agent

SCHEDULE B

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

Part I

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
2. Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records or such agency or by the public records.
3. Any facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
4. Easements, liens of encumbrances, or claims thereof, which are not shown by the public records.
5. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
6. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.

Part II

1. Rights of the public in and to so much of the herein described land as lies within the boundaries of any public highway or road.
2. Any adverse claim based upon the assertion that:
 - (a) Some portion of said land has been created by artificial means or has accreted to such portion so created.
 - (b) Some portion of said land has been brought within the boundaries thereof by an avulsive movement of the river or stream hereinafter mentioned, or has been formed by accretion to any such portion.

River or Stream: unnamed creek or stream.

3. Rights and easements for navigation and fishery which may exist over that portion of said land lying beneath the waters of the river or stream above-mentioned.

Continued.....

SCHEDULE B, PART II (continued)

4. An easement for the purpose shown below and rights incidental thereto as set forth in a document
- | | | |
|----------|---|---|
| Recorded | : | February 13, 1998, in Book 131, Page 358, Official Records. |
| Purpose | : | road, utility easement and for logging |
| Affects | : | a strip of land 30 feet in width over a Northerly portion |

Policy No. 189196

SCHEDULE C

The land referred to in this policy is described as follows:

All that real property situated in the unincorporated area of the County of Sierra, State of California, more particularly described as follows:

The NE1/4 of the SW1/4 of Section 28, Township 21 North, Range 15 East, M.D.M.

APN:16-050-21

Department of Fish and Game
Property Inventory Form

Property #: 00216

Parcel History #: 821759

Property Name: ANTELOPE VALLEY WA Region: 2
Property AKA: MA Code: SFGWAANTE1 Area Class: WA
County: 46 SIERRA Multiple Counties: No Other Counties:
Property Purpose: 15 DEER WINTER RANGE Summary Purpose: 09 DEER HABITAT
Management Plan: Yes Plan Date: 10/1/1992 Type of Plan: DRAFT
Location of Property: 4 MILES SOUTHWEST OF LOYALTON

Grantor: THE MISTY CORPORATION Transaction Date: 9/21/1998

Manner Acquired: 0200 COGD Title Insurance: Yes Control #: 46A WA 990120 40000

[1] State Fund: 262 HCF-P117 [2] State Fund: Multiple State Fund: No

[1] Federal Fund: [2] Federal Fund: O and M Fund:

Parcel Name: EXPANSION #5

Parcel Location: 1/2 MILE SOUTH OF PALEN RESERVOIR, WEST OF ANTELOPE VALLEY ROAD

Parcel Access: ANTELOPE VALLEY ROAD

Topographic (Quad) Name: ANTELOPE VALLEY

Topographic Map: Yes Orthophoto Map: No Access Map (Arcview): No SNA: No SNA #:

Acquisition Proposal: Yes Mitigation: No Permit Type:

[1] HCPB Mitigation #: [2] HCPB Mitigation #: [3] HCPB Mitigation #:

[1] PCA #: [2] PCA #: [3] PCA #: NCCP: No

[1] Purpose: 15 DEER WINTER RANGE [2] Purpose:

Summary Purpose: 09 DEER HABITAT Date Digitized: 5/3/1999 Title 14 Desig. Date: 8/29/1980

Property Mgmt: DFG-2 Mgmt Agrmnt Effective Date: Lease Effective Date:

Mgmt Agrmnt Expiration Date: Lease Expiration Date: Term: In-Lieu Fee Date: 1/20/1999

Handicap Access: No Water Rights: Mineral Rights: Timber Rights:

Easements: ROAD & UTILITIES

Improvements:

Comments: ACQUISITION COSTS APPROX \$5,000

State Land Cost:	\$120,000.00	WCB Improvement Cost:	Federal Cost:
Acquisition Cost:	\$1,560.00	Donation/Mitigation Value:	Other Cost:
State Improvement Cost:		City/County Cost:	In-Lieu Fees: \$275.81
Total State Cost:	\$121,560.00	Taxes:	

County: 46 SIERRA City Code: TR #:
Recorded Date: 1/20/1999 Book: 132 Page: 173 Document #: 127531

Comments:

Parcel Characteristic: 1000 Original Acreage: 80.00 Current Acreage: 80.00

Department of Fish and Game
Property Inventory Form

Property #: 00216

Parcel History #: 821759

APN: 00016-0050-0023	Meridian: MDBM	Township: 21N	Range: 15E	Section: 28
APN: 00016-0050-0024	Meridian: MDBM	Township: 21N	Range: 15E	Section: 28

Last Update: 5/19/2000

12.31

OFFICIAL RECORDS
RECORDING REQUESTED 127531
Inter Co Title

WHEN RECORDED MAIL TO

99 JAN 20 PH 1:26

SIERRA COUNTY, CA
MARY J. JUNGI, RECORDER

State of California
Wildlife Conservation Board
801 K Street, Suite 806
Sacramento, CA 95814

APN VOL 132 PG 173 FEE No Charge

SPACE ABOVE THIS LINE FOR RECORDER'S USE

Corporation Grant Deed

Agency: Department of Fish and Game
Wildlife Conservation Board
Project: Antelope Valley Wildlife Area, Exp. #5
Parcel: Sierra County APN 016-050-023 & 016-050-024

THE MISTY CORPORATION, a corporation organized under the laws of the State of Nevada, hereby GRANTS to the STATE OF CALIFORNIA the following described real property in the County of Sierra, State of California:

PARCEL ONE:

The Southeast 1/4 of the Northwest 1/4 of Section 28, Township 21 North, Range 15 East, M.D.B. & M.

APN: 016-050-024

PARCEL TWO:

The Southwest 1/4 of the Northwest 1/4 of Section 28, Township 21 North, Range 15 East, M.D.B. & M.

APN: 016-050-023

In Witness Whereof, said corporation has caused its corporate name and seal to be affixed hereto and this instrument to be executed by its duly authorized agent.

Dated: 9-21-98

THE MISTY CORPORATION

DOCUMENTARY TRANSFER TAX \$ 0

- COMPUTED ON FULL VALUE OF PROPERTY CONVEYED OR
- COMPUTED ON FULL VALUE LESS LIENS AND ENCUMBRANCES REMAINING THEREON AT TIME

100% SALE

D. Brown

Signature of declarant or agent determining tax firm name

By: Daniel Hodges
DANIEL HODGES, Authorized Agent

By: Daniel Hodges

82-1759

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

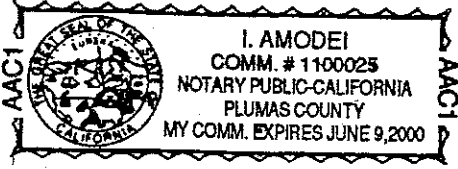
State of CALIFORNIA

County of PLUMAS

On SEPTEMBER 21, 1998 before me, I. AMODEI NOTARY PUBLIC
Date Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared DANIEL HODGES
Name(s) of Signer(s)

personally known to me – OR – proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

I. Amodei
Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: _____

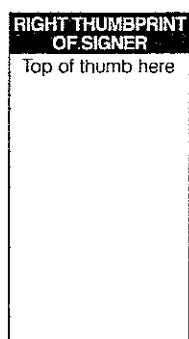
Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____

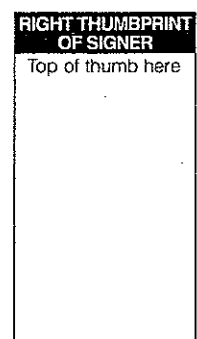
- Individual
- Corporate Officer
Title(s): _____
- Partner — Limited General
- Attorney-in-Fact
- Trustee
- Guardian or Conservator
- Other: _____



Signer Is Representing:

Signer's Name: _____

- Individual
- Corporate Officer
Title(s): _____
- Partner — Limited General
- Attorney-in-Fact
- Trustee
- Guardian or Conservator
- Other: _____



Signer Is Representing:

Antelope Valley WA, Exp. #5
Sierra County

CERTIFICATE OF ACCEPTANCE

THIS IS TO CERTIFY that the interest in real property conveyed by the deed or grant, dated September 21, 1998 from The Misty Corporation to the STATE OF CALIFORNIA, is hereby accepted by the undersigned officer on behalf of the State of California, pursuant to authority conferred by authorization of the Wildlife Conservation Board, Department of Fish and Game, Resources Agency, State of California, adopted on November 3, 1998, and the grantee consents to the recordation thereof by its duly authorized officer.

STATE OF CALIFORNIA
Resources Agency
Department of Fish and Game

By W. John Schmidt
W. John Schmidt
Executive Director
Wildlife Conservation Board

Date 11/3/98

APPROVED
Department of General Services
By Kevin J. Pugh
Senior Real Estate Officer
Real Estate Services

TR98 - 119A

POLICY OF TITLE INSURANCE

ISSUED BY



SUBJECT TO THE EXCLUSIONS FROM COVERAGE, THE EXCEPTIONS FROM COVERAGE CONTAINED IN SCHEDULE B AND THE CONDITIONS AND STIPULATIONS, NORTH AMERICAN TITLE INSURANCE COMPANY, a California corporation, herein called the Company, insures, as of Date of Policy shown in Schedule A, against loss or damage, not exceeding the Amount of Insurance stated in Schedule A, sustained or incurred by the insured by reason of:

1. Title to the estate or interest described in Schedule A being vested otherwise than as stated therein;
2. Any defect in or lien or encumbrance on such title;
3. Unmarketability of the title;
4. Lack of a right of access to and from the land;
5. The invalidity or unenforceability of the lien of the insured mortgage upon the title;
6. The priority of any lien or encumbrance over the lien of the insured mortgage;
7. Lack of priority of the lien of the insured mortgage over any statutory lien for services, labor or material:
 - (a) arising from an improvement or work related to the land which is contracted for or commenced prior to Date of Policy; or
 - (b) arising from an improvement or work related to the land which is contracted for or commenced subsequent to Date of Policy and which is financed in whole or in part by proceeds of the indebtedness secured by the insured mortgage which at Date of Policy the insured has advanced or is obligated to advance.
8. Any assessments for street improvements under construction or completed at Date of Policy which now have gained or hereafter may gain priority over the insured mortgage; or
9. The invalidity or unenforceability of any assignment of the insured mortgage, provided the assignment is shown in Schedule A, or the failure of the assignment shown in Schedule A to vest title to the insured mortgage in the named insured assignee free and clear of all liens.

The Company will also pay the costs, attorneys' fees and expenses incurred in defense of the title or the lien of the insured mortgage, as insured, but only to the extent provided in the Conditions and Stipulations.

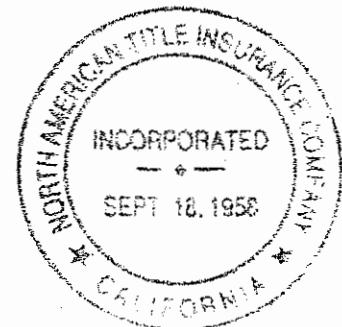
NORTH AMERICAN TITLE INSURANCE COMPANY

BY

PRESIDENT

ATTEST

SECRETARY



The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
- (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
 - (a) created, suffered, assumed or agreed to by the insured claimant;
 - (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
 - (c) resulting in no loss or damage to the insured claimant;
 - (d) attaching or created subsequent to Date of Policy (except to the extent that this policy insures the priority of the lien of the insured mortgage over any statutory lien for services, labor or material or the extent

insurance is afforded herein as to assessments for street improvements under construction or completed at Date of Policy); or (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage.

4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any statutory lien for services, labor or materials (or the claim of priority of any statutory lien for services, labor or materials over the lien of the insured mortgage) arising from an improvement or work related to the land which is contracted for and commenced subsequent to Date of Policy and is not financed in whole or in part by proceeds of the indebtedness secured by the insured mortgage which at Date of Policy the insured has advanced or is obligated to advance.
7. Any claim, which arises out of the transaction creating the interest of the mortgagee insured by this policy, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that is based on:
 - (i) the transaction creating the interest of the insured mortgagee being deemed a fraudulent conveyance or fraudulent transfer; or
 - (ii) the subordination of the interest of the insured mortgagee as a result of the application of the doctrine of equitable subordination; or
 - (iii) the transaction creating the interest of the insured mortgagee being deemed a preferential transfer except where the preferential transfer results from the failure:
 - (a) to timely record the instrument of transfer; or
 - (b) of such recordation to impart notice to a purchaser for value or a judgment or lien creditor.

CONDITIONS AND STIPULATIONS

1. DEFINITIONS OF TERMS.

The following terms when used in this policy mean:

(a) "insured": the insured named in Schedule A. The term "insured" also includes:

(i) the owner of the indebtedness secured by the insured mortgage and each successor in ownership of the indebtedness except a successor who is an obligor under the provisions of Section 12(c) of these Conditions and Stipulations (reserving, however, all rights and defenses as to any successor that the Company would have had against any predecessor insured, unless the successor acquired the indebtedness as a purchaser for value without knowledge of the asserted defect, lien, encumbrance, adverse claim or other matter insured against by this policy as affecting title to the estate or interest in the land);

(ii) any governmental agency or governmental instrumentality which is an insurer or guarantor under an insurance contract or guaranty insuring or guaranteeing the indebtedness secured by the insured mortgage, or any part thereof, whether named as an insured herein or not;

(iii) the parties designated in Section 2(a) of these Conditions and Stipulations.

(b) "insured claimant": an insured claiming loss or damage.

(c) "knowledge" or "know": actual knowledge, not constructive knowledge or notice which may be imputed to an insured by reason of the public records as defined in this policy or any other records which impart constructive notice of matters affecting the land.

(d) "land": the land described or referred to in Schedule A, and improvements affixed thereto which by law constitute real property. The term "land" does not include any property beyond the lines of the area described or referred to in Schedule A, nor any right, title, interest, estate or easement in abutting streets, roads, avenues, alleys, lanes, ways or waterways, but nothing herein shall modify or limit the extent to which a right of access to and from the land is insured by this policy.

(e) "mortgage": mortgage, deed of trust, trust deed, or other security instrument.

(f) "public records": records established under state statutes at Date of Policy for the purpose of imparting constructive notice of matters relating to real property to purchasers for value and without knowledge. With respect to Section 1(a)(iv) of the Exclusions From Coverage, "public records" shall also include environmental protection liens filed in the records of the clerk of the United States district court for the district in which the land is located.

(g) "unmarketability of the title": an alleged or apparent matter affecting the title to the land, not excluded or excepted from coverage, which would entitle a purchaser of the estate or interest described in Schedule A or the insured mortgage to be released from the obligation to purchase by virtue of a contractual condition requiring the delivery of marketable title.

2. CONTINUATION OF INSURANCE.

or desirable to establish the title to the estate or interest or the lien of the insured mortgage, as insured. If the Company is prejudiced by the failure of the insured to furnish the required cooperation, the Company's obligations to the insured under the policy shall terminate, including any liability or obligation to defend, prosecute, or continue any litigation, with regard to the matter or matters requiring such cooperation.

5. PROOF OF LOSS OR DAMAGE.

In addition to and after the notices required under Section 3 of these Conditions and Stipulations have been provided the Company, a proof of loss or damage signed and sworn to by the insured claimant shall be furnished to the Company within 90 days after the insured claimant shall ascertain the facts giving rise to the loss or damage. The proof of loss or damage shall describe the defect in, or lien or encumbrance on the title, or other matter insured against by this policy which constitutes the basis of loss or damage and shall state, to the extent possible, the basis of calculating the amount of the loss or damage. If the Company is prejudiced by the failure of the insured claimant to provide the required proof of loss or damage, the Company's obligations to the insured under the policy shall terminate, including any liability or obligation to defend, prosecute, or continue any litigation, with regard to the matter or matters requiring such proof of loss or damage.

In addition, the insured claimant may reasonably be required to submit to examination under oath by any authorized representative of the Company and shall produce for examination, inspection and copying, at such reasonable times and places as may be designated by any authorized representative of the Company, all records, books, ledgers, checks, correspondence and memoranda, whether bearing a date before or after Date of Policy, which reasonably pertain to the loss or damage. Further, if requested by any authorized representative of the Company, the insured claimant shall grant its permission, in writing, for any authorized representative of the Company to examine, inspect and copy all records, books, ledgers, checks, correspondence and memoranda in the custody or control of a third party, which reasonably pertain to the loss or damage. All information designated as confidential by the insured claimant provided to the Company pursuant to this Section shall not be disclosed to others unless, in the reasonable judgment of the Company, it is necessary in the administration of the claim. Failure of the insured claimant to submit for examination under oath, produce other reasonably requested information or grant permission to secure reasonably necessary information from third parties, as required in this paragraph, unless prohibited by law or governmental regulation, shall terminate any liability of the Company under this policy as to that claim.

6. OPTIONS TO PAY OR OTHERWISE SETTLE CLAIMS; TERMINATION OF LIABILITY.

In case of a claim under this policy, the Company shall have the following options:

(a) To Pay or Tender Payment of the Amount of Insurance or to

9. REDUCTION OF INSURANCE; REDUCTION OR TERMINATION OF LIABILITY.

(a) All payments under this policy, except payments made for costs, attorneys' fees and expenses, shall reduce the amount of the insurance pro tanto. However, any payments made prior to the acquisition of title to the estate or interest as provided in Section 2(a) of these Conditions and Stipulations shall not reduce pro tanto the amount of the insurance afforded under this policy except to the extent that the payments reduce the amount of the indebtedness secured by the insured mortgage.

(b) Payment in part by any person of the principal of the indebtedness, or any other obligation secured by the insured mortgage, or any voluntary partial satisfaction or release of the insured mortgage, to the extent of the payment satisfaction or release, shall reduce the amount of insurance pro tanto. The amount of insurance may thereafter be increased by accruing interest and advances made to protect the lien of the insured mortgage and secured thereby, with interest thereon, provided in no event shall the amount of insurance be greater than the amount of insurance stated in Schedule A.

(c) Payment in full by any person or the voluntary satisfaction or release of the insured mortgage shall terminate all liability of the Company except as provided in Section 2(a) of these Conditions and Stipulations.

10. LIABILITY NONCUMULATIVE.

If the insured acquires title to the estate or interest in satisfaction of the indebtedness secured by the insured mortgage, or any part thereof, it is expressly understood that the amount of insurance under this policy shall be reduced by any amount the Company may pay under any policy insuring a mortgage to which exception is taken in Schedule B or to which the insured has agreed, assumed, or taken subject, or which is hereafter executed by an insured and which is a charge or lien on the estate or interest described or referred to in Schedule A, and the amount so paid shall be deemed a payment under this policy.

11. PAYMENT OF LOSS.

(a) No payment shall be made without producing this policy for endorsement of the payment unless the policy has been lost or destroyed, in which case proof of loss or destruction shall be furnished to the satisfaction of the Company.

(b) When liability and the extent of loss or damage has been definitely fixed in accordance with these Conditions and Stipulations, the loss or damage shall be payable within 30 days thereafter.

12. SUBROGATION UPON PAYMENT OR SETTLEMENT.

(a) **The Company's Right of Subrogation.**

Whenever the Company shall have settled and paid a claim under this policy, all right of subrogation shall vest in the Company unaffected by any act of the insured claimant.

2. CONTINUATION OF INSURANCE.

(a) **After Acquisition of Title.** The coverage of this policy continue in force as of Date of Policy in favor of (i) an insured who acq. all or any part of the estate or interest in the land by foreclosure, trustee's sale, conveyance in lieu of foreclosure or other legal manner which discharges the lien of the insured mortgage; (ii) a transferee of the estate or interest so acquired from an insured corporation, provided the transferee is the parent or wholly-owned subsidiary of the insured corporation, and their corporate successors by operation of law and not by purchase, subject to any rights or defenses the Company may have against any predecessor insureds; and (iii) any governmental agency or governmental instrumentality which acquires all or any part of the estate or interest pursuant to a contract of insurance or guaranty insuring or guaranteeing the indebtedness secured by the insured mortgage.

(b) **After Conveyance of Title.** The coverage of this policy shall continue in force as of Date of Policy in favor of an insured only so long as the insured retains an estate or interest in the land, or holds an indebtedness secured by a purchase money mortgage given by a purchaser from the insured, or only so long as the insured shall have liability by reason of covenants of warranty made by the insured in any transfer or conveyance of the estate or interest. This policy shall not continue in force in favor of any purchaser from the insured of either (i) an estate or interest in the land, or (ii) an indebtedness secured by a purchase money mortgage given to the insured.

(c) **Amount of Insurance.** The amount of insurance after the acquisition or after the conveyance shall in neither event exceed the least of:

- (i) The amount of insurance stated in Schedule A;
- (ii) the amount of the principal of the indebtedness secured by the insured mortgage as of Date of Policy, interest thereon, expenses of foreclosure, amounts advanced pursuant to the insured mortgage to assure compliance with laws or to protect the lien of the insured mortgage prior to the time of acquisition of the estate or interest in the land and secured thereby and reasonable amounts expended to prevent deterioration of improvements, but reduced by the amount of all payments made; or
- (iii) the amount paid by any governmental agency or governmental instrumentality, if the agency or instrumentality is the insured claimant, in the acquisition of the estate or interest in satisfaction of its insurance contract or guaranty.

3. NOTICE OF CLAIM TO BE GIVEN BY INSURED CLAIMANT.

The insured shall notify the Company promptly in writing (i) in case of any litigation as set forth in Section 4(a) below, (ii) in case knowledge shall come to an insured hereunder of any claim of title or interest which is adverse to the title to the estate or interest or the lien of the insured mortgage, as insured, and which might cause loss or damage for which the Company may be liable by virtue of this policy, or (iii) if title to the estate or interest or the lien of the insured mortgage, as insured, is rejected as unmarketable. If prompt notice shall not be given to the Company, then as to the insured all liability of the Company shall terminate with regard to the matter or matters for which prompt notice is required; provided, however, that failure to notify the Company shall in no case prejudice the rights of any insured under this policy unless the Company shall be prejudiced by the failure and then only to the extent of the prejudice.

4. DEFENSE AND PROSECUTION OF ACTIONS; DUTY OF INSURED CLAIMANT TO COOPERATE.

(a) Upon written request by the insured and subject to the options contained in Section 6 of these Conditions and Stipulations, the Company, at its own cost and without unreasonable delay, shall provide for the defense of an insured in litigation in which any third party asserts a claim adverse to the title or interest as insured, but only as to those stated causes of action alleging a defect, lien or encumbrance or other matter insured against by this policy. The Company shall have the right to select counsel of its choice (subject to the right of the insured to object for reasonable cause) to represent the insured as to those stated causes of action and shall not be liable for and will not pay the fees of any other counsel. The Company will not pay any fees, costs or expenses incurred by the insured in the defense of those causes of action which allege matters not insured against by this policy.

(b) The Company shall have the right, at its own cost, to institute and prosecute any action or proceeding or to do any other act which in its opinion may be necessary or desirable to establish the title to the estate or interest or the lien of the insured mortgage, as insured, or to prevent or reduce loss or damage to the insured. The Company may take any appropriate action under the terms of this policy, whether or not it shall be liable hereunder, and shall not thereby concede liability or waive any provision of this policy. If the Company shall exercise its rights under this paragraph, it shall do so diligently.

(c) Whenever the Company shall have brought an action or interposed a defense as required or permitted by the provisions of this policy, the Company may pursue any litigation to final determination by a court of competent jurisdiction and expressly reserves the right, in its sole discretion, to appeal from any adverse judgment or order.

(d) In all cases where this policy permits or requires the Company to prosecute or provide for the defense of any action or proceeding, the insured shall secure to the Company the right to so prosecute or provide defense in the action or proceeding, and all appeals therein, and permit the Company to use, at its option, the name of the insured for this purpose. Whenever requested by the Company, the insured, at the Company's expense, shall give the Company all reasonable aid (i) in any action or proceeding, securing evidence, obtaining witnesses, prosecuting or defending the action or proceeding, or effecting settlement, and (ii) in any other lawful act which in the opinion of the Company may be necessary

following options:

(a) To Pay or Tender Payment of the Amount of Insurance or to Purchase the Indebtedness.

(i) to pay or tender payment of the amount of insurance under policy together with any costs, attorneys' fees and expenses incurred by the insured claimant, which were authorized by the Company, up to the time of payment or tender of payment and which the Company is obligated to pay; or

(ii) to purchase the indebtedness secured by the insured mortgage for the amount owing thereon together with any costs, attorneys' fees and expenses incurred by the insured claimant which were authorized by the Company up to the time of purchase and which the Company is obligated to pay.

If the Company offers to purchase the indebtedness as herein provided, the owner of the indebtedness shall transfer, assign, and convey the indebtedness and the insured mortgage, together with any collateral security, to the Company upon payment therefor.

Upon the exercise by the Company of either of the options provided for in paragraphs a(i) or (ii), all liability and obligations to the insured under this policy, other than to make the payment required in those paragraphs, shall terminate, including any liability or obligation to defend, prosecute, or continue any litigation, and the policy shall be surrendered to the Company for cancellation.

(b) To Pay or Otherwise Settle With Parties Other than the Insured or With the Insured Claimant.

(i) to pay or otherwise settle with other parties for or in the name of an insured claimant any claim insured against under this policy, together with any costs, attorneys' fees and expenses incurred by the insured claimant which were authorized by the Company up to the time of payment and which the Company is obligated to pay; or

(ii) to pay or otherwise settle with the insured claimant the loss or damage provided for under this policy, together with any costs, attorneys' fees and expenses incurred by the insured claimant which were authorized by the Company up to the time of payment and which the Company is obligated to pay.

Upon the exercise by the Company of either of the options provided for in paragraphs b(i) or (ii), the Company's obligations to the insured under this policy for the claimed loss or damage, other than the payments required to be made, shall terminate, including any liability or obligation to defend, prosecute or continue any litigation.

7. DETERMINATION AND EXTENT OF LIABILITY.

This policy is a contract of indemnity against actual monetary loss or damage sustained or incurred by the insured claimant who has suffered loss or damage by reason of matters insured against by this policy and only to the extent herein described.

(a) The liability of the Company under this policy shall not exceed the least of:

(i) the amount of insurance stated in Schedule A, or, if applicable, the amount of insurance as defined in Section 2(c) of these Conditions and Stipulations;

(ii) the amount of unpaid principal indebtedness secured by the insured mortgage as limited or provided under Section 8 of these Conditions and Stipulations or as reduced under Section 9 of these Conditions and Stipulations, at the time the loss or damage insured against by this policy occurs, together with interest thereon; or

(iii) the difference between the value of the insured estate or interest as insured and the value of the insured estate or interest subject to the defect, lien or encumbrance insured against by this policy.

(b) In the event the insured has acquired the estate or interest in the manner described in Section 2(a) of these Conditions and Stipulations or has conveyed the title, then the liability of the Company shall continue as set forth in Section 7(a) of these Conditions and Stipulations.

(c) The Company will pay only those costs, attorneys' fees and expenses incurred in accordance with Section 4 of these Conditions and Stipulations.

8. LIMITATION OF LIABILITY.

(a) If the Company establishes the title, or removes the alleged defect, lien or encumbrance, or cures the lack of a right of access to or from the land, or cures the claim of unmarketability of title, or otherwise establishes the lien of the insured mortgage, all as insured, in a reasonably diligent manner by any method, including litigation and the completion of any appeals therefrom, it shall have fully performed its obligations with respect to that matter and shall not be liable for any loss or damage caused thereby.

(b) In the event of any litigation, including litigation by the Company or with the Company's consent, the Company shall have no liability for loss or damage until there has been a final determination by a court of competent jurisdiction, and disposition of all appeals therefrom, adverse to the title or to the lien of the insured mortgage, as insured.

(c) The Company shall not be liable for loss or damage to any insured for liability voluntarily assumed by the insured in settling any claim or suit without the prior written consent of the Company.

(d) The Company shall not be liable for:

(i) any indebtedness created subsequent to Date of Policy except for advances made to protect the lien of the insured mortgage and secured thereby and reasonable amounts expended to prevent deterioration of improvements; or

(ii) construction loan advances made subsequent to Date of Policy, except construction loan advances made subsequent to Date of Policy for the purpose of financing in whole or in part the construction of an improvement to the land which at Date of Policy were secured by the insured mortgage and which the insured was and continued to be obligated to advance at and after Date of Policy.

this policy, all right of subrogation shall vest in the Company unaffected by any act of the insured claimant.

The Company shall be subrogated to and be entitled to all rights and remedies which the insured claimant would have had against any person or property in respect to the claim had this policy not been issued. If requested by the Company, the insured claimant shall transfer to the Company all rights and remedies against any person or property necessary in order to perfect this right of subrogation. The insured claimant shall permit the Company to sue, compromise or settle in the name of the insured claimant and to use the name of the insured claimant in any transaction or litigation involving these rights or remedies.

If a payment on account of a claim does not fully cover the loss of the insured claimant, the Company shall be subrogated to all rights and remedies of the insured claimant after the insured claimant shall have recovered its principal, interest, and costs of collection.

(b) The Insured's Rights and Limitations.

Notwithstanding the foregoing, the owner of the indebtedness secured by the insured mortgage, provided the priority of the lien of the insured mortgage or its enforceability is not affected, may release or substitute the personal liability of any debtor or guarantor, or extend or otherwise modify the terms of payment, or release a portion of the estate or interest from the lien of the insured mortgage, or release any collateral security for the indebtedness.

When the permitted acts of the insured claimant occur and the insured has knowledge of any claim of title or interest adverse to the title to the estate or interest or the priority or enforceability of the lien of the insured mortgage, as insured, the Company shall be required to pay only that part of any losses insured against by this policy which shall exceed the amount, if any, lost to the Company by reason of the impairment by the insured claimant of the Company's right of subrogation.

(c) The Company's Rights Against Non-insured Obligors.

The Company's right of subrogation against non-insured obligors shall exist and shall include, without limitation, the rights of the insured to indemnities, guaranties, other policies of insurance or bonds, notwithstanding any terms or conditions contained in those instruments which provide for subrogation rights by reason of this policy.

The Company's right of subrogation shall not be avoided by acquisition of the insured mortgage by an obligor (except an obligor described in Section 1(a)(ii) of these Conditions and Stipulations) who acquires the insured mortgage as a result of an indemnity, guarantee, other policy of insurance, or bond and the obligor will not be an insured under this policy, notwithstanding Section 1(a)(i) of these Conditions and Stipulations.

13. ARBITRATION.

Unless prohibited by applicable law, either the Company or the insured may demand arbitration pursuant to the Title Insurance Arbitration Rules of the American Arbitration Association. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the insured arising out of or relating to this policy, any service of the Company in connection with its issuance or the breach of a policy provision or other obligation. All arbitrable matters when the Amount of Insurance is \$1,000,000 or less shall be arbitrated at the option of either the Company or the insured. All arbitrable matters when the Amount of Insurance is in excess of \$1,000,000 shall be arbitrated only when agreed to by both the Company and the insured. Arbitration pursuant to this policy and under the Rules in effect on the date the demand for arbitration is made or, at the option of the insured, the Rules in effect at Date of Policy shall be binding upon the parties. The award may include attorneys' fees only if the laws of the state in which the land is located permit a court to award attorneys' fees to a prevailing party. Judgment upon the award rendered by the Arbitrator(s) may be entered in any court having jurisdiction thereof.

The laws of the situs of the land shall apply to an arbitration under the Title Insurance Arbitration Rules.

A copy of the Rules may be obtained from the Company upon request.

14. LIABILITY LIMITED TO THIS POLICY; POLICY ENTIRE CONTRACT.

(a) This policy together with all endorsements, if any, attached hereto by the Company is the entire policy and contract between the insured and the Company. In interpreting any provision of this policy, this policy shall be construed as a whole.

(b) Any claim of loss or damage, whether or not based on negligence, and which arises out of the status of the lien of the insured mortgage or of the title to the estate or interest covered hereby or by any action asserting such claim, shall be restricted to this policy.

(c) No amendment of or endorsement to this policy can be made except by a writing endorsed hereon or attached hereto signed by either the President, a Vice President, the Secretary, an Assistant Secretary, or validating officer or authorized signatory of the Company.

15. SEVERABILITY.

In the event any provision of this policy is held invalid or unenforceable under applicable law, the policy shall be deemed not to include that provision and all other provisions shall remain in full force and effect.

16. NOTICES, WHERE SENT.

All notices required to be given the Company and any statement in writing required to be furnished the Company shall include the number of this policy and be addressed to it at its main office at 2185 N. California Blvd., Suite 575, Walnut Creek, California 94596.

SCHEDULE A

Order No.: 104654

Policy No.: 189100

Date of Policy: 01/20/99 at 1:26 P.M.

Amount of Insurance: \$120,000.00

Premium: \$677.00

1. Name of Insured:

State of California

2. The estate or interest in the land which is covered by this policy is:

A Fee

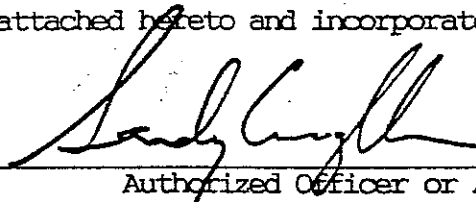
3. Title to the estate or interest in the land is vested in :

State of California

4. The land referred to in this policy is situated in the State of California, County of Sierra and described as follows:

See Schedule "C" attached hereto and incorporated herein by reference

Countersigned:



Authorized Officer or Agent

SCHEDULE B

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

Part I

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
2. Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records or such agency or by the public records.
3. Any facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
4. Easements, liens of encumbrances, or claims thereof, which are not shown by the public records.
5. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
6. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.

Part II

1. Rights of the public in and to so much of the herein described land as lies within the boundaries of any public highway or road.
2. Any adverse claim based upon the assertion that:
 - (a) Some portion of said land has been created by artificial means or has accreted to such portion so created.
 - (b) Some portion of said land has been brought within the boundaries thereof by an avulsive movement of the river or stream hereinafter mentioned, or has been formed by accretion to any such portion.

River or Stream: unnamed creek or stream.

3. Rights and easements for navigation and fishery which may exist over that portion of said land lying beneath the waters of the river or stream above-mentioned.

Continued.....

SCHEDULE B, PART II (continued)

4. An easement for the purpose shown below and rights incidental thereto as set forth in a document
- | | | |
|----------|---|--|
| Recorded | : | October 9, 1997, in Book 130, Page 4526, Official Records. |
| Purpose | : | roadway and utilities |
| Affects | : | The exact location and extent of said easement is not disclosed of record. |

SCHEDULE C

The land referred to in this policy is described as follows:

All that real property situated in the unincorporated area of the County of Sierra, State of California, more particularly described as follows:

PARCEL ONE:

The Southeast 1/4 of the Northwest 1/4 of Section 28, Township 21 North, Range 15 East, M.D.B. & M.

APN: 016-050-024

PARCEL TWO:

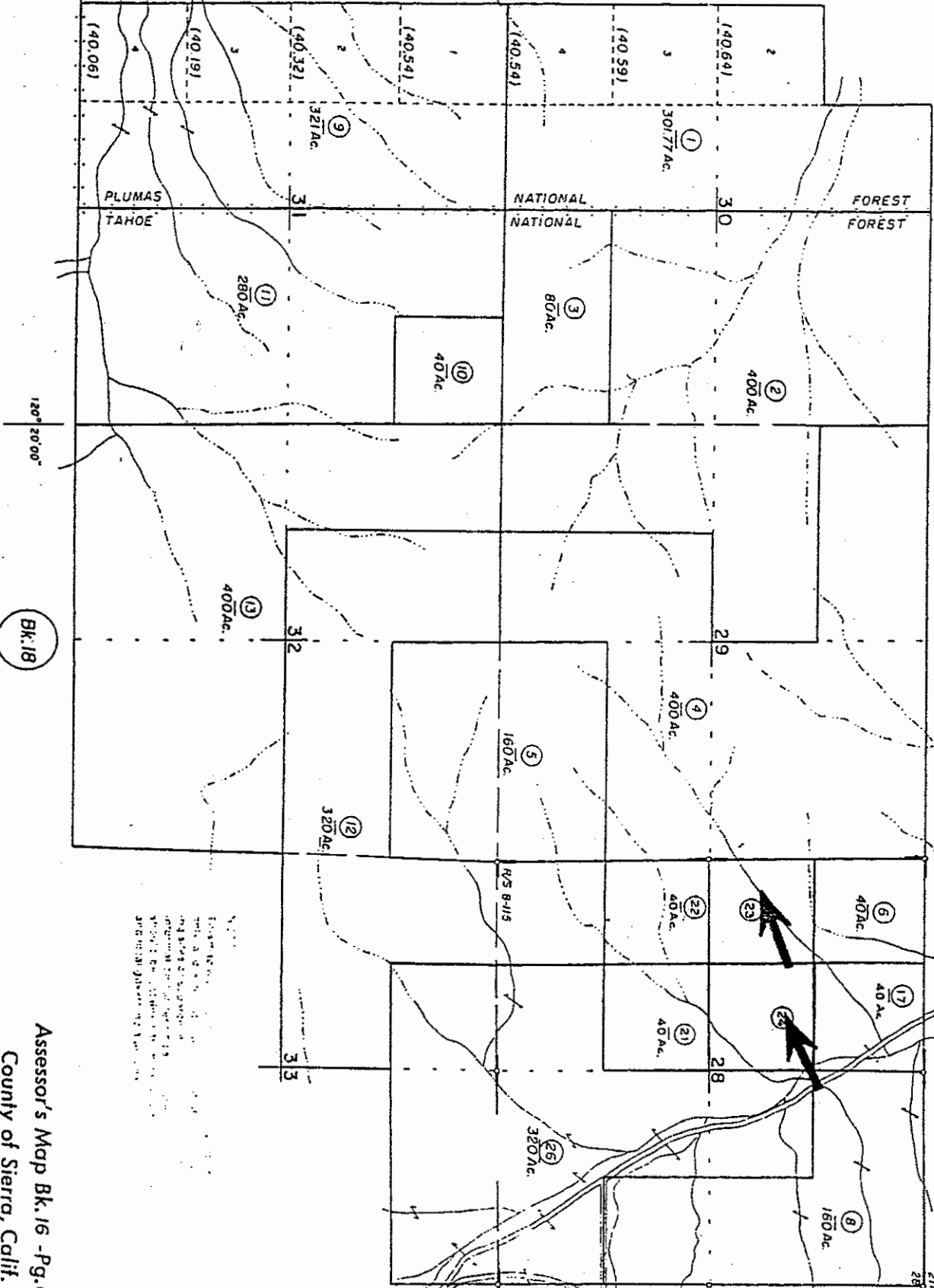
The Southwest 1/4 of the Northwest 1/4 of Section 28, Township 21 North, Range 15 East, M.D.B. & M.

APN: 016-050-023

"The information on this plat is provided for your convenience as a guide to the general location of the subject property. The accuracy of this plat is not guaranteed, nor is it a part of any policy report or guarantee to which it may be attached."

Bk. 12

INTER-COUNTY TITLE CO.



T. 21 N., R. 15 E., M. D. B. 8 M.

Tax Area Code 52-02716-05

Bk. 18

NOTE - Assessor's Block Numbers Shown in Ellipses. Assessor's Parcel Numbers Shown in Circles.

Assessor's Map Bk. 16 - Pg. 05
County of Sierra, Calif.
1964

REVISED
1-29-70
2-8-71
1-14-72
4-25
8-11
10-25-86

39°37'30"

DRAFT

LAND ACQUISITION EVALUATION Expansion of Antelope Valley Wildlife Area

1. Site Name

This project is a proposed 160 acre addition to the 5,455.8 acre Antelope Valley Wildlife Area (WA) in eastern Sierra County.

2. Summary

The subject property is surrounded by the WA and lands of the Tahoe National Forest (TNF). It is important deer winter range and on the edge of a major deer migration corridor. Deer move through this area seasonally to and from winter ranges further east in California and in the State of Nevada. Deer also use it as summer range.

The property is utilized by a variety of other game and non-game species including California and mountain quail, doves, grouse, coyotes, bobcats and bear. Mountain lions have been well documented on the adjacent WA.

Incompatible uses of these private lands are/could be adverse to the goals and objectives of the management plan for the WA.

3. Geographical Location and Description

The project is located approximately four miles west of the town of Loyalton and two miles south of State Route 49 in eastern Sierra County. Access to the property is from highway 49 via the Antelope Valley Road, a dirt Sierra County road - Road 855.

The parcel is flat to moderately sloped with a north-east aspect. The elevation varies from 5120 to 5800 feet. The land is currently open space with the exception of one 40-acre parcel which is presently used as a year-round residence.

There are no improvements on the parcels except for the minimal, temporary improvements on the parcel which is used year-around. (Reitinger)

DRAFT

This project property is actually four 40-acre parcels owned by three individuals. The project is found in T21N, R15E, S28, MDBM. The titled owners are:

APN 016 050 0230 - 40 acres
APN 016 050 0240 - 40 acres
Owner - Lloyd Pearson
P.O. Box 785
Groveland, CA 95321

APN 016 050 0220 - 40 acres
Owner - Fred Van Sant
P.O. Box 980
Colfax, CA 95713

APN 016 050 0210 - 40 acres
Owner - John Reitingner
P.O. Box 892
Loyalton, CA 96118

4. Purpose of Acquisition

Acquisition of these parcels would enhance and protect the integrity of the WA by bringing these lands into public ownership. Conversely, development of these private lands would result in degradation of the existing WA through loss of habitat on the private land and result in unnecessary disturbance of wintering deer on the private, WA, and adjacent TNF lands. This disturbance would occur on-site as well as off-site along the county road which must be traversed for the two miles to gain access to these parcels from Highway 49.

The 160 acres is an in-holding within the WA and TNF lands. One mile of its two-mile property boundary is shared with the existing WA. The remainder is shared with the TNF. Acquisition would eliminate the inholding which, if developed, would compromise the integrity of the WA.

Habitats vary on the property. Those found on the subject property include eastside pine, juniper, bitterbrush and sagebrush. Some seasonally wet meadow is found on the property. Mountain mahogany provides an important understory. It is estimated that approximately 25% of the project is mixed eastside pine and juniper, with sagebrush and bitterbrush comprising about 60 %, and the remainder annual and perennial grasses, seasonal wet meadow and rock.

5. Management Objectives

Management objectives of this proposal are to preserve the integrity of the existing Antelope Valley WA as well as preservation of the habitat found on the parcel.

The DFG, Region 2, is signatory to the Antelope Valley Coordinated Resource Management Plan (CRMP) which promotes deer as the motivating resource consideration for management goals and activities in the drainage. Both private owners and public agencies (TNF and DFG) are signatory to the CRMP, although the owners of the subject parcels are not. The CRMP enables agencies to conduct wildlife habitat projects at any location in the CRMP area regardless of ownership, so long as the signatory owner/manager agrees to the activity.

6. Financial Information

- a. Name and addresses of property owners:

Lloyd Pearson
P.O. Box 785
Groveland, CA 95321

Fred Van Sant
P.O. Box 980
Colfax, CA 96713

John Reitingger
P.O. Box 892
Loyalton, CA 96118

- b. Outside contacts.

None available.

- c. Sales price.

Not available.

- d. Most suitable method for protection.

Mr. Pearson and Mr. Van Sant initiated contact with the LAE author and during these conversations indicated that they would be willing sellers if the appraisal meets their expectations. Mr. Reitingger has not been contacted.

Land Acquisition - Antelope Valley Wildlife Area

Fee-title is considered the best method of protection as this is the last significant parcel of private land in the upper drainage.

- e. Quality and quantity of encumbrances.

Not known.

- f. Rough estimate of ongoing operations and maintenance expenses to maintain and restore the property.

Negligible. There also is potential income from timber harvest and grazing fees.

- g. Rough estimate of personnel requirements.

None needed.

- h. Does the property meet the criteria under Prop 70?

No.

- i. Required start-up funds needed?

No.

7. Cultural Resources

None known, although there are recorded locations nearby on the WA.

8. Hazardous Materials

None known.

9. Local and Regional Issues

No significant opposition would be expected. The Sierra County Fish and Game Commission would be expected to support the proposal. The payment of in-lieu fees would mollify most local concerns.

Land Acquisition - Antelope Valley Wildlife Area

State Senator - Tim Leslie

State Assembly Person - Bernie Richter

10. Threats

Mr. Reitinger's property is presently being developed for year-round residency. Mr. Pearson and Mr. Van Sant have indicated that they would be willing sellers.

11. Contact Persons in Region 2

Regional Lands Committee Representative:

Patricia Perkins, Senior Biologist

Person preparing this LAE:

Karl S. Kahre, Associate Wildlife Biologist,
Plumas-Sierra Unit.

Appendices

Vicinity map
USGS quad map
County Assessor's Parcel Map

APPENDIX D

Watershed Restoration Program

**Watershed Assessment
of
Antelope Valley
And
Bear Valley Unnamed Tributary**

Conducted by

USDA Forest Service, Tahoe National Forest
and
Feather River Coordinated Resource Management, Plumas Corporation

February 2008

Watershed Assessment of Antelope Valley and Bear Valley Unnamed Tributary

February 2008

Introduction

An assessment of the hydrologic and erosional conditions of both the Antelope Valley watershed and the adjacent unnamed tributary of the Bear Valley watershed were assessed during the 2007 summer season (Appendix A: Maps). The Antelope Valley Road is a major impact feature that courses through both watersheds. Also assessed was the meadow system of Bear Valley Creek west of the Sierra Brooks Subdivision and a small riparian system near Badenough Creek.

The two primary impacts to watersheds in the Feather River Basin, degraded stream channels and road/stream interactions were the focus of this assessment. These watershed impacts manifest themselves as changes in watershed hydrology and stream channel hydraulics (stream flows, channel connectivity and dimensions) and channel stability (active erosion and sedimentation). Problem areas were documented and ranked in order of stream impacts and restoration needs. Changes to natural stream and riparian morphometry and morphology (stream channel width, depth, slope, pattern, position on the landscape) and the erosion/sedimentation impacts of these features were evaluated. Causal agents were also identified and evaluated to determine their status and potential remedies.

Antelope Valley Watershed

Background and General Condition

The watersheds of Antelope Valley and Bear Valley are located along the southern extent of Sierra Valley and east of the Sierra Nevada mountain range. The streams draining these watersheds flow north into a system of natural and man-made channels within Sierra Valley and eventually drain into the Middle Fork Feather River. Both Antelope Valley and Bear Valley follow northwest trending geologic fractures, or faults.

The predominant rock type making up both watersheds is Tertiary volcanic andesite with intrusions of basalt. The valley bottoms are filled with Quaternary alluvium overlying lake deposits at their downstream ends.

In the Antelope Valley watershed, soil erosion and sedimentation plays a minor role in shaping the watershed. The dominant erosion and transport process is landslide/debris flow, defined as a moving mass of rock fragments, soil, and mud. The material generated by this process covers most of the lower slope areas in the watershed, creating

moderately steep fans of fine to coarse material. These fans also cover portions of the valley bottom alluvium and are so numerous that they form a complex of fans that are practically indistinguishable from one another. Besides being the main source of sediment, they are a primary groundwater recharge zone for Antelope Valley and Sierra Valley.

The stream channels of Antelope Valley are mostly degraded, incised into their original geomorphic features, due to historic and ongoing land use impacts. These impacts include over-grazing and trampling by livestock, logging during different land-use eras, road construction and maintenance, and water diversion and impoundments. Naturally occurring impacts, possibly exacerbated by human impacts, include wildfires, winter and spring floods, floods from summer thunderstorms, and mudflows. The most obvious and direct evidence of watershed change is degradation of stream channels and development of entrenchments (aka gullies) that contain most or all streamflows. Relocation and channelization of streams during the early logging era, construction and relocation of the Antelope Valley Road and construction of Palen Reservoir and the system of diversion ditches (Appendix A: Maps) are the primary cause and effect relationships. Stream channels are still actively down cutting within the entrenchments causing further widening (bank erosion) to take place. The result is continued loss of meadow lands and other landscape features (Appendix B: Photos 1 & 2) plus more rapid draining and loss of groundwater.

The operation of a lumber mill near the center of the watershed in the early 1900s, a roadway located along the main stream channel system, used to transport rough-cut material to a finishing mill near Loyalton, and all roads and skid trails used to transport logs from upper watershed areas to the Antelope Valley Mill have directly and indirectly impacted the watershed. Stream channel morphology and condition were directly impacted and changed during mill operation and its impacts continue today. Besides directly diverting and concentrating streamflows, the road system indirectly changed the hydrologic and general condition of the watershed through changes in the streamflow regime and the production of sediment.

The mill was constructed on the floodplain of Antelope Creek and an unnamed tributary, redirecting and channeling streamflows within the site. The main road, constructed to accommodate a steam tractor used to haul the rough-cut lumber was located down the middle of the main stream system, directly diverting and channeling Antelope Creek. The stream channel incised within its meadow floodplain as a result of these impacts and has resulted in the development of a system of entrenchments that contain stream channels at a lowered (inset) elevation (Appendix C: Diagram 1).

The entire meadow/floodplain system in the lower two thirds of the watershed continues to degrade due to the ongoing impacts from the system of active and abandoned roads. Roads and skid trails constructed to haul trees from upper watershed areas to the mill crossed and/or followed the main Antelope Creek channel and its tributaries with no regard to their water flow conditions. Streams have been diverted from their natural channels and confined to ditches. They no longer utilize their natural floodplains. New

drainage channels were established that rapidly downcut and eroded into their new locations. Ditches were also constructed to manipulate the flow from Antelope Creek for pasture irrigation and the milling operation. Both soil erosion and stream channel degradation were accelerated.

The cumulative effect of degraded stream channels and of the changes to watershed hydrology has been a decrease in the time water stays in the watershed during the wet season and an increase in the frequency of floods. Because of this decrease in wet season water retention, less water is absorbed into soils, rock and meadows, decreasing the amount of water available for release during the dry season.

Antelope Valley Road. This road is having a major impact on the hydrology and morphometry (width, depth, slope, and pattern) of Antelope Valley Creek. It is interrupting and redirecting the natural flow path and flood flow requirements of Antelope Creek and its tributaries. Up valley of Highway 49, the first 1.5 miles of roadway is entrenched into the landscape, intercepts overland flows and redirects that flow to an inside ditch, discharging what was naturally dispersed flows into a few cross-drains of concentrated streamflow. Concentrating streamflows increases the erosion of the affected slopes and discharges sediment directly into Antelope Creek. Concentrating streamflows also means that water leaves the watershed sooner, flood peaks are increased, dry-season streamflows are reduced and the slope below the road dries sooner.

In the upper portions of the watershed, the Antelope Valley Road often interrupts and captures and/or re-directs streamflows from the natural drainage network. Again, slope and channel erosion is increased and down slope areas are de-watered.

Palen Reservoir and Diversion Ditches. Palen Dam (Appendix B: Photo 3) was constructed in 1952 to impound water for irrigation downstream on land owned by Mr. Palen and now owned by the Balderston Family. Material to construct the dam was excavated from the stream channel and floodplain area upstream of the reservoir. Removal of the material has totally disrupted the natural drainage pattern, function and morphometry of the stream channel and has lowered the base elevation of the entire up-valley stream system, inducing further channel degradation in an already degraded system. Extensive and ongoing erosion is evident throughout the affected area.

A bypass ditch was constructed to divert streamflows around the reservoir to provide irrigation water to downstream water users as provided by the 1940 Upper Middle Fork Feather River Water Rights Decree. Before the dam and diversion ditches, water flowed in three natural drainage channels below the existing dam site. Two ditches were constructed in conjunction with the dam in an attempt to reduce flooding during the wet season and to provide irrigation water during the dry season. The natural drainage channels now only carry water during large flood events.

The natural stream channels and meadow floodplains in this lower valley reach have been plowed over but they still exist fundamentally within the lower elevation of the pastures with modified channel morphometry. It appears the ditch on the east side of the valley

does not function and was not used much, if at all. The ditch on the west side of the valley carries most of the water of the Antelope Creek watershed. Portions of this primary ditch were made part of, and interacted with, an unnamed tributary stream channel. The amount of water carried by the ditch during the wet season is greater than its design capacity and, given its constructed design and the erodible nature of the soil material in which it is located; it is unable to function as a stable stream channel. It is degrading in some sections, aggrading in others and widening throughout. Just upstream of Highway 49, water from the ditch is diverted back across the valley to the east and returned to the natural channels before leaving the Balderston Ranch. The location and degradation of this ditch system acts to shunt water around the natural groundwater aquifer of Antelope Valley Creek and to decrease the time water flows through the system, thereby increasing its erosive power and decreasing the amount of water available for groundwater storage.

Conclusion. The natural condition of the Antelope Valley watershed, its vegetation, soils, rock, topography, and drainage system slowed the downslope and downvalley movement of rainwater and snowmelt, maximizing water infiltration and groundwater retention. Large floods were infrequent and when they did occur, damage was probably light to moderate. Summer thunderstorms were localized and erosion from these intense rainstorms was most probably light to moderate. Wildfires were frequent but mostly light. Intense wildfires were very infrequent.

The impacts of human occupation and resource extraction on the watershed counteract the natural tendency of the watershed to slow and absorb water and sediment runoff. Water and sediment now moves through the watershed faster as a result of stream channel degradation and the interception of surface and ground water by the roads and the entrenchments. This faster flow of water is now more concentrated, increasing erosion and sediment transport potentials and increasing peak streamflows (increased frequency of floods). Because many of the stream channels are now located in the bottom of trenches, they are no longer connected to their floodplains. This further exacerbates the concentration of streamflows and the frequency of flooding.

Given the depth of the soils, the fractured rock formations, and the depth of the accumulated soil and rock material, the majority of the water falling on the watershed and not evaporated should be absorbed into the groundwater system. By reducing the amount of time water stays in the watershed, less is absorbed and stored to be released later. Groundwater is the source of most of the water that flows in streams and found in ponds and wetlands. The reduced storage of groundwater translates into reduced streamflows and the amount of other surface water bodies. This is especially noticeable during the summer months because the time when the streams dry is most likely earlier in the year than historically. The height of the groundwater table in relation to the rooting depth of plants is dropping sooner in the year, leading to less water available for non-irrigated plant growth (conversation with Attilio and Jim Ginasi, 2007).

Restoration Potential

The goal for treating the Antelope Valley Watershed is to restore it to proper functioning condition by reducing soil erosion and sediment transport, increasing sediment deposition and storage on naturally occurring depositional features (alluvial fans and meadow/floodplains), reducing flood-flow peaks (increased flood-flow lag times), increasing groundwater retention (raised water tables), and increasing dry-season streamflows (both amount and time).

Although the Antelope Valley Watershed is severely degraded, field reconnaissance surveys indicate that current conditions can be greatly improved through watershed restoration efforts. Much of the detrimental effects from past activities can be reversed or reduced. The objectives for watershed restoration are to:

- Reconnect streams to their remnant channels and historic floodplains.
- Raise groundwater elevations to their historic elevations.
- Reconnect diverted streams to their historic channels.
- Reconstruct roads to minimize their interference with natural runoff patterns.

The most degraded feature is the main Antelope Valley Creek channel. It now resides at the bottom of a ten-foot deep trench that continues to deepen and widen (Appendix B: Photo 4). It has little to no access to its natural floodplain and it continually drains the watershed-long groundwater aquifer. The proposed actions are to obliterate the existing entrenchment and return streamflows to the historic system of remnant stream channels and meadow floodplains. A conceptual-level restoration plan has been developed to obliterate the main Antelope Creek entrenchment from the top of the valley downstream to Palen Reservoir (Appendix B: Maps; Appendix D: Antelope Valley Meadow Restoration Proposal and Cost Estimates). Natural floodplain functions would be restored, including 1) lower flood peaks and frequency (Appendix F: Flood Frequency Analysis), 2) greater groundwater retention and higher groundwater table, 3) vigorous plant growth and expansion of the riparian area, and 4) little to no erosion of the stream system and little to no delivery of sediment downstream.

There are many intermittent and ephemeral tributaries to the main Antelope Valley Creek channel that have either downcut in response to the main channel elevation drop and/or have been diverted from their natural channels due to road or skid trail development (Appendix B: Photo 5). Where streams have been diverted from their natural channels, a second channel has eroded into place. In most cases, the diverted flow of water is concentrated, increasing erosion, speeding the draining of water from the watershed and drying out areas that would otherwise contain riparian vegetation.

A series of ditches were constructed as part of the original timber milling operation to divert water from the upper end of the valley to facilitate mill operations and for irrigation. The constructed ditch system(s) basically had the same effect as the streams

diverted by roads and skid trails. The proposed restoration work would reconnect diverted streams with their natural channels. This action includes closing off existing, unnatural channels created by roads and trails. The result would delay water runoff, allowing it to soak into the ground instead of immediately running off. It would also reduce or eliminate existing soil erosion and re-water dried out meadow and riparian areas.

The current road system has changed the hydrology of the watershed by reducing the time it takes water to drain to the main stream system and out of the watershed. Streamflows are concentrated, increasing erosion and sedimentation potentials and drying out areas below the roads. The proposed restoration actions for the road system would be to reroute and/or re-drain the road system to maintain a more natural drainage pattern (Appendix A: Maps). Specific projects to restore water and sediment flow conditions imposed by roads have only partially been accomplished and needs further surveys. The Antelope Valley Road within the Meadow project reach needs to be addressed as either a complete relocation around the project reach, 1.3 miles, or a complete reconstruction within the project reach with approximately 2000 feet relocated up onto the adjacent slope to move it out of the historic floodplain (Appendix D: Antelope Valley Meadow Restoration Proposal and Cost Estimate).

The lower watershed reach has been severely impacted by the construction of Palen Reservoir and water diversion system. The ditches were constructed to redistribute water from the reservoir and to divert water around the reservoir. The reservoir was constructed using dozers to move soil material from the upstream meadow area to the dam site. The floodplain has been almost completely eliminated in the excavated area and a 10-foot drop was created in the valley that lowered the base level for the entire valley upstream and resulted in renewed headcutting and gully development upstream (Appendix B: Photo 6). Restoration of the watershed does not include removal of the Palen Dam and Reservoir. A functioning wetland has developed that includes open water and near shore, shallow wetland and riparian habitats.

The water-works that diverts water around Palen Reservoir consists of a diversion structure (Appendix B: Photo 7) located approximately 2500 feet upstream of the reservoir and a ditch from the diversion works to the main Antelope Valley Creek ditch approximately 900 feet downstream of Palen Reservoir outlet. Palen Reservoir and dam is an obstruction to natural streamflows and the upstream diversion works and spillway structure has not functioned as designed for many years. Even though water is no longer diverted into the ditch, it intercepts a significant amount of water from the adjacent hill slope causing continued erosion of the ditch as it drains back to the main channel (Appendix B: Photos 8 & 9). The proposed restoration action would remove the small diversion structure and ditch and restore natural stream and hill slope processes.

Unnamed Tributary to Bear Valley Creek

Background and General Condition

The history of this tributary watershed of Bear Valley Creek (Appendix A: Maps) includes logging, livestock grazing, road construction, and wildfires, including the Cottonwood Fire that burned as recently as 1994. The most obvious changes to what was a properly functioning watershed are poorly drained and located roads, especially the Antelope Valley Road, and the development of a discontinuous gully system along the main-stem stream channel.

Roads in this nearly 4 square mile watershed capture water flowing in small stream channels and from springs and seeps, directing and concentrating water in roadside ditches, releasing the water down slope where the roadside ditch encounters another stream channel. This overburdens that stream and causes it to adjust by accelerating the erosion and sedimentation process. Some road segments are so poorly located that they cannot drain or drain slowly, creating road segments that are easily damaged by traffic during wet conditions. Other road segments drain directly into the adjacent main stem stream channel, dumping an extra load of water and sediment.

A discontinuous gully system (one that begins and ends several times along the course of the channel) has developed along the main stem of this unnamed Bear Valley tributary stream, primarily along the upper and middle reaches. The discontinuous gully development is an indication that the system is out of balance and struggling to adjust to the hydrologic and riparian changes that have been imposed on it.

It appears that the nearly complete burn that occurred as a result of the Cottonwood Fire has caused an increase in streamflows and a loss of channel stability. The primary stabilizing component of this stream system is vegetation, both from the roots and stems of live plants and from dead plant pieces forming jams within the channel. The stream is now attempting to downcut, but there's much more sediment in the system to be transported than there is streamflow (stream power) to move it. Log jams have formed within the channel system as burned trees have decayed and fallen to the ground and into the stream. The jams that have formed within the channel are slowing the channel degradation process, contributing to its discontinuous nature and eventually to the stability of the channel.

In addition to the effects of the roads and burn, water was diverted at several locations, especially along the lower reach where the stream merges with the Bear Valley Creek system. These diversions were apparently for irrigation and as a result of road location and construction.

Restoration Potential

Because the Antelope Valley Road intercepts most of the surface water flowing to it and carries that flow in roadside ditches and on the road surface itself, water flows are

concentrated, erosion and sedimentation problems are increased, and down slope areas are dewatered. The restoration action proposes to reconnect all natural drainage channels, eliminate roadside ditches and out-slope road surfaces. Specific projects have not been identified and needs further surveying to develop.

The main stream channel contains several degrading sections and several sections where the stream has been diverted. The restoration action proposes to obliterate the severely degraded stream sections and remove the stream diversions, reconnecting these stream sections to their natural channels and floodplains. Like the roads, specific projects are yet to be identified and developed. The primary exception is downstream of the stream crossing immediately adjacent to Bear Valley Meadow. This section of the stream channel is included in the Bear Valley Meadow restoration proposal, below.

Bear Valley Creek Meadow

The Bear Valley Creek Meadow (Appendix A: Maps; Appendix G: Bear Valley Meadow Surveys) is severely degraded, forming a system of actively eroding entrenchments (aka, gullies) that measure 2 to 15-feet deep and 10 to 100-feet wide (Appendix B: Photo 10). The stream system is now confined to the entrenchments and generally cannot overbank onto the historic floodplain. Groundwater drains rapidly, leaving little to augment summer streamflows and causing a dramatic change in the composition and diversity of the meadow vegetation. The degradation of the system extends the entire length of the meadow and into the upstream canyon reach, where it connects with the rapid runoff and high sediment load of that reach.

Additionally, there is a third entrenched stream system that involves shorter sections of the meadow. The ability for streamflows to frequently access floodplain areas has been almost completely eliminated as the stream channel continues to degrade into the deep alluvial soils of the meadow/floodplain complex. Because the entrenched stream system concentrates runoff and continues to actively erode its bottom and banks, it contributes significantly to the increased frequency of flooding and the high sediment loads of Smithneck Creek, directly affecting stream channel stability upstream and through the town of Loyalton.

Although it is a complicated system, the meadow can be restored to properly functioning condition. The action proposed is to obliterate the entire system of entrenchments and to re-establish streamflows to the system of channels and floodplains located on the surface of the meadow. These channels are remnants of the historic stream system prior to the degraded system we see today.

The goals of the project are to improve aquatic and riparian habitats (improve quality and increase amount), to improve conditions of water flow (reduce flood peaks and increase late season flows downstream of the project reach), and to improve water quality (reduce sediment loads, nutrient loads and summer water temperature). Project objectives are to restore the historic streamflow, floodplain, and sediment-trapping functions of the

meadow, and to restore the functional attributes of the historic, unconfined aquifer by obliterating the entrenchments and by spreading streamflows onto the meadow.

A draft design has been developed that treats approximately 8000-feet (1.5 miles) of valley length by obliterating the system of entrenchments with approximately 66 soil plugs that would return the groundwater surface (water-table) to near, or at, the meadow surface (Appendix A: Maps; Appendix E: Bear Valley Meadow Restoration Proposal and Cost Estimates). This groundwater surface would be exposed in a series of ponds between the soil plugs. Ponds would form where entrenchment/meadow areas are excavated to supply soil for the construction of the plugs. The functions of the floodplains would be restored, including reducing the effects of floods (Appendix F: Flood Frequency Analysis), improving groundwater retention and raising the groundwater table and providing for vigorous plant growth, thereby expanding the riparian area, and eliminating the ongoing erosion of the main channel.

A large, well vegetated soil and rock grade-control/channel-drop structure (Appendix C: Diagrams and Charts) would be constructed at the downstream end of the project, immediately upstream of the Sierra Brooks Drive stream crossing (Appendix B: Photo 11), to support the entire project at its historic meadow elevation and to drop streamflows approximately 10-feet (total elevation difference) to the bottom of the gully before it flows through the crossing culvert. The structure would be about 300-feet long. The culvert and its boulder grade-control (located at the culvert outlet) would support the toe of the grade-drop structure.

Badenaugh Creek Area

One small meadow area on the lower end of the Badenaugh Road just above the Smithneck Creek Road (Appendix A: Maps) has been degraded by the diversion of streamflows to a small swale unable to handle the additional water. The diverted stream is primarily fed by springs located on the adjacent hillside. The diversion is caused by an old railroad grade located at the top of the meadow. The area has been further degraded by a road that is located within the stream-riparian zone and that crosses it. The road is severely rutted, channeling and concentrating water into the meadow, causing gullies to form. The restoration action proposes to reconnect the natural system of channels by obliterating the railroad grade, relocating the road out of the meadow and onto the hill slope to the south, and revegetating the obliterated areas.

Impact Avoidance and Minimization Measures

Although all of the restoration actions are proposed with the goal of improving the long-term ecological conditions of the watersheds, construction activities necessary to these restoration actions may have a potential of causing short-term impacts to natural resources such as water quality and wildlife habitat. Therefore, impact avoidance and minimization measures described in Appendix H will be implemented as part of the proposed restoration actions described above.

Discussion of Gully Obliteration Using the “Plug-and-Pond” Restoration Technique:

Gully obliteration is the only known method for restoring all the hydrologic and geomorphic functions of a meadow. Streamflows are restored to their historically unconfined position on the meadow surface where flow depths, velocities, shear stresses and stream power are low. The surface of the meadow becomes highly resistant to erosion due to vigorous plant growth watered by a shallow groundwater table. The restored stream no longer transports high sediment loads because upstream loads are captured at the top of the meadow and the actively eroding gully has been eliminated. Gully obliteration using the “plug-and-pond” technique has been found to be much less expensive than applying other treatments. Treatments such as check-dams have been estimated to cost more than ten times what it costs to obliterate gullies as here described. The use of check dams has been found to not restore meadows and their maintenance is usually very long-term.

It is more difficult and costly to implement restoration treatments in the confinement of a gully. Treatments used to stabilize a gully do not significantly reduce stream power, but rather redirects it. More rock placement and immediate revegetation work is required, increasing costs significantly. The degraded system is not restored but rather temporarily stabilized in its existing state. This stability is usually tentative because the treatments are subject to high streamflow forces, are at high risk of damage and, therefore, long-term maintenance. Erosion and sediment from the eroding entrenchment is significantly reduced, but flood frequencies and summer low flows leaving the project reach are not altered. Sediment from upstream sources can be captured within the gully, but this is usually insignificant as compared to the amount eroding from the gully itself.

To not treat a degraded meadow is to allow it to continue to degrade and widen. It will continue to do so until most or all of the meadow is removed to the elevation of the newly forming stream channel. A new stream channel and floodplain system is established at the lowered elevation. Groundwater is not captured and stored along this reach. Flood flows are again attenuated, but summer low flows are not enhanced by the captured groundwater. Sediment from upstream sources continues to influence the stability of the stream channel, but deposition in the upstream sections and, possibly throughout the untreated reach begins to raise the meadow. It has been estimated that it could take 500⁺ years for the stream and its floodplain to reach this state and several thousand more years to refill the meadow to where it was prior to the latest episode of degradation.

Gully obliteration (Appendix C: Diagram 2) is the primary restoration technique recommended where the stream has degraded into a meadow formed by accumulated alluvial soils and no constraints such as houses are present. Because it is usually not economical or practical to completely fill the gully with soil, a series of soil plugs are instead constructed that are strategically placed and filled to the level of the adjoining meadow surfaces or slightly higher (Appendix B: Photo 12). Because the cost of importing soil usually renders the project very expensive or uneconomical, fill material is

obtained on site by excavating the sides and bottom of the gully between the plugs. The excavated sections become filled with water as the groundwater in the meadow rises.

While an excavator is used to excavate the soil material, plug construction, including compaction, is accomplished using a rubber-tired loader. Topsoil is removed and set aside before pond excavation and then placed on the plugs to aid the revegetation effort. Wetland plant species are used to vegetate the plugs because the elevation of the finished plugs is generally at or slightly higher than the surrounding meadow. The plugs and ponds become part of the meadow floodplain and are able to absorb and spread water flows. The ponds rise and fall with the movement of floodwater through the restored meadow, reducing stream power, recharging groundwater, and reducing flood peaks (Appendix B: Photo 13).

The four primary benefits to this type of restoration are:

1. A raised groundwater table and vigorous plant growth (Appendix C: Chart 1).
2. A wide floodplain with frequent overbank flows that reduce flood peaks (Appendix C: Chart 2) and recharge groundwater.
3. Increased summer flows, especially downstream of the project (Appendix C: Chart 3).
4. Improved water quality and wetland habitats.

Restoring these processes and components re-energizes the entire meadow ecosystem and adjacent upland areas. The effects can be realized throughout the watershed, on-site, upstream and downstream.

Summary of Watershed improvement Projects

Antelope Valley Watershed

1. Obliterate the main gully and reinstall the stream to the meadow surface.
2. Reconnect natural drainage channels that have been diverted or relocated by past activities and by roads. Obliterate road and skid trail water flow interceptions, water diversion ditches, and the gullies that have formed.
3. Obliterate the Palen Reservoir bypass diversion dam and ditch.

Unnamed Tributary to Bear Valley Creek

1. Reconstruct the Antelope Valley Road to reconnect all drainage channels and outslope the road surface.
2. Reconnect diverted streamflows to their natural drainage channels and obliterate the diversion channels.
3. Include the lower portion of the stream and meadow system in the larger Bear Valley Meadow restoration project.

Bear Valley Creek Meadow

1. Obliterate the gully system and return the streamflows to the meadow surface, restoring groundwater conditions.


Badenaugh Road Area

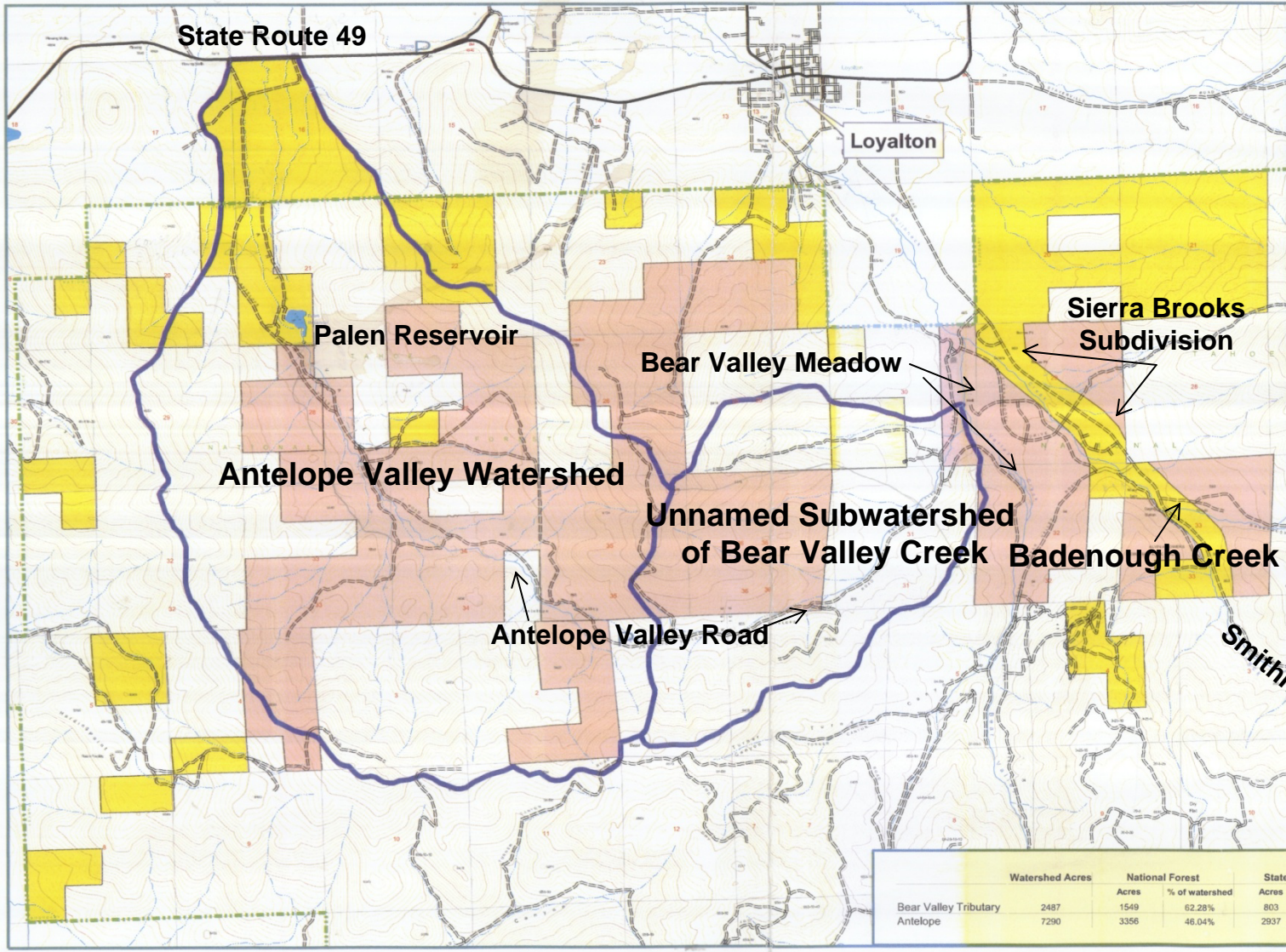
1. Remove the railroad grade and return water flows to the natural channel.
2. Relocate the road out of meadow (obliterating the existing road) and repair the degraded stream channels.

APPENDIX A
MAPS

Antelope Valley Restoration Analysis 2006

LEGEND

- National Forest Boundary
 - Non-FS Land Ownership**
 - State of California
 - Private
 - Watershed Boundary
 - Transportation System**
 - SECONDARY HIGHWAY
 - IMPROVED
 - DIRT
 - TRAIL
 - Stream Classification**
 - Intermittent
 - Perennial
- 0 0.5 1 Miles
- Scale 1:40,000
Contour Interval 40 ft.
- 



	Watershed Acres	National Forest		State of California		Private	
		Acres	% of watershed	Acres	% of watershed	Acres	% of watershed
Bear Valley Tributary	2487	1549	62.28%	803	32.29%	135	5.43%
Antelope	7290	3356	46.04%	2937	40.29%	997	13.68%

Antelope Valley Restoration Project
Antelope Valley Watershed
Tahoe National Forest
Sierraville Ranger District
In Partnership with:
CA Wildlife Foundation
&
CA Department of Fish and Game
North Central Region

Perennial Stream Restoration

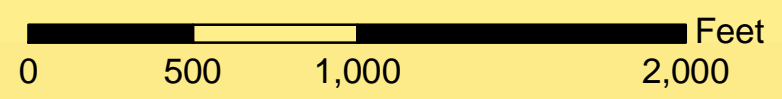
- Current Main Channel
- Restoration Channel
- Proposed Pond

Seasonal Stream Restoration

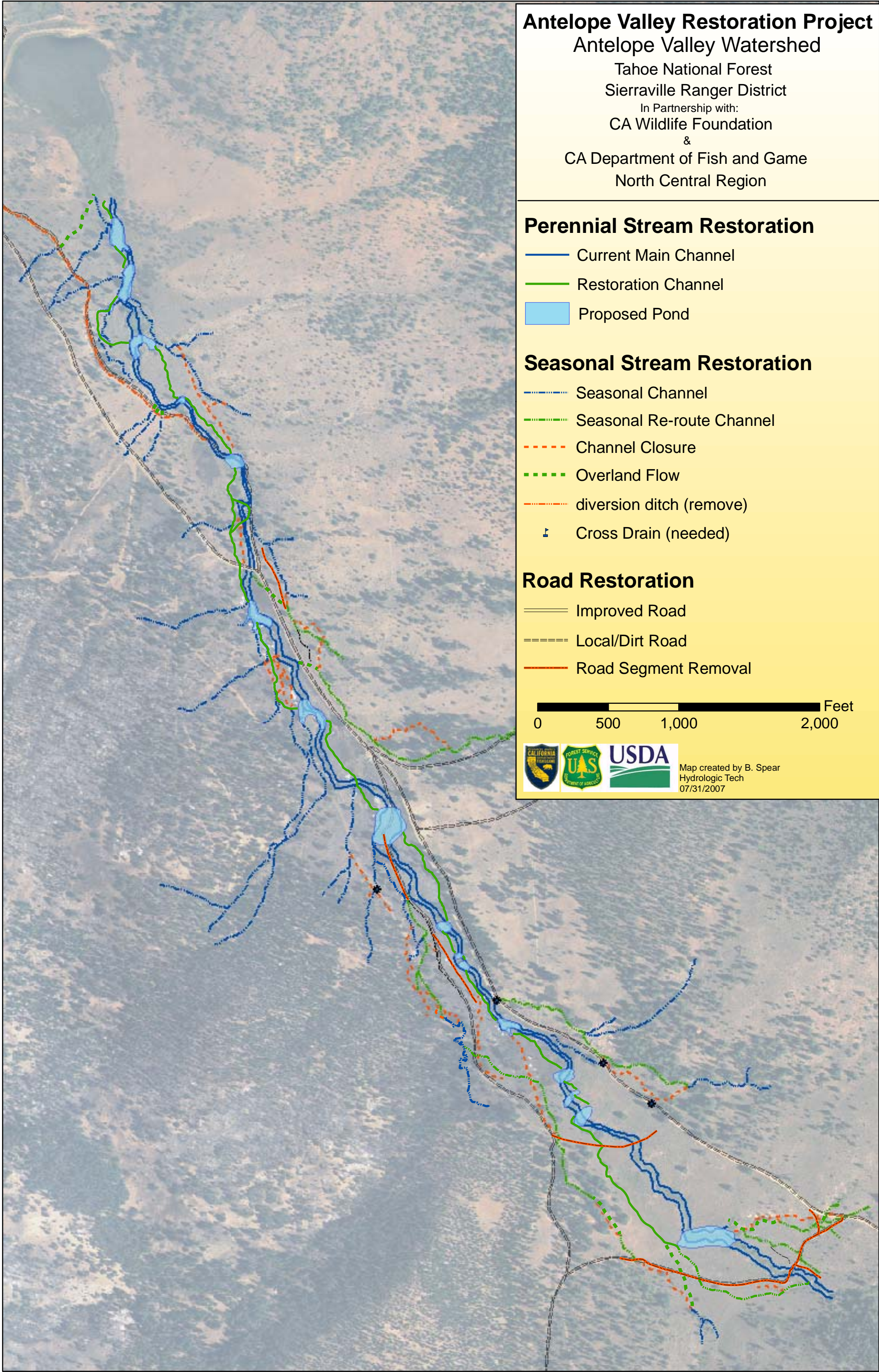
- - - Seasonal Channel
- - - Seasonal Re-route Channel
- - - Channel Closure
- - - Overland Flow
- - - diversion ditch (remove)
- ⚡ Cross Drain (needed)

Road Restoration

- == Improved Road
- ==== Local/Dirt Road
- Road Segment Removal



Map created by B. Spear
Hydrologic Tech
07/31/2007



Antelope Valley Restoration Project

Tahoe National Forest
Sierraville Ranger District
In Partnership with:
CA Wildlife Foundation
&
CA Department of Fish and Game
North Central Region

Trimble GPS Features

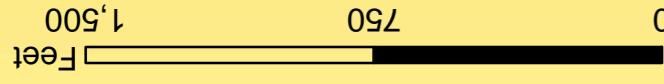
- Perennial Stream
- Perennial Channel Closure
- Perennial Reroute
- Seasonal Drainage
- Seasonal Channel Closure
- Seasonal Reroute

Restoration Work

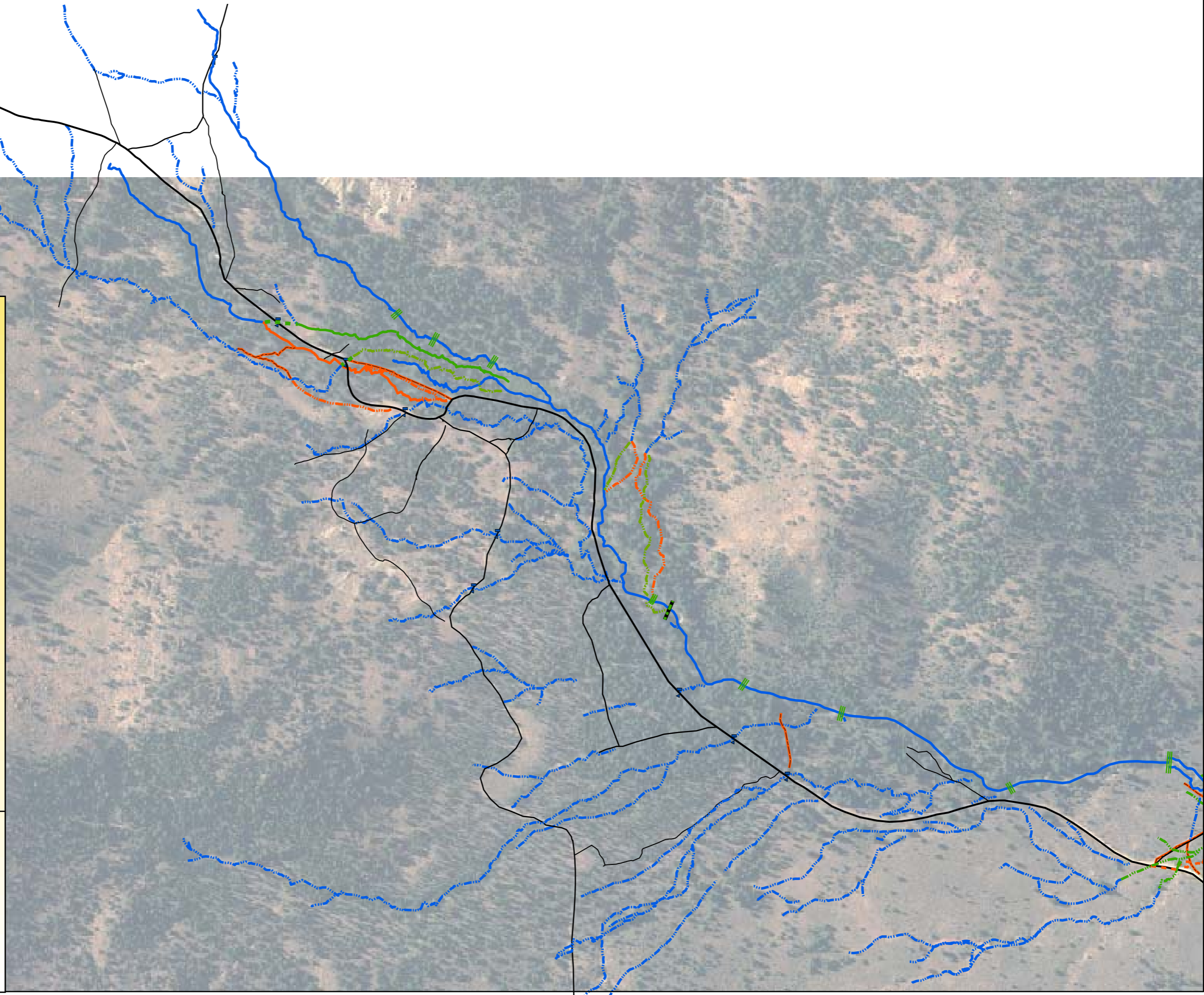
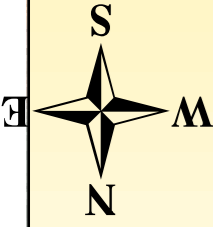
- Overland Flow
- Grade Drop Structure
- Log Jam
- Road Segment Removal
- Cross Drain (needed)

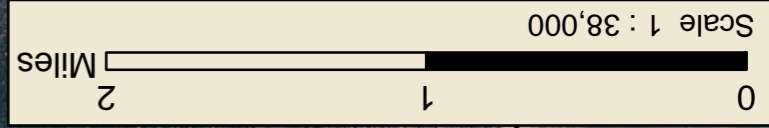
Road

- Antelope Valley Rd
- Remnant Rd Bed/Degraded Rd



Map created by B. Spear
Hydrologic Tech
08/16/2007



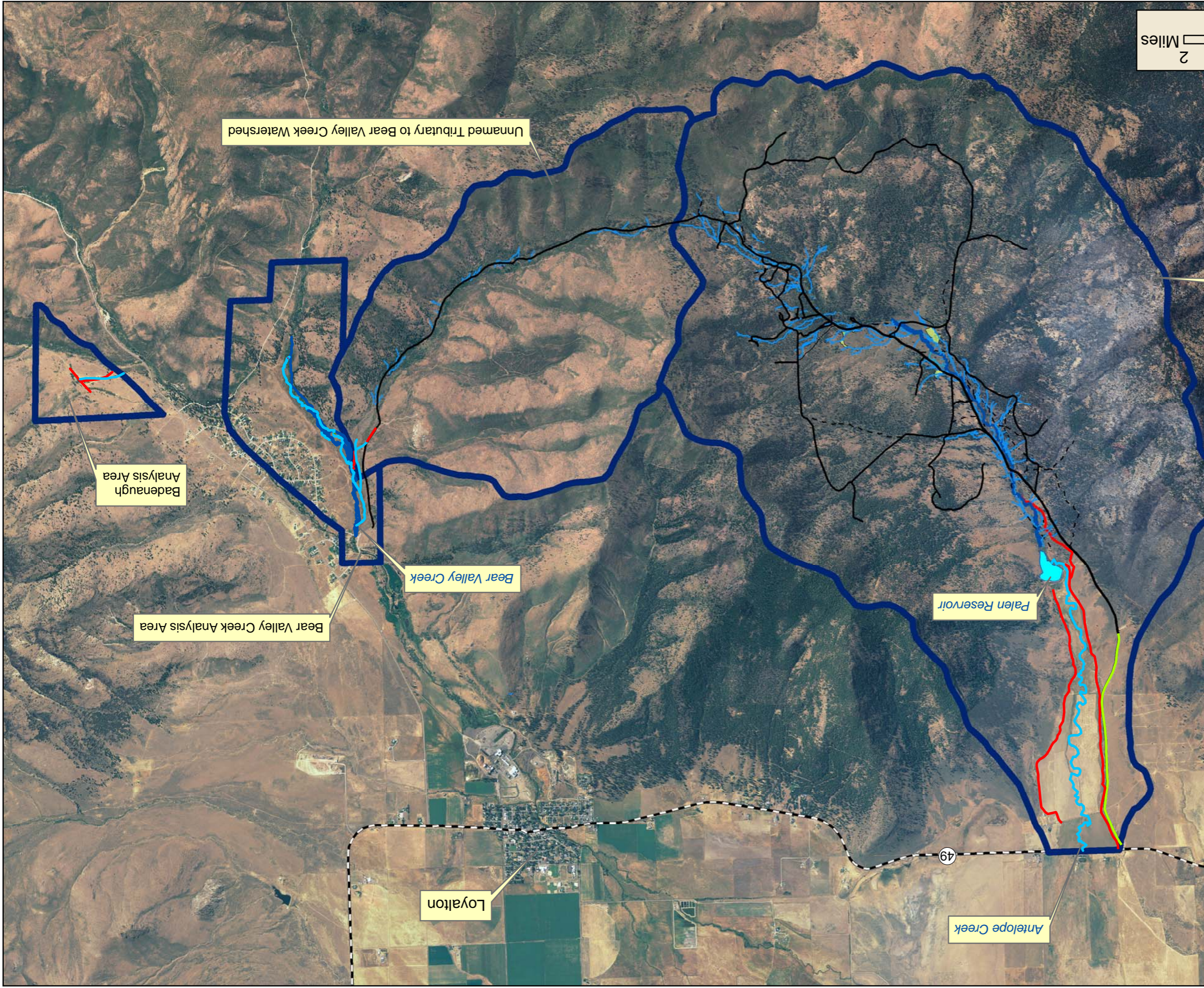


Antelope Valley Watershed Analysis
 Tahoe National Forest
 Sierraville Ranger District
 February 28, 2008

Prepared by SH
 East Zone GIS

GPS Features

- Analysis Area Boundary
- Existing Flow
- Proposed Flow
- Small Drainages
- Obliterate Ditch
- Abandoned Rd Grade
- Road
- Entrenched Road
- Meadow



Bear Valley Restoration Project

Bear Valley Watershed

Tahoe National Forest

Sierraville Ranger District

February 28, 2008

GPS Features

- Perennial Channel
- - - Seasonal Channel
- Proposed Flow
- Proposed Plug
- Grade Drop Structure
- Cross Section
- Obliterate Ditch
- Obliterate Road



Prepared by SH,
East Zone GIS

0 250 500 1,000
Feet

Scale = 1:6,000

APPENDIX B
PHOTOGRAPHS

Photo 1



Vertical Bank of the Antelope Creek Entrenchment

Photo 2



Antelope Valley Entrenchment

Photo 3



Palen Dam and Reservoir

Photo 4



The Eroding Bottom and Banks of Antelope Valley Creek

Photo 5



Tributary Stream Channel Caught in the Antelope Valley Road
Inside Ditch

Photo 6



The Top of The Area Excavated to Supply Material For Palen Dam
Note Dewatering of the Meadow Above and the Sudden Drop in the Valley

Photo 7



Palen Reservoir Bypass Diversion Dam
Note Its Deteriorated State

Photo 8



Failing Outlet Channel of Palen Reservoir

Photo 9



West-side Ditch and Antelope Valley Creek

Photo 10



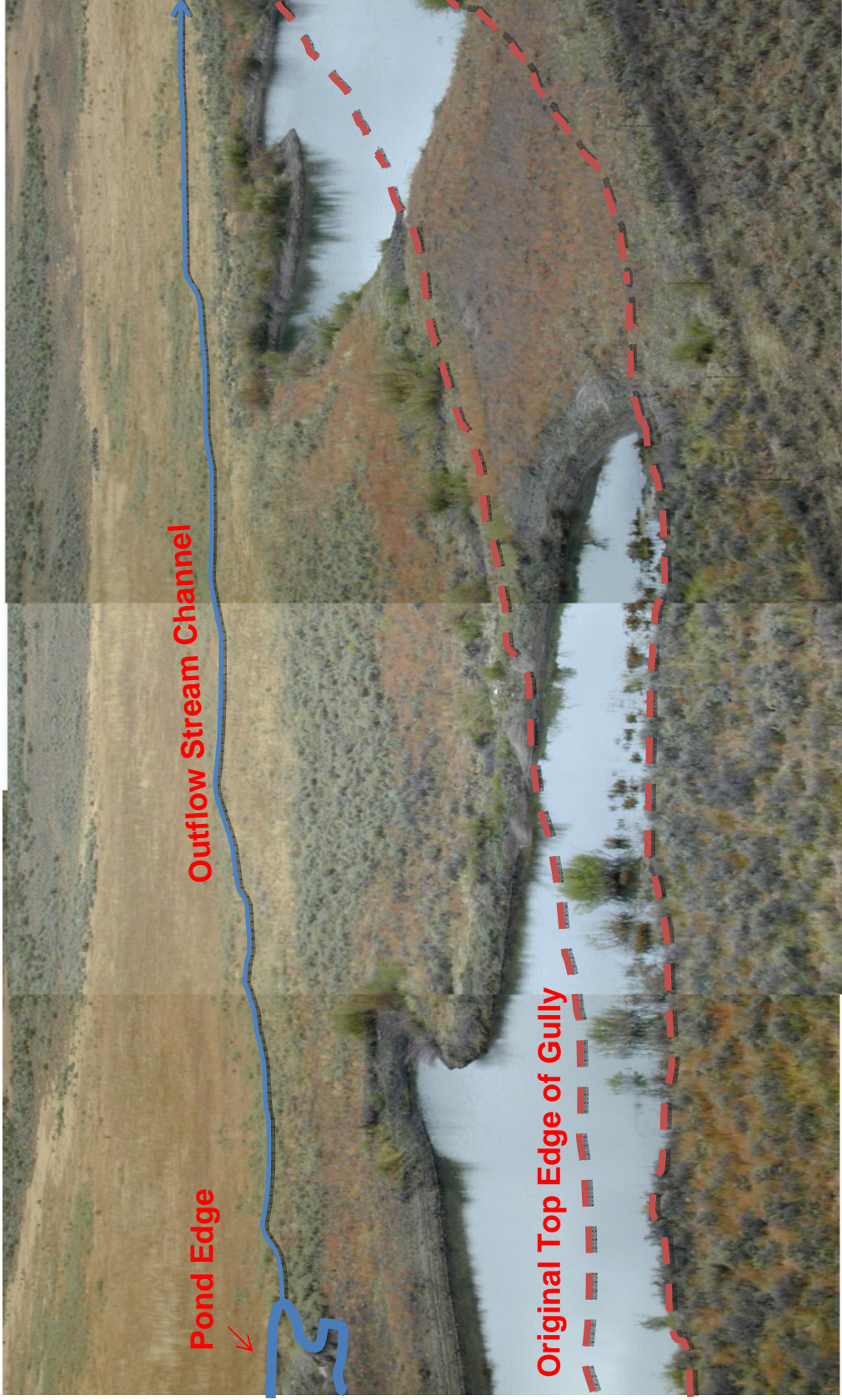
Bear Valley Creek at the Bottom of an Entrenchment
Note No Floodplain so Erosion Forces Against Banks is High

Photo 11



Bear Valley Creek Immediately Upstream of Sierra Brooks Drive

Photo 12



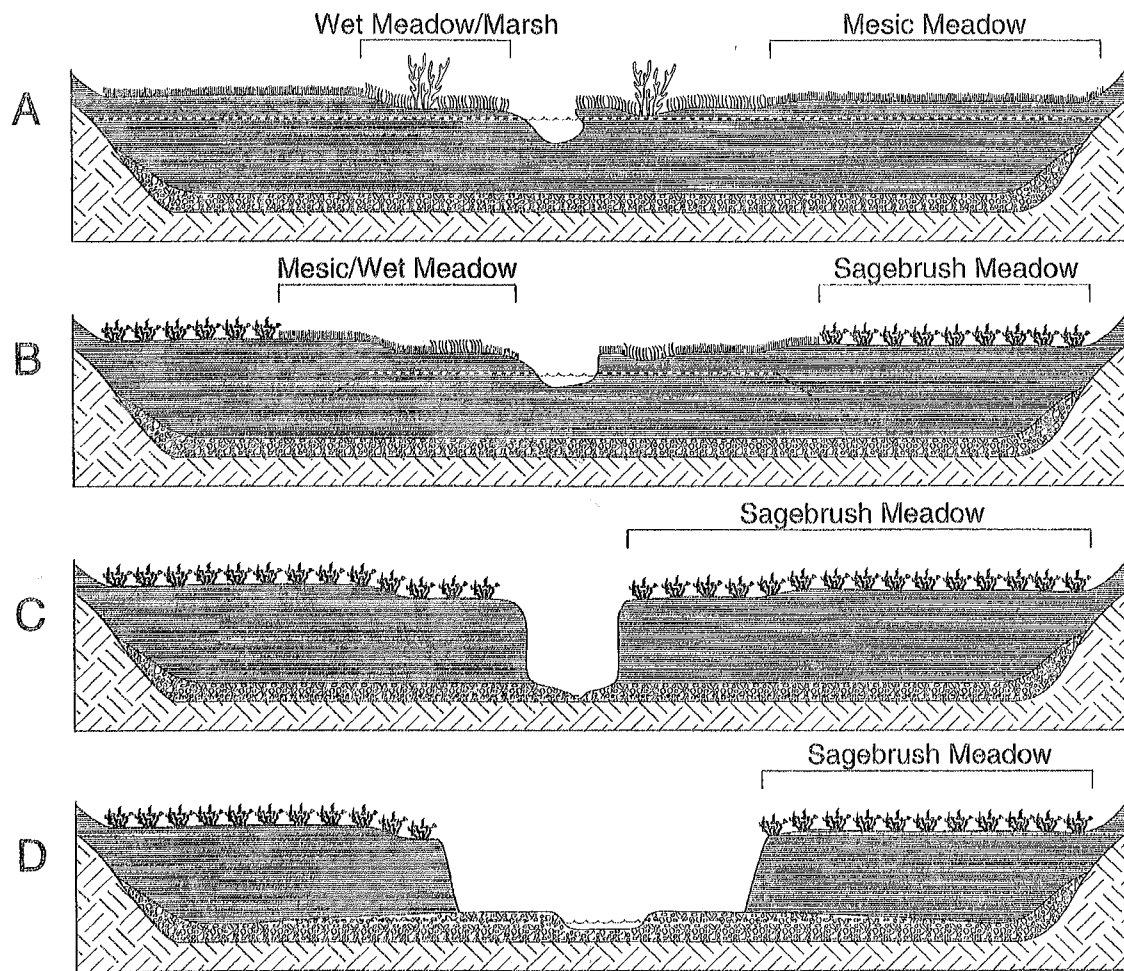
Section of the Last Chance Creek Gully Obliterated Using the Plug-and-Pond Technique (Note, Late Summer Conditions in this Seasonal Streamflow Section)

Photo 13

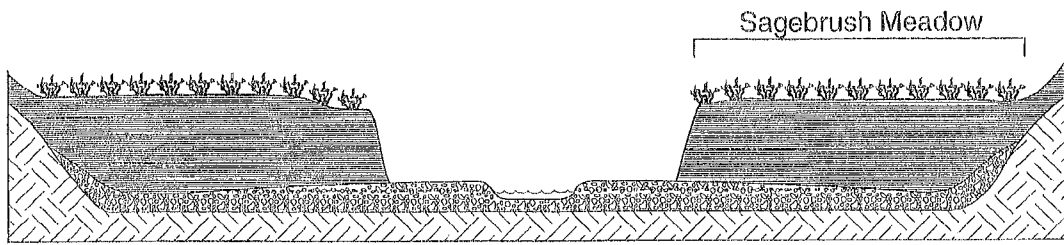


Remnant Channel Streamflow and Flooding onto the Historic Floodplain
Humberg Creek Upstream of Delleker on the Michelson Ranch

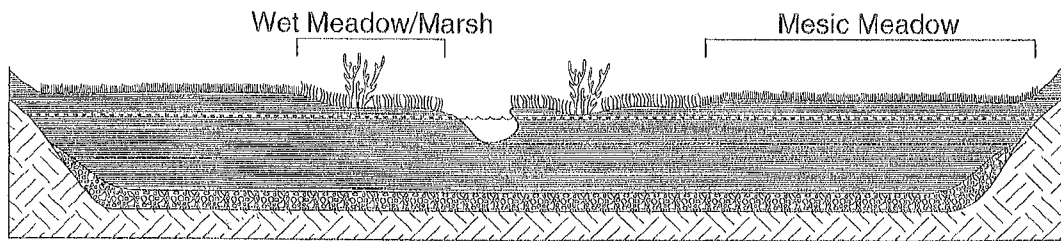
APPENDIX C
DIAGRAMS AND CHARTS



Succession of States of Degradation of the Antelope Valley Creek
And Entrenchment Development



GULLIED MEADOW WITH LOWERED WATER TABLE

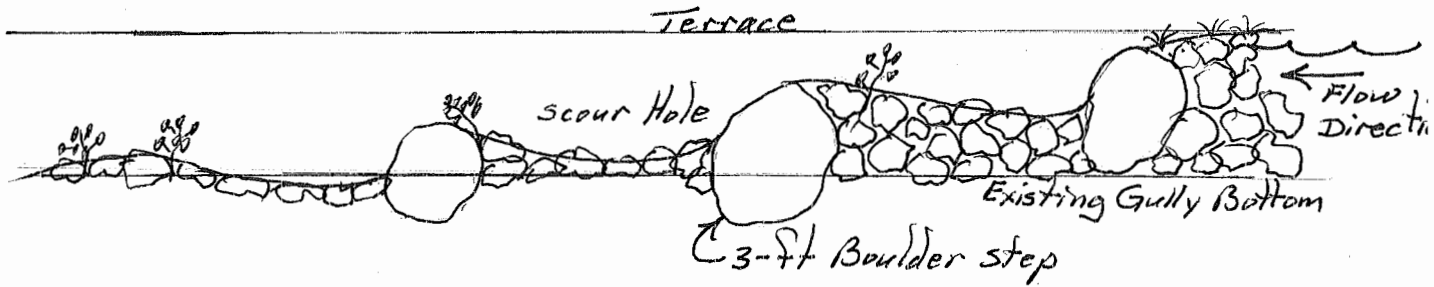


RESTORED MEADOW WITH RAISED WATER TABLE

Cross-sections Through a Typical Degraded and Restored Valley

GRADE-CONTROL AND CHANNEL-DROP STRUCTURE

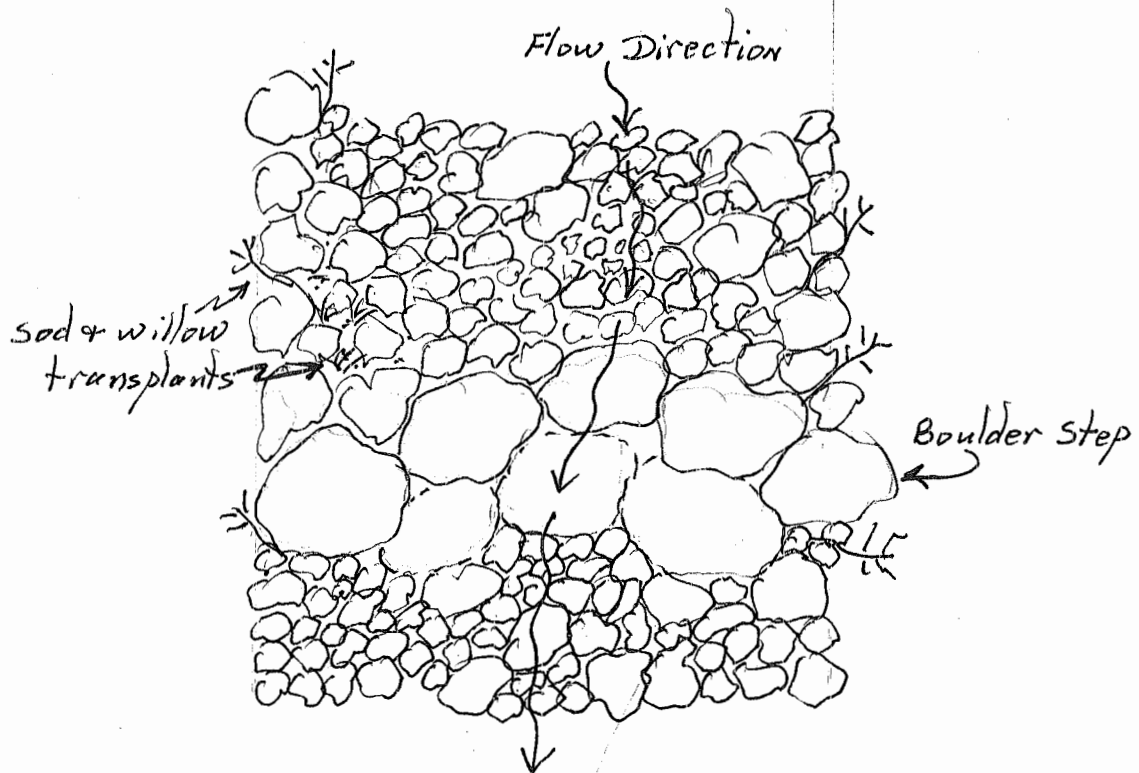
PROFILE VIEW



CROSS-SECTION VIEW

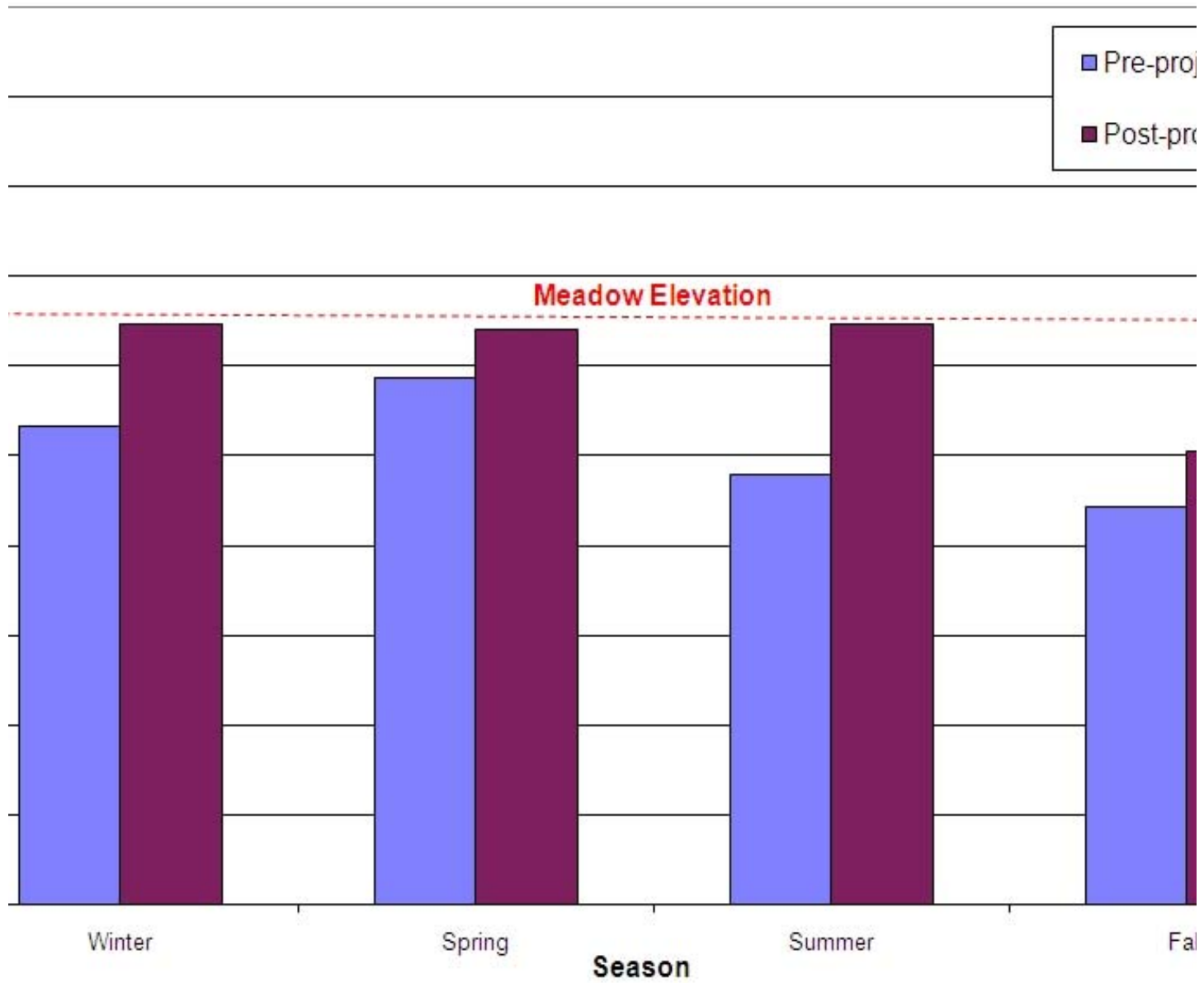


PLAN VIEW



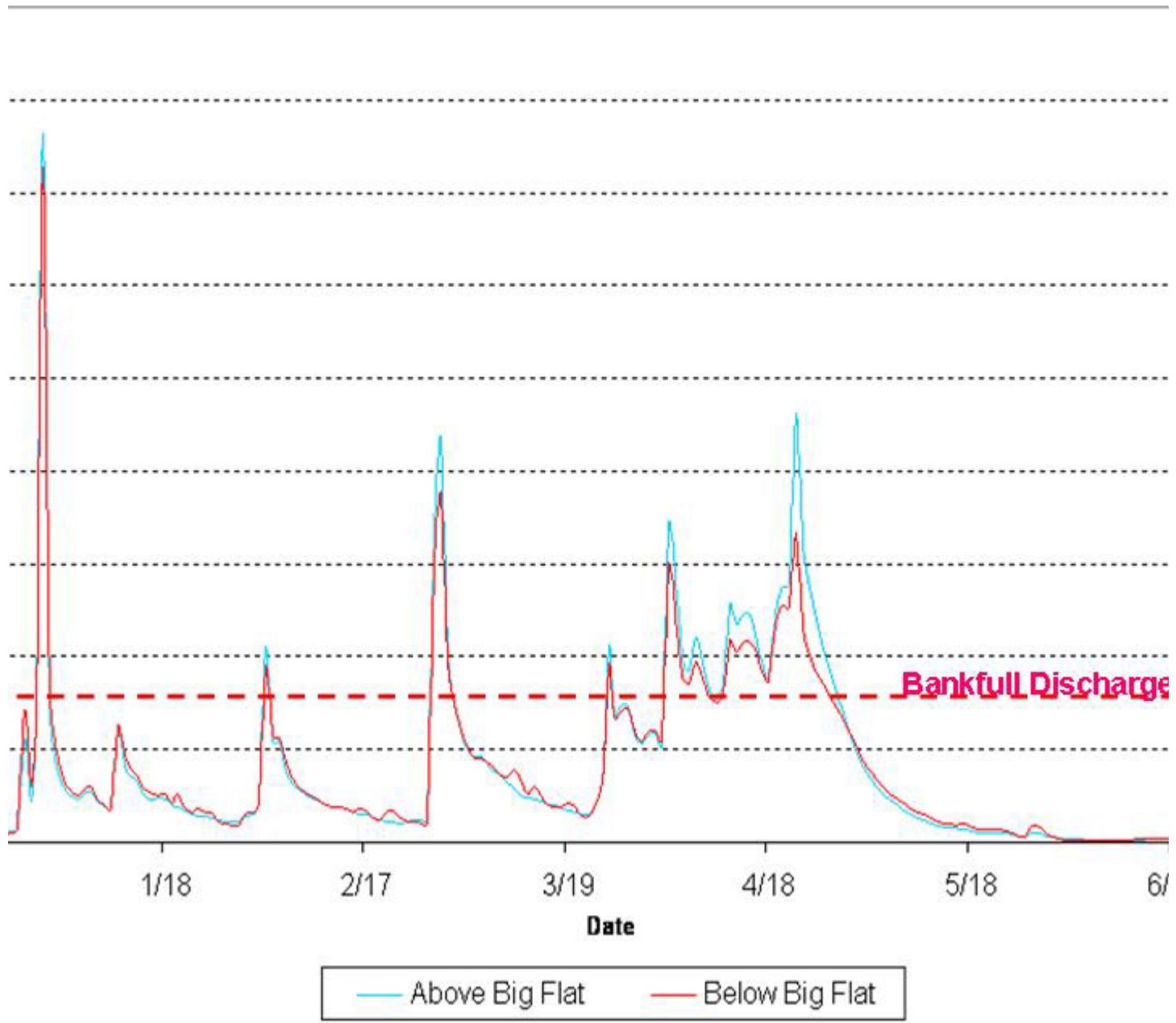
Clarks Creek Restoration Project, 8/2001
Seasonal Groundwater Change
(ave. 1998-2007)

CHART 1



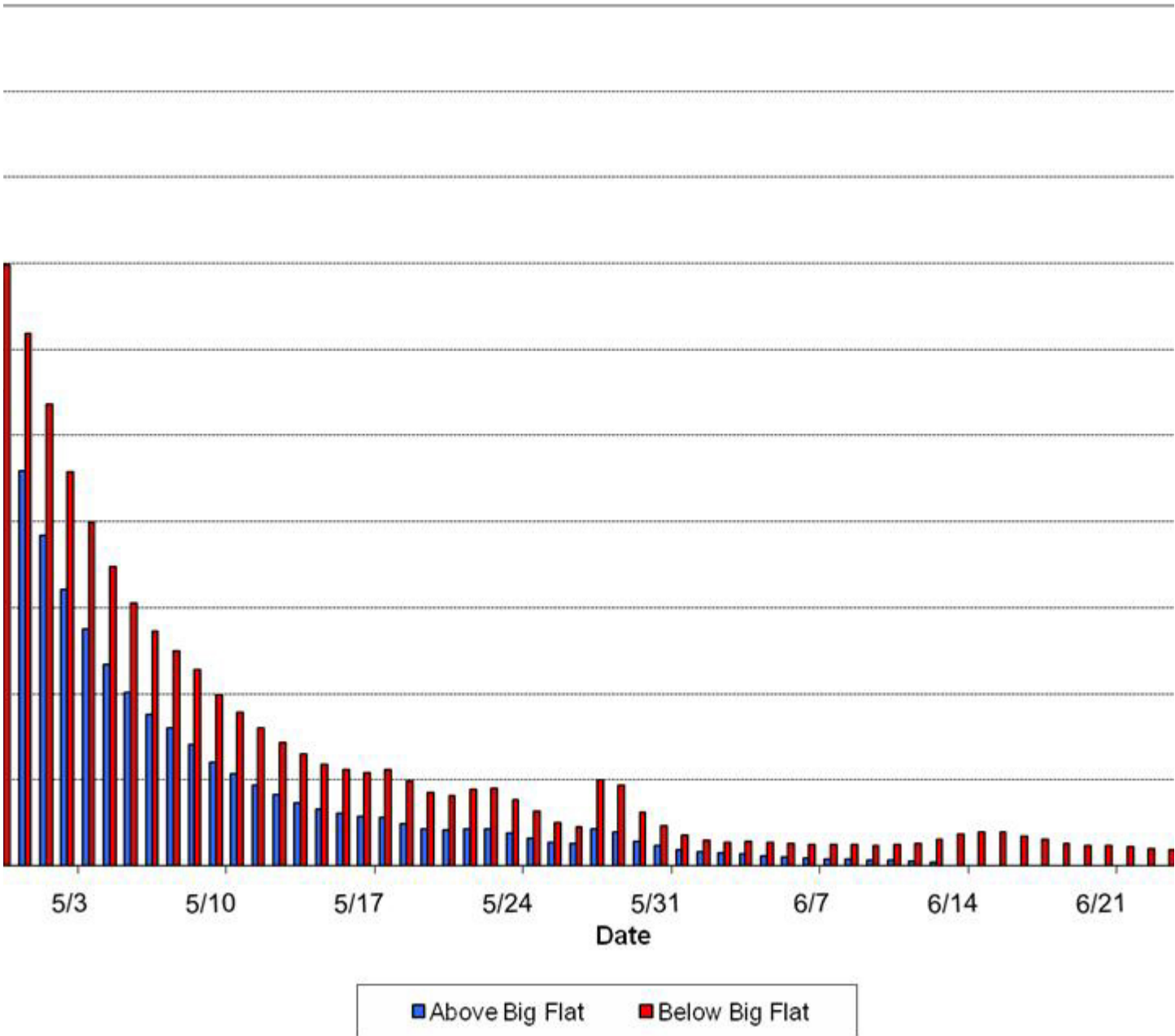
Big Flat Discharge, WY 2006 Annual Hydrograph

CHART 2



Big Flat Discharge, WY 2006 Spring Recession

CHART 3



APPENDIX D
ANTELOPE VALLEY MEADOW
RESTORATION PROPOSAL
AND
COST ESTIMATES

ANTELOPE VALLEY MEADOW RESTORATION PROPOSAL COST ESTIMATES

Feb-08

Work Item	Estimated Cost
Field Work & Site Surveys	\$8,000.00
NEPA/CEQA	\$0.00
Permit Acquisition	\$5,000.00
Project Design & Engineering	\$15,000.00
Contract Preparation	\$1,000.00
Contract Administration	\$14,000.00
Contract Cost	\$525,000.00
Materials & Supplies	\$1,000.00
Monitoring	\$3,000.00
Total	\$572,000.00

ANTELOPE VALLEY MEADOW RESTORATION PROPOSAL AND COST ESTIMATES

Feb-08

Meadow Restoration Cost Estimate

Bear Valley Project Length (ft)	8000
Total Cost w/rock	\$400,000
Total Cost per foot	\$50
Cost w/o rock	\$275,000
Cost per foot	\$34
Antelope Valley Project Length (ft)	9000
Total Cost @ \$50/ft	\$450,000
Total Cost @ \$34/ft	\$309,375

Antelope Valley Road Relocation Cost Estimate

Length of Relocated Rd (mi)	1.3
Length of Reconstructed Rd (mi)	1.8
Number of Xings	6
Cost to reconstruct @ \$5,000/mi	\$9,000
Cost to obliterate @ \$2,000/mi	\$2,600
Total	\$11,600

Antelope Valley Road Reconstruction Cost Estimate

Length of Reconstructed Rd (mi)	1.3
Number of Xings	4
Length of Rd to Relocate	0.4
Number of Xings	1
Cost to reconstruct @ \$5,000/mi	\$4,500
Cost to relocate @ \$15,000/mi	\$6,000
Total	\$10,500

Palen Reservoir Bypass Ditch Obliteration

Length of Ditch (ft)	3,960
Average Ditch Width (ft)	15
Average Ditch Depth (ft)	5
Volume (yd ³)	11,000
Days @ 1200 yd ³ /day	9
hours	73
Cost @ \$200/hr	\$14,667

Estimated Total Construction Cost = \$476,267 X1.1= **\$523,893**

ANTELOPE VALLEY MEADOW RESTORATION PROPOSAL AND COST ESTIMATES

Feb-08

Engineering Surveys

Estimated Number of XSs	30
Survey Days @ 3 XSs/day	10
Long Profile @ 4500'/day	2
Total Survey Days	12
Total Survey Hours	96
Cost @ \$50/hour	\$4,800
Travel @ 120/day (mi)	1440
Travel @ 0.55/mi	\$792
Data Development (hrs)	40
Cost @ \$50/hour	\$2,000
Total Cost	\$7,592

Engineering Design and Layout

Estimated Number of Plugs	75
Number of Plug Layouts/day	6
Number of Days to Layout	13
Number of Ponds	75
Number of Pond Layouts/day	6
Number of Days to Layout	13
Total Layout Days	25
Total Layout Hours	200
Cost @ \$50/hour	\$10,000
Travel @ 120/day (mi)	3000
Travel @ 0.55/mi	\$1,650
Data Development (hrs)	40
Cost @ \$50/hour	\$2,000
Total Cost	\$13,650

Estimated Total Cost **\$21,242**

Construction Oversight

Estimated Construction Days	35
Hours	280
Cost @ \$50/hour	\$14,000

APPENDIX E
BEAR VALLEY MEADOW
RESTORATION PROPOSAL
AND
COST ESTIMATES

35	192.85	2285.80	0.0525	0.0212	7.0	16,001	19201	711
36	243.44	3681.55	0.0845	0.0342	7.0	25,771	30925	1,145
37	229.25	2748.96	0.0631	0.0255	6.5	17,868	21442	794
38	362.00	7738.10	0.1776	0.0719	6.0	46,429	55714	2,063
39	284.29	3792.41	0.0871	0.0352	7.0	26,547	31856	1,180
40	274.51	4535.60	0.1041	0.0421	9.0	40,820	48984	1,814
41	300.69	4577.28	0.1051	0.0425	10.5	48,061	57674	2,136
42	258.27	3450.01	0.0792	0.0321	11.0	37,950	45540	1,687
43	174.44	1677.62	0.0385	0.0156	5.5	9,227	11072	410
44	247.59	3695.96	0.0848	0.0343	4.0	14,784	17741	657
45	172.02	1613.37	0.0370	0.0150	11.0	17,747	21296	789
46	129.22	1001.41	0.0230	0.0093	10.0	10,014	12017	445
47	101.53	588.56	0.0135	0.0055	3.0	1,766	2119	78
48	71.88	320.14	0.0073	0.0030	3.0	960	1153	43
49	156.02	1495.79	0.0343	0.0139	3.5	5,235	6282	233
50	193.77	2218.53	0.0509	0.0206	3.0	6,656	7987	296
51	166.88	1711.97	0.0393	0.0159	3.0	5,136	6163	228
52	170.96	1743.25	0.0400	0.0162	6.0	10,460	12551	465
53	228.95	3211.71	0.0737	0.0298	4.5	14,453	17343	642
54	236.62	3386.90	0.0778	0.0315	3.5	11,854	14225	527
55	132.53	846.04	0.0194	0.0079	3.5	2,961	3553	132
56	207.72	2540.85	0.0583	0.0236	3.5	8,893	10672	395
57	121.93	908.21	0.0208	0.0084	4.5	4,087	4904	182
58	157.59	1345.99	0.0309	0.0125	5.0	6,730	8076	299
59	279.45	4168.73	0.0957	0.0387	7.0	29,181	35017	1,297
60	369.63	8517.68	0.1955	0.0791	9.0	76,659	91991	3,407
61	273.87	4412.16	0.1013	0.0410	11.0	48,534	58241	2,157
62	276.01	4064.27	0.0933	0.0378	12.0	48,771	58526	2,168
63	333.26	5520.56	0.1267	0.0513	10.0	55,206	66247	2,454
64	310.35	5761.39	0.1323	0.0535	9.0	51,852	62223	2,305
65	425.73	11035.60	0.2533	0.1025	8.0	88,285	105942	3,924
66	325.93	6363.41	0.1461	0.0591	8.0	50,907	61089	2,263
Unknown	41.93	1.38	0.0000	0.0000		0	0	0
Total			3.9057			1,009,766	1211719	44,878
Cost Estimates								
Estimate A								
Construction Days:	45		Total Treatment Length:	7350 ft				
Cost per Day:	\$5,200		Est. Treat.Cost per foot:	\$35 - \$40				
Permit/Oversight	\$40,000		Est. Treatment Cost:	\$257,000 - 294,000				
Cost Estimate:	\$274,000							
Estimate B								

SULPHUR-BARRY RESTORATION PROPOSAL

7/17/2007

Gully Obliteration (Pond-and-Plug)

Plug	Width (ft)	Length (ft)	Area (ft ²)	Depth (ft)	Volume (ft ³)	1.1 X ft ³	Volume (yd ³)
1	50	80	4,000	6	24,000	26,400	978
2	100	50	5,000	8	40,000	44,000	1,630
3	80	160	12,800	12	153,600	168,960	6,258
4	35	65	2,275	7	15,925	17,518	649
5	52	85	4,420	6	26,520	29,172	1,080
6	58	93	5,394	6	32,364	35,600	1,319
6a	16	120	1,920	3	5,760	6,336	235
7	65	60	3,900	8	31,200	34,320	1,271
Total		713	39,709		329,369	362,306	13,419

Pond	Additional Width (ft)	Total Width (ft)	Length (ft)	Area (ft ²)	Pond Volume (yd ³)	Est. Max. Depth (ft)	Volume (ft ³)	Volume (yd ³)
1	20	55	140	7,700	980	8	13,200	489
2	45	80	90	7,200	1630	10	35,200	1,304
3	39	164	80	13,120	6260	12	168,960	6,258
4	37	60	90	5,400	550	9	8,759	324
5	0	70	140	9,800	2550	8	23,345	865
6	10	75	100	7,500	1450	8	38,722	1,434
7	37	117	140	16,380	3175	10	101,820	3,771
Total			780	67,100	16,595		390,006	14,445

Grade-drop Structure

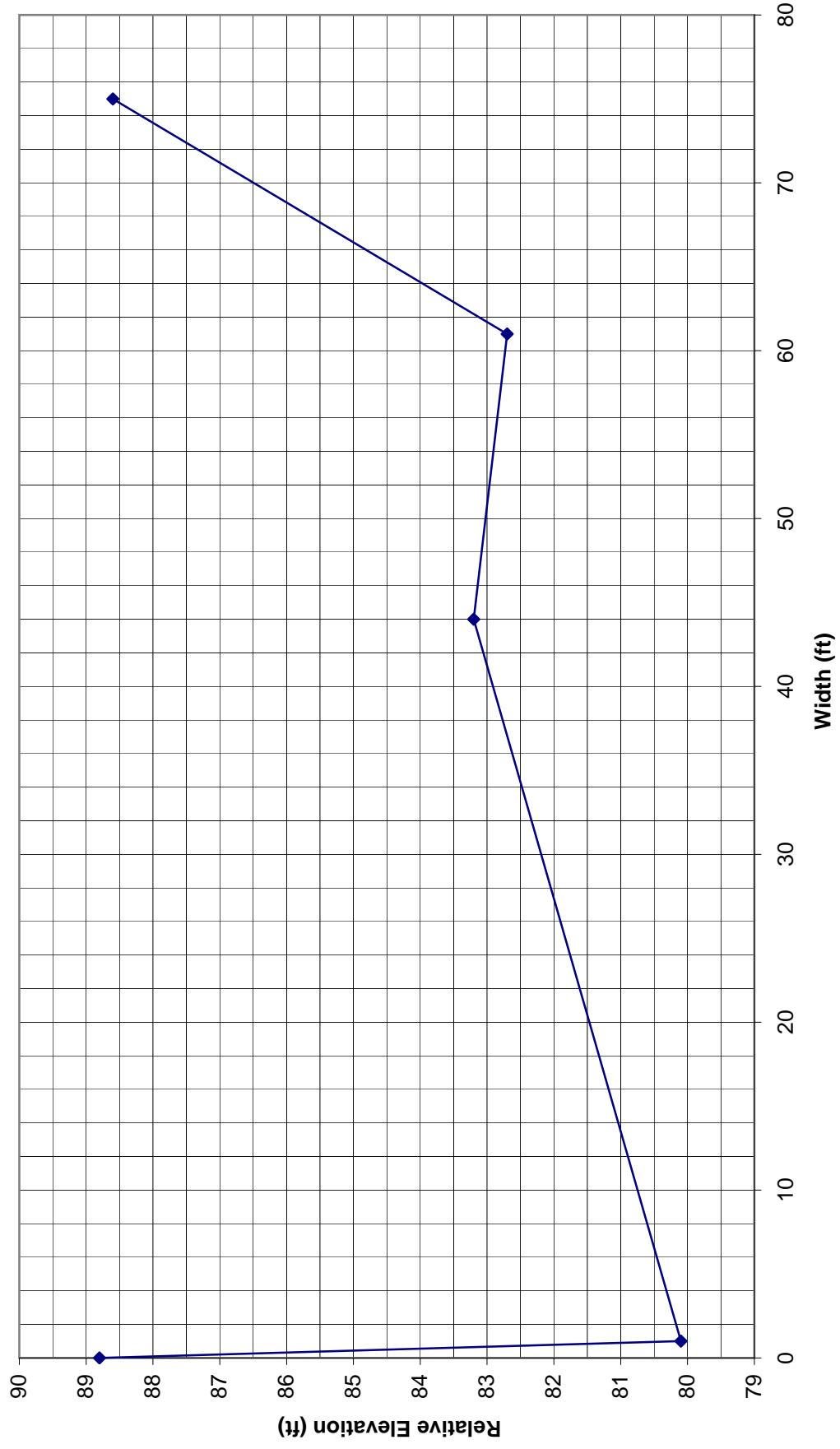
Gradient (ft/ft)	Width (ft)	Length (ft)	Top Depth (ft)	Average Depth (ft)	Soil Volume X 1.1 (ft ³)	Volume Soil (yd ³)	Volume Rock (yd ³)
0.04*	60	325	12	6	67,500	2,750	2,300

*Elevation Difference Between Top and Bottom = 12 ft

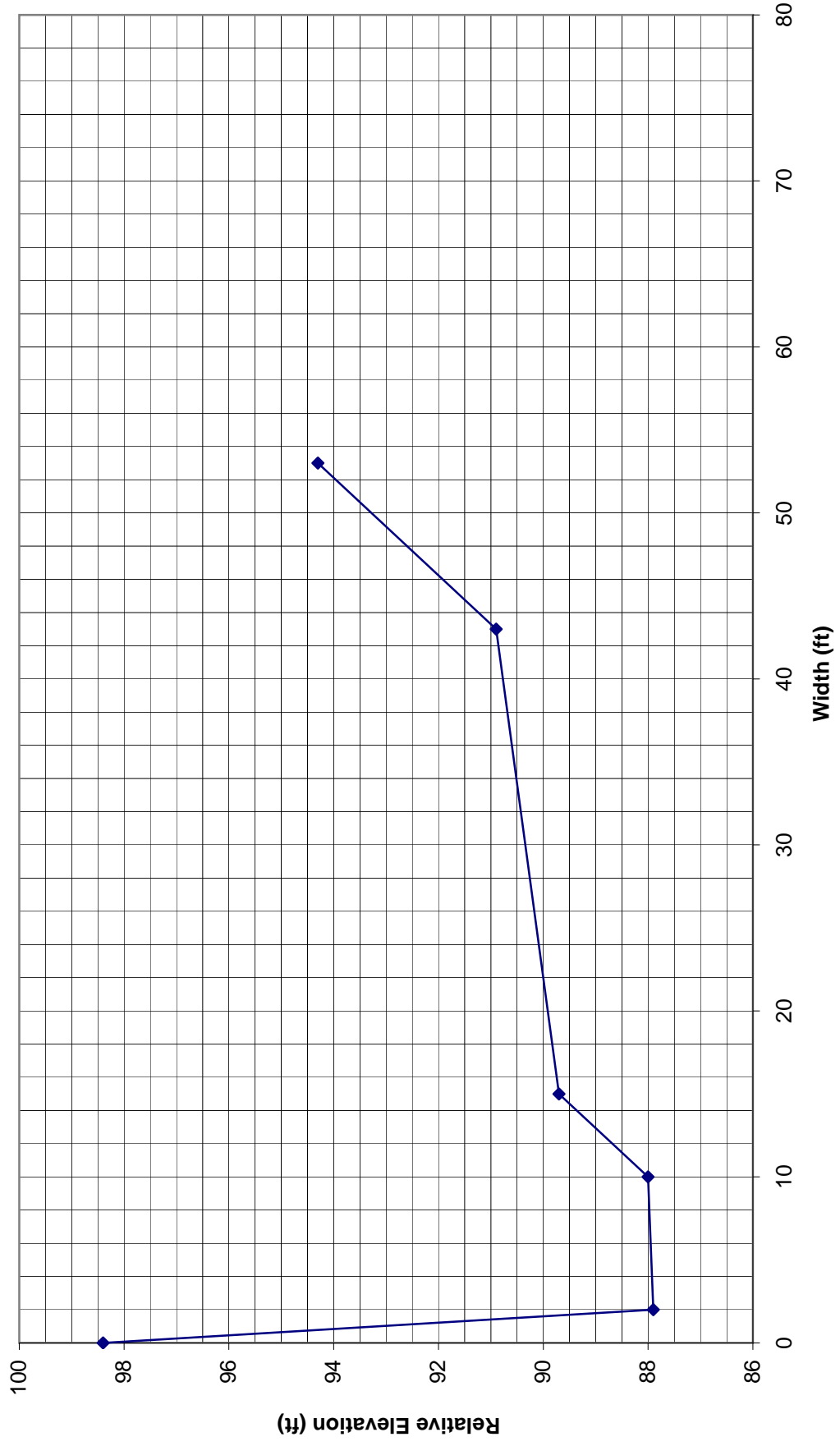
Gradient = 12 ft / 325 ft = 0.0369 ft/ft

240 boulders of 3-ft diameter (1-ft drop per boulder structure)

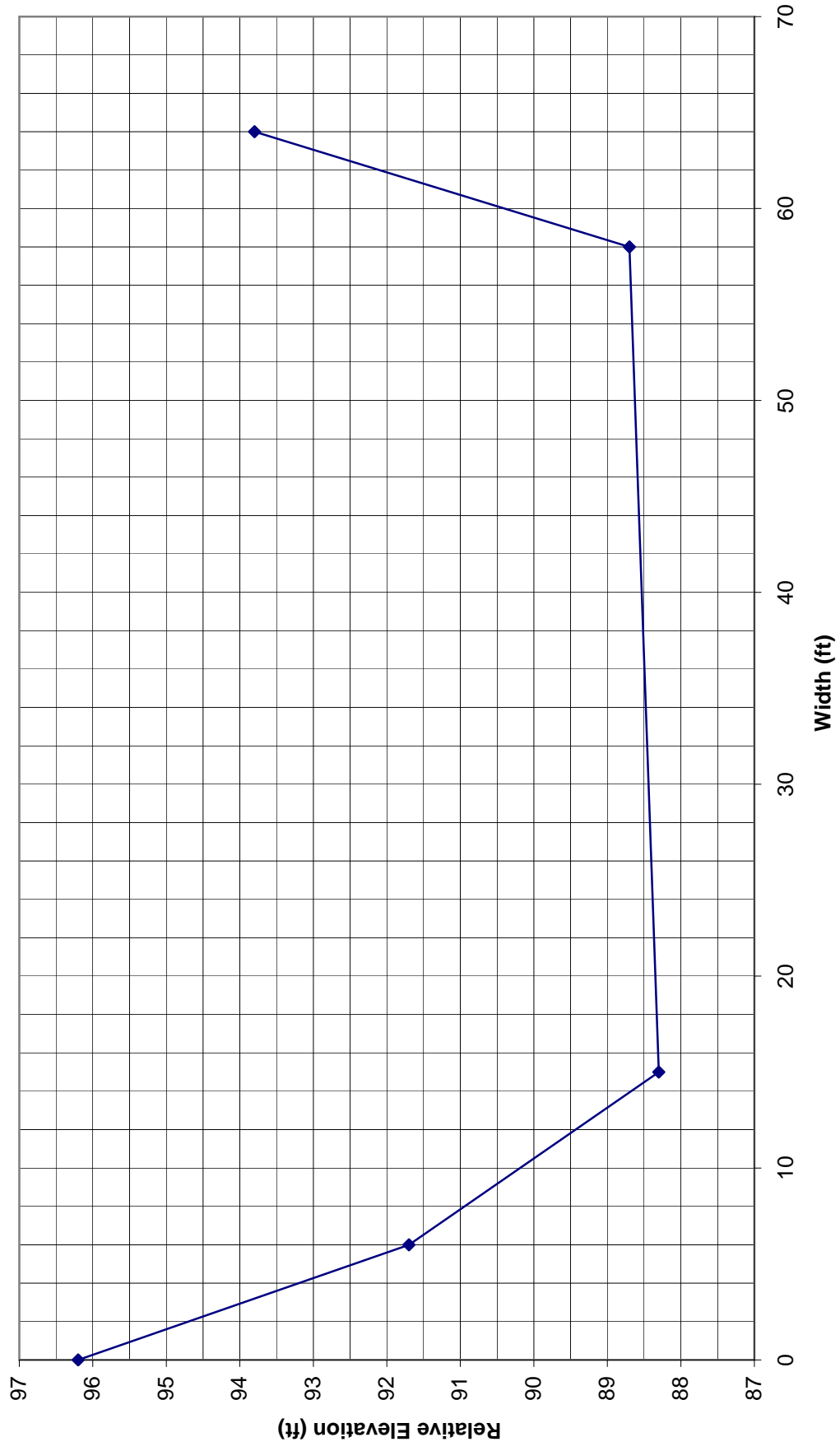
Top Grade-Control XS (7/3/07)
ec cell = 1.0 ft²



Bottom Grade-Control XS (7/3/07)
ec cell = 1.0 ft²



Grade-Control XS on Sulphur Cr (7/3/07)
ec cell = 1.0 ft²



SULPHUR-BARRY RESTORATION PROPOSAL GRADE-DROP STRUCTURE

7/17/2007

Barry Creek Entrenchment

1. Upstream Cross-section

Station (ft)	Elevation (ft)	Rod (ft)	Remarks
0	88.8	11.2	Left TET
1	80.1	19.9	TOT
44	83.2	16.8	
61	82.7	17.3	TOT
75	88.6	11.4	Right TET

2. Middle Width = 60 ft

3. Bottom Cross-section

Station (ft)	Elevation (ft)	Rod (ft)	Remarks
0	98.4	1.6	Left TET
2	87.9	12.1	TOT
10	88	12	
15	89.7	10.3	
43	90.9	9.1	TOT
53	94.3	5.7	Right TET

Sulphur Creek Entrenchment

4. XS Immediately downstream of Confluence

Station (ft)	Elevation (ft)	Rod (ft)	Remarks
0	96.2	3.8	Left TET (berm?)
6	91.7	8.3	Mid-terrace
15	88.3	11.7	TOT
58	88.7	11.3	TOT
64	93.8	6.2	Right TET

Summary

XS	Width (ft)	Depth (ft)	Area (ft ²)
1	53	6.8	360
2	60		
3	53	5.2	276
4	64	5.3	339
Average	57.5	5.8	332

$$332 \text{ ft}^2 \times 0.5 = 166$$

$$166 \text{ ft}^2 \times 1.1 = 182$$

Structure Length = 325-ft

Average Structure Depth = $5.8/2 = 2.9$ -ft

Structure Volume = 57.5-ft wide X 325-ft long X 2.9-ft deep = 54,194-ft³ (2,007-yd³)

SULPHUR - BARRY RESTORATION PROPOSAL BUDGET ESTIMATE

Jan-08

Item	Volume (yd³)	Construction Days	Construction Hours
Soil Plugs	13,419	11	89
Grade-drop soil	2,800	2	19
rock	2,700	5	40
boulders	290	3	24
Subtotal		22	172
Vegetation Planting		5	40
Total		27	212

Equipment	Hours	Cost/Hour	Total Cost
Excavator	172	\$200.00	\$34,425.33
Loader	172	\$200.00	\$34,425.33
Dozer	108	\$150.00	\$16,219.00
Water Truck	148	\$120.00	\$17,775.20
Hand Crew*	40	\$400.00	\$16,000.00
Total			\$118,844.87

* 4 people at \$50.00/hour = \$400/hour.

Rock Purchase and Haul @ \$45/yd ³ =	\$121,500.00
Boulder Purchase and Haul @ \$45/yd ³ =	\$13,050.00
Total =	\$134,550.00

Total Implementation Cost = \$253,394.87

BEAR VALLEY MEADOW RESTORATION BUDGET

Feb-08

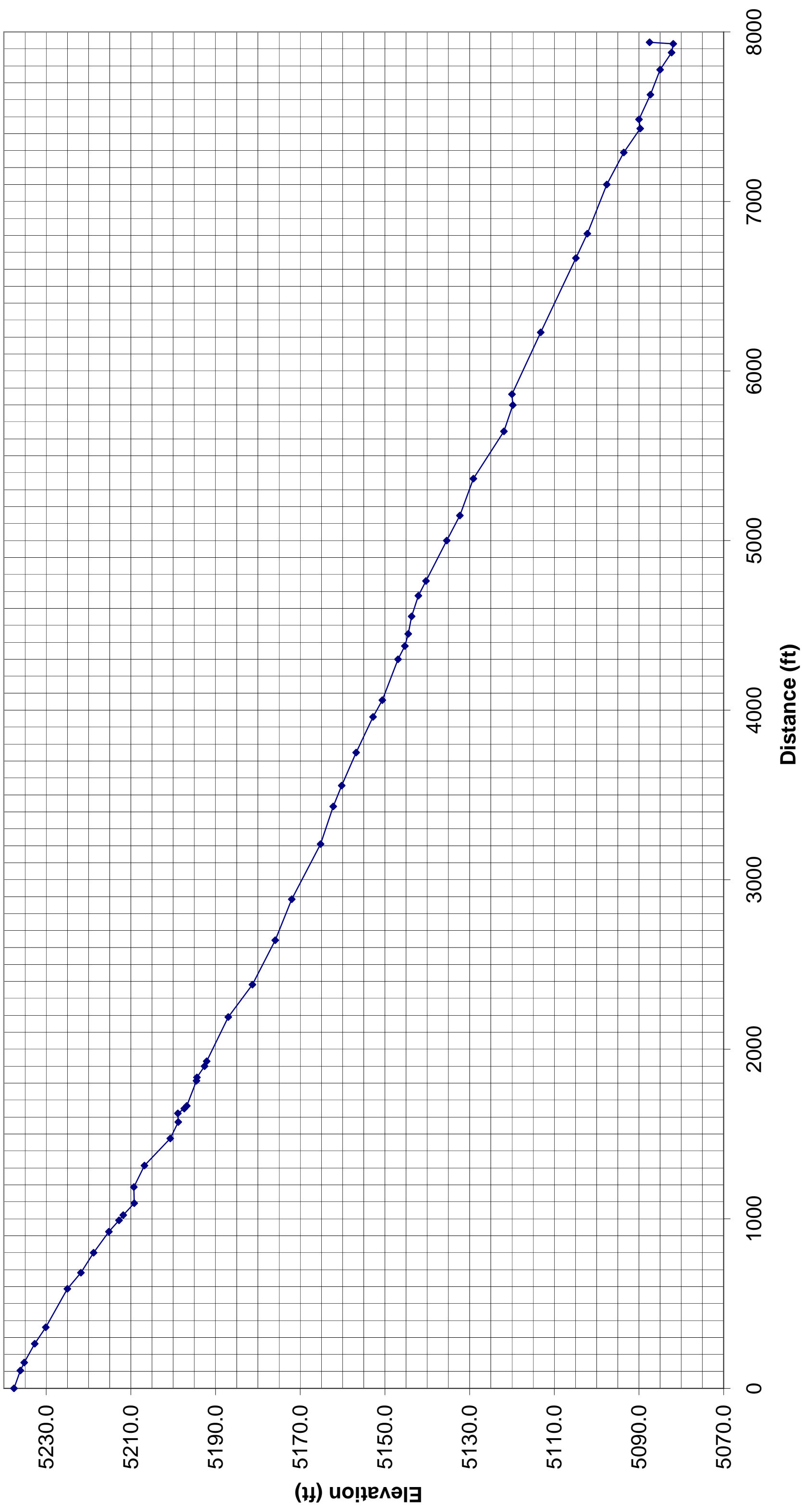
Work Item	Estimated Cost
Field Work & Site Surveys	\$3,000.00
NEPA/CEQA	\$0.00
Permit Acquisition	\$5,000.00
Project Design & Engineering	\$2,000.00
Contract Preparation	\$1,000.00
Contract Administration	\$5,000.00
Contract Cost	\$400,000.00
Materials & Supplies	\$1,000.00
Monitoring	\$3,000.00
Other	\$0.00
Total	\$420,000.00

APPENDIX F
FLOOD FREQUENCY ANALYSES

APPENDIX G
BEAR VALLEY SURVEYS

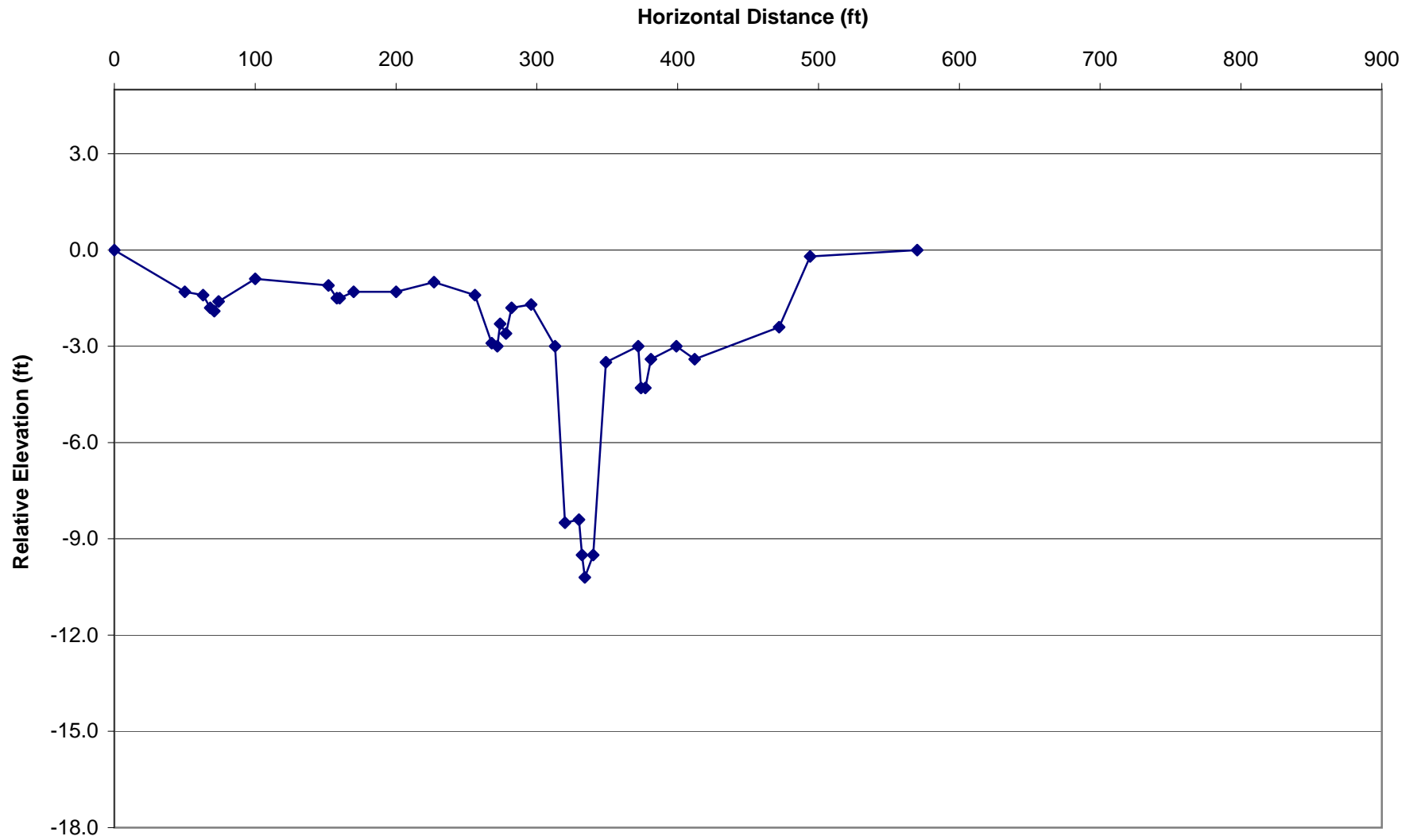
Bear Valley Meadow Longitudinal Profile

5/29/2007 (slope = 0.02 ft/ft)



BEAR VALLEY MEADOW, LONGITUDINAL PROFILE				
			5/29/2007	
Station (ft)	Elevation (ft)	Rod, Adjusted (ft)	Bearing (°)	Remarks
0	5237.6	9.0	352	LTET, XS-5
105	5236.1	10.5	352	Single thread entrenchment
152	5235.2	11.4	18	
263	5232.7	13.9	360	
360	5230.1	16.5	360	Left side slope, aggraded reach and end of entrenchment
587	5225.0	21.6	350	Top of headcut reach
682	5221.8	24.8	6	LTET (near spring)
800	5218.8	27.8	358	LTET
924	5215.2	31.4	360	Top of short, aggraded reach
991	5212.8	33.8	360	LTEB, XS-3 (on ATV crossing)
1022	5211.8	34.8	360	LTET @ 4-ft headcut and narrow trench
1092	5209.2	37.4	360	RTET, top of fan. Floodplain all on right side.
1187	5209.3	37.3	360	On floodplain between channels
1314	5206.8	39.8	360	On floodplain between channels, XS-4
1474	5200.7	45.9	360	Top of section where the two channels merge
1571	5198.8	47.8	316	Merge zone
1622	5198.9	47.7	284	Turning point
1650	5197.4	49.2	344	RTET
1666	5196.8	49.8	344	Bottom of proposed upper project reach
1814	5194.5	52.1	344	Top of gravel deposit
1834	5194.4	52.2	344	On floodplain between channels
1900	5192.6	54.0	250	Turning point
1929	5192.1	54.5	328	On floodplain between channels
2190	5187.0	59.6	352	On floodplain between channels
2381	5181.3	65.3	330	On floodplain between channels
2643	5175.9	70.7	330	RTET, right channel & at fence
2885	5172.0	74.6	330	RTET, convergence of the two channels. 3rd channel to right
3210	5165.2	81.4	344	RTET, main gully & near divergence of the two gullies
3432	5162.2	84.4	324	RTET, main gully & next to 4-ft headcut
3555	5160.2	86.4	324	RTET, XS-6
3750	5156.8	89.8	322	RTET, main gully
3960	5152.8	93.8	320	RTET, main gully
4059	5150.6	96.0	320	RTET, XS-7
4300	5146.9	99.7	320	RTET, main gully
4378	5145.3	101.3	264	RTET, main gully
4450	5144.5	102.1	290	RTET, main gully
4553	5143.7	102.9	332	RTET, main gully
4675	5142.1	104.5	350	RTET, main gully
4762	5140.3	106.3	350	RTET, XS-2
5000	5135.4	111.2	350	RTET, main gully
5148	5132.3	114.3	324	LTET, main gully & cnfl w/ L-side channel over a 5-ft headcut
5365	5129.1	117.5	346	LTET & cnfl w/ far right channel (valley cross-over)
5644	5121.9	124.7	320	LTET, main gully
5799	5119.8	126.8	320	Cnfl w/ unnamed Bear Vally Creek over a 5-ft headcut
5863	5120	126.6	354	LTET, XS-1 & next to community well
6228	5113.2	133.4	2	LTET, main gully
6666	5104.9	141.7	356	LTET, main gully
6810	5102.2	144.4	356	LTET, main gully, XS-8
7100	5097.6	149.0	8	LTET, main gully
7289	5093.6	153.0	8	LTET, main gully
7430	5089.7	156.9	6	LTET, above confluence with main remnant channel, left-side
7484	5090.0	156.6	60	LTET, below confluence with main remnant over a 6-ft headcut
7630	5087.3	159.3	360	RTET, XS-9 . Valley shifts to right side
7777	5085.0	161.6	360	Right-side floodplain
7878	5082.3	164.3	360	Right-side floodplain (historic Smithneck floodplain)
7930	5081.9	164.7	360	Right-side floodplain & toe of road
7939	5087.5	159.1		Edge of road pavement

Cross Section #1



Cross Section #1

Location: Bear Valley Creek

Description: Well Station

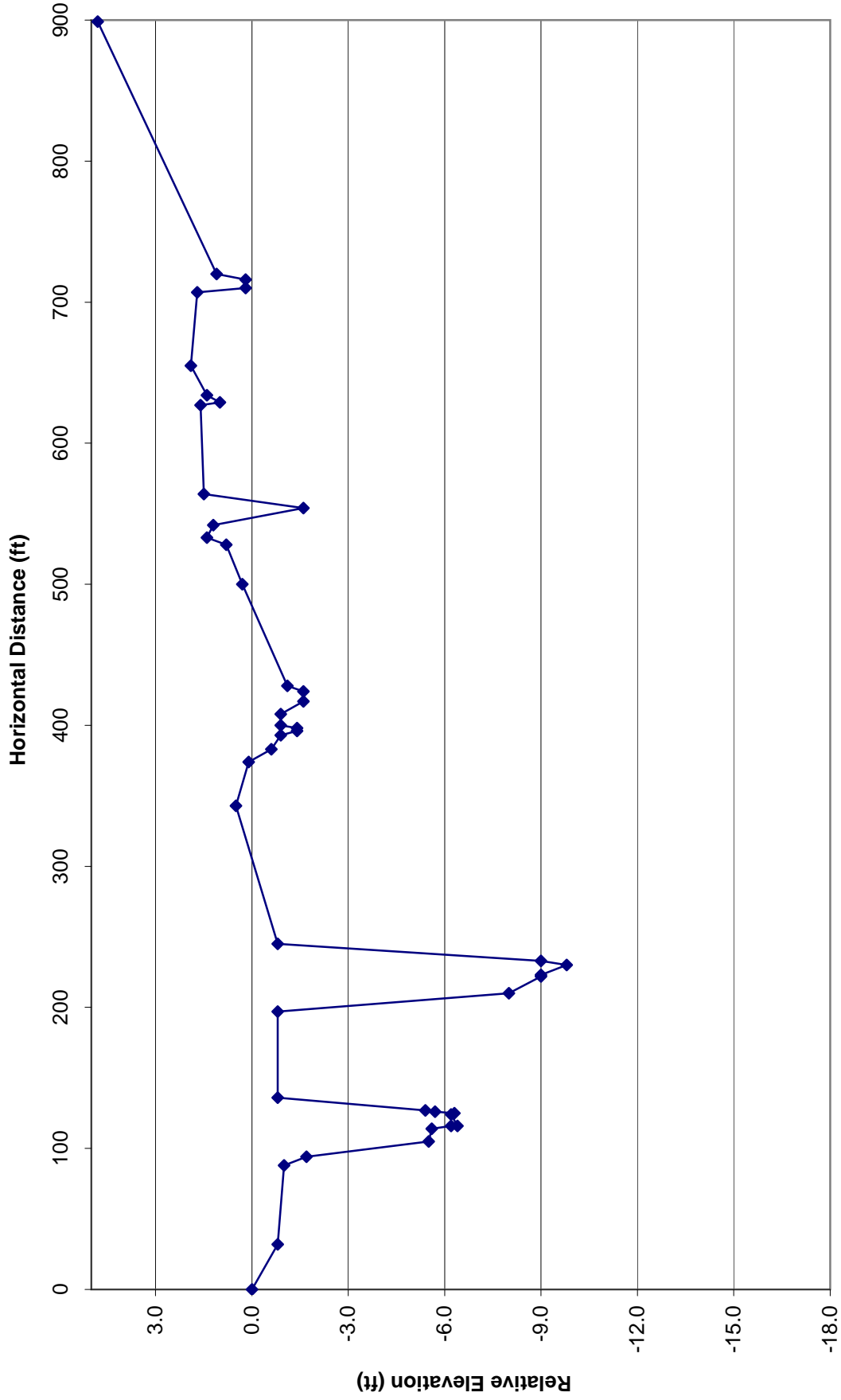
Survey Date: 05/21/2007

Surveyor: Terry Benoit

Stake Dist (ft)	Rod Height (ft)	Relative Height (ft)	Remarks
0	5.1	0.0	Left Pin, Wire fence next to Rd
50	6.4	-1.3	
63	6.5	-1.4	Top Edge Bank
68	6.9	-1.8	Top Of Bank
71	7.0	-1.9	Top Of Bank
74	6.7	-1.6	Top Edge Bank
100	6.0	-0.9	
152	6.2	-1.1	Top Edge Bank
158	6.6	-1.5	Top Of Bank
160	6.6	-1.5	Top Of Bank
170	6.4	-1.3	Top Edge Bank
200	6.4	-1.3	Trail
227	6.1	-1.0	
256	6.5	-1.4	Top Edge Bank
268	8.0	-2.9	Top Of Bank
272	8.1	-3.0	Top Of Bank
274	7.4	-2.3	Top Edge Bank
278	7.7	-2.6	Toe of Terrace
282	6.9	-1.8	Top Edge Terrace
296	6.8	-1.7	Top Edge Terrace
313	8.1	-3.0	Top Edge Slope
320	13.6	-8.5	Toe Of Slope
330	13.5	-8.4	Top Edge Bank
332	14.6	-9.5	Left Edge Water
334	15.3	-10.2	Thalweg
340	14.6	-9.5	Right Edge Water, Toe Of Terrace
349	8.6	-3.5	Top Edge Terrace
372	8.1	-3.0	Top Edge Bank
374	9.4	-4.3	Top Of Bank
377	9.4	-4.3	Top Of Bank
381	8.5	-3.4	Top Edge Bank
399	8.1	-3.0	Edge Of Riparian (Rose)
412	8.5	-3.4	Remnant
472	7.5	-2.4	Edge Of Historic Floodplain, Toe Of Terrace
494	5.3	-0.2	
570	5.1	0.0	Right Pin

= 5.1-Rod Height

Cross Section #2



Cross Section #2

Location: Bear Valley Creek

Description: Between Well and Ridge

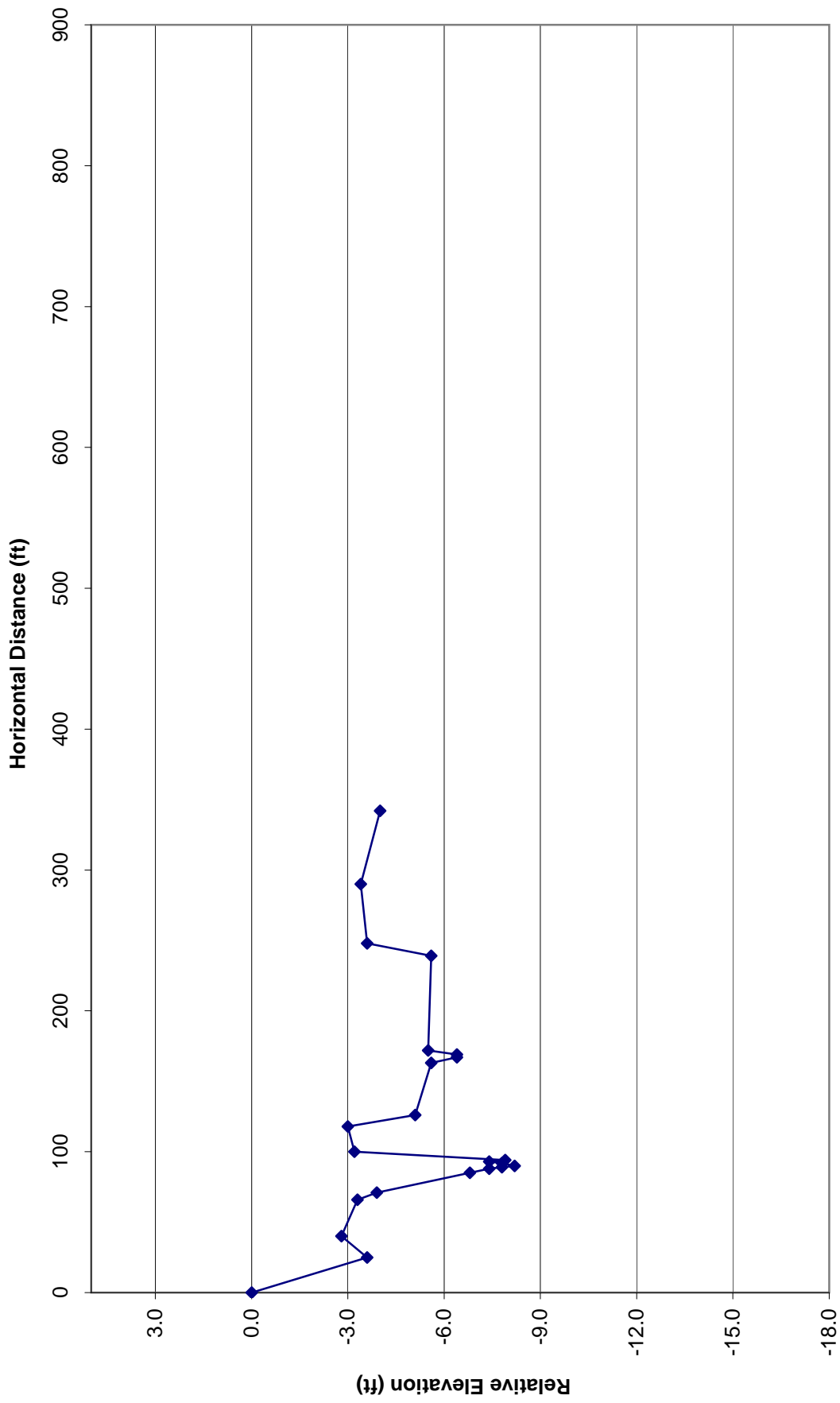
Survey Date: 05/21/2007

Surveyor: Terry Benoit

Stake Dist (ft)	Rod Height (ft)	Relative Height (ft)	Remarks
0	5.4	0.0	Left Pin
32	6.2	-0.8	
88	6.4	-1.0	Top Edge Terrace
94	7.1	-1.7	
105	10.9	-5.5	Toe of Terrace
114	11.0	-5.6	Top Edge Bank
116	11.6	-6.2	Left Edge Water
116	11.8	-6.4	Top of Bank
124	11.6	-6.2	Right Edge Water
125	11.7	-6.3	Top of Bank
126	11.1	-5.7	Top Edge Bank
127	10.8	-5.4	Toe of Terrace
136	6.2	-0.8	Top Edge Terrace
197	6.2	-0.8	Top Edge Terrace
210	13.4	-8.0	Toe of Terrace
222	14.4	-9.0	Top Edge Bank
223	14.4	-9.0	Left Edge Water
230	15.2	-9.8	Thalweg
233	14.4	-9.0	Right Edge Water, Toe of Terrace
245	6.2	-0.8	Top Edge Terrace
343	4.9	0.5	
374	5.3	0.1	
383	6.0	-0.6	
393	6.3	-0.9	Top Edge Bank
396	6.8	-1.4	Top of Bank
398	6.8	-1.4	Top of Bank
400	6.3	-0.9	Top Edge Bank
408	6.3	-0.9	Top Edge Bank
417	7.0	-1.6	Top of Bank
424	7.0	-1.6	Top of Bank
428	6.5	-1.1	Top Edge Bank
500	5.1	0.3	
528	4.6	0.8	
533	4.0	1.4	
542	4.2	1.2	Top Edge Deposits
554	7.0	-1.6	Top of Deposit Slope
564	3.9	1.5	
627	3.8	1.6	Top Edge Bank
629	4.4	1.0	Thalweg
634	4.0	1.4	Top Edge Bank
655	3.5	1.9	
707	3.7	1.7	Top Edge Bank
710	5.2	0.2	Top of Bank
716	5.2	0.2	Top of Bank
720	4.3	1.1	Top Edge Bank
899	0.6	4.8	Right Pin

= 5.4-Rod Height

Cross Section #2A



Cross Section #2A

Location: Bear Valley Creek

Description: Unnamed Tributary

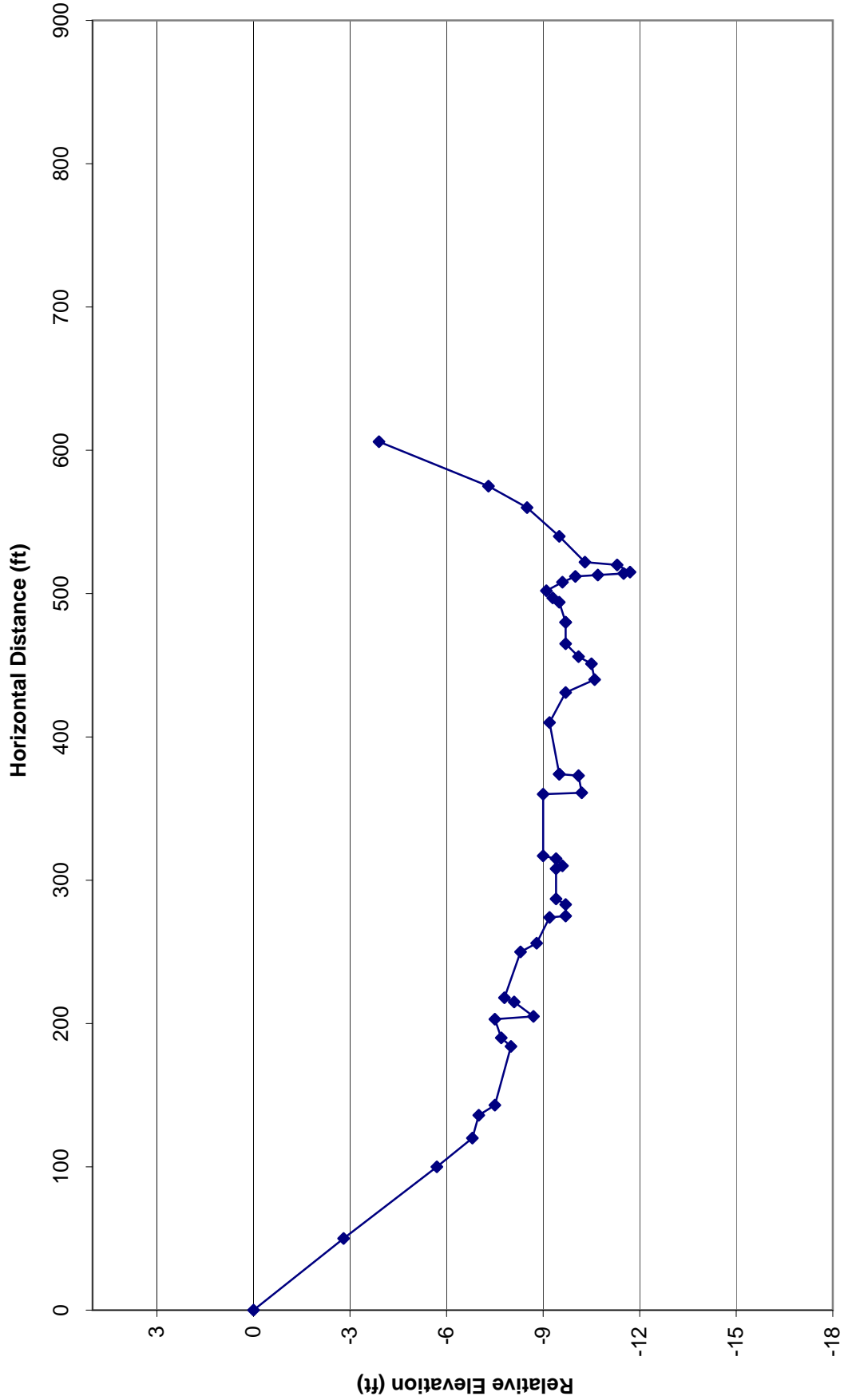
Survey Date: 05/21/2007

Surveyor: Terry Benoit

Stake Dist (ft)	Rod Height (ft)	Relative Height (ft)	Remarks
0	1.4	0.0	Left Pin
25	5.0	-3.6	Top of Slope
40	4.2	-2.8	
66	4.7	-3.3	
71	5.3	-3.9	Top Edge Terrace
85	8.2	-6.8	Toe of Terrace
88	8.8	-7.4	Top Edge Bank
89	9.2	-7.8	Left Edge Water
90	9.6	-8.2	Thalweg
92	9.2	-7.8	Right Edge Water
93	8.8	-7.4	Top Edge Bank
94	9.3	-7.9	Toe of Terrace
100	4.6	-3.2	Top Edge Terrace
118	4.4	-3.0	Top Edge Terrace
126	6.5	-5.1	Toe of Terrace
163	7.0	-5.6	Top Edge Bank
167	7.8	-6.4	Top of Bank
169	7.8	-6.4	Top of Bank
172	6.9	-5.5	Top Edge Bank
239	7.0	-5.6	Toe of Terrace
248	5.0	-3.6	Top Edge Terrace
290	4.8	-3.4	
342	5.4	-4.0	Right Pin, Cross Section #2 Left Pin

= 1.4-Rod Height

Cross Section #3



Cross Section #3

Location: Bear Valley Creek

Description: Across from Archeological site

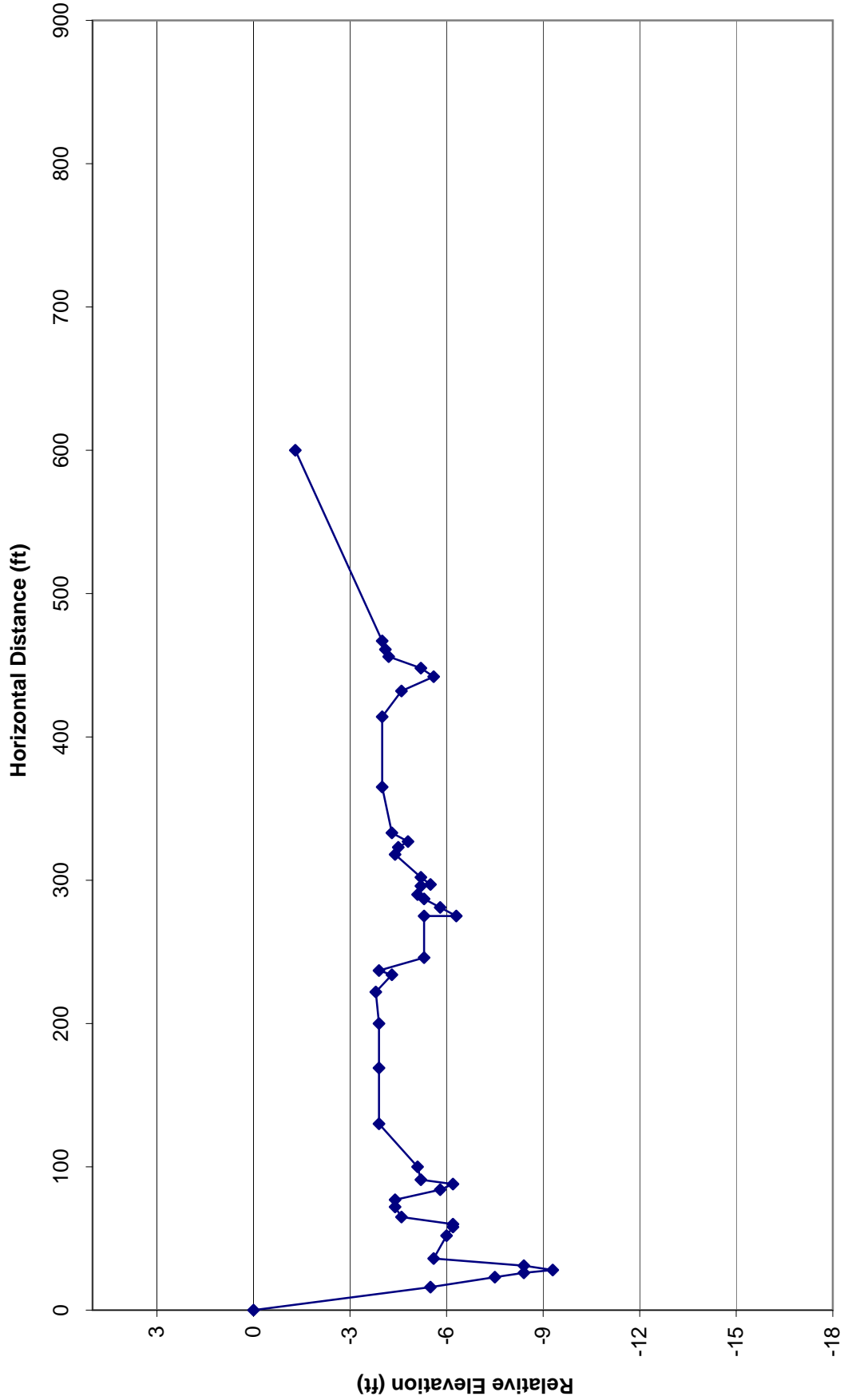
Survey Date: 05/23/2007

Surveyor: Terry Benoit

Stake Dist (ft)	Rod Height (ft)	Corr. Rod Height_1 (ft)	Corr. Rod Height_2 (ft)	Relative Height (ft)	Remarks
0	5.3			0	Right Pin, next to rutting Rd.
50	8.1			-2.8	
100	11.0			-5.7	
120	12.1			-6.8	Toe of Slope
136	12.3			-7.0	Top Edge Bank
143	12.8			-7.5	Top of Bank
184	13.3			-8.0	Top of Bank
190	13.0			-7.7	Top Edge Bank
203	12.8			-7.5	Top Edge Terrace
205	14.0			-8.7	Toe of Terrace
215	13.4			-8.1	Toe of Terrace
218	13.1			-7.8	Top Edge Terrace
250	13.6			-8.3	Top Edge Terrace, Begin Willow Thicket
256	14.1			-8.8	Toe of Terrace
274	14.5			-9.2	Top Edge Bank
275	15.0			-9.7	Top of Bank
283	15.0			-9.7	Top of Bank
287	14.7			-9.4	Top Edge Bank
308	14.7			-9.4	Top Edge Bank
310	14.9			-9.6	Top of Bank
315	14.7			-9.4	Top of Bank
317	14.3			-9.0	Top Edge Bank
360	14.3			-9.0	Top Edge Terrace
361	15.5			-10.2	Toe of Terrace
373	15.4			-10.1	Toe of Terrace
374	14.8			-9.5	Top Edge Terrace
374	3.0	14.8		-9.5	TURNING POINT
410	2.7	14.5		-9.2	
431	3.2	15.0		-9.7	Top Edge Bank
440	4.1	15.9		-10.6	Top of Bank
451	4.0	15.8		-10.5	Top of Bank
456	3.6	15.4		-10.1	Top Edge Bank
465	3.2	15.0		-9.7	End of Gravel Deposit
480	3.2	15.0		-9.7	
480	11.3		15.0	-9.7	TURNING POINT
494	11.1		14.8	-9.5	End of Gravel Levee
497	10.9		14.6	-9.3	
502	10.7		14.4	-9.1	
508	11.2		14.9	-9.6	End of Levee and Willow Thicket
512	11.6		15.3	-10.0	Top Edge Bank
513	12.3		16.0	-10.7	Top of Bank
514	13.1		16.8	-11.5	
515	13.3		17.0	-11.7	
520	12.9		16.6	-11.3	Left Edge Water, Top of Bank
522	11.9		15.6	-10.3	Top Edge Bank
540	11.1		14.8	-9.5	
560	10.1		13.8	-8.5	
575	8.9		12.6	-7.3	End of grass and sage
606	5.5		9.2	-3.9	Left Pin

= 5.3-Rod Height = B35+(\$B\$33-\$B\$34) = D42-(B42-B43)

Cross Section #4



Cross Section #4

Location: Bear Valley Creek

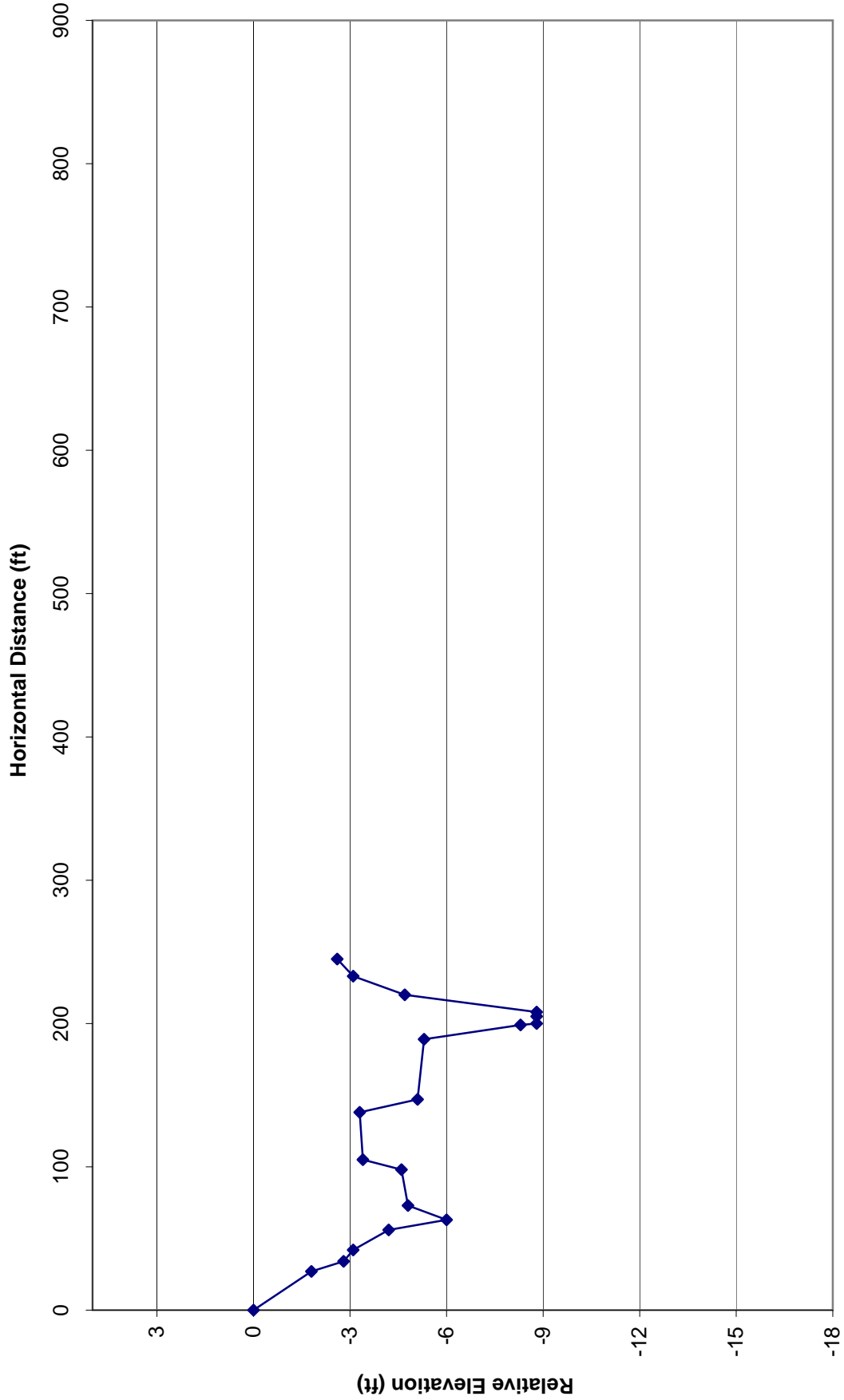
Description:

Survey Date: 05/23/2007

Surveyor: Terry Benoit

Stake Dist (ft)	Rod Height (ft)	Relative Height (ft)	Remarks
0	9.7	0	Left Pin
16	15.2	-5.5	Toe of Slope, Edge of High Flow Line
23	17.2	-7.5	Top Edge Bank
26	18.1	-8.4	Left Edge Water
28	19.0	-9.3	Thalweg
31	18.1	-8.4	Right Edge Water, Toe of Terrace, Edge of Gravel Deposit
36	15.3	-5.6	Top Edge Terrace, Edge of Willow
52	15.7	-6.0	Top Edge Bank
58	15.9	-6.2	Top of Bank
60	15.9	-6.2	Top of Bank
65	14.3	-4.6	Top Edge Bank
72	14.1	-4.4	Top Edge Gravel Deposit
77	14.1	-4.4	Top Edge Gravel Deposit
84	15.5	-5.8	Toe of Gravel Deposit, Edge of Willow
88	15.9	-6.2	Top of Bank
91	14.9	-5.2	Top Edge Bank
100	14.8	-5.1	
130	13.6	-3.9	
169	13.6	-3.9	
200	13.6	-3.9	
222	13.5	-3.8	
234	14.0	-4.3	remnent
237	13.6	-3.9	Top Edge Bank, Edge of Willow
246	15.0	-5.3	Top of Bank
275	15.0	-5.3	Top of Bank
275	16.0	-6.3	
281	15.5	-5.8	Top Edge Bank
287	15.0	-5.3	
290	14.8	-5.1	
296	14.9	-5.2	Top Edge Bank, Edge of Willow/Sedge
297	15.2	-5.5	Top of Bank
302	14.9	-5.2	Top Edge Bank
318	14.1	-4.4	
323	14.2	-4.5	Top Edge Bank
327	14.5	-4.8	Thalweg
333	14.0	-4.3	Top Edge Bank
365	13.7	-4.0	
414	13.7	-4.0	
432	14.3	-4.6	Top Edge Bank
442	15.3	-5.6	Top of Bank
448	14.9	-5.2	Top of Bank
456	13.9	-4.2	Top Edge Bank
461	13.8	-4.1	
467	13.7	-4.0	Toe of Slope
600	11.0	-1.3	Right Pin

Cross Section #5



Cross Section #5

Location: Bear Valley Creek

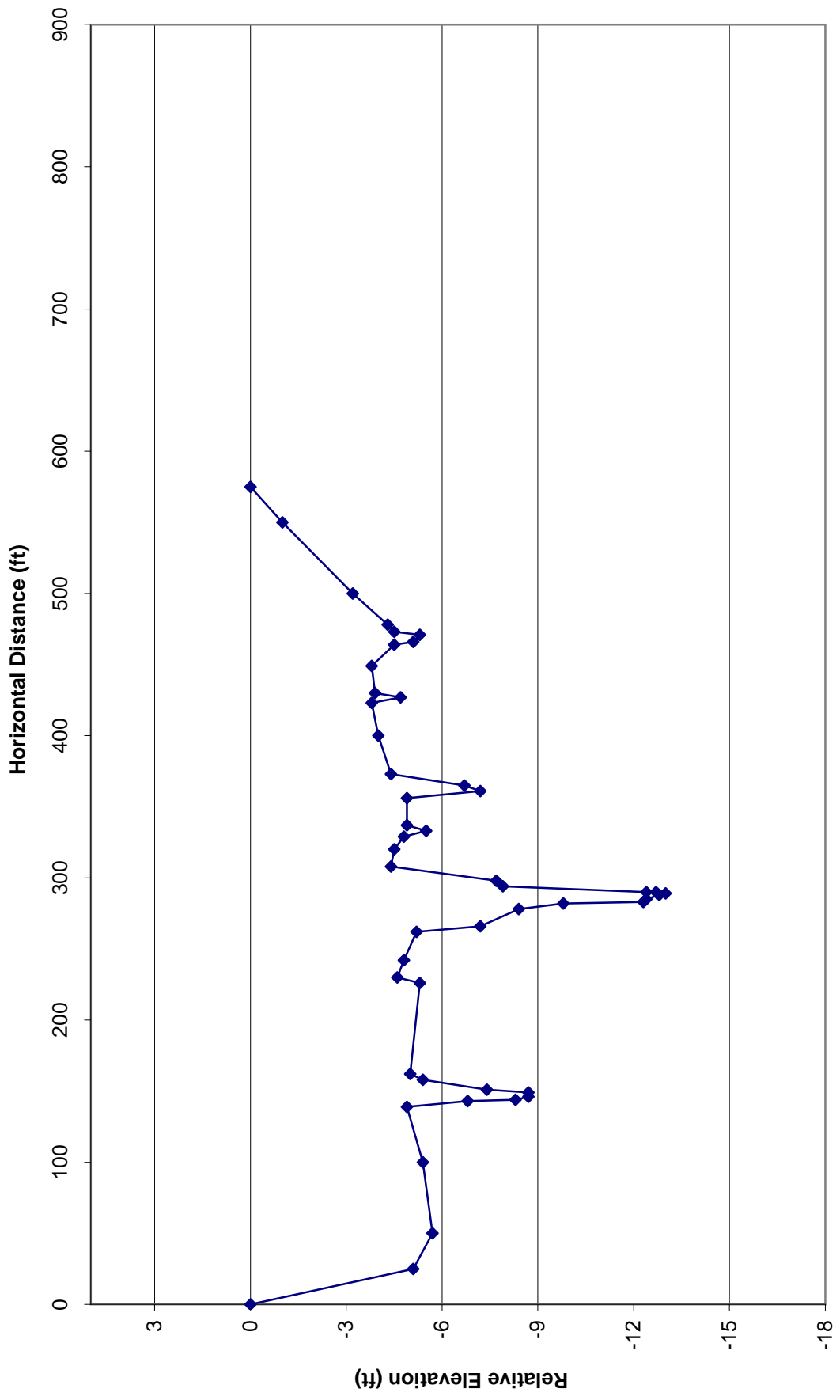
Description: Lower Metal Bridge, Archery Park

Survey Date: 05/23/2007

Surveyor: Terry Benoit

Stake Dist (ft)	Rod Height (ft)	Relative Height (ft)	Remarks
0	5.0	0	Left Pin
27	6.8	-1.8	Edge of Old Rd
34	7.8	-2.8	
42	8.1	-3.1	
56	9.2	-4.2	Top Edge Bank
63	11.0	-6.0	Top of Bank, Toe of Slope
73	9.8	-4.8	Top Edge Bank
98	9.6	-4.6	
105	8.4	-3.4	
138	8.3	-3.3	
147	10.1	-5.1	
189	10.3	-5.3	Top Edge Terrace
199	13.3	-8.3	Left Edge Water, Toe of Terrace
200	13.8	-8.8	
205	13.8	-8.8	
208	13.8	-8.8	Right Edge Water, Toe of Terrace
220	9.7	-4.7	Top Edge Terrace
233	8.1	-3.1	
245	7.6	-2.6	Right Pin

Cross Section #6



Cross Section #6

Location: Bear Valley Creek

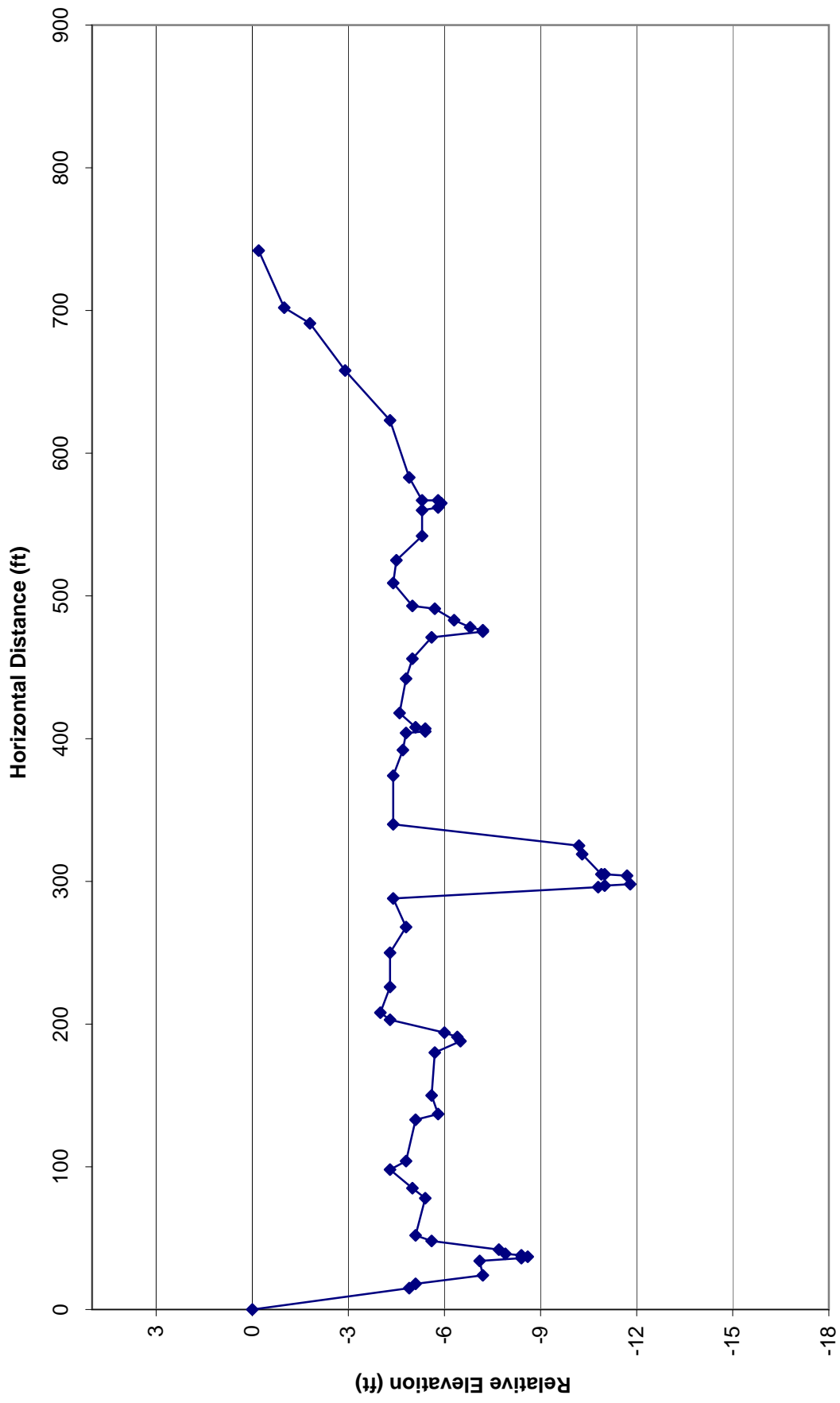
Description: Downstream of convergence section

Survey Date: 05/25/2007

Surveyor: Terry Benoit

Stake Dist (ft)	Rod Height (ft)	Relative Height (ft)	Remarks
0	4.8	0	Left Pin
25	9.9	-5.1	Toe of Slope
50	10.5	-5.7	
100	10.2	-5.4	
139	9.7	-4.9	Top Edge Terrace
143	11.6	-6.8	Top Edge Bank
144	13.1	-8.3	Top of Bank
146	13.5	-8.7	Left Edge Water
149	13.5	-8.7	Right Edge Water, Top of Bank
151	12.2	-7.4	Top Edge Bank
158	10.2	-5.4	Top Edge Terrace
162	9.8	-5.0	
226	10.1	-5.3	
230	9.4	-4.6	
242	9.6	-4.8	
262	10.0	-5.2	Top Edge Terrace
266	12.0	-7.2	Toe of Terrace
278	13.2	-8.4	Top Edge Terrace (mid)
282	14.6	-9.8	Top Edge Bank
283	17.1	-12.3	Top of Bank
285	17.2	-12.4	Left Edge Water
288	17.6	-12.8	
289	17.8	-13.0	Thalweg
290	17.5	-12.7	
290	17.2	-12.4	Right Edge Water, Toe of Terrace
294	12.7	-7.9	Top Edge Terrace (mid)
298	12.5	-7.7	Toe of Terrace
308	9.2	-4.4	Top Edge Terrace
320	9.3	-4.5	
329	9.6	-4.8	Top Edge Terrace
333	10.3	-5.5	Toe of Slope
337	9.7	-4.9	Top Edge Terrace
356	9.7	-4.9	Top Edge Terrace
361	12.0	-7.2	Toe of Terrace
365	11.5	-6.7	Toe of Terrace
373	9.2	-4.4	Top Edge Terrace
400	8.8	-4.0	
423	8.6	-3.8	Top Edge Bank
427	9.5	-4.7	Top of Bank
430	8.7	-3.9	Top Edge Bank
449	8.6	-3.8	
464	9.3	-4.5	Top Edge Bank
466	9.9	-5.1	Top of Bank
471	10.1	-5.3	Top of Bank
473	9.3	-4.5	Top Edge Bank, Toe of Slope
478	9.1	-4.3	
500	8.0	-3.2	
550	5.8	-1.0	
575	4.8	0.0	Right Pin

Cross Section #7



Cross Section #7

Location: Bear Valley Creek

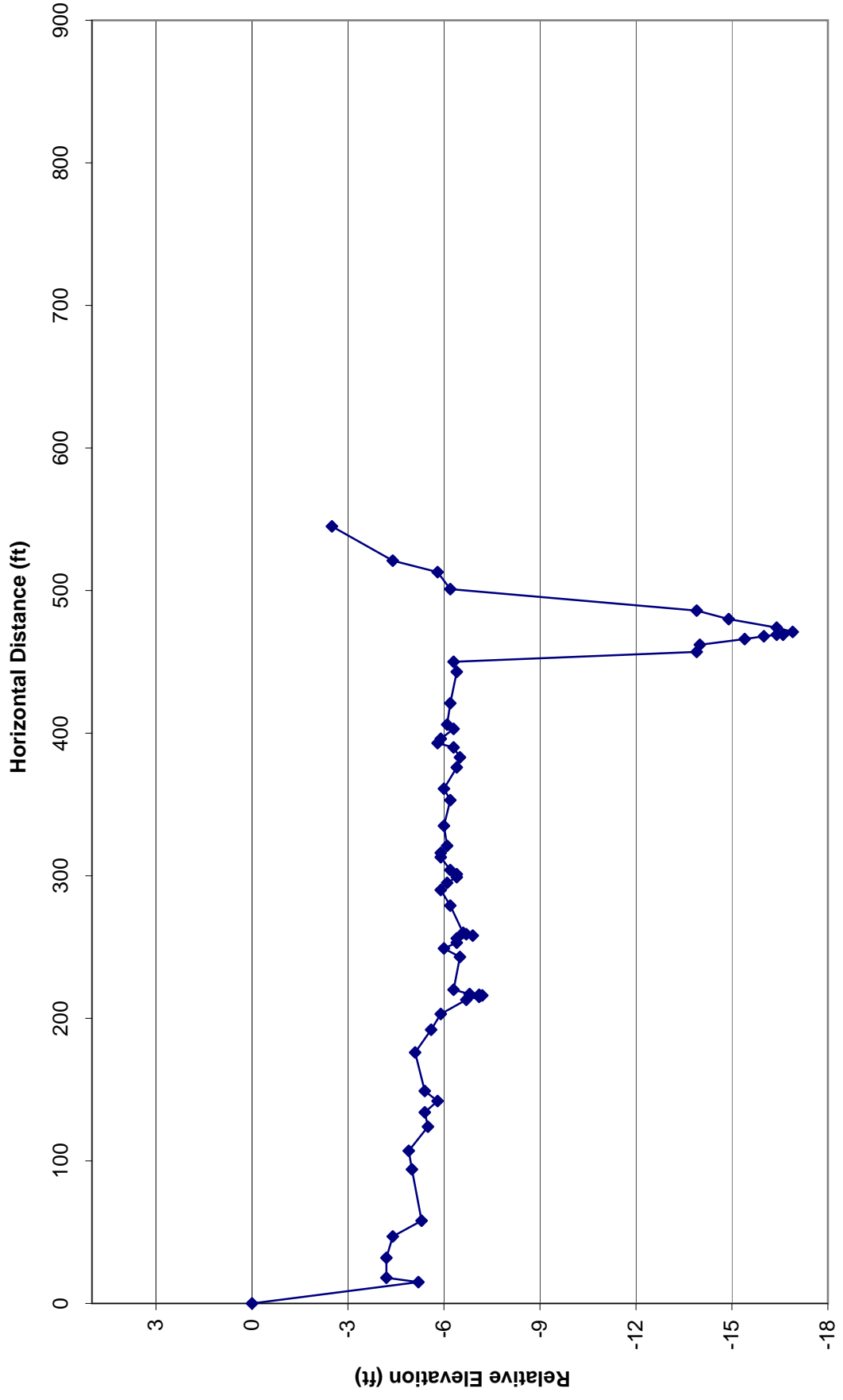
Description: Near End of Spur Ridge

Survey Date: 05/25/2007

Surveyor: Terry Benoit

Stake Dist (ft)	Rod Height (ft)	Relative Height (ft)	Remarks
0	5.4	0	Left Pin
15	10.3	-4.9	Toe of Slope
18	10.5	-5.1	Top Edge Terrace
24	12.6	-7.2	Toe of Terrace
34	12.5	-7.1	Top Edge Bank
36	13.8	-8.4	Top of Bank
37	14.0	-8.6	Thalweg
38	13.8	-8.4	Right Edge Water, Top of Bank
39	13.3	-7.9	Top Edge Bank
42	13.1	-7.7	Toe of Terrace
48	11.0	-5.6	Top Edge Terrace
52	10.5	-5.1	
78	10.8	-5.4	Toe of Terrace
85	10.4	-5.0	Top Edge Terrace
98	9.7	-4.3	
104	10.2	-4.8	
133	10.5	-5.1	Top Edge Terrace
137	11.2	-5.8	Toe of Terrace
150	11.0	-5.6	
180	11.1	-5.7	Top Edge Bank
188	11.9	-6.5	Top of Bank
191	11.8	-6.4	Top of Bank
194	11.4	-6.0	Top Edge Bank
203	9.7	-4.3	Top Edge Terrace
208	9.4	-4.0	
226	9.7	-4.3	
250	9.7	-4.3	
268	10.2	-4.8	
288	9.8	-4.4	Top Edge Terrace
296	16.2	-10.8	Toe of Terrace
297	16.4	-11.0	Left Edge Water
298	17.2	-11.8	
304	17.1	-11.7	
305	16.4	-11.0	Right Edge Water
305	16.3	-10.9	Top Edge Bank
319	15.7	-10.3	
325	15.6	-10.2	Toe of Terrace
340	9.8	-4.4	Top Edge Terrace
374	9.8	-4.4	
392	10.1	-4.7	
404	10.2	-4.8	Top Edge Bank
405	10.8	-5.4	Top of Bank
407	10.8	-5.4	Top of Bank
408	10.5	-5.1	Top Edge Bank
418	10.0	-4.6	
442	10.2	-4.8	
456	10.4	-5.0	
471	11.0	-5.6	Top Edge Terrace
475	12.6	-7.2	Toe of Terrace, Top of Bank
476	12.6	-7.2	Top of Bank
478	12.2	-6.8	Top Edge Bank
483	11.7	-6.3	
491	11.1	-5.7	Toe of Terrace
493	10.4	-5.0	Top Edge Terrace
509	9.8	-4.4	
525	9.9	-4.5	
542	10.7	-5.3	
560	10.7	-5.3	Top Edge Bank
562	11.2	-5.8	Top of Bank
565	11.3	-5.9	
567	11.2	-5.8	Top of Bank
567	10.7	-5.3	Top Edge Bank
583	10.3	-4.9	
623	9.7	-4.3	
658	8.3	-2.9	
691	7.2	-1.8	
702	6.4	-1.0	
742	5.6	-0.2	Right Pin (base of Lone Willow)

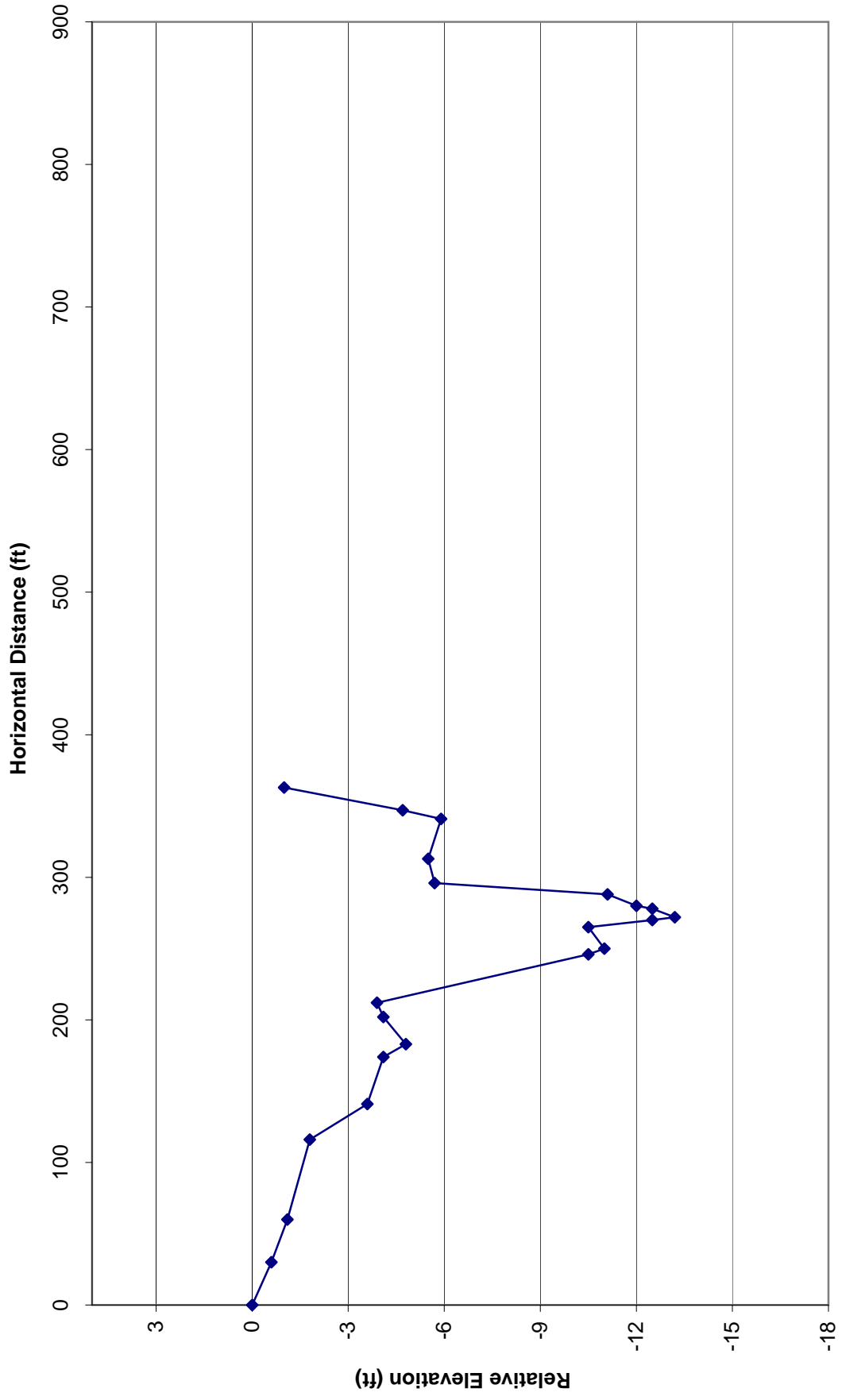
Cross Section #8



Cross Section #8
 Location: Bear Valley Creek
 Description: Near End of Spur Ridge
 Survey Date: 05/25/2007
 Surveyor: Terry Benoit

Stake Dist (ft)	Rod Height (ft)	Relative Height (ft)	Remarks
0	4.9	0	Left Pin (Above Antelope Valley Rd)
15	10.1	-5.2	Toe of Slope, Inside Ditch
18	9.1	-4.2	Left Edge Road
32	9.1	-4.2	Right Edge Road
47	9.3	-4.4	
58	10.2	-5.3	Fence
94	9.9	-5.0	
107	9.8	-4.9	
124	10.4	-5.5	
134	10.3	-5.4	
142	10.7	-5.8	
149	10.3	-5.4	
176	10.0	-5.1	
192	10.5	-5.6	
203	10.8	-5.9	
213	11.6	-6.7	Top Edge Bank
215	12.0	-7.1	Top of Bank
216	12.1	-7.2	Thalweg
216.5	12.0	-7.1	Top of Bank
217	11.7	-6.8	Top Edge Bank
220	11.2	-6.3	
243	11.4	-6.5	
249	10.9	-6.0	
253	11.3	-6.4	
256	11.3	-6.4	Top Edge Bank
258	11.8	-6.9	Top of Bank
259	11.6	-6.7	Top of Bank
260	11.5	-6.6	Top Edge Bank
279	11.1	-6.2	
290	10.8	-5.9	Top Edge Bank
295	11.0	-6.1	Top of Bank
299	11.3	-6.4	
301	11.3	-6.4	Top of Bank
304	11.1	-6.2	Top Edge Bank
313	10.8	-5.9	
316	10.8	-5.9	
321	11.0	-6.1	
335	10.9	-6.0	
353	11.1	-6.2	
361	10.9	-6.0	
376	11.3	-6.4	
383	11.4	-6.5	
390	11.2	-6.3	
393	10.7	-5.8	
396	10.8	-5.9	
403	11.2	-6.3	
406	11.0	-6.1	
421	11.1	-6.2	
443	11.3	-6.4	
450	11.2	-6.3	Top Edge Terrace
457	18.8	-13.9	Toe of Terrace
462	18.9	-14.0	Top Edge Bank
466	20.3	-15.4	
468	20.9	-16.0	
469	21.3	-16.4	Left Edge Water
469	21.5	-16.6	
471	21.8	-16.9	Thalweg
474	21.3	-16.4	Right Edge Water
480	19.8	-14.9	Top Edge Bank
486	18.8	-13.9	Toe of Terrace
501	11.1	-6.2	Top Edge Terrace
513	10.7	-5.8	Toe of Slope
521	9.3	-4.4	
545	7.4	-2.5	Right Pin (base of burnt cedar stump)

Cross Section #9



Cross Section #9

Location: Bear Valley Creek

Description: Immediately upstream of The Coyce House

Survey Date: 05/25/2007

Surveyor: Terry Benoit

Stake Dist (ft)	Rod Height (ft)	Relative Height (ft)	Remarks
0	4.1	0	Left Pin (on fan)
30	4.7	-0.6	
60	5.2	-1.1	
116	5.9	-1.8	
141	7.7	-3.6	
174	8.2	-4.1	Toe of Fan
183	8.9	-4.8	
202	8.2	-4.1	
212	8.0	-3.9	Top Edge Rip Rap Bank
246	14.6	-10.5	Toe of Rip Rap Slope
250	15.1	-11.0	
265	14.6	-10.5	Top Edge Gravel Bar
270	16.6	-12.5	Left Edge Water
272	17.3	-13.2	
278	16.6	-12.5	Right Edge Water, Top of Bank
280	16.1	-12.0	Top Edge Bank
288	15.2	-11.1	Toe of Terrace
296	9.8	-5.7	Top Edge Terrace
313	9.6	-5.5	
341	10.0	-5.9	Toe of Slope
347	8.8	-4.7	
363	5.1	-1.0	Right Pin

APPENDIX H

Impact Avoidance and Minimization Measures

APPENDIX H. IMPACT AVOIDANCE AND MINIMIZATION MEASURES

ANTELOPE VALLEY WILDLIFE AREA (AVWA) AND SMITHNECK CREEK WILDLIFE AREA (SCWA) LAND MANAGEMENT PLAN (LMP) WATERSHED RESTORATION PROGRAM

The proposed watershed restoration program has been designed to include several protection measures to avoid or minimize potential adverse environmental effects. The following biological and water quality conservation measures will be used during the course of program implementation.

BIOLOGICAL RESOURCE CONSERVATION

The following measures will be implemented to minimize potential adverse effects to sensitive biological resources:

1. In order to avoid potential construction-related impacts to nesting birds and fawning deer in the project vicinity, or to aquatic species that may occur within the stream corridors, construction will occur between September 1 and October 1.

Alternatively, construction may begin after June 1 following consultation with Department and USFS wildlife biologists, if a qualified biologist verifies that no birds are nesting in vegetation to be removed, that no raptors or yellow warblers nesting in the project vicinity would be subject to nest failure as a result of construction disturbance, and that no mule deer fawns in their “hiding” phase would be displaced by construction disturbance. Construction may continue after October 1 if it is determined, in consultation with a Department aquatic biologist, a USFS aquatic biologist, and the Central Valley RWQCB, that sensitive fish species are not present or would not be susceptible to the specific construction disturbance proposed to occur after October 1, and that construction best management practices (BMPs) implemented to protect water quality are adequate protection against potential erosive impacts of winter storm events.

2. Before project construction, fish translocation activities will be conducted to remove all native and game (e.g., brown trout) fish species from the immediate construction area.
 - Block nets will be placed upstream and downstream of the designated construction area to prevent fish from entering the site. The block nets will be placed across the channel approximately 100-feet above and below the designated construction area.
 - Once the construction area has been isolated, electrofishing will be employed throughout the entire length of the construction area to capture, remove, count, and release fish. Electrofishing

passes will be made as necessary until it has been determined by a qualified aquatic biologist that all fish that practicably can be removed have been removed.

- All captured fish will be placed in 5-gallon buckets with fresh, clear water and transported to upstream release sites(s) identified before initiating translocation activities. Buckets containing native fishes will be moved to the release site frequently, with no more than 200 fish in a bucket at one time and for no longer than 15 minutes. All native and/or game fish species will be released in pools or slow moving currents (i.e., glides) and will be allowed to swim out of the buckets. Nonnative and non-game fish and other nonnative aquatic species (e.g., bullfrog tadpoles) will be destroyed. A minimum of one representative bucket sample from the entire translocation effort will be counted for total individuals by species. Any potential fish mortalities will also be noted.
 - Once all fish have been captured, transported, and released, the on-site fisheries biologist will clear the site for construction. During the construction activities, the on-site fisheries biologist will monitor the construction area reaches (with fish removal and transporting equipment) for areas that may become dewatered and potentially strand any fish that may have been missed. Any stranded fish will be immediately captured, transported and released upstream as described above.
 - After completion of field activities, a written letter report documenting activities will be prepared. The letter report will include a description of all fish translocation and salvage activities and estimates for total fish translocated and salvaged by species (including any mortalities).
3. Grade control structures will be designed and constructed to provide passage for all native and desirable game fish species. Grade control structures will be designed utilizing natural materials (e.g., boulders) in a rock ramp and/or step pool configuration. Height of the drop structures and length and depth of pools will be designed to facilitate upstream and downstream passage for multiple fish species and will be based on the swimming abilities of the native and game fish species present in the creeks. The new alignment of the creeks will be hydrologically continuous and provide riffle-pool habitats with a riparian corridor. The new alignment of the creek will provide habitat functions to support a diverse community of species and meet habitat requirements for all necessary life stages (e.g., spawning and rearing).
 4. Structure (e.g. large woody debris) may be installed in restored channels to enhance fish habitat following watershed restoration activities. Riparian vegetation (e.g. willow stakes) may be planted or transplanted along stream banks to enhance riparian habitat following watershed restoration activities. Conifers that are out-competing young aspens may be removed to enhance riparian habitat.

5. Before restoration actions and during the appropriate blooming/identification period, a qualified botanist will conduct surveys in all restoration areas for the presence or absence of special-status plants that might be present in the region (see LMP Table 3.3-3). If individuals or populations of special-status plants are found, they will be avoided to the greatest extent practicable. If avoidance is not feasible and if the particular plant species has any federal or state protection status, additional protection measures will be implemented. These may include transplanting individuals of the affected species, or collecting seed and creating populations elsewhere. These additional protection measures will be developed and approved by a Department, USFS, and/or USFWS biologist, as appropriate depending on the plant's listing status.
6. Before restoration actions, surveys will be conducted for invasive plant species (such as woolly mullein and perennial pepperweed) within the restoration area and in adjacent floodplain areas that may experience a change in hydrology. If any invasive plant species are found, they will be removed or eradicated. No herbicides will be used on USFS property.
7. Before transport to the work sites all construction equipment should be thoroughly washed (steam cleaned) to remove unwanted seeds

WATER QUALITY CONSERVATION

BMPs will be implemented in accordance with applicable federal and state regulations that provide for the protection of water quality at all restoration sites. Before the start of any construction work, clearing, site grading or stockpiling associated with preparation of the sites, measures to control soil erosion, sedimentation, and waste discharges of construction-related contaminants will be identified and installed. USFS and DFG will require all contractors conducting work at the sites to implement these measures, and the general contractor(s) and subcontractor(s) conducting the work will be responsible for constructing or implementing, regularly inspecting, and maintaining the measures in good working order.

Standard erosion control measures (e.g., management, structural, and vegetative controls) will be implemented for all construction activities that expose soil. Grading operations will be conducted to eliminate direct routes for conveying potentially contaminated runoff to new and existing drainage channels. Erosion control barriers such as silt fences/curtains and mulching material will be installed, and disturbed areas will be reseeded with grasses or other plants where necessary. Tracking controls will be required year-round, as needed, to reduce the tracking of sediment and debris from the construction site. The following specific BMPs will be implemented:

A Storm Water Pollution Prevention Plan will be prepared and submitted to the Central Valley RWQCB. It will identify BMPs that will be used to eliminate or minimize the potential for construction-related pollution (e.g. sediment, fuels, pesticides, cement) to enter stream flows directly, or through stormwater runoff. All BMPs will be implemented accordingly.

- ▶ All work will be conducted according to site-specific construction plans that identify areas for clearing and grading so that ground disturbance is minimized. Sensitive habitats to be avoided will be identified with orange fencing or other similar demarcation.
- ▶ A point of entrance/exit to the construction sites will be identified to reduce the tracking of mud and dirt onto public roads by construction vehicles, and each construction entrance/exit will be graded and stabilized to prevent runoff from leaving the construction site. All runoff from stabilized entrances/exits will be routed through a sediment-trapping device before discharge. At a minimum, entrances and exits shall be inspected daily, and controls implemented as needed.
- ▶ Stream flows that do not dissipate into the historic flood plain during restoration will be diverted around the restoration area as needed to avoid erosion and sedimentation while construction is occurring.
- ▶ Stream flows will be diverted around construction activities during the dry season as necessary to avoid infringing upon downstream water appropriations.
- ▶ Sediment control BMPs will be installed at the downstream extent of the restoration areas to capture any sediments released during construction. These BMPs will be maintained at least through the first flush of the restored area to capture any sediments that may be eroded from newly restored habitats.
- ▶ Stockpiles will be covered and protected from exposure to erosion and flooding.
- ▶ Disturbed soils will be stabilized before the onset of the winter season.

BMPs will also specify appropriate hazardous materials handling, storage, and spill response practices to reduce the possibility of adverse impacts from use or accidental spills or releases of contaminants. Specific measures that will be applied to the restoration program include, but are not limited to, the following:

- ▶ Onsite handling rules will be developed and implemented to keep construction and maintenance materials out of drainages and waterways.

- ▶ All refueling and servicing of equipment will be conducted with absorbent material or drip pans underneath to contain spilled fuel. Any fluid drained from machinery during servicing will be collected in leak-proof containers and delivered to an appropriate disposal or recycling facility.
- ▶ All construction staging and fueling areas will be located at least 100 feet away from stream channels or wetlands to minimize accidental spills and runoff of contaminants.
- ▶ Spill cleanup equipment will be maintained in proper working condition. All spills will be cleaned up immediately according to a spill prevention and response plan prepared for the restoration program. Appropriate resource agencies (e.g., USFS, DFG, RWQCB) will be notified immediately of any spills and cleanup procedures.

APPENDIX E

Water Rights Documents

Memorandum

To: Paul Forsberg
Water Coordinator

Date: February 27, 2002

From: **Department of Fish and Game**

Subject: Statements of Water Diversion and Use

I've attached the requested Statements of Water Diversion and Use for the Department lands in Plumas and Sierra Counties, SVCSR.

The Hallelujah Junction WA was pretty easy to work out, since we are using an adjudicated water right for the previous owners, Evans Ranch Associates. The other areas, Warner Valley WA, Antelope Valley WA and Smithneck Creek WA, are a bit of a question for me. These areas have live streams running through them, and we do no diversions, but of course the water these streams provide is critical to the wildlife of the properties.

I don't know if you want to include these or not, so they are attached separately. If you have any questions, please give me a call, and I'll try to help. I'll be in the field for the next couple of weeks, so my cell phone is probably the best number to use to contact me should you have the need. It is (530) 258-7582. Thanks.

15/

James L. Lidberg
Associate Biologist (Wildlife)
Plumas/Sierra Wildlife Unit

cc: DFG files
P. Perkins ✓

Antelope Valley WRA

State of California
State Water Resources Control Board
DIVISION OF WATER RIGHTS
P.O. Box 2000, Sacramento, CA 95812-2000
Info: (916) 341-5300, FAX: (916) 341-5400, Web: http://www.waterrights.ca.gov

STATEMENT OF WATER DIVERSION AND USE

(This is not a Water Right)

This Statement should be typewritten or legibly written in ink and submitted to the address above.
A separate statement should be filed for each point of diversion. A duplicate copy will be returned for your file.

A. Name of person diverting water Calif. Dept. Fish & Game
Address 1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670 Telephone: (916) 358-2900

B. Water is used under: Riparian claim; XX Pre 1914 right; Other (explain)
Antelope Valley Creek

C. Name of the body of water at the point of diversion
Antelope Valley Creek
Tributary to Middle Fork, Feather River

D. Point of diversion is located within Sierra County on Assessors Parcel # On file at above address, being
within the 1/4 of 1/4 of Section 28, 33, 34, of Township 21N, Range 15E, MD B&M.
Name of works N/A

E. Do you own the land at the point of diversion? Yes XX NO The name and address of the owner of the land is:
Same as above

F. Capacity of diversion works N/A (cfs, gpm, or gpd) Capacity of storage tanks or reservoir N/A (gallons or acre-feet)
Type of diversion facility: Gravity N/A Pump
Method of measurement: Weir Flume Electric Meter Estimate

G. Enter the amount (or approximate amount) of water used each month.
Amounts below are shown in: Gallons Acre-feet Other

Table with 13 columns: Year, Jan, Feb, Mar, Apr, May, June, July, Aug, Sept, Oct, Nov, Dec, Total Annual. Row 1: 2001, All

H. Annual water use in recent years: Maximum all available (gallons or acre-feet) Minimum
Year of first use (nearly as known) 1980

I. Purpose of use: What is the water being used for: (example, number of acres and type of crop irrigated, average number of persons served, number of stock watered, etc.)
Development and maintenance of riparian habitat for fish and wildlife use.
This habitat supports many wildlife species including the yellow warbler, Lahontan cutthroat trout and mule deer.

J. General description or location of place of use (example: 40 acres of pasture located 3 miles from Happyville on Alpha Road)
5400 acres near Sierraville, CA

K. Map: Please locate the point of diversion and place of use on a print of a USGS quad map, or make a sketch on the section grid provided on the reverse side of this form. The sketch should identify the section lines, prominent local landmarks and roads, your point of diversion, and your place of use (your house, acreage irrigated, etc.).

L. Please answer only those questions below which are applicable to your project.

1. Conservation of water

a. Describe any water conservation efforts you may have started: N/A

2. Water quality and wastewater reclamation

a. Are you now or have you been using reclaimed water from a wastewater treatment facility, desalination facility or water polluted by waste to a degree which unreasonably affects such water for other beneficial uses? YES NO

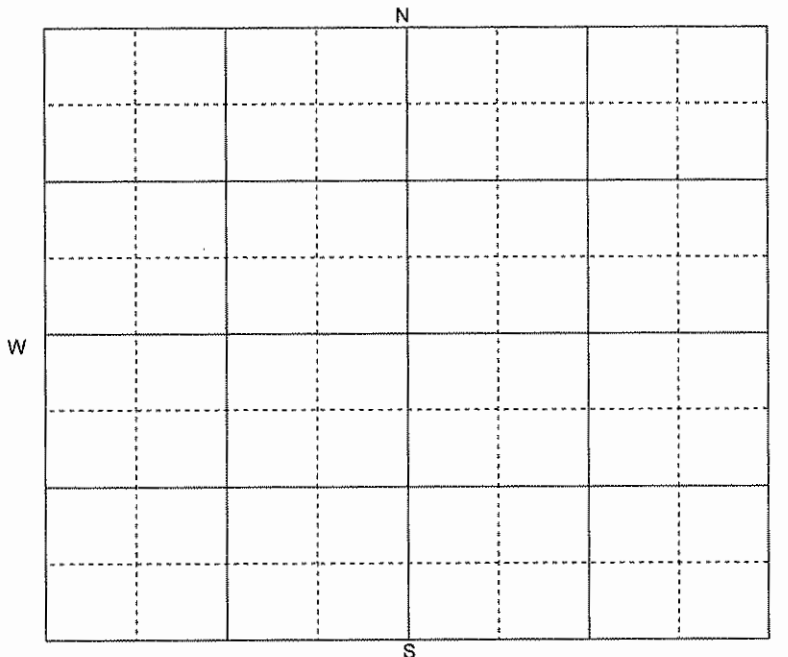
I declare under penalty of perjury that the information in this report is true to the best of my knowledge and belief.

DATE: 26 February 2002 at Meadow Valley, California

SIGNATURE: _____

PRINTED NAME: James L. Lidberg
(first name) (middle init.) (last name)

COMPANY NAME: Calif. Dept. Fish & Game



The location of the diversion point and the place of use may be sketched on the section grid provided. If it is used, please enter the section(s), township, range and the base & meridian below. Also, show any streams or other landmarks that will assist in identifying the area.

Section(s) 28, 34, 35
Township 21N
Range 15E
MD _____ B&M

GENERAL INFORMATION PERTAINING TO WATER RIGHTS IN CALIFORNIA

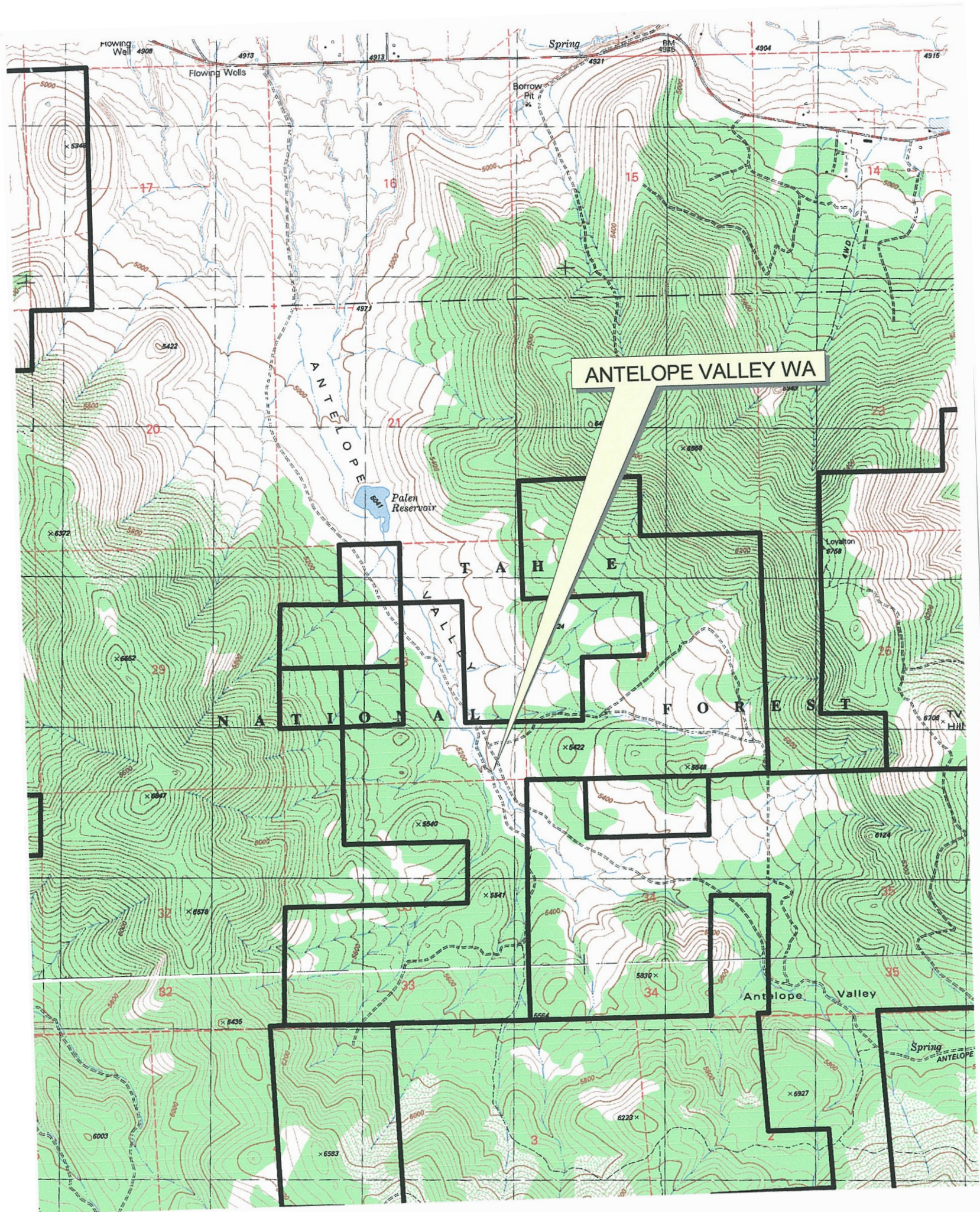
There are two principal types of surface water rights in California. They are riparian and appropriative rights.

A riparian right enables an owner of land bordering a natural lake or stream to take and use water on his riparian land. Riparian land must be in the same watershed as the water source and must never have been severed from the source of supply by an intervening parcel without reservation of the riparian right to the severed parcel. Generally, a riparian water user must share the water supply with other riparian users. Riparian rights may be used to divert the natural flow of a stream but may not be used to 1) store water for later use 2) divert water which originates in a different watershed 3) divert water released from storage, or 4) divert return flows from groundwater use.

An appropriative right is required for use of water on nonriparian land and for storage of water. Generally, appropriative rights may be exercised only when there is a surplus not needed by riparian water users. Since 1914 new appropriators have been required to obtain a permit and license from the State.

Statements of Water Diversion and Use must be filed by a riparian and per-1914 appropriative water users. The filing of a statement (1) provides a record of water use, (2) enables the State to notify such users if someone proposes a new appropriation upstream from their diversion, and (3) assists the State to determine if additional water is available for future appropriators.

The above discussion is provided for general information. For more specific information concerning water rights, please contact an attorney or write to this office. We have several pamphlets available. They include: (1) Statements of Water Diversion and Use, (2) Information Pertaining to Water Right in California and (3) Appropriation of Water in California.



ANTELOPE VALLEY WA

Flowing Wells 4908

Flowing Wells

Spring

Borrow Pit

ANTELOPE

Palen Reservoir

ANTIOCH VALLEY NATIONAL FOREST

Antelope Valley

Spring ANTELOPE

17

16

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6422

5948

5400

5400

5570

6223

6927

6768

6706

6927

BM 4985

4304

4915

4913

4977

6200

6000

6300

6200

6000

6124

6000

5

CA Department of Water Resources – Water Diversion Record

Application : A012900 [JShape Map - 250K] [JShape Map - 100K]

Permit : 007594 Issued on NOV 20,1949

License : 004841 Issued on NOV 01,1957

Primary Contact Owner : FREDERICK BALDERSTON

Owner(s) : FREDERICK BALDERSTON

Mail Receiver (Owner) : FREDERICK BALDERSTON

Source & POD Information :

Water to be diverted from ANTELOPE CREEK - (Stream Code: 001000008)

Tributary to MIDDLE FORK FEATHER RIVER

Maximum Direct Diversion from this source : 0

Maximum Storage from this source per year : 126 ac-ft/annum

POD IN SE Quarter of SW Quarter of Section 21, T21N, R15E, MM&B (Sierra County)

Direct Diversion from this POD : 0

Total Annual Direct Diversion from this POD : 0 ac-ft/annum

Diversion Storage from this POD : 126 ac-ft/annum

Amount :

Maximum Storage : 126 acre-feet/ann

Maximum Annual Use : 126 acre-feet/ann

Purpose of Use : Irrigation

Storage Season : November 1 to March 1

License Image(s):

Page 1 http://165.235.31.51/licimg/CD2/application_12900/license_4841/01530.gif

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APPENDIX F

Wildlife and Plant Inventory Lists

APPENDIX F.1
PLANT SPECIES OBSERVED AT ANTELOPE VALLEY AND
SMITHNECK CREEK WILDLIFE AREAS

Common Name	Scientific Name	Wildlife Area	
		Antelope Valley	Smith-neck Creek
white fir	<i>Abies concolor</i>	X	
yarrow	<i>Achillea millifolium</i>	X	X
Indian ricegrass	<i>Achnatherum hymenoides</i>	X	
Lemmon's needlegrass	<i>Achnatherum lemmonii</i>		X
western needlegrass	<i>Achnatherum occidentale</i>	X	
desert needlegrass	<i>Achnatherum speciosum</i>	X	
monk's hood	<i>Aconitum columbianum</i>	X	
annual agoseris	<i>Agoseris heterophylla</i>	X	X
alder	<i>Alnus</i> sp.		X
wild onion	<i>Allium</i> sp.		X
meadow-foxtail	<i>Alopecurus</i> cf. <i>pratensis</i>		X
fiddleneck	<i>Amsinckia</i> sp.	X	
silvery brown pussytoes	<i>Antennaria</i> cf. <i>luzuloides</i>	X	X
Hoelbell's rock cress	<i>Arabis</i> cf. <i>holboellii</i>	X	
greenleaf manzanita	<i>Arctostaphylos patula</i>	X	X
pinemat manzanita	<i>Arctostaphylos nevadensis</i>	X	
California mugwort	<i>Artemisia douglasiana</i>	X	
big sagebrush	<i>Artemisia tridentata</i>	X	X
woollypod milkvetch	<i>Astragalus purshii</i>	X	X
woolly balsamroot	<i>Balsamorhiza hookeri</i> var. <i>lanata</i>		X
California balsamroot	<i>Balsamorhiza macrolepis</i>	X	
arrowleaf balsamroot	<i>Balsamorhiza sagittata</i>	X	X
rough blepharipappus	<i>Blepharipappus scaber</i>		X
brodiaea	<i>Brodiaea</i> sp.	X	
hairy chess	<i>Bromus japonicus</i>		X
cheatgrass	<i>Bromus tectorum</i>	X	X
Canada reedgrass	<i>Calamagrostis canadensis</i>	X	X
incense cedar	<i>Calocedrus decurrens</i>	X	
small-flowered camas	<i>Camassia quamash</i> ssp. <i>breviflora</i>		X

Common Name	Scientific Name	Wildlife Area	
		Antelope Valley	Smith-neck Creek
Sierra Valley evening-primrose	<i>Camissonia tanacetifolia</i> ssp. <i>quadriperforata</i>	X	X
sedge	<i>Carex</i> sp.	X	X
pilose paintbrush	<i>Castilleja pilosa</i>		X
mahala mat	<i>Ceanothus prostratus</i>	X	X
tobacco brush	<i>Ceanothus velutinus</i>	X	X
curl leaf mountain mahogany	<i>Cercocarpus ledifolius</i>	X	
dusty maidens	<i>Chaenactis douglasii</i> var. <i>douglasii</i>	X	X
common rabbitbrush	<i>Chrysothamnus nauseosus</i>	X	X
Parry's rabbitbrush	<i>Chrysothamnus parryi</i>	X	
sticky leaved rabbitbrush	<i>Chrysothamnus viscidiflorus</i>	X	X
large-flowered collomia	<i>Collomia grandiflora</i>	X	X
slenderleaf collomia	<i>Collomia linearis</i>	X	
forget-me-not	<i>Cryptantha</i> sp.		X
dwarf draba	<i>Cusickiella douglasii</i>	X	
larkspur	<i>Delphinium</i> sp.		X
tufted hairgrass	<i>Deschampsia cespitosa</i>	X	
common spikerush	<i>Eleocharis macrostachya</i>	X	
bottlebrush squirreltail	<i>Elymus elymoides</i> ssp. <i>elymoides</i>	X	X
quackgrass	<i>Elytrigia repens</i>		X
panicled willow herb	<i>Epilobium brachycarpum</i>	X	X
common horsetail	<i>Equisetum arvense</i>	X	
scabland fleabane	<i>Erigeron bloomeri</i> var. <i>bloomeri</i>	X	X
shaggy fleabane	<i>Erigeron pumilus</i> var. <i>intermedius</i>	X	X
California poppy	<i>Eschscholzia californica</i>	X	X
Idaho fescue	<i>Festuca idahoensis</i>	X	X
diffuse gayophytum	<i>Gayophytum diffusum</i>	X	X
straggly gilia	<i>Gilia</i> sp.		X
western marsh cudweed	<i>Gnaphalium palustris</i>	X	
foxtail barley	<i>Hordeum jubatum</i>	X	
Sierra Valley ivesia	<i>Ivesia aperta</i> var. <i>aperta</i>	X	X
baltic rush	<i>Juncus balticus</i>	X	X
common toad rush	<i>Juncus bufonius</i> var. <i>bufonius</i>		X
swordleaf rush	<i>Juncus ensifolius</i>	X	
rush	<i>Juncus</i> sp.	X	

Common Name	Scientific Name	Wildlife Area	
		Antelope Valley	Smith-neck Creek
western juniper	<i>Juniperus occidentalis</i>	X	
Utah juniper	<i>Juniperus osteosperma</i>	X	
prickly wild lettuce	<i>Lactuca serriola</i>	X	X
Nevada pea	<i>Lathyrus lanszwertii</i>	X	X
shining pepperweed	<i>Lepidium cf. nitidum</i>	X	X
Great Basin wild rye	<i>Leymus cinereus</i>	X	X
creeping wild rye	<i>Leymus triticoides</i>	X	X
lomatium	<i>Lomatium sp.</i>		X
Pursh's lotus	<i>Lotus purshianus var. purshianus</i>	X	X
tailcup lupine	<i>Lupinus argenteus var. heteranthus</i>	X	X
dense common tarplant	<i>Madia elegans ssp. densiflora</i>	X	X
small tarplant	<i>Madia exigua</i>		X
mountain tarweed	<i>Madia glomerata</i>	X	
common yellow monkeyflower	<i>Mimulus guttatus</i>	X	
mountain monardella	<i>Monardella odoratissima</i>	X	X
Great Basin navarretia	<i>Navarretia intertexta ssp. propinqua</i>	X	X
nemophila	<i>Nemophila sp.</i>	X	
scabland penstemon	<i>Penstemon deustus var. pedicellatus</i>		X
herbaceous penstemon	<i>Penstemon rydbergii var. oreocharis</i>		X
Bolander's yampah	<i>Perideridia cf. bolanderi</i>	X	X
Timothy grass	<i>Phleum pretense</i>	X	X
slender phlox	<i>Phlox gracilis</i>		
Jeffery pine	<i>Pinus jeffreyi</i>	X	X
popcorn flower	<i>Plagiobothrys sp.</i>	X	
annual bluegrass	<i>Poa annua</i>	X	X
fruiting bluegrass	<i>Poa bulbosa</i>	X	X
Kentucky bluegrass	<i>Poa cf. pratensis</i>	X	X
one-sided bluegrass	<i>Poa secunda var. nevadensis</i>	X	X
silversheath knotweed	<i>Polygonum argyrocoleon</i>	X	
Kellogg's knotweed	<i>Polygonum polygaloides var. kelloggii</i>	X	X
Douglas' knotweed	<i>Polygonum douglasii</i>	X	X
cottonwood	<i>Populus sp.</i>		X
quaking aspen	<i>Populus tremuloides</i>	X	
slender cinquefoil	<i>Potentilla cf. gracilis</i>	X	X

Common Name	Scientific Name	Wildlife Area	
		Antelope Valley	Smith-neck Creek
bitter cherry	<i>Prunus emargianta</i>	X	
prunus	<i>Prunus</i> sp.	X	
antelope bush	<i>Purshia tridentata</i> var. <i>tridentata</i>	X	X
western buttercup	<i>Ranunculus occidentalis</i>	X	X
Wood's mountain rose	<i>Rosa woodsii</i> var. <i>ultramontana</i>	X	X
narrow-leaved willow	<i>Salix exigua</i>	X	
arroyo willow	<i>Salix lasiolepis</i>	X	X
yellow willow	<i>Salix lutea</i>	X	X
Russian thistle	<i>Salsola tragus</i>	X	
western burnet	<i>Sanguisorba occidentalis</i>		X
single-stemmed butterweed	<i>Senecio integerrimus</i> var. <i>exaltatus</i>	X	X
tall tumbled mustard	<i>Sisymbrium altissimum</i>	X	
red sand spurry	<i>Spergularia rubra</i>	X	
creeping snowberry	<i>Symphoricarpos mollis</i>	X	X
bugle hedge nettle	<i>Stachys</i> cf. <i>ajugoides</i>	X	
spineless horsebrush	<i>Tetradymia canescens</i>	X	
yellow salsify	<i>Tragopogon</i> cf. <i>dubius</i>		X
Lemmon's clover	<i>Trifolium lemmonii</i>	X	
Shasta long-stalk clover	<i>Trifolium longipes</i> var. <i>shastensis</i>		X
mountain nettle	<i>Urtica dioica</i> var. <i>holsericea</i>	X	
woolly mullein	<i>Verbascum thapsus</i>	X	
mule's ears	<i>Wyethia mollis</i>	X	X

Sources: EDAW reconnaissance surveys September 2007, Witham 1993, Smithneck Creek Wildlife Area Management Plan (DFG 1990), Antelope Valley Wildlife Area Management Plan (DFG 1997)

APPENDIX F.2

WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN ANTELOPE VALLEY AND SMITHNECK CREEK WILDLIFE AREAS

AMPHIBIANS

California newt
 Ensatina
 Great Basin spadefoot
 Pacific chorus frog
 mountain yellow-legged frog

BIRDS

great blue heron
 snowy egret
 black-crowned night heron
 tundra swan
 greater white-fronted goose
 Canada goose
 wood duck
 green-winged teal
 mallard
 northern pintail
 gadwall
 American wigeon
 ring-necked duck
 lesser scaup
 common merganser
 turkey vulture
 osprey
 northern harrier
 sharp-shinned hawk
 cooper's hawk
 northern goshawk
 Swainson's hawk
 red-tailed hawk
 ferruginous hawk
 rough-legged hawk
 golden eagle
 American kestrel
 peregrine falcon
 prairie falcon
 chukar
 ring-necked pheasant
 blue grouse
 greater sage-grouse
 wild turkey
 California quail
 mountain quail
 Virginia rail

sora
 American coot
 sandhill crane
 killdeer
 greater yellowlegs
 lesser yellowlegs
 willet
 spotted sandpiper
 long-billed curlew
 least sandpiper
 long-billed dowitcher
 Wilson's snipe
 Wilson's phalarope
 ring-billed gull
 California gull
 band-tailed pigeon
 mourning dove
 barn owl
 flammulated owl
 western screech owl
 great horned owl
 northern pygmy owl
 burrowing owl
 spotted owl
 long-eared owl
 short-eared owl
 northern saw-whet owl
 common nighthawk
 common poorwill
 black swift
 white-throated swift
 Calliope hummingbird
 Rufous hummingbird
 belted kingfisher
 lewis' s woodpecker
 acorn woodpecker
 red-naped sapsucker
 red-breasted sapsucker
 Williamson's sapsucker
 downy woodpecker
 hairy woodpecker
 white-headed woodpecker
 northern flicker
 pileated woodpecker
 olive-sided flycatcher
 western wood-pewee

willow flycatcher
 Hammond's flycatcher
 dusky flycatcher
 gray flycatcher
 Pacific-slope flycatcher
 black phoebe
 say's phoebe
 horned lark
 purple martin
 tree swallow
 violet-green swallow
 northern rough-winged swallow
 bank swallow
 cliff swallow
 barn swallow
 Steller's jay
 pinyon jay
 black-billed magpie
 common raven
 mountain chickadee
 bushtit
 red-breasted nuthatch
 white-breasted nuthatch
 pygmy nuthatch
 brown creeper
 rock wren
 canyon wren
 Bewick's wren
 house wren
 winter wren
 American dipper
 ruby-crowned kinglet
 western bluebird
 mountain bluebird
 Townsend's solitaire
 Swainson's thrush
 hermit thrush
 American robin
 varied thrush
 sage thrasher
 American pipit
 northern shrike
 loggerhead shrike
 European starling
 Cassin's vireo
 Hutton's vireo

warbling vireo
orange-crowned warbler
Nashville warbler
yellow warbler
yellow-rumped warbler
hermit warbler
Macgillivray's warbler
common yellowthroat
Wilson's warbler
western tanager
black-headed grosbeak
lazuli bunting
green-tailed towhee
spotted towhee
chipping sparrow
brewer's sparrow
black-chinned sparrow
vesper sparrow
black-throated sparrow
sage sparrow
savannah sparrow
fox sparrow
song sparrow
Lincoln's sparrow
white-crowned sparrow
dark-eyed junco
red-winged blackbird
western meadowlark
yellow-headed blackbird
Brewer's blackbird
brown-headed cowbird
Bullock's oriole
gray-crowned rosy-finch
juniper titmouse
plumbeous vireo
barred owl

MAMMALS

vagrant shrew
ornate shrew

water shrew
Merriam's shrew
broad-footed mole
long-eared myotis
fringed myotis
long-legged myotis
silver-haired bat
big brown bat
hoary bat
western mastiff bat
American pika
brush rabbit
mountain cottontail
snowshoe hare
white-tailed jackrabbit
black-tailed jackrabbit
mountain beaver
least chipmunk
yellow-pine chipmunk
Allen's chipmunk
yellow-bellied marmot
Belding's ground squirrel
California ground squirrel
Douglas' squirrel
golden-mantled ground squirrel
northern flying squirrel
Botta's pocket gopher
northern pocket gopher
mountain pocket gopher
Great Basin pocket mouse
dark kangaroo mouse
Ord's kangaroo rat
panamint kangaroo rat
American beaver
western harvest mouse
deer mouse
canyon mouse
brush mouse
pinyon mouse
northern grasshopper mouse
dusky-footed woodrat
bushy-tailed woodrat
montane vole
long-tailed vole

sagebrush vole
common muskrat
western jumping mouse
common porcupine
coyote
red fox
gray fox
black bear
ringtail
raccoon
American marten
fisher
ermine
long-tailed weasel
American mink
American badger
western spotted skunk
striped skunk
mountain lion
bobcat
mule deer
pronghorn

REPTILES

western fence lizard
sagebrush lizard
western skink
southern alligator lizard
northern alligator lizard
rubber boa
ring-necked snake
sharp-tailed snake
striped whipsnake
gopher snake
California mountain kingsnake
common garter snake
western terrestrial garter snake
Sierra (western aquatic) garter snake
western rattlesnake

Source: California Wildlife Habitat Relationships System. Supported by the California Interagency Wildlife Task Group and Maintained by the California Department of Fish and Game. Database Version: 8.1 (2005).

Model results were generated on 12/18/2007 for all species that could occur in any season in the following vegetation types in Sierra County, California: aspen, montane riparian, Jeffery pine, juniper, montane chaparral, sagebrush, bitterbrush, and wet meadow.