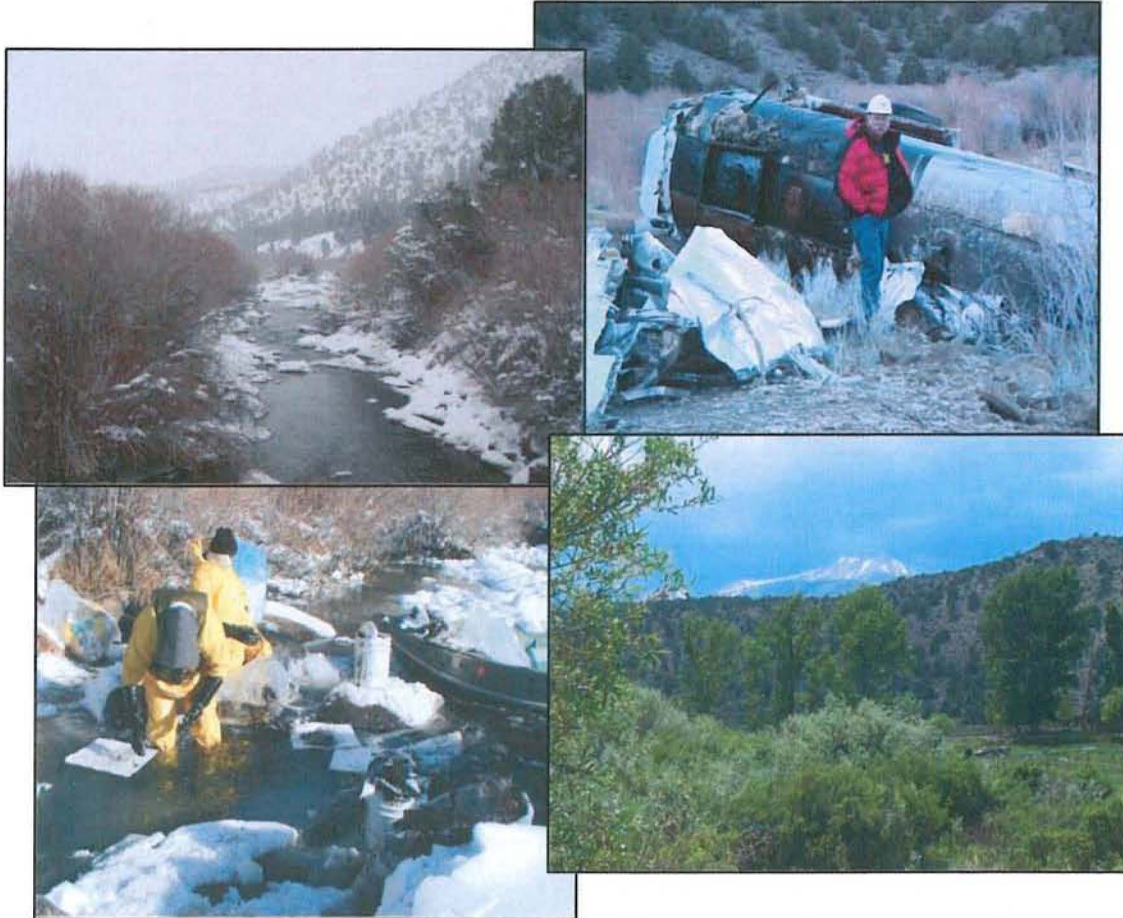


# ADVANCED FUEL FILTRATION SYSTEMS EAST WALKER RIVER OIL SPILL

## FINAL RESTORATION PLAN/ ENVIRONMENTAL ASSESSMENT



August 2009

Prepared by:

### **The East Walker River Trustee Council**

California Department of Fish and Game  
Nevada Department of Wildlife  
Nevada Division of Environmental Protection  
U.S. Fish and Wildlife Service



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## EXECUTIVE SUMMARY

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On December 30, 2000, a tanker truck operated by Advanced Fuel Filtration Systems, Inc. (AFFS) of Corona, California overturned on California State Route 182 north of Bridgeport, California resulting in the release of approximately 3,608 gallons of #6 fuel oil, the majority of which entered into the East Walker River. The fuel visibly oiled approximately ten miles of stream habitat, seven of which were in California (Mono County) and three in Nevada (Lyon County). Based on water and sediment samples taken downstream in Nevada, approximately 15 miles of stream were impacted. The cleanup lasted throughout the winter months. This oil spill impacted natural resources along the spill path of the East Walker River watershed, causing injury and mortality to plants and animals.

As required under the federal Oil Pollution Act of 1990 (33 U.S.C. 2701 et seq.) and the California Lempert-Keene-Seastrand Oil Spill Prevention and Response Act (Government Code 8670.1 et seq.), a Natural Resource Damage Assessment (NRDA) was performed to determine the injuries from the spill to the natural resources of the East Walker River, and to develop and implement the appropriate actions to restore, rehabilitate, replace, or acquire the equivalent of the injured natural resources. The U.S. Fish and Wildlife Service, the California Department of Fish and Game – Office of Spill Prevention and Response, the Nevada Division of Environmental Protection, and the Nevada Division of Wildlife joined together to become the Natural Resource Trustees (Trustees) and implement the NRDA. Injury information collected by the Trustees was separated into two broad categories (natural resources and human recreational activities) and used to quantify the monetary damages that would compensate the public for the lost use and services of those natural resources as a result of the release of oil. Details of the NRDA injury and damage quantification are provided in Section 3.0.

During the initial response period, crews recovered/collected the following dead animals within the first 10 miles of the spill zone: one Virginia rail (*Rallus limicola*), two American dippers (*Cinclus mexicanus*), one American mink (*Mustela vison*), and six beavers (*Castor canadensis*). Approximately 21 dead fish were also collected, the majority of which were mountain whitefish (*Prosopium williamsoni*). The following animals were observed alive and oiled, but were not captured: one common merganser (*Mergus merganser*), one great blue heron (*Ardea herodias*), and one bald eagle (*Haliaeetus leucocephalus*). Based on the number of birds and mammals recovered, the number expected to be along the stream, and the amount of oil spilled, it is likely that nearly all the birds and mammals that regularly came into contact with the water within the first 10 miles of the spill zone were either directly or indirectly killed by the spill.

An out of court settlement agreement was reached among the Trustees and AFFS in January 2004 that specified that AFFS shall pay to the Trustees a total of four hundred eighteen thousand dollars (\$418,000). Of this amount, \$68,000 was paid to California Department of Fish and Game for its past assessment costs involved in determining the extent of damages to the natural environment, and the balance of \$350,000 was paid to the Department of Interior to be used by the Trustees for planning, implementation, and oversight activities to restore the natural resources injured and the interim loss of recreational use caused by the incident.

In December 2005, the Trustees entered into a Memorandum of Understanding (MOU) that created a Trustee Council and that provided a framework for coordination and cooperation among the Trustees in the use of the Natural Resource Damage (NRD) money from the AFFS settlement for wildlife projects, habitat restoration and protection, and human use projects. The Trustees committed to the expenditure of the NRD money for the design, implementation, permitting (as necessary), and oversight of restoration projects, and for the costs of complying with the requirements of the law to conduct a restoration planning and implementation process.

The purpose of this final Restoration Plan/Environmental Assessment (RP/EA) is to outline and describe the proposed restoration alternatives considered as compensation for injuries to natural resources caused by the spill. This final RP/EA outlines the restoration activities that, once implemented, will restore, rehabilitate, replace or acquire the equivalent of the injured natural resources. The restoration alternatives described in this RP/EA include riparian habitat restoration, in-stream habitat restoration, and recreational fishing improvements that encourage public use and enjoyment of the East Walker River.

After evaluating a number of restoration project proposals and considering public comments on the preferred restoration projects presented in the draft RP/EA, the Trustees have selected the following five restoration projects.

#### **CDFG Riparian Enhancement & Fuels Reduction Project**

The project would occur on the East Walker River Wildlife Area located immediately adjacent to the East Walker River and approximately 6 miles north of the town of Bridgeport, California. This project would use mechanical thinning and mastication methods to enhance riparian and adjacent upland habitat and reduce fuel loads for potential wildland fires. Actions would improve the vigor of individual plants and the structure of plant communities with an expected corresponding benefit to the fishery and wildlife within the corridor. Up to a mile of riparian habitat would be treated covering 15 to 25 acres in size. The chipped and masticated material will be laid down as mulch to prevent erosion, preserve soil moisture, and retain nutrients and approximately 90 ten foot access points (breaks in the riparian corridor) would be created per mile of riparian vegetation along the highway increasing the recreational accessibility of the East Walker River to anglers.

#### **Slinkard Creek Lahontan Cutthroat Trout Enhancement**

The goal of this project would be to provide fishing (limited bag) of native Lahontan cutthroat trout (LCT) in the lower, easily-accessible Slinkard Creek. This project would occur within the West Walker River watershed, primarily on the CDFG Slinkard Wildlife Area and a possible small section of Bureau of Land Management lands. From a fisheries management perspective, the upper portion of Slinkard Creek is separated from the lower portion by a manmade barrier that protects an upstream refuge population of LCT. In the past, brook trout have been found above the barrier posing a risk to the integrity of the LCT population, which is listed as threatened under the Endangered Species Act. Approximately five miles of stream along lower Slinkard Creek would have brook trout removed using either an application of the chemical Rotenone<sup>®</sup>, detonation cord, or a combination of both. Using a natural barrier that exists between the Walker River and the lower section of Slinkard Creek, LCT from the upper portion

of Slinkard Creek would be re-distributed.

### **Rosaschi Ranch Outdoor Recreational Improvements**

This project is a modification/extension of the recreational plans the U.S. Forest Service identified in its Rosaschi Ranch Restoration Project (2002). The goal of this project is to increase recreation along the East Walker River at Rosaschi Ranch by providing or improving access to and along the river, providing amenities such as toilets and tables, providing interpretive signage, and providing fencing and barrier rocks to eliminate access in sensitive areas. The Rosaschi Ranch is located on the East Walker River in Nevada immediately downstream of the California-Nevada border. The project will affect ~0.75-miles within the upland terrace and along riparian habitat near the river. Anglers and other outdoor enthusiasts will benefit from increased or improved access. Vault toilets will improve the cleanliness of the area, fencing and rock barriers will eliminate access to sensitive areas, and removal of the parking area at the bridge will reduce runoff and improve water quality in the river. Recreation experiences would tend to be maintained or enhanced over time by providing better support facilities throughout the area. Management direction would encourage access such as trailheads and parking to be dispersed throughout the watershed so as to minimize overcrowding in the corridor. Capacity of recreation use would increase due to improved distribution of use over time and area. Angler opportunities would also increase because of habitat improvements.

### **East Walker River Wildlife Area Vehicle Access Control**

This project would provide for the placement of boulders to prevent vehicular access in strategic areas along the river where currently vehicles are not controlled. No facilities exist for users of this area to reduce human-use impacts from trash, feces, overnight camping and vehicle parking in riparian habitats. With direct effects to water quality resulting from human waste and trash, as well as indirect effects from poorly-placed trails and parking areas that infringe upon the riparian corridor, impacts are only likely to increase, especially as this water is now open to year-round angling. Protection of water quality would be enhanced. Impacts from vehicle use would be removed allowing restoration and improvement to meadow and riparian habitat. Riparian nesting songbirds would benefit greatly in time, as would mammals, including bear, deer, and mountain lion that use the riparian vegetation as a transportation corridor.

### **East Walker River Wildlife Area Restroom**

This project would place one or two vault toilets in high-use access areas. CDFG owns and manages property adjacent to the East Walker River, downstream of Bridgeport Reservoir, primarily for access to angling. Currently, the East Walker River is managed as a Wild Trout Water, which attracts anglers from areas within and outside of California. No facilities, however, exist for users of this area, and trash, feces, trails, and parking areas have been scattered about the area, with no management direction and with potentially detrimental impacts to water quality resulting directly from human waste, as well as indirectly from poorly-placed trails and parking areas that infringe upon the riparian corridor. Impacts are only likely to increase, especially as this water is now open to year-round angling.

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# 1.0 INTRODUCTION

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## 1.1 GENERAL OVERVIEW

On December 30, 2000, a tanker truck operated by Advanced Fuel Filtration Systems (AFFS) of Corona, California overturned on California State Route 182 north of Bridgeport, California resulting in the release of approximately 3,608 gallons of #6 fuel oil into the East Walker River. This oil is particularly black and heavy and must be heated to 160 degrees Fahrenheit in order for it to flow for loading and unloading. At low temperatures, it becomes tar-like. The fuel visibly oiled approximately ten miles of stream habitat, seven of which were in California (Mono County) and three (Lyon County) in Nevada. Based on water and sediment samples taken downstream in Nevada, approximately 15 miles of stream were impacted (Hampton et al. 2002). The cleanup lasted throughout the winter months. This oil spill impacted natural resources along the spill path in the East Walker River watershed causing injury and mortality to plants and animals. The U.S. Fish and Wildlife Service, the California Department of Fish and Game – Office of Spill Prevention and Response, the Nevada Division of Environmental Protection, and the Nevada Division of Wildlife joined together to become the East Walker River Natural Resource Trustees (Trustees) and documented impacts during the damage assessment. Injury and damages were separated into two categories in order to address impacts to natural resources and human recreational activities.

## 1.2 PURPOSE AND SCOPE

The purpose of this final Restoration Plan/Environmental Assessment (RP/EA) is to outline and describe restoration alternatives considered as compensation for injuries to natural resources caused by the accidental release of #6 fuel oil by AFFS to the California and Nevada portions of the East Walker River. The RP/EA outlines the restoration activities that, once implemented, will restore, rehabilitate, replace or acquire the equivalent of the injured natural resources. The restoration alternatives that are outlined in this RP/EA will be implemented by the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), Nevada Division of Environmental Protection (NDEP), and the Nevada Department of Wildlife (NDOW), (collectively the “Trustees”). The types of restoration alternatives to be implemented include riparian habitat restoration, in-stream habitat restoration, and recreational fishing improvements including projects that encourage public use and enjoyment of the East Walker River and surrounding area.

The proposed restoration activities will serve as compensation for natural resource injuries in order to make the environment and the public whole. The restoration planning, development, and implementation are conducted under the authorities of the federal Oil Pollution Act of 1990 (OPA) (33 U.S.C. 2701 et seq.) and the California Lempert-Keene-Seastrand Oil Spill Prevention and Response Act (Government Code 8670.1 et seq.). Restoration activities must comply with all applicable laws and regulations including the federal and state Endangered Species Act, the federal Clean Water Act, the federal Migratory Bird Treaty Act, the National

Environmental Policy Act, the National Historic Preservation Act and the California Environmental Quality Act.

### **1.3 SETTLEMENT AGREEMENT**

An out of court Settlement Agreement (in lieu of a Consent Decree) was reached between the Trustees and AFFS in January, 2004, whereby AFFS agreed to pay the Trustees a total of four hundred eighteen thousand dollars (\$418,000) for compensation as a result of natural resource injuries resulting from the AFFS's release of #6 fuel oil to the East Walker River. Of this amount, \$68,000 was paid to CDFG for its past natural resource damage assessment costs and the remainder of the balance (\$350,000) was paid to USFWS for deposit into the Department of the Interior's Natural Resource Damage Assessment (NRDA) Fund on behalf of the Trustees for use in the restoration of the injured natural resources and interim losses of recreational use created by the incident. These funds are also used for restoration planning and oversight by the Trustees. In addition, the USFWS was allowed to retain and utilize for restoration planning and oversight the remaining balance of a \$50,000 payment made to it by AFFS for response and cleanup costs pursuant to a letter dated February 12, 2001.

### **1.4 EAST WALKER RIVER TRUSTEE COUNCIL FORMATION**

The Trustees share joint responsibilities regarding the injured wildlife, habitat, and human use losses and are committed to the expenditure of the NRD money for the design, implementation, permitting (as necessary), and oversight of Restoration projects, and for the costs of complying with the requirements of the law to conduct a restoration planning and implementation process. Therefore, after the Settlement Agreement, the Trustees entered into a Memorandum of Understanding (MOU) on December 21, 2005 providing a framework for coordination and cooperation in the use of the NRD money from the Settlement Agreement for wildlife projects, habitat restoration and protection, and human use projects (Appendix A). There is a primary representative and an alternate for each agency on the Trustee Council. The Trustee Council is responsible for the development and implementation of the Final Restoration Plan, and the allocation of settlement funds associated with that effort. The Trustee Council is also responsible for oversight and monitoring to ensure success and completion of the restoration projects. All approved projects must be by unanimous consent among the member agencies of the Trustee Council.

### **1.5 RESTORATION PLANNING STRATEGY**

In forming their restoration planning strategy, the Trustees considered the various sources of guidance currently available, including OPA, state law, and federal regulations guiding restoration planning under OPA at 15 C.F.R. Part 990. The strategy used to develop this restoration plan is consistent with all applicable statutes and guidelines. The Trustees' goal in the restoration planning process, outlined in this RP/EA, is as follows:

**Goal:** *“To increase the ecological and recreational value of the East Walker River and associated watersheds that will compensate for the natural resources lost by the ADFS oil spill with the goals of contributing to restoration of the river’s natural ecosystem and providing lasting value to the public.”*

To accomplish this goal, the Trustees developed the following restoration strategy:

**Strategy:** *“Identify projects which would increase or enhance natural resources and opportunities for recreational access or use of these same resources, in accordance with the public losses which were documented.”*

The Trustee Council also developed objectives that were formulated to support the Council’s goal and strategy. The objectives include the following:

**Objectives:**

- *Promote a land ethic which includes stewardship and responsibility toward natural resources.*
- *Promote watershed management that is consistent with the river’s natural dynamic processes.*
- *Enhance and maintain the natural biological diversity of the watershed. Incorporate local government along with public participation in the restoration plan development and implementation.*
- *Promote restoration projects with long-lasting benefits. Promote partnerships and collaborative efforts to maximize funding, efficiency, and expertise.*

Restoration actions can compensate for lost natural resources and/or recreational opportunities in various ways. In developing this RP/EA, the Trustees have sought to identify a reasonable range of alternatives for consideration, including those with the potential to restore recreational services through actions to effectively restore, preserve or enhance the amount, quality or availability of the affected natural resources. Where available, these actions are believed by the Trustees to represent the best means of restoring natural resource services. Where options of this nature do not exist or are insufficient alone to address the public’s losses, restoration options capable of providing services of the same type and quality as those lost are generally preferred. Where in-kind service replacement options are not available, restoration alternatives providing services comparable to those lost may be considered. When restoration alternatives provide dissimilar services, the appropriate trade-off between the services lost and those provided by restoration must be considered to ensure the benefits of such restoration will be sufficient to offset public losses.

In developing this RP/EA, the Trustees have also sought to rely on restoration options capable of providing or benefiting multiple resources or services, particularly those serving multiple recreational resource uses. This approach ensures restoration actions undertaken provide the greatest overall benefit to the public, consistent with the primary goal of this RP/EA. Actions with multiple benefits also have the potential to reduce administrative oversight, procedural requirements, permitting needs, and construction logistics, which makes accomplishing restoration more cost-efficient.

## **2.0 AFFECTED AREA & NATURAL RESOURCES**

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The scope of the affected environment and associated natural resources of concern addressed by this RP/EA include the East and West Walker River watersheds. The East and West Walker River watersheds are located within the larger Walker River Basin which encompasses approximately 2,658,420 acres along the eastern side of the Sierra Nevada and western portion of the Great Basin (Sharpe et al. 2007). Headwaters of the East and West Walker Rivers, which ultimately feed Walker Lake, originate in the Sierra Nevada of California at elevations between 10,007 and 12,303 feet above sea level (asl) (Sharpe et al. 2007). The rivers flow through the Bridgeport, Antelope, and Smith valleys – located in California and Nevada – and join in Mason Valley, Nevada, to create the main stem of the Walker River (Figure 1).

The main stem of the Walker River, although not within the scope of this RP/EA, exhibits extremes in hydrologic conditions, typical of rivers in the Great Basin, from nearly dry during drought periods to high water from flood events. The surface flows of the Walker River are determined by (1) the amount of water available in the headwaters of the East and West Forks of the Walker River, (2) storage and managed releases from three major and several smaller reservoirs, and (3) diversion of surface water and groundwater (well) pumping (WRBRIT 2003).

### **2.1 HUMAN INFLUENCES<sup>a</sup>**

The Walker River Basin has been inhabited by humans for at least 11,000 years (WRBRIT 2003). Archeological research and the oral histories of the Paiute, Shoshone, and Washoe Tribes indicate that the people in the Walker River basin depended on aquatic and riparian life in the Walker River and Walker Lake for sustenance (Houghton 1994). The discovery of gold in the California Territory in 1848 accelerated settlement of the Great Basin. Between 1855 and 1862, settlers immigrated to Smith, Antelope, and Mason valleys. Agriculture and ranching began to divert and utilize the water of the Walker River during this period.

With the 20<sup>th</sup> century came increased demand on Walker River water as rapid growth of mining and agriculture continued. In 1909, an estimated 58,000 acres of land were under irrigation in the basin and by 1919, irrigated acreage in the basin had increased to 103,000 acres (Nevada Division of Water Planning 2001). In 1919, Walker River Irrigation District was formed, which

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<sup>a</sup> Except where specifically cited, the information in this section is taken from WRBRIT (2003).

provided the financial ability for water users in Nevada to construct Topaz and Bridgeport reservoirs. These two California reservoirs have a combined storage capacity of 107,400 af (Public Resource Associates 1994). Bridgeport Dam restricted access of Lahontan cutthroat trout (LCT) to spawning habitat in East Walker River and upstream tributaries. Water depletions and diversion dams on the West Walker limited LCT access to upstream areas. In 1929, the Yerington weir was constructed on the Walker River which thereafter prevented fish access to both East and West Walker River. In summary, the historic uses of water in the basin have contributed to declining water quantity, quality, and fragmentation of the Walker River Basin (WRBRIT 2003).

## **2.2 SURFACE WATER RESOURCES<sup>b</sup>**

Surface water resources in the affected area include the East and West Walker River, lakes or reservoirs that store and/or release water, high altitude lakes in the Sierra Nevada, small water storage facilities, as well as ponds, marshes and streams. Surface water resources in the basin support a variety of human uses, provide habitat for wildlife populations, and are subject to both natural hydrologic process and human water management systems. At times, surface water supply is insufficient to simultaneously meet all competing needs.

### **2.2.1 East Walker River Watershed**

Headwaters of the East Walker River originate from several creeks in the eastern Sierra Nevada upstream of Bridgeport Valley, California. Bridgeport Reservoir and Twin Lakes are the only significant lake or water impoundment features within the East Walker River watershed and both are located in the Bridgeport Valley area (Figure 1).

Bridgeport Reservoir, with a storage capacity of approximately 40,000 acre-feet (af), is located at the downstream end of Bridgeport Valley. The Walker Irrigation District is responsible for day-to-day operation of Bridgeport Reservoir and directs the Federal Water Master to release water from the reservoir to serve agricultural needs in the East Walker River Basin below the reservoir and in Mason Valley (Figure 1). The California State Water Resources Control Board has regulatory interest of the reservoir since it is located in the state of California. Main tributaries to Bridgeport Reservoir include: East Walker River, Virginia Creek, Green Creek, Robinson Creek, Buckeye Creek, and Swauger Creek. The average annual combined inflow of these tributaries into the Bridgeport Valley between 1939 and 1993 was 132,000 acre-feet per year, as estimated by Thomas (1995) using data from USGS stream gages. Inflow values are subject to large annual variations depending on the amount of snowfall in the mountains above Bridgeport Valley.

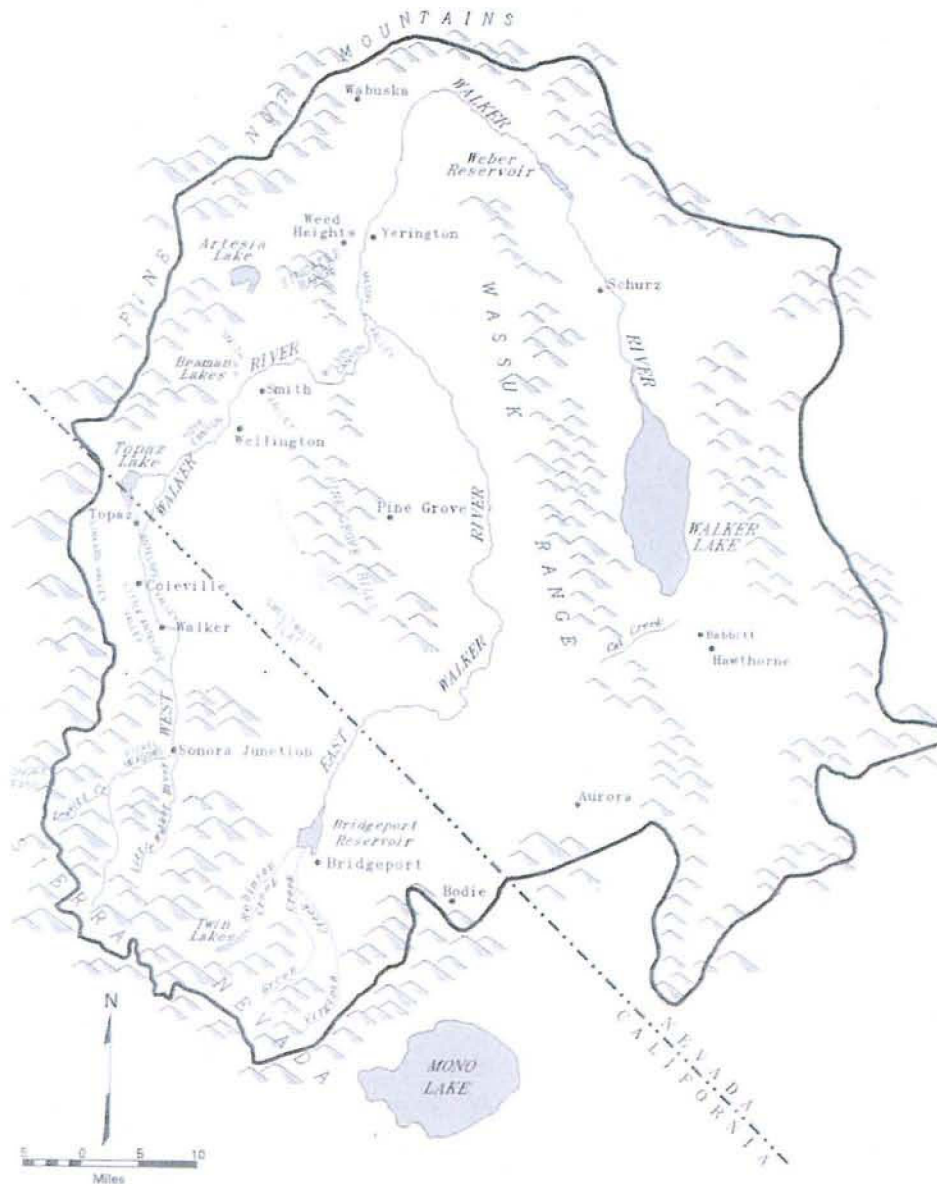
Twin Lakes is a small water storage facility that consists of two portions (Upper and Lower). Twin Lakes lies at 7,726 feet elevation in the Toiyabe National Forest, just below the Hoover Wilderness in Mono County, California, and approximately 10 miles upstream of Bridgeport Reservoir. Lower Twin Lake Dam was constructed in 1888 on Robinson Creek to increase the

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<sup>b</sup> Except where specifically cited, the information in this section is taken from Sharpe et al. (2007).

natural lake's size and to control flows in Robinson Creek (CDFG, 1965). The primary use of the water is for stock watering in the Bridgeport Valley approximately 10 miles downstream. The lakes and surrounding area are used extensively for recreation. Privately owned residences as well as motels and cabins are located near the lakes. A large campground at the west end of the lakes and a trailhead for foot and stock access to the high Sierra backcountry are used by visitors. Twin Lakes drain via Robinson Creek into an extensive wetland that is both natural and receives water from ditch irrigation.

The only other water storage feature in the East Walker River watershed is Green Lakes (East Lake, West Lake, and Green Lake) located in the Bridgeport Valley area with a collective storage right of 400 acre-feet.



**Figure 1.** Map of the Walker River Basin and surrounding areas of California and Nevada (Source: California Department of Water Resources)

Downstream of Bridgeport Valley and Bridgeport Reservoir are the areas referred to as the Upper East and Lower East Walker valleys. Between 1939 and 1993, the average annual flow of the river in this location was approximately 107,000 acre-feet per year (Thomas 1995).

Water quality of the East Walker River varies depending on seasonal stream flow. Total dissolved solids (TDS) ranges between 54 parts per million (ppm) in July near Bridgeport Reservoir to 139 ppm in October at Minister Road (Humberstone, 1999). These values remain below the 500 ppm annual average maximum limit for uses of water supply, irrigation, and livestock and the single maximum value of < 390 mg/L to maintain existing higher quality water set by the Nevada Administrative Code (NAC 455A.118 to 445A.225) in this river reach. Water temperature ranges from 32° F upstream in the winter to approximately 72° F downstream in summer months. Dissolved oxygen ranges between 7.1 and 12.3 mg/L (Humberstone, 1999).

### **2.2.2 West Walker River Watershed**

A number of tributaries meet and form the main channel of the West Walker River upstream from the town of Walker, California. USGS flow monitoring gage 10296000 (Walker River below Little Walker River, upstream of Walker, California) is located just below this confluence. This gage has the longest continuous period of record on the West Walker River and documented an average annual flow of 185,000 acre-feet per year between 1939 and 1993. The main channel of the West Walker River flows through Antelope Valley. A USGS flow monitoring gage where the West Walker River enters Antelope Valley (10296500: West Walker River near Walker, California), has an average annual flow of 195,000 acre-feet per year for 1939 to 1993 (Thomas, 1995). The flow entering Antelope Valley is subject to large annual variations depending on the amount of snowfall that occurs in mountains upstream of Antelope Valley.

In Antelope Valley, the West Walker River passes several miles to the east of Topaz Lake and continues downstream to Smith Valley (Figure 1). Topaz Lake is the only significant lake or water impoundment feature in the West Walker watershed and is located on the Nevada-California border, approximately 26 miles south of Lake Tahoe in Mono County, California. Topaz Lake is an artificial reservoir that was formed by diverting waters from the West Walker River into a nearby basin that had previously contained a smaller, natural lake (formerly known as Alkali Lake). The initial construction took place in 1922, resulting in a reservoir with a capacity of 45,000 acre-feet (56,000,000 m<sup>3</sup>). In 1937 a new levee raised the capacity to its current 59,440 acre-feet (73,320,000 m<sup>3</sup>).

Small water storage facilities that exist in the West Walker watershed include: Black Junction Reservoir (350 af) located near Sonora Junction; Lobdell Lake (500 af) located at 9200 feet asl in the Sweetwater Range; and Poore Lake (1,200 af) located in Antelope Valley.

In terms of water quality, TDS can range approximately between 24 and 314 ppm (Humberstone 1999). These values remain well below the 500 ppm annual average maximum limit for uses of water supply, irrigation, and livestock set by the Nevada Administrative Code (NAC 455A.118 to 445A.225) in this river reach. Minimum values of TDS tend to be in the headwaters and

gradually increase downstream. TDS also varies with seasonal stream flow changes, generally decreasing with increasing flows. According to Humberstone (1999), TDS levels increase during irrigation season with maximum levels typically occurring in September. Water temperature behaves in a manner similar to TDS and varies in space and time. Water temperature is generally lowest near headwater streams and gradually increases downstream. Water temperatures in the West Walker River range from as low as 32° F in the upstream areas in winter to as high as 75° F in the downstream areas (Humberstone, 1999). Dissolved oxygen levels will vary depending upon flow and season and can range between 5.2 and 13.7 mg/L (Humberstone, 1999). Trout prefer oxygen levels above 5 mg/L; the ideal dissolved oxygen level for fish is between 7 and 9 mg/L (Humberstone, 1999; Koch et al., 1979).

## **2.3 HABITAT AND ASSOCIATED WILDLIFE USE <sup>c</sup>**

The habitat of the affected area can be characterized in a number of different ways that are meaningful from an ecological or biological perspective. For the purposes of this RP/EA, water is used as a primary feature to define habitats and can be delineated into two very general types: (1) Lacustrine and (2) Riverine, riparian, and associated wetlands. Quality of the habitat is not intrinsic in the definition and therefore changes through time.

Wildlife use in the affected area is associated with specific types of habitats, although habitat use may be seasonal. While fauna are typically considered users of habitat or having habitat association, flora also may be associated with specific habitat types. The relationship between a species and its habitat is called a habitat relationship. Morrison et al. (1992) define habitat as “an area with the combination of resources (food, cover, water) and environmental conditions (temperature, precipitation, presence or absence of predators and competitors) that promote occupancy by individuals of a given species (or population) and allows those individuals to survive and reproduce.” Therefore both fauna and flora have habitat associations.

### **2.3.1 Lacustrine**

Lacustrine is any pond, lake, or reservoir viewed as an ecosystem. They are predominantly aquatic systems with a varying extent and composition of shoreline vegetation, and they support habitats for various animals at different times throughout the year. Natural lake levels fluctuate because of external environmental and climatic conditions, whereas reservoir levels fluctuate based on human use. Disjunct wetland communities may occur when water levels drop for extended time periods and can exist intermittently depending on fluctuating water levels. Discharge from reservoirs is regulated and controlled to accommodate downstream water requirements and reservoir holding capacities. For this reason, reservoirs tend to be more unstable environments than lakes, particularly in terms of shoreline habitat.

#### **2.3.1.1 Bridgeport Reservoir**

Game fish occurring in Bridgeport Reservoir include rainbow (*Oncorhynchus mykiss*) and brown trout (*Salmo trutta*), Sacramento perch (*Archoplites interruptus*), and green sunfish (*Lepomis*

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<sup>c</sup> Except where specifically cited, the following information in this section is taken from Sharpe et al. (2007)



*cyanellus*). Rainbow trout are stocked in Bridgeport reservoir by CDFG. The Bridgeport Fisheries Enhancement Program, sponsored by the Bridgeport Chamber of Commerce and other donors, plants brown trout into the reservoir and other local waters within the valley. Non-game fish occurring in Bridgeport Reservoir include carp (*Cyprinus carpio*), tui chub (*Gila bicolor sp.*), Lahontan speckled dace (*Rhinichthys osculus robustus*), and Tahoe and mountain suckers (*Catostomus sp.*). Wildlife such as waterfowl depend on the reservoir for foraging and resting habitat during migration periods. Pelicans (*Pelecanus sp.*), gulls (*Larus sp.*), egrets, and herons are common. Bald eagles are also present and use the area for winter roosting. Species associated with the irrigated pasture and meadows adjacent to the reservoir occur where shoreline habitat provides adequate cover, foraging, or hunting conditions.

### **2.3.1.2 Topaz Lake**

Topaz Lake is stocked annually with rainbow trout by both CDFG and NDOW. Rainbow/cutthroat hybrids, brown trout, and bullhead catfish (*Ictalurus nebulosus*) also occur there. Wetland habitat exists in the area where the Walker River is diverted into the reservoir and provides habitat for a variety of waterbirds such as egrets, herons, and wading shorebirds. Pelicans and gulls are also common. The reservoir is used as a stopover for migrating waterfowl. Other riparian species and species associated with irrigated pasture habitat may be found near the reservoir or nearby. Bats, for example, forage over the reservoir and along the shore. Species associated with the irrigated pasture and meadows adjacent to the reservoir occur where shoreline habitat provides adequate cover, foraging, or hunting conditions.

### **2.3.1.3 Twin Lakes**

Although LCT no longer inhabits Twin Lakes, CDFG has historic reports that Lower Twin Lake once supported satisfactory numbers of wild cutthroat trout as well as numerous Rocky Mountain whitefish (CDFG, 1965). USFWS also reported that Twin Lakes was the only lacustrine habitat in the Walker River Basin, other than Walker Lake, where LCT occurred (USFWS, 1995). Rainbow trout are stocked in Twin Lakes by CDFG. CDFG also reports that Kokanee salmon (*Oncorhynchus nerta*) and brown trout also occur in Twin Lakes as well (D. Becker, pers. comm.).

## **2.3.2 Riverine, Riparian, and Associated Wetlands**

In general, the riparian zones play a critical role in maintaining physical characteristics and function of the river. For example, the riparian zone moderates river temperatures, traps sediment, and adds resiliency to the river channel during floods. For the riparian zone to function in these restorative and regenerative capacities, enough water must be available with appropriate frequency and duration. Water must be available for the germination and survival of seeds from riparian and wetland plants, and these plants, in turn, provide critical functions that maintain the integrity of the river.

Riparian zones affect in-stream habitat and quality by converting, diluting, and flushing accumulated pollutants and redistributing sediment. Rejuvenation of coarse and fine-grained habitat patches is essential for maintaining aquatic organisms. The riparian zone vegetation of the affected area includes native and non-native species. Although tamarisk and Russian olive

(*Elaeagnus angustifolia*) have invaded the Great Basin, native Fremont cottonwood (*Populus fremontii*) and willow (*Salix* spp.) still line reaches of the East and West Walker River. Cattail (*Typha* spp.) and hardstem bulrush (*Scirpus acutus*) are abundant in riparian zone wetlands and where the water table supports wetland vegetation as well as grasses, sedges (*Carex* spp.), and rushes (*Juncus* spp.). Wetlands can form in oxbows or in areas where flow is slow. Inundated land can host submergent plant communities dominated by pondweeds (*Potamogeton* spp.), widgeon grass (*Ruppia maritime*), flatsedges (*Cyperus* spp.), and spikerushes (*Eleocharis* spp.).

### **2.3.2.1 East Walker River**

The East Walker River headwaters originate in the Sierra Nevada above Twin Lakes outside of Bridgeport, California. LCT occur in By-Day Creek above Bridgeport Reservoir. This meadow-like environment is grazed by cattle and supports a variety of wetland associated avifauna. Grasses and sedges dominate this pastureland, although some sagebrush occurs where microtopography permits drainage or where the ground is alkaline. The short river stretch above the grazed pasturelands in the Twin Lakes vicinity is montane riparian woodland, characterized by quaking aspen (*Populus tremuloides*), mountain alder (*Alnus tenuifolia*), and black cottonwood (*Populus balsamifera*) as well as willows (*Salix* sp.) and creek dogwood (*Cornus stolonifera*) (Howald, 2000). Rainbow trout and brown trout from the Mason Valley Fish Hatchery are stocked in the East Walker River. Brown trout are the most common sport fish except where rainbow trout are stocked. Wild rainbow trout occur but are uncommon. The native mountain whitefish occurs mainly at Rosaschi Ranch and is rare throughout the river (NDOW, 2004).

Below Bridgeport Reservoir, the river takes on characteristics more typical of a below-dam water course. The lower stretches are considered high desert riparian woodlands. Woody vegetation in the riparian zone includes species such as the arroyo willow (*Salix lasiolepis*), cottonwood (*Populus* spp.), birch (*Betula occidentalis*), and interior wild rose (*Rosa woodsii*) (Howald, 2000). Fish species include rainbow trout, mountain whitefish, Lahontan redband (*Richardsonius egregious*), Lahontan speckled dace, Tahoe and mountain sucker, tui chub, common carp, Paiute sculpins (*Cottus beldingi*), and brown trout (Sada, 2000). Both brown and rainbow trout are actively stocked in the East Walker River (Stockwell, 1994). Stockwell (1994) reported that a remnant population of LCT in the East Walker River was used to establish populations elsewhere in the east and west forks of the Walker. These fish species feed on the abundant mayflies, stoneflies, caddis, and midges. Amphipods, snails, and minnows are also abundant throughout the east and west forks of the Walker River.

Shortly after the East Walker crosses the California and Nevada border, it enters Pine Grove Hills. The riparian vegetation between Bridgeport Reservoir and the southern end of Mason Valley is similar to the riparian community below Bridgeport Reservoir. This vegetation provides cover for a variety of birds and small mammals. In Mason Valley, the East Walker runs through open sagebrush and irrigated agriculture country.

### **2.3.2.2 West Walker River**

Headwaters of the West Walker originate east of the Sierra crest just south of Sonora Pass, California, from Kirkwood and Tower Lakes. Three of the four remaining LCT populations that occur in the Walker River are found in West Walker River tributaries of Slinkard Creek, Silver

Creek, and Wolf Creek. Leavitt Meadows, a high alpine valley, and Pickel Meadows remain undeveloped and contribute to the clarity and high water quality of the upper reaches of the West Walker River. Thirty or more species of wildflowers may be found in these mountain meadows including paintbrush (*Castilleja miniata*), lupine (*Lupinus polyphyllus*), and shooting stars (*Dodecatheon alpinum*). Where the ground remains fairly wet, grasses, rushes, and sedges dominate (Howald, 2000). At the same time, where microtopography dictates, sagebrush and other more xeric plant species occur.

Plant communities that comprise the riparian zone of the West Walker River host diverse assemblages of mammals, amphibians, birds, and insects, as well as aquatic invertebrates. California spotted owls (*Strix occidentalis occidentalis*) may occur along the Walker River headwaters in dense, old-growth, multi-layered mixed conifer forests of the Sierra Nevada to 7,600 feet elevation. They feed on a variety of small mammals, birds, and large arthropods and are thought to require a permanent water source. The Mono checkerspot butterfly (*Euphydryas editha moensis*) is a rare subspecies of the Editha butterfly. It occurs in foothills and high elevations in mountains, with the center of its range being Mono County. They also are found in wet meadows and pine forests.

Native fish species occurring in the West Walker River include Paiute sculpins, mountain whitefish, Lahontan redbreast, Lahontan speckled dace, Tahoe and mountain suckers, and tui chub. Common carp and largemouth bass (*Micropterus salmoides*) occur here, and brown trout and rainbow trout are stocked (NDOW 1997; Sada, 2000). LCT inhabit streams feeding into the upper reaches of the West Fork, and LCT have been planted in the West Fork. In 1997, brown trout were the most common sport fish in the West Walker River (NDOW, 1997). Benthic macro-invertebrates were sampled in 1996 by NDOW at two locations (see NDOW, 1997) for Hydrzoa, Oligochaeta, and Insecta.

South of the town of Walker, the river channel becomes a network of boulders in the constraints of the Walker River canyon and, thus, is popular with anglers. Ponderosa pine (*Pinus ponderosa*) is common on the shores of the river here. From here, the West Walker flows into Antelope Valley and is flanked by irrigated pasture and alfalfa fields. Water is diverted from the main river channel downstream into Topaz Lake; this location is the upstream extent of Paiute sculpins (Stockwell, 1994). From Topaz, the West Walker River flows through Smith Valley, Wilson Canyon, and Mason Valley, through predominantly sagebrush shrub-scrub and irrigated agriculture fields. The two forks of the Walker, West and East, join in Mason Valley to form the main stem of the Walker River (CDWR 1992).

## 2.4 RECREATIONAL USE<sup>d</sup>

The Walker River Basin includes diverse recreational resources. Lake, reservoir, river, upland, mountain, and wetland areas are used for day and overnight recreational activities all year. Activities in the Walker River Basin include boating, fishing, big and small game hunting, off-

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<sup>d</sup> Except where specifically cited, the following information in this section is taken from Sharpe et al. (2007)

road vehicle use, sightseeing, hiking, kayaking, swimming, rock hounding, photography, nature study, bird watching, collecting plants, and rock climbing.

Recreational lands in the affected area are private or owned and administered by the U.S. Forest Service (USFS) or the state of California. The USFS owns and manages the Rosaschi Ranch, which includes a seven-mile stretch of the East Walker River, renowned as a spectacular catch and release fly-fishing destination. Within the Toiyabe National Forest, Nevada, and the Inyo National Forest, California, lies the 47,937-acre Hoover Wilderness Area. Two proposed areas are currently (2007) recommended for wilderness designation in the Toiyabe National Forest Plan: the Hoover Planning Area West (49,200 acres) and the Hoover Planning Area East (23,500 acres). The USFS also administers Alum Creek campground (camping and picnicking) and Desert Creek Campground (camping, fishing, and picnicking).

Approximately 48 miles of the West Walker River from its source in the Hoover Wilderness to the Topaz Lake Valley were determined eligible for federal designation as a "*Wild and Scenic River*" in recognition of the river's outstanding scenic, recreation, fish, and wildlife values. The USFS also identified 35 miles of the East Walker River from Bridgeport reservoir to the National Forest boundary in Nevada as eligible due to its outstanding scenic, recreation, historical, cultural, fish, and wildlife values. Boating and boat fishing, swimming, picnicking, and camping also occur at the three major lake/reservoirs in the affected area (Bridgeport, Topaz, and Twin Lakes). Public access to these areas includes land owned privately or administered by the USFS.

## **3.0 COORDINATION AND COMPLIANCE**

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### **3.1 AUTHORITIES AND LEGAL REQUIREMENTS**

The CDFG, NDEP, NDOW, and the USFWS, collectively, are the Trustees for the natural resources injured by the Spill (Trustees). The USFWS is a designated Trustee for natural resources pursuant to subpart G of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 C.F.R. § 300.600 et seq.) and Executive Order 12580 (3 C.F.R., 1987 Comp. p. 193, 52 Fed. Reg. 2923 (January 23, 1987) as amended by Executive Order 12777 (56 Fed. Reg. 54757 (October 19, 1991))). The CDFG is a designated Trustee pursuant to OPA for resources within its purview and has State natural resource trustee authority pursuant to Fish and Game Code Sections 711.7 and 1802 and the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act (Gov. Code §§ 8670.1, et seq.). The NDEP has State natural resource trustee authority pursuant to Nevada Revised Statute (NRS) 445A.300, et seq. The NDEP has deferred restoration planning (i.e., preparation of the DARP/EA) and implementation activities associated with the AFFS East Walker River Oil Spill to NDOW on behalf of the State of Nevada.

As a designated Trustee, each agency is authorized to act on behalf of the public under State and/or federal law to assess and recover damages for those natural resources under its authority and to plan and implement actions to restore, rehabilitate, replace, or acquire the equivalent of the natural resources injured as a result of a discharge of oil. The USFWS is serving as the lead

federal Trustee for the AFFS East Walker River Oil Spill for purposes of coordination and compliance with OPA and NEPA.

### **3.1.1 Overview of the Oil Pollution Act**

The OPA (33 U.S.C. § 2706(b)) establishes a liability regime for oil spills which injure natural resources and/or the services that those resources provide to the ecosystem or humans. Federal and State agencies and Indian tribes act as trustees on behalf of the public to assess the injuries, plan restoration to compensate for those injuries, and implement restoration. This final RP/EA has been prepared jointly by CDFG, NDOW, and USFWS. OPA defines "natural resources" to include land, fish, wildlife, water sources, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States, any State or local government or Indian tribe, or any foreign government. Assessments are intended to provide the basis for restoring, replacing, rehabilitating, and acquiring the equivalent of injured natural resources and services. OPA provides that the Trustees may assess damages for natural resources injured under their trusteeship. OPA further authorizes the Trustees to develop and implement a plan for the restoration, rehabilitation, replacement, or acquisition of the equivalent of the natural resources under their trusteeship. The process emphasizes both public involvement and participation by the RPs.

#### **3.1.1.1 Coordination among the Trustees**

The OPA NRDA regulations provide that where an oil spill affects the interests of multiple trustees, they should act jointly to ensure that full restoration is achieved without double recovery (15 C.F.R. § 990.14(a)). The Trustees in this matter have worked together from the day of the Spill in a shared effort to fully restore the resources that were injured. The U.S. Forest Service (USFS) initially participated in the NRDA process. Thereafter, USFS decided to withdraw from the process and defer to the remaining Trustees' determinations regarding natural resource injuries and restoration.

#### **3.1.1.2 Coordination with the Public**

Public review of the draft RP/EA was an integral component of the restoration planning process. An earlier draft RP/EA was released for a 30-day public comment period beginning on March 14, 2008. Comments and information received regarding the March DRP/EA, demonstrated the need to revise the draft RP/EA to clarify the scope of restoration actions being considered by the Trustees. Subsequently, a 45-day public review and comment period from August 1 until September 15, 2008 was provided for the revised draft RP/EA. The Trustees also presented a brief overview of the draft RP/EA and accepted public comments at a public meeting in Walker, California on August 20, 2008. Comments received are summarized, along with Trustee responses, in Appendix B; written comments are presented in Appendix C.

The Trustees continue to maintain a website that provides information on the AFFS East Walker River Oil Spill case and on-going restoration at

[http://www.dfg.ca.gov/ospr/spill/nrda/nrda\\_ewr.html](http://www.dfg.ca.gov/ospr/spill/nrda/nrda_ewr.html)

### **3.1.2 Compliance with Applicable Laws and Regulations**

#### **3.1.2.1 Federal Statutes**

##### ***Oil Pollution Act of 1990 (33 U.S.C. §§ 2701, et seq.; 15 C.F.R. Part 990)***

The Oil Pollution Act, 33 U.S.C. 2706(b), establishes a liability regime for oil spills which injure or are likely to injure natural resources and/or the services that those resources provide to the ecosystem or humans. Federal and State agencies and Indian tribes act as Trustees on behalf of the public to assess the injuries, scale restoration to compensate for those injuries and implement restoration. This final RP/EA has been prepared jointly by CDFG, NDOW and USFWS. Each agency is a designated natural resource Trustee under OPA and/or State law, for natural resources injured by the AFFS East Walker River Oil Spill. OPA defines "natural resources" to include land, fish, wildlife, water sources and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States, any State or local government or Indian tribe, or any foreign government. Assessments are intended to provide the basis for restoring, replacing, rehabilitating, and acquiring the equivalent of injured natural resources and services. OPA provides that the Trustees may assess damage for natural resources under their trusteeship. OPA further authorizes the designated Trustees to develop and implement a plan for the restoration, rehabilitation, replacement, or acquisition of the equivalent of the natural resources under their trusteeship. The process emphasizes both public involvement and participation by the Responsible Party(ies). The regulations for natural resource damage assessments under OPA are found at 15 C.F.R., Part 990.

##### ***National Environmental Policy Act (42 U.S.C. §§ 4321, et seq.; 40 C.F.R. Parts 1500-1508)***

The National Environmental Policy Act sets forth a process of environmental impact analysis and public review. NEPA is the basic national charter for the protection of the environment. Its purpose is to "encourage productive and enjoyable harmony between man and the environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; and to enrich the understanding of the ecological systems and natural resources important to the Nation." (42 U.S.C. § 4321) The law requires the government to consider the consequences of major federal actions on human and natural aspects of the environment in order to minimize, where possible, adverse impacts. Equally important, NEPA established a process of environmental review and public notification for federal planning and decision making.

Generally, when it is uncertain whether an action will have a significant effect, federal agencies will begin the NEPA planning process by preparing an environmental assessment (EA). The EA may undergo a public review and comment period. Federal agencies may then review the comments and make a determination as to the significance of the impacts. If the impacts are considered significant, an environmental impact statement (EIS) will be prepared. If the Federal Agencies determine the action will not result in significant impacts on the environment, a finding of no significant impact (FONSI) will be issued.

The Trustees have integrated the OPA restoration planning process with the NEPA process to comply, in part, with those requirements. Accordingly, this final RP is also a NEPA EA. This integrated process allows the Trustees to meet the public involvement steps of OPA and NEPA

concurrently. The Trustees believe this process fully meets the NEPA requirements for most of the selected restoration projects described herein. However, additional NEPA analysis may be conducted prior to implementation of some of the selected projects that are presently at the planning and/or are conceptual stage (e.g., Rosaschi Ranch Outdoor Recreational Improvements).

***The Clean Water Act (33 U.S.C. §§ 1251, et seq.)***

The Clean Water Act (CWA or the “Act”) is the principle federal statute governing water quality. The Act’s goal is to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters. The CWA regulates both the direct and indirect discharge of pollutants into the Nation’s waters. Section 301 of the Act prohibits the discharge into navigable waters of any pollutant by any person from a point source unless it is in compliance with a National Pollution Discharge Elimination System (NPDES) permit.

Section 311 of the CWA regulates the discharge of oil and other hazardous substances into navigable waters and waters of the contiguous zone, as well as onto adjoining shorelines. The Act allows the federal government to remove the substance and assess the removal costs against the responsible party. The CWA defines removal costs to include costs for the restoration or replacement of natural resources damaged or destroyed as a result of a discharge of oil or a hazardous substance.

Section 404 of the Act authorizes the U.S. Army Corps of Engineers (the “Corps”) to issue permits, after notice and opportunity for public hearings, for the disposal of dredged material into navigable waters. Generally, projects which move material in or out of waters or wetlands require Section 404 permits. Section 401 of the Act provides that projects that involve discharge or fill to wetlands or navigable waters must obtain certification of compliance with State water quality standards.

The Trustees do not anticipate that any of the selected restoration actions described herein will trigger CWA permitting requirements. However, the implementing entity for each project will be required to apply for any necessary permits prior to project implementation, including any required CWA permit.

***Endangered Species Act (16 U.S.C. §§ 1531, et seq.)***

The purpose of the Endangered Species Act (ESA) is to conserve endangered and threatened species and the ecosystems upon which they depend. The ESA directs all federal agencies to utilize their authorities to further these purposes. Pursuant to Section 7 of the ESA, federal agencies shall, in consultation with the Secretary of the Department of the Interior and/or Commerce, ensure that any action that they authorize, fund or carry out is not likely to jeopardize the continued existence of any endangered or threatened species, or result in the destruction or adverse modification of designated critical habitat.

Under the ESA, the USFWS publishes lists of endangered and threatened species. Before initiating an action, the federal action agency, or its non-federal permit applicant, must ask the USFWS to provide a list of threatened, endangered, proposed and candidate species and

designated critical habitat that may be present in the project area. If no species or critical habitats are known to occur in the action area<sup>e</sup>, the federal action agency has no further ESA obligations under Section 7. If the federal action agency determines that a project may affect a listed species or designated critical habitat, consultation is required.

If the federal action agency concludes that the project will not adversely affect listed species or designated critical habitat, the agency submits a “not likely to adversely affect” determination to the USFWS. If the USFWS concurs with the federal action agency determination of not likely to adversely affect, then the consultation (informal to this point) is concluded and the decision is put in writing.

If the federal action agency determines that the project is likely to adversely affect either a listed species or its critical habitat, then more formal consultation procedures are required. A project description and assessment of impacts of the proposed project would be prepared and submitted to USFWS. Upon receipt of this information USFWS has 135 days to prepare a biological opinion. The biological opinion could include mandatory measures to minimize the impacts of the project on the listed species that would be adversely affected by the project. The determination of whether or not the proposed action would be likely to jeopardize the species or adversely modify its critical habitat is contained in the biological opinion. If a jeopardy or adverse modification determination is made, the biological opinion must identify any reasonable and prudent alternatives that could allow the project to move forward.

The Trustees have evaluated the potential effects of the selected restoration projects on listed species or designated critical habitat and have performed the appropriate level of consultation with the USFWS pursuant to the requirements of the ESA. The Trustees do not believe any of the selected restoration projects described herein will adversely affect a listed species or critical habitat as the projects are designed to restore and benefit injured resources including the federally-listed species referred to above. If any selected projects in this final RP/EA are changed, the Trustees will conduct a consultation pursuant to Section 7 of the ESA as necessary.

***Fish and Wildlife Coordination Act (16 U.S.C. §§ 661, et seq.)***

The Fish and Wildlife Coordination Act (FWCA) provides the basic authority for the USFWS involvement in the evaluation of impacts to fish and wildlife from proposed water resource development projects. The FWCA requires that federal agencies consult with the USFWS (and/or NOAA Fisheries as may be appropriate) and state wildlife agencies for activities that affect, control or modify waters of any stream or bodies of water, in order to minimize the adverse impacts of such actions on fish and wildlife resources and habitat. This consultation is generally incorporated into the process of complying with Section 404 of the Clean Water Act, NEPA or other federal permit, license or review requirements.

As to those selected projects involving activities that may affect, control, or modify water bodies, such as the Slinkard Creek LCT Enhancement project, the implementing entity will be required to consult with the appropriate wildlife agencies and comply with Section 404 of the Clean Water Act, NEPA and/or other federal permit, license or review requirements as appropriate.

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<sup>e</sup> Action Area: All areas that may be affected directly or indirectly by the proposed action and not merely the immediate area involved in the action.



***Migratory Bird Treaty Act of 1918 (16 U.S.C. §§ 703, et seq.)***

The Migratory Bird Treaty Act (MBTA) implements four international treaties involving protection of migratory birds, including all marine birds, and is one of the earliest statutes to provide for avian protection by the federal government. The MBTA generally prohibits actions to “pursue, hunt, take, capture, kill, attempt to take, kill, possess, offer for sale, sell, offer to purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird...or any part, nest, or egg of such bird.” Exceptions to these prohibitions are only allowed under regulations or permits issued by USFWS.

Hunting of migratory game birds is regulated annually through a process in which the USFWS sets “framework regulations” and “special regulations” designed to maintain sustainable hunting levels. Framework regulations are the foundation of annual regulations and consist of the outside dates for opening and closing seasons, season length, daily bag and possession limits, and shooting hours. Special regulations consist of framework regulations that are applied on a small scale and consist of split seasons, zones and special seasons, state regulations conform to the federal regulations. All other actions prohibited by the MBTA are only allowed under specific permits issued by the USFWS Regional Bird Permit Offices. These permits include special use permits for collection and rehabilitation or preservation of oiled birds during spill response, which usually provides the primary data for determining extent of injury to marine birds and the need for restoration.

The selected projects in the final RP/EA will be conducted in full compliance with the MBTA.

***Rivers and Harbors Act (33 U.S.C. §§ 401, et seq.)***

The federal Rivers and Harbors Act regulates development and use of the Nation’s navigable waterways. Section 10 of the Act prohibits unauthorized obstruction or alteration of navigable waters and vests the Army Corps of Engineers with authority to regulate discharges of fill and other materials into such waters. Restoration actions that require Section 404 Clean Water Act permits are likely also to require permits under Section 10 of the Rivers and Harbors Act. However, a single permit usually serves for both. Therefore, the Trustees can ensure compliance with the Rivers and Harbors Act through the same mechanisms.

The Trustees do not believe that any of the selected restoration projects have the potential to obstruct or adversely alter navigable waters.

### ***Executive Order (EO) 11988 – Construction in Flood Plains***

This 1977 Executive Order directs federal agencies to avoid, to the extent possible, the long-and short-term adverse impacts associated with the occupancy and modification of flood plains and to avoid direct or indirect support of development in flood plains wherever there is a practicable alternative. Each agency is responsible for evaluating the potential effects of any action it may take in a flood plain. Before taking an action, the federal agency should determine whether the proposed action would occur in a flood plain. For any major federal action significantly affecting the quality of the human environment, the evaluation would be included in the agency's NEPA compliance document(s). The agency should consider alternatives to avoid adverse effects and incompatible development in flood plains. If the only practicable alternative requires siting in a flood plain, the agency should: (1) design or modify the action to minimize potential harm, and (2) prepare and circulate a notice containing an explanation of why the action is proposed to be located in the flood plain.

None of the selected restoration projects involve construction that will adversely affect, or be incompatible with, a floodplain.

### ***Executive Order 13112 - Invasive Species***

The 1999 Executive Order 13112 applies to all federal agencies whose actions may affect the status of invasive species. The Order requires such agencies, to the extent practicable and permitted by law, to: (1) identify such actions; and (2) take actions specified in the Order to address the problem consistent with their authorities and budgetary resources; and (3) not authorize, fund, or carry out actions that they believe are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless, "pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions."

The Trustees do not believe that any of the selected restoration projects have the potential to cause or promote the introduction or spread of invasive species.

### ***Executive Order (EO) 12898 - Environmental Justice***

On February 11, 1994, President Clinton issued Executive Order 12898, requiring each federal agency to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority and low income populations. In the memorandum to heads of departments and agencies that accompanied executive Order 12898, the President specifically recognized the importance of procedures under NEPA for identifying and addressing environmental justice concerns. The memorandum states that "each Federal agency shall analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by [NEPA]." The memorandum particularly emphasizes the importance of NEPA's public participation process, directing that "each Federal agency shall provide opportunities for community input in the NEPA process." Agencies are further directed to "identify potential effects and mitigation measures in

consultation with affected communities, and improve the accessibility of meetings, crucial documents, and notices.” The Council on Environmental Quality (CEQ) has oversight of the federal government’s compliance with Executive Order 12898 and NEPA.

The Trustees have concluded that there is no low income or ethnic minority community that would be adversely or disproportionately affected by the selected projects in the final RP/EA. The Trustees involved the public by providing notice and seeking public comments on the draft RP/EA, holding a public meeting to present and receive comments on the draft RP/EA, and by providing public access to the Administrative Record.

***Information Quality Law (Public Law 106-554, Section 515)***

Information disseminated by federal agencies to the public after October 1, 2002, is subject to information quality guidelines developed by each agency pursuant to Section 515 of Public Law 106-554 that are intended to ensure and maximize the quality of the objectivity, utility and integrity of such information. This final RP/EA is an information product covered by information quality guidelines established by USFWS and DOI for this purpose. The quality of the information contained herein is consistent with these guidelines, as applicable.

**3.1.2.2 State Statutes**

***California Environmental Quality Act (Pub. Res. Code §§ 21000-21178.1)***

The California Environmental Quality Act (CEQA) was adopted in 1970 and applies to most public agency decisions to carry out, authorize or approve projects that may have adverse environmental impacts. Its basic purposes are to inform California governmental agencies and the public about the potentially significant effects of proposed activities, to identify ways that environmental damage can be avoided or significantly reduced, to prevent significant avoidable damage to the environment through adoption of feasible alternatives or mitigation measures, and to disclose the reasons for agency approval of a project resulting in significant environmental effects.

The CEQA process begins with a preliminary review as to whether CEQA applies to the project in question. Generally, a project is subject to CEQA if it involves discretionary action that is carried out, funded, or authorized by a public agency that has the potential to impact the environment. Once the agency determines that the “project” is subject to CEQA, the lead agency must then determine whether the action is exempt under either a statutory or categorical exemption.

If the lead agency determines that the project is not exempt then an initial study must be prepared to determine whether the project may have a potentially significant effect on the environment. Based upon the results of the initial study, the lead agency determines whether to prepare a Negative Determination (i.e., the project will not result in significant adverse effects to the environment) or an Environmental Impact Report (EIR) in cases where it is determined that the project may cause a significant environmental effect. The test for determining whether an environmental impact report (EIR) or negative declaration must be prepared is whether a fair

argument can be made based on substantial evidence that the project may have a significant effect on the environment.

In cases where a project will require compliance with both CEQA and the National Environmental Policy Act (NEPA), CEQA encourages the use of the NEPA Finding of No Significant Impact (FONSI) or Environmental Impact Statement (EIS) when such documents are available, or the preparation of joint State/federal documents, in lieu of preparing a separate Negative Declaration or EIR under CEQA. Accordingly, this RP/EA and subsequent FONSI, if issued, may be relied upon or adopted by the State trustee agencies or the lead agency for the project(s) towards compliance with CEQA where appropriate. To this end, the State Trustees are coordinating with the federal Trustees to ensure the RP/EA complies with the provisions of CEQA Guidelines including State public review requirements (Title 14 CCR, Chapter 3, § 15220 et seq.).

The State Trustee (CDFG) anticipates that many of the projects described herein are categorically exempt pursuant to: (1) “Minor alterations to land, water, or vegetation”; (2) “Actions by regulatory agencies for protection of natural resources”, and (3) “Actions by regulatory agencies for the protection of the environment.” However, as noted above, the Trustees intend to undertake further environmental review under NEPA/CEQA.

Additional CEQA compliance may be required for some of the projects described herein prior to actual implementation. This will be determined once detailed engineering design work or operational plans are developed for the selected projects. The lead agency for such projects will be required to carry out any additional CEQA compliance, as appropriate.

***California Lempert-Keene-Seastrand Oil Spill Prevention and Response Act (Gov. Code §§ 8670.1, et seq.)***

The Lempert-Keene-Seastrand Oil Spill Prevention and Response Act, commencing with Government Code Section 8670.1, became effective on September 24, 1990. This legislation is the key State compensatory mechanism for subsequent spills. It establishes a comprehensive liability scheme for damages resulting from oil spills. Recoverable damages include injury to natural resources, the cost of rehabilitating wildlife, habitat, and other resources, and loss of use and enjoyment of natural resources, public beaches, and other public resources. Responsible parties are required to fully mitigate adverse impacts to wildlife, fisheries, and wildlife and fisheries habitat by successfully carrying out environmental restoration projects or funding the activities of CDFG to carry out environmental restoration projects.

The California Act requires the CDFG Office of Spill Prevention and Response to assess natural resource damages following a significant oil spill. Additionally, the Administrator of the Office of Spill Prevention and Response is required to coordinate all actions required by State or local agencies to assess injury to, and provide full mitigation for injury to, or to restore, rehabilitate, or replace, natural resources, including wildlife, fisheries, wildlife or fisheries habitat, and beaches and other coastal areas, that are damaged by an oil spill. Such actions include, but are not limited to, actions required by State trustees under Section 1006 of the OPA.

***California Endangered Species Act (Fish and G. Code §§ 2050 et seq.)***

Pursuant to the California Endangered Species Act (CESA), it is the policy of the State of California that State agencies should not approve projects as proposed that would jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species if there are reasonable and prudent alternatives available. However, if reasonable alternatives are infeasible, individual projects may be approved if appropriate mitigation and enhancement measures are provided.

Pursuant to the CESA, the Fish and Game Commission has established a list of threatened and endangered species based on criteria recommended by the California Department of Fish and Game. Section 2080 of the California Fish and Game Code prohibits "take" of any species that the Commission determines to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The CESA allows for take incidental to otherwise lawful development projects. The CESA emphasizes early consultation to avoid potential impacts to rare, endangered, or threatened species and to develop appropriate mitigation planning to offset project-caused losses of populations of listed species and their essential habitats.

While the Trustees do not believe the selected restoration projects would result in the take of any State-listed species, the implementing entity will be required to consult with the CDFG as may be appropriate pursuant to the requirements of the CESA.

**3.1.2.3 Other Potentially Applicable Statutes and Regulations**

Additional statutes, regulations, or executive orders may be applicable to NRD restoration activities, including those listed below.

- Archaeological Resources Protection Act, 16 U.S.C. 460, *et seq.*
- National Historic Preservation Act of 1966 as amended (16 U.S.C. 470-470t, 110)
- Clean Air Act, 42 U.S.C. 7401, *et seq.*
- Executive Order 11514 – Protection and Enhancement of Environmental Quality
- Executive Order 11990 – Protection of Wetlands
- Executive Order 11991 – Relating to the Protection and Enhancement of Environmental Quality
- Porter-Cologne Water Quality Control Act, CA Water Code, Section 7

## 4.0 RESOURCE INJURIES AND DAMAGE CLAIMS

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Injury and associated damages were separated into two categories by the Trustees in order to address impacts to natural resources and human recreational activities. A detailed description of the injuries documented and the associated damage claims developed as a result of the AFFS East Walker River Oil Spill are provided in Hampton et al. (2002) but are summarized in the following sections for reference.

### 4.1 NATURAL RESOURCES

The Trustees based their damage claim for injuries to natural resources upon the cost to compensate the public for the lost resources between the time of the impacts and full recovery of the resources. Resource Equivalency Analysis (REA) was used to provide the basis of a service-to-service measurement of the restoration required to compensate for the injuries (Hampton et al. 2002). This is a standard method used nationwide for NRDA and is the recommended approach under the National Oceanic and Atmospheric Administration's (NOAA) guidelines for the Oil Pollution Act of 1990. This method bases the dollar amount of damages on the costs to restore the equivalent resources that were injured in the spill. The basic task of REA is to quantify the injury, identify a restoration project and quantify the benefits, scale the restoration project so that its size is commensurate with the injury, and then cost out the project. The cost of the project, plus appropriate oversight and monitoring, thus become the claim for damages.

The injury was quantified with respect to degree, duration, and geographic area. For simplifying purposes, the impact area was limited to 15 stream miles of in-stream resources. To quantify the initial degree of injury, the Trustees considered the results of the water, sediment, and fish tissue sampling, the macro-invertebrate surveys, the fish surveys, and other observed impacts to wildlife during the spill. The Trustees concluded that, by virtually any measure, the initial degree of injury was at least 75% of the resource services. To estimate the time until full recovery, the Trustees considered the natural life histories and reproductive capabilities of the impacted macro-invertebrates, fish, birds, and mammals. The Trustees believe that the macro-invertebrates would fully recover in one to two years (depending on species), and the other animals would take at least five years to fully replace the demographic age classes that were lost. Therefore, the Trustees have estimated that full recovery from the spill would occur after five years. Note that this is based on the assumption that oil is no longer adversely affecting the stream. A summary of the documented and suspected injuries to natural resources for which the damage claims were estimated are summarized in the following sections.

#### 4.1.1 Acute Injuries and Mortalities

Significant acute impacts occurred to aquatic macro-invertebrates and fish due to the toxicity of the oil spilled and the actions needed to facilitate cleanup such as the reduction in river flows and the use of equipment within the riverine environment. Approximately 21 dead fish were collected during the cleanup operations, the majority of which were mountain whitefish, and the aquatic macro-invertebrate community was severely impacted (Hampton et al. 2002). In

addition to the impacts to macro-invertebrates and fish, other species also suffered direct injuries. During the response period, crews recovered/collected the following dead animals within the first 10 miles of the spill zone: one Virginia rail (*Rallus limicola*), two American dippers (*Cinclus mexicanus*), one American mink (*Mustela vison*), and six beavers (*Castor canadensis*). The following animals were observed alive and oiled, but were not captured: one common merganser (*Mergus merganser*), one great blue heron (*Ardea herodias*), and one bald eagle (*Haliaeetus leucocephalus*).

Generally, it is very difficult to find dead animals during a spill response and it is usually assumed that only a fraction of those actually killed are found dead. Given that an American dipper is less than eight inches long and has solid dark gray plumage, it is remarkable that two were recovered. Based on the number of birds and mammals recovered, the number expected to be along the stream, and the amount of oil spilled, it is likely that nearly all the birds and mammals that regularly came in contact with the water within the first 10 miles of the spill zone were killed by the spill.

#### **4.1.2 Environmental Toxicity of AFFS Fuel Oil #6**

In the aquatic environment, the main concern from fuel oil #6 is in the aromatics such as benzene, toluene, xylene, naphthalene and others. Fuel oil #6 contains considerable amounts of polycyclic aromatic hydrocarbons (PAHs) (Rand and Petrocelli 1985; World Health Organization 1989). In terms of impacts to natural resources, PAHs vary substantially in their toxicity to aquatic organisms. Low-weight PAHs (LPAHs) such as naphthalene, fluorene, phenanthrene, and anthracene are acutely toxic to aquatic organisms. The majority of PAHs released to the East Walker River were LPAHs. Many of the high-weight PAHs (HPAHs), such as chrysene and benzo(a)pyrene, are less acutely lethal but demonstrably carcinogenic, mutagenic, or teratogenic to a wide variety of organisms including fish, amphibians, birds, and mammals (Moore and Ramamoorthy 1984; Eisler 1987). The analytical results from water, sediment and fish tissue samples collected in the East Walker River after the AFFS release and the potential ecological risks from exposure is provided in Higgins (2002) and summarized below.

##### **4.1.2.1 Water**

Water concentrations of PAH's in the East Walker River were above concentrations associated with mortality of salmon embryos during the January 2001 period and above concentrations associated with sub-lethal effects to herring eggs during the March 2001 period. However, concentrations were reduced enough in the water column by May 2001 to no longer pose an immediate threat to fish. Areas of the East Walker River had high enough concentrations of PAHs to impact reproductive success of fish as well as recruitment after the spill event. This was confirmed with data collected in an extensive fish survey of the East Walker River in 2001 by the California Department of Fish and Game and the Nevada Division of Wildlife (Hampton et al. 2002). Results showed the potential reduction of juvenile age classes and recruitment of rainbow trout and mountain whitefish.

#### **4.1.2.2 Sediment**

Total PAH concentrations in sediment exceeded the consensus-based Threshold Effect Concentration (TEC) guideline established for freshwater sediments by MacDonald et al (2000) at several locations within the impacted area during the March 2001 period. Sediment at most sites sampled during March 2001 consisted mostly of LPAHs. By the May 2001 period PAH concentrations decreased below their specific TEC guidelines at all sites except one. Over time LPAHs in sediments may convert to HPAHs and may persist where they are subjected to burial, resuspension, and degradation reactions. The available literature suggests that microbes degrade HPAHs slower than LPAHs. Half-lives for these compounds range from months to years. Furthermore, biodegradation probably occurs more slowly in aquatic systems than in soil (Clement Associates 1985). However, concentrations found in sediments suggest that significant degradation of PAHs occurred at most sites downstream of the impact site by May 2001.

#### **4.1.2.3 Fish**

Fish surveys conducted by the Nevada Division of Wildlife showed significant numbers of young fish detected on surveys in the past. In 2001, however, almost no young rainbow trout were found (Hampton et al. 2002). Rainbow trout spawn in spring, shortly after the time of the spill event. The reduction of the juvenile age class is consistent with known toxicological effects of oil on fish eggs and PAH concentrations detected in sediment samples during the spring spawning period (March). In addition, fish density per mile for mountain whitefish was significantly reduced for both California and Nevada sites (Hampton et al. 2002). Mountain whitefish are bottom-oriented predators which feed mostly on small aquatic insects and made them more susceptible to effects of sediment contamination from the spill event.

Fish tissue concentrations of PAHs indicated uptake into tissues from diet and exposure to PAH-contaminated sediments. PAH concentrations were highest for suckers who spend a majority of their time at the sediment/water interface and feed directly at the substrate where PAH concentrations were greatest. However, bioaccumulation factors calculated by Higgins (2002) indicated that fish rapidly metabolized PAHs in the East Walker River. Therefore, fish tissue concentrations of PAH compounds in fish tissues did not provide a useful measure of exposure and could not provide a definitive assessment of damage to fish. Instead, determining concentrations of PAHs in sediment was a useful measure of exposure because exposure to PAH-contaminated sediment has been linked to adverse effects.

### **4.1.3 Biological Community Responses to AFFS Fuel Oil #6**

#### **4.1.3.1 Macro-invertebrate Community**

CDFG conducted surveys of benthic macro-invertebrates in the East Walker River both before and after the AFFS spill to determine and quantify impacts to aquatic biota. Using methods outlined in the California Stream Bio-assessment Protocol, CDFG determined that benthic communities of macro-invertebrates were affected by the spill. Benthic Macro-Invertebrate Index (BMI) data showed a 79 and 65 percent loss in abundance in January and March 2001, respectively. A follow-up benthic macro-invertebrate survey was conducted at the same sample points above and below the spill zone in October 2006 and 2007. Final results from surveys are pending but will provide information on the recovery of the impacted section of East Walker



River. For the detailed analyses of the macro-invertebrate results, refer to Hampton et al. (2002).

#### **4.1.3.2 Fish Community**

Fish species diversity and abundance is high in the East Walker River. Annual fish surveys were conducted each fall in California and Nevada before the spill because of the high value (recreationally and ecologically) that the fishery provides to the local community. Using fish survey data conducted in the East Walker River before and immediately after the AFFS spill, significantly fewer fish were present in 2001 compared to previous years. Focusing on the percentage change from the pre-spill average, the percent injury estimates ranged from 25% (for rainbow trout in California) to 98% (for young rainbow trout in Nevada). This rather straightforward approach, however, fails to consider natural variation. The standard deviation around the pre-spill mean provides a useful measure of the variability in the data. When looking at the number of standard deviations beyond the mean, all of the survey data show a marked decline in fish in 2001 except for rainbow trout in California. Nearly all of the fish measures are over one standard deviation beyond the mean prior to the spill. For mountain whitefish in Nevada, the 2001 average was 2.6 standard deviations below the mean. This suggests that the low numbers of fish observed in the 2001 surveys are exceptional and well beyond natural variability.

Analyses by the Trustees (Hampton et al. 2002) indicated that fish populations were lower in 2001 because of at least three separate spill related causal factors which lead to significantly fewer fish in 2001: 1) anchor ice in the East Walker River created from exceptionally cold weather and low flow management used for oil cleanup purposes; 2) a reduction of food supply as a result of injuries to macro-invertebrates; and 3) direct toxicity from exposure to polycyclic aromatic hydrocarbons (PAHs) contained in the spill oil.

## **4.2 HUMAN RECREATIONAL ACTIVITIES**

The spill and resulting cleanup had a direct impact on angling in Nevada during the response period (January through March, 2001). During this period, angling was curtailed in portions of Nevada, causing cancellations of reservations at private ranches. Angling in California was unaffected, as fishing season was closed until April 28. Through the rest of the year, angling may have been further impacted in both states as news of the oil spill spread through the recreational fishing community. CalTrout, a large fishermen's organization, became quite concerned about the spill, informing its members and closely monitoring the cleanup. They wrote to the Director the California Department of Fish and Game, urging rapid cleanup to protect "one of the finest fisheries in the entire state" and to ensure that "public trust values are maintained" (Edmondson 2001). In addition, they encouraged their members to write similar letters. Other fishing organizations and magazines also followed the spill (e.g. High Sierra Fly Casters and The Fish Sniffer Online). This cumulative impact may have caused anglers to avoid the East Walker River and alter their plans for the summer.

Baseline recreational use by anglers was determined using data from roving angler surveys and the drop-box questionnaires provided by the Nevada Department of Wildlife. Based upon those results, the Trustees estimated a conservative estimate of 5,500 lost angler days due to the spill. Because recreational fishing is an activity with limited defined market and/or prices, it was necessary to use a non-market valuation method to determine the willingness-to-pay for an angler day. Such methods include Contingent Valuation, Travel Cost Method, and Random Utility Models. While no such analysis was been done for the East Walker River, and conducting primary research would be quite costly, the Trustees relied on the Benefits Transfer Method, whereby the results of previous studies on similar rivers is extrapolated and applied to this case.

Boyle and Markowski (2000), on behalf of the USFWS, conducted a meta-analysis of 23 different studies, with 278 different observations, of recreational fishing in the United States. For trout fishing in rivers, they calculated the weighted mean consumer surplus of the sample to be \$37 per angler day (Table 12 of Boyle and Markowski). Adjusted for inflation using the Consumer Price Index, this is \$42.28 in 2002 dollars. Multiplying this rate by the total number of lost angler days yields the recreational fishing values lost by the public as a result of the spill: \$42.28/angler day x 5,500 lost angler days = **\$232,540**. For the detailed results of the analyses, refer to Hampton et al. (2002).

## **5.0 BACKGROUND TO RESTORATION PROJECT ALTERNATIVES**

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The proposed restoration projects in this RP/EA incorporate a watershed based approach to effectively restore and protect aquatic resources and improve recreational opportunities for the public. This is consistent with the United States Environmental Protection Agency (EPA) approach to promote watershed based planning efforts.

Emphasis under the watershed approach is directed at all aspects of surface and ground water quality including physical, chemical, and biological parameters. This approach also is focused on increasing or enhancing existing recreational activities that are dependent upon the natural resource services provided within the watershed. The alternatives proposed in this document are consistent with these activities. The watershed approach is action oriented, driven by broad environmental objectives, and involves key stakeholders. The major cornerstones of this approach are public participation, problem identification, and implementation of restoration projects.

### **5.1 IDENTIFICATION OF RESTORATION PROJECTS**

The Settlement Agreement and the MOU provides guidance for restoration projects along the East Walker River. The MOU memorializes the incident and provides a framework for coordination and cooperation among the Trustees in the use of the NRD money from the Oil Spill settlement for wildlife projects, habitat restoration and protection, and human use projects.

The Trustees presently intend to apply approximately \$140,000 of the NRD money to fund restoration projects benefiting in-stream and riparian habitat; approximately \$105,000 will be allocated for recreational fishing improvements/human use type projects; approximately \$55,000 will be allocated for continued benthic macro-invertebrate (BMI) surveys of the stream recovery as needed; and approximately \$50,000 will be allocated for Trustee Council administration. However, ultimately these allocations may be adjusted based on actual restoration costs and needs as part of the restoration planning process carried out by the Trustee Council.

The Trustee Council has held meetings regarding the restoration planning for the East Walker River. During these meetings, the Trustees have developed a list of potential restoration projects. These potential restoration projects have been prioritized and further developed to facilitate the evaluation of their feasibility. Following the public review process of this RP/EA, these potential restoration projects will be further refined and new potential projects will be evaluated to develop a final project list for implementation.

## **5.2 RESTORATION PROJECT EVALUATION CRITERIA**

The Trustee Council developed evaluation criteria to evaluate, prioritize, and select restoration alternatives. The following list of criteria was used to qualitatively examine each project proposal as opposed to using a numerical ranking.

### **5.2.1 Consistency with Trustee Restoration Goals**

The restoration alternative must meet the trustees' intent to restore riparian and in-stream habitat and enhance public recreation uses along the East Walker River its tributaries. The more consistent the restoration projects are to the restoration goals, the higher the priority given to the proposed alternative under this criterion.

### **5.2.2 Feasibility**

This criterion is used to examine the technical, biological, regulatory, and political feasibility of a proposed restoration project. Trustees shall evaluate the soundness of the restoration technique, level of risk or uncertainty in implementing the project, the likelihood of success, and various other factors that influence feasibility of the alternative. Higher priority is given to a more feasible restoration alternative.

### **5.2.3 Compliance with Laws**

The proposed restoration alternative must comply with all applicable laws including those that protect the health and safety of the public. In addition, the restoration alternative cannot serve as required mitigation for another project. Those restoration alternatives that do not comply will be eliminated from consideration.

#### **5.2.4 Duration of Benefits**

The mission of the East Walker River Trustee Council and the intent of the Settlement Agreement are to restore riparian and in-stream habitat and provide recreational fishing improvements in perpetuity. Such restored resources would have to be again restored if future events damaged these resources. Those restoration alternatives that do not contribute to restoration and public use in perpetuity will not be considered further.

#### **5.2.5 Avoidance of Future or Collateral Injuries**

The proposed restoration alternative shall avoid or minimize adverse impacts to the environment and the associated natural resources. Unavoidable and temporary adverse impacts may result when implementing the proposed project. The more permanent restoration project benefits will outweigh any temporary unavoidable adverse impacts. Restoration alternatives that provide for a greater avoidance of collateral injuries shall receive more consideration under this criterion.

#### **5.2.6 Benefits Relative to Costs**

This criterion examines the relationship between expected benefits and expected costs of a restoration alternative. Trustees shall seek projects with the most cost-efficient approach to provide the same resource benefits. The lower the cost of providing the benefits, the higher the priority that will be given to a restoration alternative under this criterion.

#### **5.2.7 Opportunities for Collaboration**

The trustees shall consider the possibility of matching funds, in-kind services, or volunteer assistance, as well as coordination with other ongoing or proposed restoration projects. Restoration alternatives that provide opportunities for a collaborative restoration effort shall receive a higher priority for this criterion.

#### **5.2.8 Endangered/threatened Species and Sensitive Habitat Areas**

The trustees shall examine the ability of the restoration alternative to enhance and protect endangered and threatened species, and the more sensitive and rare habitat areas. A project that promotes the restoration, enhancement and protection of these species and habitat areas receives a higher priority for this criterion.

### **5.3 TYPES OF RESTORATION PROJECTS CONSIDERED**

The Trustee Council has considered a number of project proposals on both public and private lands. Land in the watershed that is adjacent to creeks is both Federal, State and privately owned. Where Trustee Council funds will be used on private property, enforceable agreements will be required with the landowners to ensure protection of the projects. In some cases such agreements are already in process. The Trustee Council does not intend to fund projects unless long term protection is provided in the form of conservation easements or similar agreements

with willing landowners. Where long term protection will not be provided, the funds will remain in the NRDA account and used to fund a comparable project at a site where the landowner is willing to ensure protection of the project.

Projects considered for implementation were subdivided into two categories representing the types of work needed to compensate for the resources that were injured in the spill. These categories are In-stream/Riparian Restoration or Recreational Fishing/Human Use Improvement Projects. The following discussion describes the range of project types considered for implementation, but the actual projects selected as preferred alternatives is a subset of these types and are detailed in Section 6.0.

### **5.3.1 In-stream/Riparian Restoration**

Riparian habitat is important to aquatic and terrestrial resources. A healthy complex of vegetation, including large canopy trees and understory vegetation, along with in-stream structure creates shade to keep water temperatures cool for fish and provides habitat where fish can rest, feed, and reproduce. These riparian habitats are also critical for numerous species of birds, mammals, and amphibians. Loss of these important habitats impacts all aquatic life, as well as other species which depend on these areas for food and cover. Additionally, there is the potential that re-vegetated and stabilized banks will filter run-off that may contain pollutants such as fertilizers, pesticides and herbicides. Such chemicals, if present, may impact fish and macro-invertebrates.

Riparian restoration projects could use a variety of restoration techniques, incorporating both active and passive methods, which would be applied at sites within the Walker River Basin. The quality and quantity of in-stream and riparian cover is severely reduced in many Walker River Basin streams. This condition will be directly improved utilizing four complementary actions: 1) fencing riparian areas, 2) constructing in-stream structures, 3) removal and control of invasive plants, and 4) planting streamside vegetation. These actions have proven effective in restoring stream habitat condition when properly applied. The objectives of projects would include the creation of more species-diverse stands that would provide long-term benefits of stream shading, large wood recruitment, organic litter, and root strength for stream bank stability. Projects would be applied along fish-bearing streams that are 3rd -order or larger. Brief descriptions of riparian restoration actions considered by this RP/EA are provided below.

#### **5.3.1.1 Fencing Riparian Areas**

The purpose of riparian protection fence range improvement proposal is to improve rangeland health, watershed condition, and plant species composition and production in the impacted riparian corridors. Fencing would prevent livestock (cattle and sheep) from over-utilizing native riparian plants in important habitats, and give areas needed range rest. Range utilization studies conducted in various areas of the Walker Basin over the past several years have shown a pattern of heavy and severe use by livestock during the summer grazing period, resulting in adverse impacts to select riparian areas. These problems included creek down-cutting, eroded banks, trampled and hummocky areas, inappropriate vegetation composition, and a riparian system that is not vertically stable. Riparian fencing would take steps to correct these problems.

### **5.3.1.2 Constructing In-stream Structures**

The intent of this method is to manage habitat at the highest potential quality based on inventory and analysis of channel and watershed attributes. Many habitats currently supporting native and game fish populations are in sub-optimal condition due to habitat alteration and/or natural influences. Actions to restore habitat condition will be identified and implemented, including actions to improve conditions of water quality impaired streams that support native and game fish. In certain situations, enhancement options (e.g., passage barriers, spawning and rearing habitat) that create habitat conditions beyond those considered natural will be implemented to maximize benefits to a native or game fish population.

### **5.3.1.3 Removal and Control of Invasive Plants**

Reducing the density of non-native vegetation decreases competition with desirable native vegetation such as willow and cottonwood. Multiple techniques have been developed for non-native vegetation control in riparian habitats of the Eastern Sierras, including mechanical, herbicide, and cut-stump treatments.

Mechanical treatment involves the use of heavy equipment to turn standing vegetation into mulch material by mastication. Rotary mulching heads are attached to either rubber-tire or tracked equipment that can move to target non-native vegetation while leaving desirable species undisturbed. The mulch layer that is left as a byproduct of mastication can be removed or left on-site to aid in moisture retention and erosion control.

In cut-stump treatment, hand crews and chainsaws remove unwanted vegetation. The use of hand crews allows for precise removal of undesirable vegetation and is particularly desirable in stands of mixed native/non-native vegetation. The cut-stump treatment is also beneficial when working on islands or other locations where heavy equipment access is limited.

Herbicide application is used alone or in combination with other control techniques. When using the cut-stump treatment, herbicide is applied with a backpack sprayer directly to the cut stump immediately after felling. Application with a backpack sprayer allows for precise application, minimizing potential application to non-target vegetation. Following mechanical treatment with mastication equipment, herbicide is applied to the foliar area of the re-sprouts of non-native vegetation as a re-treatment during the growing season after mastication. One or more of the following commonly used herbicides will be used in the project: triclopyr ester (e.g., Garlon 4); triclopyr amine (e.g., Garlon 3a); imazapyr (e.g., Arsenal); and glyphosphate (RoundUp). All herbicides will be applied in strict accordance with the product label and under a State of California or Nevada-approved pesticide application license.

### **5.3.1.4 Planting Streamside Vegetation**

Replanting of native riparian vegetation encourages the establishment of desired species during restoration efforts. Planting native vegetation can help to prevent the encroachment of noxious weeds after they are removed. Common riparian vegetation replanting techniques include pole planting, whip planting, containerized stock planting, and direct seeding. Pole and whip planting are frequently used for willow and cottonwood. Poles and whips are straight, branch-like pieces

of the desired species. Holes are dug to the low water table, and the pole or whip is then inserted and the hole backfilled. This technique takes advantage of the regenerative nature of the species. If favorable conditions persist, no maintenance is required for this technique. Planting containerized stock is similar to pole planting, but rooted vegetation grown in a greenhouse is used in place of poles and whips. Direct seeding is often the preferred technique for replanting herbaceous vegetation. Seed is broadcast mechanically or by hand to achieve the desired coverage. Alternatively, seed drills can be used to sow the seed beneath the soil surface. Placing the seed beneath the surface allows for protection from the elements and animals that may feed on the seed. All of the described techniques may be used during the proposed Project.

### **5.3.2 Recreational Fishing/Human Use Improvements**

As noted in Section 1.5, the strategy of this RP/EA is to increase or enhance natural resources and opportunities for recreational access or use of these same resources, in accordance with the public losses which were documented. Based upon an analysis of recreational losses as a result from the AFFS spill incident, Hampton et al (2002) estimated a loss of approximately 8,000 angler days for the East Walker River. During the restoration scoping process, however, the Trustees found that opportunities to restore natural resource losses as a means of increasing the services of these resources for public recreation were limited. As a result, the RP/EA includes some actions which preserve or conserve natural resources, but also includes actions which will increase or enhance recreational access or use of the affected resources.

All proposed projects should be consistent with resource management activities that are compatible with river resources. Therefore, recreational improvements proposed by this plan will have the following goals.

Projects considered under this RP/EA will be focused on providing river-oriented recreation in natural-appearing or culturally-influenced settings. The river may be readily accessible by roads and trails. Recreational improvements such as trailheads and river access points will be available in some locations. A variety of non-motorized recreation opportunities may be provided throughout the watershed. These activities will be dispersed as much as possible in order to alleviate potential overcrowding or use conflicts. Access points such as trailheads and parking lots will be strategically located in the corridor and watershed to aid in the dispersal of recreation use.

Interpretation of the outstandingly remarkable values of the watershed will be available in various forms to the public from low-key off-site interpretive materials and technologies to interpretive displays at appropriate locations. The Forest Service will continue to work closely with state and local governments and private landowners to protect and enhance the outstandingly remarkable values of the East Walker River corridor.

Therefore, recreational improvement projects considered under this RP/EA could include the following actions:

- Create or improve trail systems by dispersing biking, equestrian, and hiking uses;

- Provide staging areas for some recreational activities;
- Improve facilities and parking within the immediate river corridor but avoiding over-concentration of uses;
- Provide increased opportunities for partnerships;
- Provide an active interpretive program and improve information and directional signing;
- Emphasize riparian area restoration and encourage improvement of water quality within the watershed.

## **6.0 Action Alternatives and Environmental Consequences**

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The Trustee Council, when developing the RP/EA, identified two alternatives: a natural recovery (No Action) or implementation of approved restoration projects (Preferred) alternative. A reasonable number of restoration projects were developed under the Preferred Alternative that provide for riparian and in-stream habitat restoration and recreational fishing improvements that will begin to compensate for the losses that occurred during the incident. The proposed restoration projects met the conditions of the Settlement Agreement and MOU, were evaluated and have been proposed through application of the evaluation criteria, and meet the goals and objectives outlined by the Trustee Council. Descriptions of the proposed restoration projects under consideration for the Preferred Alternative are provided in the following sections, including the ‘no action’ alternative. Approval and implementation of future restoration projects not identified by this RP/EA, but associated with the types of restoration actions considered by the Trustees under this plan will require separate additional environmental analyses as required under the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA). Documentation of the environmental analyses of future restoration projects considered by the Trustees will be provided as supplemental information to the final RP/EA along with public review and comments.

### **6.1 NATURAL RECOVERY (NO ACTION ALTERNATIVE)**

NEPA requires the Trustees to consider a “no action” alternative, and the OPA regulations require consideration of a somewhat equivalent “natural recovery” option. Under this alternative, the Trustees would take no direct action to restore injured natural resources or compensate for lost services pending natural recovery. Instead, the Trustees would rely on natural processes for recovery of the injured natural resources. The principal advantages of the natural recovery approach are the ease of implementation and the absence of monetary costs. Natural processes rather than human intervention would determine the trajectory of recovery.

The ‘no action’ alternative looks at the ability of the injured natural resources to recover on their own. The ‘no action’ alternative is not to spend the \$350,000 allocated for riparian and in-stream habitat restoration and recreational fishing improvements. Under this alternative, the Trustees would not complete any restoration projects. The public would not be compensated for any injuries to natural resources or any interim losses of natural resources caused by the release of fuel oil #6 into the East Walker River. Past environmental degradation due to activities not



directly related to the oil release (e.g., logging, road building, agriculture, grazing) would not be addressed by the Trustees under the No Action alternative. Since the Trustee Council is committed and required under the Settlement Agreement to spend the allocated money on riparian and in-stream habitat restoration and recreational fishing improvements, the ‘no action’ alternative will not be considered further as a viable alternative.

## **6.2 IMPLEMENT APPROVED RESTORATION PROJECTS (PREFERRED ALTERNATIVE)**

The Trustee Council has considered a number of initial project proposals on both public and private lands. Land in the watershed that is adjacent to creeks is both Federal, State and privately owned. Where Trustee Council funds will be used on private property, enforceable agreements will be required with the landowners to ensure protection of the projects. In some cases such agreements are already in process. The Trustee Council does not intend to fund projects unless long term protection is provided in the form of conservation easements or similar agreements with willing landowners. Where long term protection will not be provided, the funds will remain in the NRDA account and used to fund a comparable project at a site where the landowner is willing to ensure protection of the project.

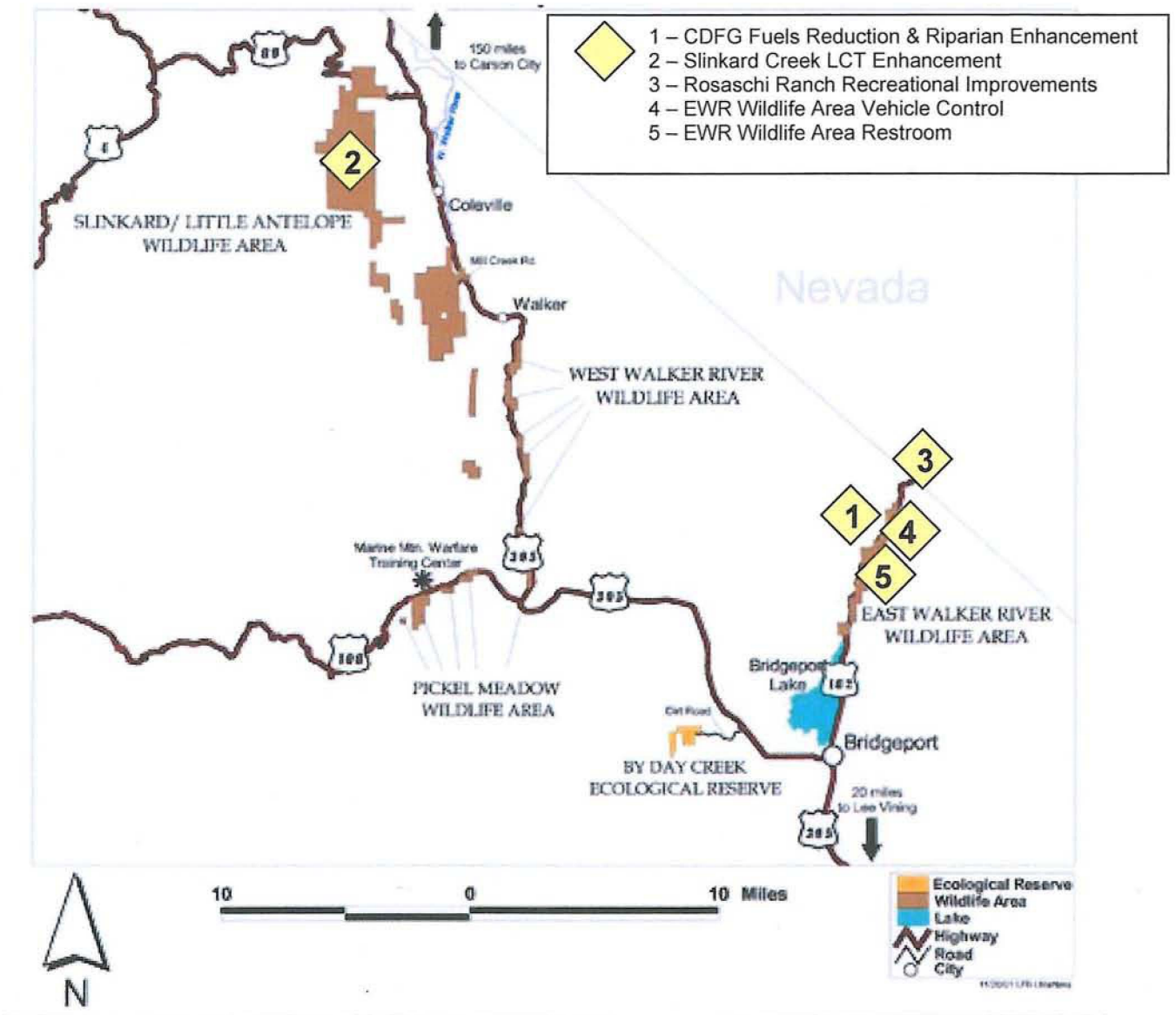
Projects considered for implementation were subdivided into two categories representing the types of work needed to compensate for the resources that were injured in the spill. These categories are In-stream Riparian Restoration and Recreational Fishing/Human Use Improvements. Descriptions of projects under consideration are provided in the following sections and an overview of project locations is provided in Figure 2.

### **6.2.1 In-stream/Riparian Restoration Projects**

One in-stream/riparian restoration project is currently under consideration by this RP/EA. Additional projects submitted during the public comment/solicitation period for this RP/EA and meeting the criteria identified in Section 4.2 will be considered by the Trustees for later planning purposes. Submitted projects that meet the evaluation criteria and are approved for funding would be subject to additional environmental analyses but possibly tiered to the final restoration plan.

#### **6.2.1.1 CDFG Fuels Reduction & Riparian Enhancement Project**

Riparian and adjacent upslope meadow vegetation along the East Walker River has suffered from a land management ethic that focused on extinguishing fires, be they natural or human-induced. The result is dense woody stands of decadent, impenetrable, sometimes dead



**Figure 2.** Locations of proposed restoration projects considered for the East Walker River Advanced Fuel Filtration Systems Oil Spill.

vegetation that provides substandard wildlife habitat; prevents recreational access and egress for long sections (potentially a safety issue for in-stream recreationists and anglers); with extremely high fuel loads increasing the risk of a damaging, excessively hot wildfire which could result in permanent loss of habitat without rehabilitation. The Fish and Game Commission has mandated California Department of Fish and Game to aggressively manage vegetation for wildlife habitat and wildfire reduction on Department lands, although the focus has been in Southern California.

Mechanical thinning and mastication would improve the vigor of individual plants, as well as the structure of plant communities, with an expected corresponding benefit to the fishery and wildlife within the corridor. A healthy riparian corridor better protects banks by reducing

erosion. It also provides fish and wildlife habitat (cover, temperature attenuation, nesting, nutrients, etc); filters nutrients; maintains water quality; regulates sediment transport; and enhances aesthetics and recreational values for humans, with a resultant socio-economic benefit to the local community.

The following equipment will be used to treat habitat along the East Walker River on State lands: A 95 horsepower masticator with a reciprocating head will be used to cut and grind large woody plants. Chain saws and hand held pole saws will be used to cut both trees and limbs which will be fed into a Morbarch chipper that is hand fed brush and limbs up to 10 inches in diameter. Twelve horsepower DR mowers will be used in any areas such as meadows where mostly dry herbaceous vegetation needs to be cleared. The chipped and masticated material will be laid down as mulch to prevent erosion, preserve soil moisture, and retain nutrients. In areas of steep slopes where equipment cannot access, brush may be piled for burning.

#### Location, Size, and Land Use

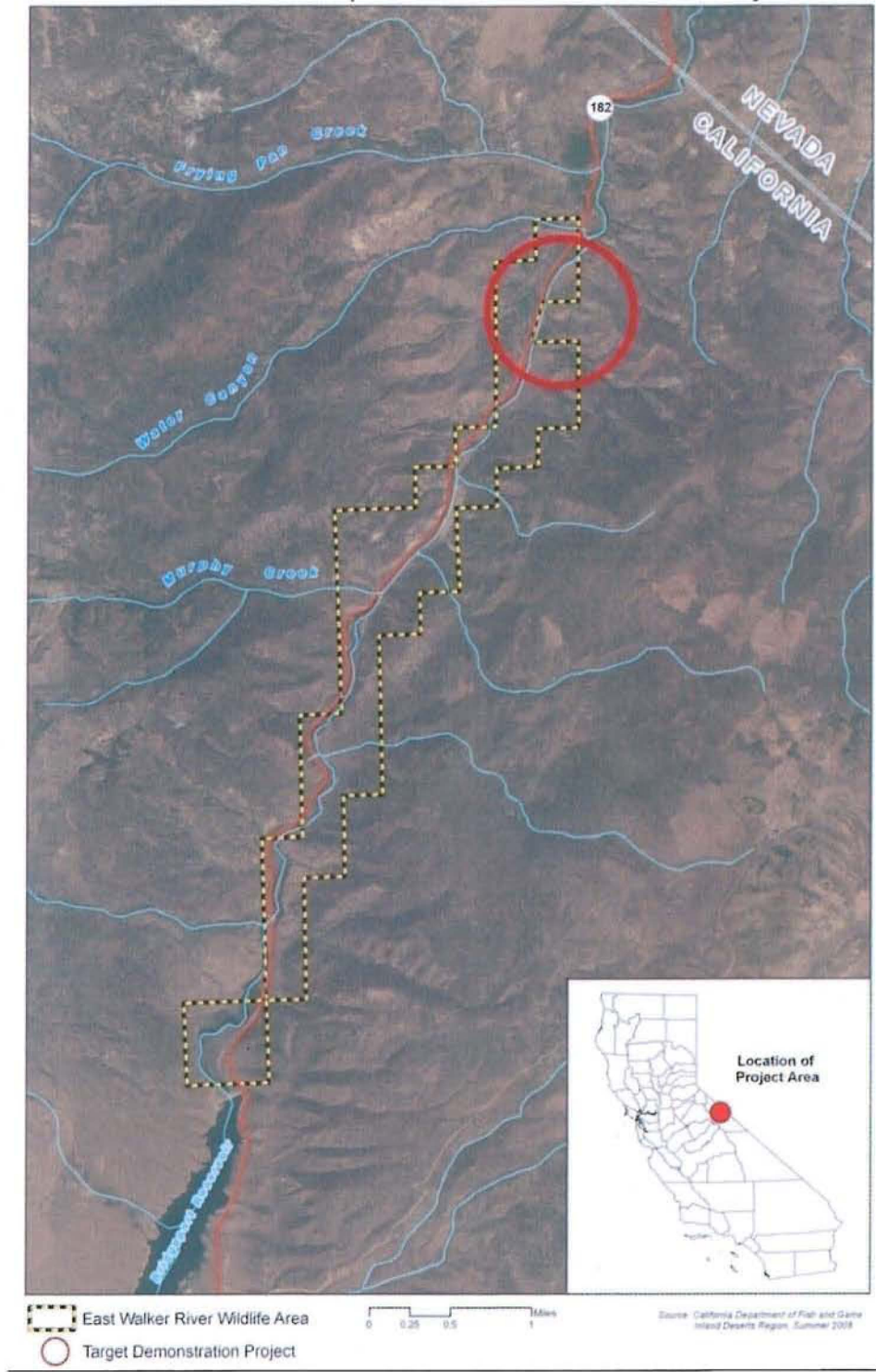
The project would occur on the East Walker River Wildlife Area located immediately adjacent to the East Walker River and approximately 6 miles north of the town of Bridgeport, CA (Figure 3). The area is managed for recreational and natural wildlife habitat within a State Wildlife Area and includes riparian, meadow, and some upland habitats. It is estimated that up to a mile of riparian habitat could be treated covering 15 to 25 acres in size.

#### Feasibility

- Technical feasibility: the project site has already been inspected by State personnel and by the project bidder, and is deemed extremely feasible and crucial.
- For environmental review purposes, this project would fall under CEQA Categorical Exemption, Title 14, Section 15304, Class 4, example d. Ideally, the project would occur following the fledging season of nesting birds.
- No permits are necessary to implement this project. Local CDFG Lands Program personnel have been appraised, and are in support of the project.

#### Environmental Consequences

Approximately 90 ten foot access points would be created per mile of riparian vegetation along the highway increasing the recreational accessibility of the East Walker River to anglers. Numerous species utilize the East Walker River Corridor and the associated meadow and uplands that will be treated. Riparian nesting songbirds would benefit greatly, as would mammals, including bear, deer, and mountain lion that use the riparian vegetation as a transportation corridor. The thinned and pruned vegetation will result in increased invertebrate use, thus increased terrestrial drift for aquatic species. For any in-stream actions, some potential for mobilization of sediment would exist. The following minimizing measures and Best Management Practices would be employed: 1) Silt dams or fences would be installed below mastication sites to limit the extent to which fine sediment may be transported downstream, lessening the area affected; 2) In-stream work would be scheduled between July 1st and September 15th when flows are at summer lows; 3) Absorbent booms would be installed below the project site which would trap sediments and any accidental spills of petroleum products.



**Figure 3.** Location of the CDFG Fuels Reduction and Riparian Enhancement Project, East Walker River Wildlife Area, Mono County, California.

With these measures, the amount of sediment delivered to streams would be small and the effects would be short-term as any fine sediment deposited in stream channels would be mobilized during the first winter freshet, and would not become embedded in spawning gravels.

Budget

The evaluation and breakdown of this proposed project is provided in Table 1. One day of time would be required for the initial inspection of the project to determine whether expansion of the project would be a higher priority than other proposals. Cost for this initial inspection would be conducted with participation of CDFG staff to evaluate and document with photographs. An existing bidder, whose work has been recommended, has quoted a project cost of \$10,500 for implementation, which would include all necessary equipment and a crew of six working for 40 hours, as well as any preliminary meetings prior to the project. An onsite monitor during the project is recommended, and per diem costs would be up to \$500 per person, with two people being ideal. Following the approval of the project, it is anticipated that much of the corridor upstream to the Bridgeport Dam could potentially be treated and the cost estimated. As for post-project monitoring, CDFG requires that all state land be subjected to an annual monitoring survey, therefore monitoring costs would be covered in routine Department procedures.

**Table 1.** Estimated budget breakdown of CDFG Riparian Habitat and Fuels Reduction Project for the East Walker River.

<b>Item</b>	<b>Unit</b>	<b>Quantity</b>	<b>Cost</b>
Pre-Project Planning and Inspection	Per person (@\$500 each)	1	\$500
Equipment (maintenance and rental)			\$400
Personnel	Per person (@ \$40/hr/40-hr week)	6	\$9,600
CDFG Project Evaluation & Oversight	Per person (@\$500 each)	2	\$1,000
		Total	<b>\$11,500</b>

## **6.2.2 Recreational Fishing/Human Use Improvement Projects**

A total of four recreational fishing/human use projects are under consideration by this RP/EA. Additional projects submitted during the public comment/solicitation period for this RP/EA and meeting the criteria identified in Section 4.2 will be considered by the Trustees. Submitted projects that meet the evaluation criteria and are approved for funding would be subject to additional environmental analyses but tiered to the final restoration plan.

### **6.2.2.1 Slinkard Creek Lahontan Cutthroat Trout Enhancement**

This project would enhance both native species and local recreational fisheries. Lower Slinkard Creek formerly provided angling opportunities primarily for families. The goal of this project would be to provide fishing (limited bag) of native Lahontan cutthroat trout (LCT) in the lower, easily-accessible Slinkard Creek, facilitating support for native trout restoration within the local community, as well as securing the upper Heritage Trout section of stream from brook trout (BK) invasion. All Walker Basin LCT restored recovery waters occur in the West Walker Basin, and were formerly managed as recreational fisheries. Most are currently closed to angling, with the exception of upper Slinkard, which is a special regulation Heritage Trout Water open to angling.

In 2002, a wildfire burned the area surrounding and including the lower portion of Slinkard Creek. In the summer of 2003, rain washed sediment and ash from the adjacent steep, bare slopes into the creek resulting in a fish kill. In the fall of 2003, DFG surveyed the creek. No fish were found, except upstream of the fire line (which consisted of ~1.5 miles of habitat). In the summer of 2004, fire again damaged the area. The creek and surrounding area burned upstream of the 2003 fire line, this time affecting the upper section, which is separated from the lower portion by a manmade barrier that protects an upstream refuge population of LCT. In the past, BK has been found above the barrier, jeopardizing the integrity of the LCT restoration water.

Proposals to fund BK removal from this relatively small section of stream immediately following the fish kill were not able to be implemented. In June 2005, ~2,200 feet of detonation cord was strategically placed in the stream to remove both BK and excessive sediments that had settled into the channel in a low-gradient meadow section of the stream. The experiment successfully removed brook trout and, where the cord had been pushed into the substrate, removed sediment. However in the fall of 2006, a survey of the fish removal site revealed three brook trout.

A natural barrier exists between the Walker River and the burned section of Slinkard Creek, and the goal is to remove the remainder of BK, prior to LCT's successful re-dispersal throughout the lower stream. Slinkard Creek downstream of the barrier would be subjected to a reduced bag regulation, thus allowing the local public to benefit recreationally from LCT restoration. Approximately 5 miles of LCT-inhabited stream would be gained from this restoration, and the existing upstream portion of the watershed would be secured from BK invasion.

#### Location, Size, and Land Use

This project would occur within the West Walker River watershed, primarily on the CDFG Slinkard Wildlife Area (figure 2) and a possible small section of BLM lands. Management of

lands is primarily for wildlife habitat, with associated outdoor recreation. Approximately five miles of stream would be treated along lower Slinkard Creek (figure 4).

### Feasibility

The project occurs on public lands, and the physical feasibility of an effective treatment is virtually assured. There are several options to remove non-native fish such as electrofishing, gill netting, seining, detonation cord use, and rotenone.

Use of detonation cord is technically feasible. CDFG deployed detonation cord in June of 2005 to remove BK and excess sediments that had settled into the channel. The treatment had limited success at removing BK and, where pushed into the substrate, successfully removed sediment.

An existing EIR exists for rotenone use, and a mitigated negative declaration could be tiered off the existing document. Slinkard Creek is diverted prior to flowing into the Walker River, eliminating many concerns regarding detoxification. In 1990, the Regional Board adopted Resolution No. 6-90-43 to allow the conditional use of rotenone by CDFG in the Lahontan Region. The Resolution granted authority to the Regional Board's Executive Officer to waive waste discharge requirements and reports of waste discharge for rotenone application projects meeting the specific conditions, including native species restoration. The Resolution also directed the Executive Officer to execute a Memorandum of Understanding (MOU) with CDFG to facilitate the implementation of rotenone projects within the Lahontan Region. The MOU was executed on July 2, 1990.

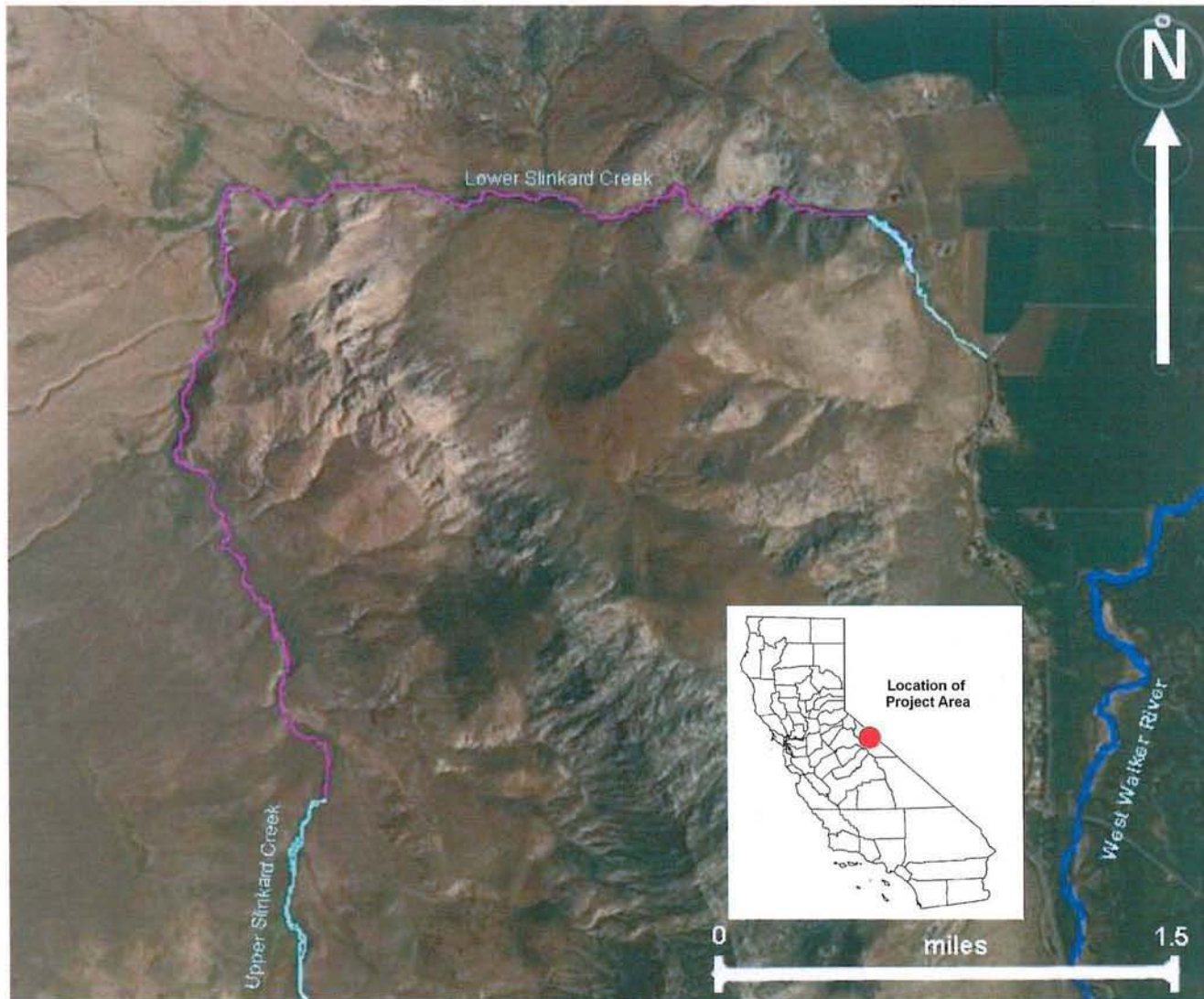
A regulation change will be submitted to the California Fish and Game Commission to reduce the bag limit of fish allowed. A previous project upstream should facilitate the preparation of necessary documents.

Status of design and permitting is not needed in the preliminary stage of evaluation. The project falls under a Class 33 Categorical Exemption (15333)-small habitat restoration projects.

### Environmental Consequences

LCT would be the primary species benefited. Currently, although lower Slinkard Creek is open to angling, there are very few fish persisting within it, and virtually none exist in the easily-accessed section of stream adjacent to the highway. Approximately five miles of stream would be restored.

Since one of the previous recreational activities at the project water was fishing or fishing related camping and hiking, there should be a short-term impact to recreation. However, fishing has been restricted prior to implementation of this project. After project completion, there would be increased opportunities to fish for LCT once the downstream population became established.



**Figure 4.** Location and approximate extent (colored in purple) of the Slinkard Creek LCT Enhancement Project.



### Rotenone Application

Rotenone was selected as the chemical to use for non-native fish removal because of its effectiveness in controlling fish populations and its lack of long-term effects on the environment (Sousa et al 1987). Rotenone is a naturally occurring fish toxicant that is toxic to only fish, some aquatic invertebrates, and some juvenile amphibians at the concentrations planned for the project. It is not toxic to humans, other mammals, and birds at the concentrations used to remove fish. It has been widely used in the United States since the 1950's. CDFG and NDOW have used rotenone successfully in many similar projects and have refined application techniques to minimize adverse side effects to the environment.

Rotenone does not affect aquatic or riparian vegetation. There would be short-term direct effects to water quality as a result of the chemical treatment with rotenone. The primary direct effect would be the toxicity of rotenone to aquatic organisms including fish and invertebrates. Rotenone dissipates in flowing waters relatively rapidly (often less than 24 hours) due to dilution and increased rates of hydrolysis and photolysis (Finlayson et. al 2000). In standing water, toxic effects may occur for up to 4 - 5 weeks depending upon temperature (Bradbury 1986). Numbers of aquatic invertebrates important to the aquatic ecosystem would be temporarily suppressed. Areas upstream from the target waters or refugia left in the fishless portions of target waters would provide a source for rapid recolonization of impacted aquatic macro-invertebrates. Off-stream ponds, bogs, seeps and springs would be left untreated, serving as refugia for aquatic invertebrates. This would help insure the recolonization of the treated portions of the streams. The natural, downstream drift of aquatic insects generally results in the rapid re-colonization of streams following their removal by natural or man-made events (Hynes 1972). Most, if not all of the invertebrate species would repopulate the treated area within one or two years (CDFG 1994).

Engstrom-Heg et al. (1978) conducted a laboratory study of the rotenone tolerance of aquatic macroinvertebrates. They felt that a treatment of less than 10 hours would generally result in only mild and temporary changes to the aquatic macro-invertebrate community. Whelan (2002) reviewed aquatic macroinvertebrate literature for both rotenone treatments and natural disturbances. He found that aquatic macroinvertebrate responses to natural events were often similar to rotenone treatments. Natural disturbances faced by macro-invertebrates in the project area include snowmelt runoff and flooding, drought, monsoon season thunderstorm flood events, and wildfire. Floods can result in major movement of the streambed, greatly affecting macroinvertebrate population levels by scouring and deposition. Rotenone treatments at low concentrations for short treatment times are likely to be less impacting to aquatic macro-invertebrates than natural events. Whelan (2002) summarized mechanisms that aquatic macro-invertebrates have evolved to live in dynamic environments that make them potentially able to survive or persist through rotenone treatments. These include resistant egg stages, multiple overlapping generations, life stages that live deep in the in the gravel of the stream (hyporheic zone) with upwelling groundwater, life stages that live in silt or aquatic vegetation that binds up rotenone, and dispersal by winged adults from areas of refugia. Some taxa, especially those with low oxygen requirements, are relatively resistant to rotenone even as nymphs or adults.

As previously stated, rotenone is non-toxic to mammals, including humans. At the concentrations used to kill fish, it has been estimated that a 132-lb person would have to consume over 60,000 liters of treated water at one sitting to receive a lethal dose (Sousa et al, 1987). Using a safety factor of 1,000 times (X) and the most conservative safe intake level, a person could still drink 14 liters of treated water per day. In addition, extensive testing has not shown rotenone to be carcinogenic (Bradbury 1986). Even though rotenone has been shown to be safe to humans, as a matter of policy, the EPA does not set tolerances for pesticides in potable water. At the same time, the EPA has exempted rotenone from tolerance requirements when applied intentionally to raw agricultural commodities. The CDFG (1994) and the National Academy of Science (1983) have computed "safe" levels of rotenone in drinking water that are roughly equivalent to the detection level of rotenone in water (0.005 ppm pure rotenone). Municipal drinking water supplies have been treated with rotenone in at least seven states including Utah. In some cases, rotenone treatment has been used to protect or improve drinking water quality (Hoffman and Payette 1956; Barry 1967).

The mobility of rotenone in soil is low. In fact, the leaching distance of rotenone is only 2 centimeters (cm) in most types of soils. This is because rotenone is strongly bound to organic matter making it unlikely that it would enter ground water. At the same time, rotenone breaks down quickly into temporary residues that would not persist as pollutants of ground water. Ultimately, rotenone breaks down into carbon dioxide and water.

The EPA approves rotenone for the use intended in this project and would be applied according to label instructions by personnel certified as Non-Commercial Pesticide Applicators. Changes in water quality during the project would not impair other uses. Rotenone will not affect plants and would still be of suitable quality for use by livestock, other mammals and birds.

Potassium permanganate would be used to detoxify rotenone during treatments at some of the project waters. Potassium permanganate would degrade to nontoxic, common compounds within an hour of application at the concentrations that would be used. The detoxification is not immediate in space, but requires a short mixing zone where the potassium permanganate is in contact with and oxidizes the rotenone. Below this mixing zone both fish and aquatic macro-invertebrates would survive.

Drinking water supplies would not be affected by the use of potassium permanganate because it rapidly breaks down into potassium, manganese, and water. In addition, the target stream is not used directly as municipal or culinary water sources. In recent years there has been concern for human safety expressed following a study linking exposure to rotenone to Parkinson's-disease-like symptoms (Betarbet et al. 2000). Unfortunately, fear for human safety was generated by incomplete or inaccurate reporting of the Emory University study. In the study, rats were continuously and intravenously exposed to rotenone by injecting rotenone dissolved with a carrier chemical into their jugular vein. The method of exposure and degree of exposure was in no way comparable to the normal exposure in humans or other mammals through inhalation, ingestion or through the skin (AFS Fish Management Chemical Subcommittee 2001). The authors of the study concluded their study did not show that exposure to rotenone caused Parkinson's disease and stated that "rotenone seems to have

little toxicity when administered orally". The intent and value of their study was in developing a model of Parkinson's disease to facilitate further research into the pathology of the disease. After extensive exposure studies and over 50 years of use as a piscicide there is no evidence of harm to humans or mammals at the concentrations to be used in the Proposed Action.

An indirect effect would be a temporary increase in nutrient input to the water as a result of decomposition of fish that are killed. This effect would occur for approximately 2 weeks while decomposition occurred. However, natural mortality has always occurred in the target waters, and the increase would be negligible with respect to the ecosystem. Some of the nutrients would likely be rapidly assimilated by rebounding aquatic macroinvertebrate populations.

Based upon monitoring data, lower Slinkard Creek may be treated in the following year to ensure complete removal of BK. Completion of the overall project would require 2 to 3 years.

#### Detonation Cord Treatment

A direct effect of the detonation cord treatment would be a temporary increase in the downstream sediment that was mobilized. This effect would occur for a very short period of approximately 24 hours. An indirect effect would be a temporary increase in nutrient input to the water as a result of decomposition of fish that are killed. This effect would occur for approximately 2 weeks while decomposition occurred. However, natural mortality has always occurred in the target waters, and the increase would be negligible with respect to the ecosystem. Some of the nutrients would likely be rapidly assimilated by rebounding aquatic macroinvertebrate populations.

#### Budget

The Department already has detonation cord and personnel trained to implement the project. The Department also has rotenone and dispensing equipment available for the project and would be provided at no cost. The salaries of various levels of personnel assigned to the project for onsite duties as well as background document preparation, implementation, and monitoring is provided in Table 2.

**Table 2.** Estimated budget breakdown of CDFG Slinkard Creek Lahontan Cutthroat Trout Expansion Project.

Item	Unit	Quantity	Cost
CDFG Rotenone Equipment (provided)	each		\$0
<u>Project Planning Costs</u> (for 4 personnel for 20 days to conduct flow studies, project design, and determine logistics (4 persons x\$100 (food/lodging) x 20 days)	Per treatment	2	\$16,000
<u>Project Implementation Costs</u> (two consecutive Septembers for ~18 personnel for five days including travel to site)	Per treatment	2	\$16,000
<u>Post-Project Monitoring Costs</u> (project organization, fish and tributary spring surveys, and equipment set up for 2 seasonal employees for 2 seasons)	Per treatment	2	\$16,000
<u>Post-Project Personnel Costs</u> (wages for seasonally employed personnel: 2 persons for 12 weeks for 2 seasons to organize, repair, construct, and transport equipment, as well as assist with flow studies and determine current fish distribution, including assessment of success of first treatment)	Per season	2	\$25,000
<u>Non-CDFG Equipment Costs</u> (porta-potties, miscellaneous safety gear, etc.)			\$2,500
		<b>TOTAL</b>	<b>\$75,500</b>

### 6.2.2.2 Rosaschi Ranch Outdoor Recreational Improvements

The goal of this project is to increase recreation along the East Walker River at Rosaschi Ranch by providing or improving access to and along the river, providing amenities such as toilets and tables, providing interpretive signage, and providing fencing and barrier rocks to eliminate access in sensitive areas. The implementation of this project would be conducted in a three-phased approach. A list of items to be completed for each phase is provided in Table 3.

The majority of angling along the East Walker River in Nevada occurs at Rosaschi Ranch and the Elbow area. Based on mail-in angler questionnaire data sent to 10% of license holders and data expanded to estimate the angling population, angler use within the Nevada portion of the East Walker River averaged 21,590 angler days annually prior to the December 30, 2000 oil spill (standard deviation = 4,435; from 1996-2000). However, angling use has not recovered to these levels since the spill (average = 8,572 angler days, standard deviation = 3,271) (see Table 4). Typically, 50% to 60% of the angling use comes from Nevada residents while California residents primarily make up the remainder of use. Catch rates, although declining in the past few years, remain relatively high for a Nevada river; therefore, it is unclear why angler use has not rebounded.

**Table 3.** List of construction items to be completed by phase for the Rosaschi Ranch Outdoor Recreational Improvements Project, East Walker River, Lyon County, Nevada.

Phase	Date	Item
Phase I	FY2009	<ul style="list-style-type: none"> <li>• Construct a designated parking area by the auto bridge, delineated by boulder/fence placement. The parking area is located on the opposite side of the county road from the current parking area. (See Conceptual Design).</li> <li>• Boulder placement will eliminate parking at the current parking area location.</li> <li>• Construct a 3-panel, roofed kiosk.</li> <li>• Install a single-vault toilet at the new designated parking area.</li> <li>• Construct a day-use area at the Rosaschi Ranch location with the following design items:               <ul style="list-style-type: none"> <li>▪ Interpretive panels</li> <li>▪ Rustic fencing to control autos and visitors</li> <li>▪ Parking area for 10-15 autos</li> <li>▪ Bench</li> <li>▪ Picnic Table</li> </ul> </li> <li>• Install all interpretive panels with this Phase. (5 total).</li> <li>• Construct a new accessible trail from the Rosaschi Ranch location to the river (1,400 ft.)</li> <li>• Construct a new accessible trailhead by the river.               <ul style="list-style-type: none"> <li>▪ Bench</li> <li>▪ Picnic Table</li> </ul> </li> </ul>
Phase II	FY2010	<ul style="list-style-type: none"> <li>• Construct a new trail connecting the designated parking area to the Rosaschi Ranch day-use area on the north side of the river. The trail will be accessible (3,700 ft.)</li> </ul>
Phase III	FY2011	<ul style="list-style-type: none"> <li>• The existing trail on the south side of the river connecting the new trailhead to the new designated parking area by the auto bridge. The trail will be accessible. (4,240 ft.)</li> <li>• Construct new accessible fishing access spots (2) on the river from the trail system on the south side of river.</li> <li>• Construct a new footbridge at the accessible trailhead to provide access to the south side of the river. (Total trail reconstruction for accessibility is 9,340 ft.)</li> </ul>

**Table 4.** Angler days and average fish per day determined from Nevada Department of Wildlife mail-in angler questionnaires taken at the East Fork Walker River from 1996 to 2005.

Year	Angler Days	Avg. Fish/day
1996	20,243	4.06
1997	20,483	4.37
1998	17,384	4.91
1999	29,149	4.67
2000	20,692	4.53
2001	13,112	4.75
2002	10,222	4.52
2003	6,646	3.09
2004	8,265	3.05
2005	4,614	3.45

Location, Size, and Land Use

The Rosaschi Ranch is located on the East Walker River in Nevada immediately downstream of the California-Nevada border (Figure 2, project location #2). The river and ranch boundary are approximately 1.75-miles below the California-Nevada stateline. Actual project area begins at the bridge on Forest Road 028 and runs upstream of the East Walker River about 0.75-mile (Figure 5). The USFS acquired the property from the Rosaschi family in 1995 through the American Land Conservancy and the Bureau of Land Management. The purpose of the land acquisition was to improve the management of adjoining public land and allow multiple resource planning and management for wildlife, recreation, watershed, and riparian habitat.

Feasibility

Recreational use was addressed by the USFS in the Rosaschi Ranch Restoration Project Environmental Assessment in December 2002. The current project, however, is a modification and the design and project work has been/will be completed by the USFS. Further permitting, if required, will be the responsibility of the USFS.

Environmental Consequences

The project will affect ~0.75-miles within the upland terrace and along riparian habitat near the river. Anglers and other outdoor enthusiasts will benefit from increased or improved access. Vault toilets will improve the cleanliness of the area, fencing and rock barriers will eliminate access to sensitive areas, and removal of the parking area at the bridge will reduce runoff and improve water quality in the river. Recreation experiences would tend to be maintained or enhanced over time by providing better support facilities throughout the area. Management direction would encourage access such as trailheads and parking to be dispersed throughout the watershed so as to minimize overcrowding in the corridor. Capacity of recreation use would increase due to improved distribution of use over time and area. Angler opportunities would also increase because of habitat improvements.



Budget

The project design and budget is comprised of three phases (Table 5). Budget estimates under consideration by this RP/EA include Phase I and II only. Funds for Phase I would be released and subsequent allocation of funds for Phase II would occur after Phase I is successfully completed. Phase III would be the sole responsibility of the Bridgeport Ranger District of the U.S. Forest Service.

**Table 5.** Estimated budget for implementation of the Rosaschi Ranch Outdoor Recreational Improvement Project.

Description	Quantity	Unit	Price	Total
<b>Phase I</b>				
Survey/Design/Layout	10	Day	\$320	\$3,200
Clearing/Staking	1	LS	\$4,500	\$4,500
Site Preparation and Grading w/Water & Compact	1	LS	\$16,000	\$16,000
Single Vault Toilet (Includes Finish Grading)	1	each	\$23,000	\$23,000
6-Inch Crushed Aggregate Base ( Two-1/2 Acre Parking Areas)	970	yd <sup>3</sup>	\$13	\$12,600
Accessible Trailhead (At River)	300	ft <sup>3</sup>	\$7	\$2,100
Accessible Trail (To River)	780	linear foot	\$7	\$5,500
Barrier Rocks	60	each	\$100	\$6,000
Per Diem for Road Crew				\$12,000
	Phase I Total			<b>\$84,900</b>
<b>Phase II</b>				
Single Vault Toilet (Includes Finish Grading)	1	each	\$23,000	\$23,000
Wood Fencing (Around Ranch)	2,000	linear foot	\$25	\$50,000
Interpretive Signs	4	each	\$2,000	\$8,000
Interpretive Sign Framing	4	each	\$500	\$2,000
Benches	2	each	\$1,000	\$2,000
Picnic Tables	2	each	\$1,000	\$2,000
Trail Construction (Northside of River)	1,560	linear foot	\$5	\$7,800
F.O.R. Monthly Fixed Costs for Gov't Equipment				\$5,000
	Phase II Total			<b>\$99,800</b>
<b>Phase III (funded by U.S. Forest Service)</b>				
Interpretive Signs	1	each	\$2,000	\$2,000
Interpretive Sign Framing	1	each	\$500	\$500
3-Panel, Roofed Kiosk	1	each	\$10,000	\$10,000
Trail Construction (Southside of River)	1,180	linear foot	\$5	\$5,900
Fishing Access Spots	2EA@300	ft <sup>3</sup>	\$7	\$4,200
Footbridge (Includes 80' Design x 5' Width)	1	each		\$140,000
	Phase III Total			<b>\$162,600</b>



### 6.2.2.3 East Walker River Wildlife Area Vehicle Access Control

CDFG owns and manages property adjacent to the East Walker River, downstream of Bridgeport Reservoir, primarily for access to angling. Currently, the East Walker River is managed as a Wild Trout Water, which attracts anglers from areas within and outside of California. This project would provide for the placement of boulders to prevent vehicular access in strategic areas along the river where currently vehicles are not controlled. No facilities exist for users of this area to reduce human-use impacts from trash, feces, overnight camping and vehicle parking in riparian habitats. With direct effects to water quality resulting from human waste and trash, as well as indirect effects from poorly-placed trails and parking areas that infringe upon the riparian corridor, impacts are only likely to increase, especially as this water is now open to year-round angling.

#### Location and Size

The proposed project would occur on State lands immediately adjacent to the East Walker River (Figure 6). Approximately eleven boulder/barricades would be placed at impacted sites.

#### Land Use

Recreational and natural wildlife habitat within a State Wildlife Area.

#### Feasibility

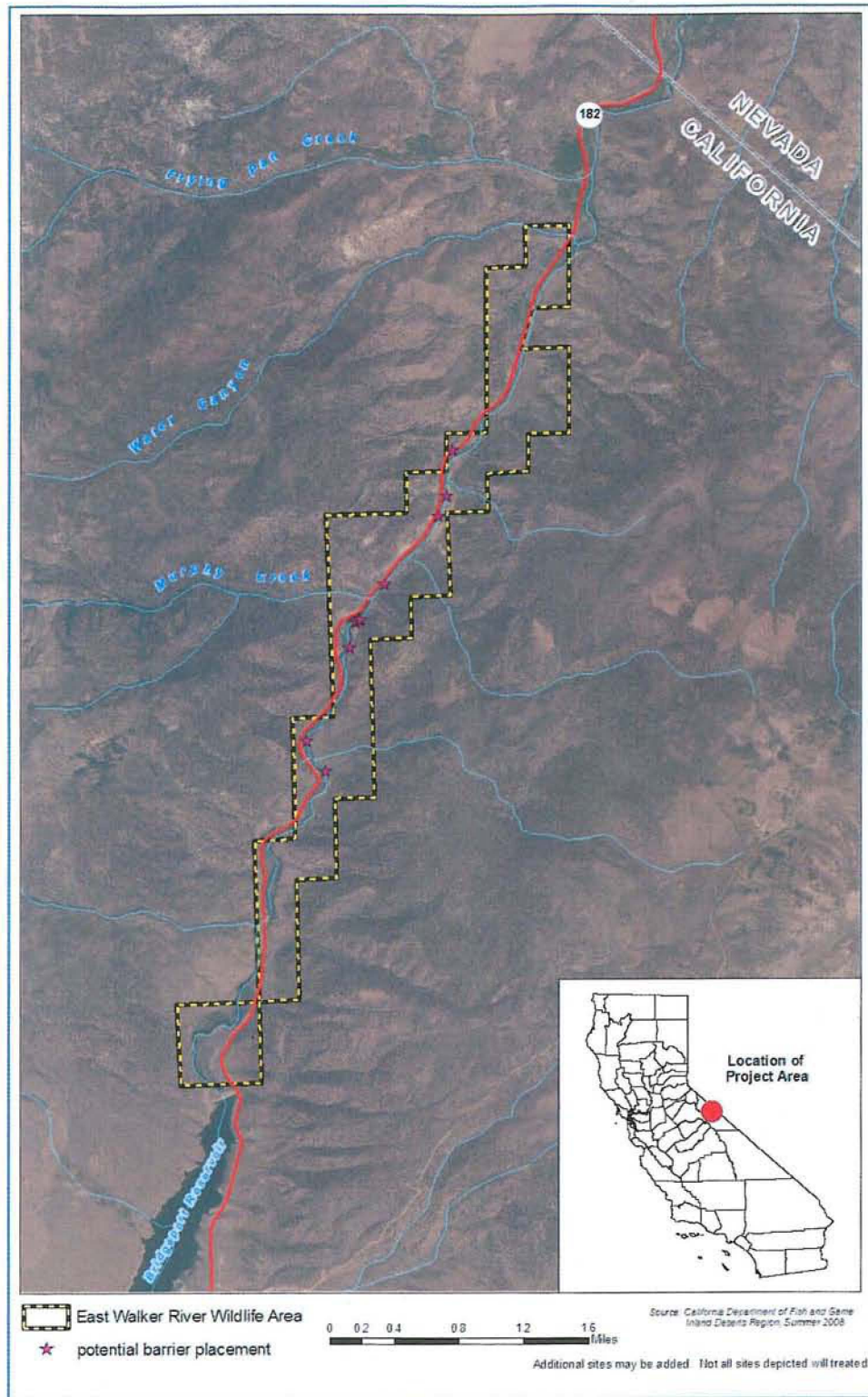
- Numerous sites have been identified, most of which are situated so that strategic placement of boulders could prevent vehicular access into the riparian corridor.
- This project would fall under Categorical Exemption, Title 14, Section 15304, Class 4, example d.
- No permits are deemed necessary to implement this project. Local Lands Program personnel have been apprised of the project and are in support.

#### Environmental Consequences

Protection of water quality would be enhanced. Impacts from vehicle use would be removed allowing restoration and improvement to meadow and riparian habitat. Riparian nesting songbirds would benefit greatly in time, as would mammals, including bear, deer, and mountain lion that use the riparian vegetation as a transportation corridor. Once the exasperator activity is removed (i.e. vehicles), vegetation will result in increased cover, increased shading, increased invertebrate use, thus increased terrestrial drift for aquatic species.

#### Budget

Agency costs would include time only for onsite flagging of project locations. Global Positioning System of sites has already created waypoints of problem areas. Contract costs to design, implement, and monitor is approximately **\$15,000**.



**Figure 6.** Location of the East Walker River Vehicle Access Control Project and potential placement sites of boulder/barricades, East Walker River Wildlife Area, Mono County, California.

#### **6.2.2.4 East Walker River Wildlife Area Restroom**

This project would place one or two vault toilets in high-use access areas. CDFG owns and manages property adjacent to the East Walker River, downstream of Bridgeport Reservoir, primarily for access to angling. Currently, the East Walker River is managed as a Wild Trout Water, which attracts anglers from areas within and outside of California. No facilities, however, exist for users of this area, and trash, feces, trails, and parking areas have been scattered about the area, with no management direction and with potentially detrimental impacts to water quality resulting directly from human waste, as well as indirectly from poorly-placed trails and parking areas that infringe upon the riparian corridor. Impacts are only likely to increase, especially as this water is now open to year-round angling.

##### Location, Size, and Land Use

The proposed project would occur on State lands immediately adjacent to the East Walker River (see Figure 3). One site is an already-disturbed, easy access parking area where the stock trail bridge crosses the river. The other potential site is an area upstream, below the reservoir, where a large denuded network of roads and parking areas exist. Land use of the area is for recreational and natural wildlife habitat within a State Wildlife Area.

##### Feasibility

A partnership with Mono County or another entity for maintenance would have to be implemented prior to carrying out this option, unless interest will be available from Trustee Council funds, as CDFG has no personnel that are available for maintenance. A contract for dump and trash services could be obtained and potentially financed through the local Fish and Game Commission fines monies or the Sierra Nevada Conservancy. It is unknown if the presence of vault toilets and trash receptacles would create an attractive nuisance regarding trash issues. This project would fall under Categorical Exemption, Title 14, Section 15304, Class 4, example d.

Mono County has been approached and would be supportive of utilizing Fish and Game Commission funds for maintenance dumping needs. It is unclear whether a company/entity exists that would cover weekly maintenance of the facilities, but a local fishing group may cover these costs. No permits are deemed necessary to implement this project. Local Lands Program personnel have been apprised of the project and are in support.

##### Environmental Consequences

Dispersed litter and trash throughout the river corridor would be decreased, potentially on numerous acres. This proposal supplies both recreational and water quality benefits. The presence of restroom facilities and trash receptacles would allow recreationists a more comfortable experience on the river and improve the aesthetics of the area.

##### Budget

Agency costs would include time only for onsite flagging of project locations. GPS of sites has already created waypoints of problem areas. Agency time would be expended to identify funds

or write a contract to provide cleaning and supply of the vaults. The cost for one single vault toilet per USFS standards for adjacent to water is approximately **\$25,000**. It is unknown if this includes placement, but it does include finish grading. It would be desirable to create a maintenance fund/contract for weekly cleaning/supplies as well as pumping of the toilets as needed, for a five year period to allow the Department a period of time to work with local entities and apply for grants to deal with maintenance.

### **6.3 CUMULATIVE EFFECTS**

Cumulative effects are the incremental effects of a proposed action when added to other past, present, and reasonably foreseeable actions, regardless of which agency or person undertakes them. This analysis discusses cumulative effects in the context of the proposed action with other known and likely actions in the resource area and for a time period of 5 to 10 years.

Implementation of the projects described in this RP/EA could affect other specific downstream restoration projects by changing local fluvial geomorphology and hydrology. Other actions listed here could affect the RP/EA by altering physical processes upon which the proposed projects depend. Changes in upstream water operations could also augment and improve or could decrease the effectiveness of proposed projects. In the context of the Settlement Agreement rationale, this RP/EA will be expected to achieve compensatory restoration of 3.46 stream miles for injuries to stream biota and habitat compared to a total of approximately 3,670 miles of perennial streams that are available within the Walker Basin. In addition, the recreational improvements proposed by this RP/EA will be designed to compensate for the public loss of 2,483 angler days among a baseline average of approximately 21,590 total angler days for the East Walker River alone. When framed within the watershed approach, this RP/EA will not have significant cumulative effects on public health or safety; natural, cultural, or tribal resources; or have precedent for a future action or represent a decision about future actions with potentially significant environmental effects. However, if any individual project implemented under this RP/EA is determined to have the potential for an adverse effect as described under CEQA or NEPA when combined with other actions, it will be the responsibility of the implementer of the project to ensure that compliance is met under those delegated authorities.

## 7.0 PLAN IMPLEMENTATION, MONITORING AND MANAGEMENT

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For projects implemented under the riparian restoration actions, the Trustee Council will provide a notice for the submittal of proposed restoration project proposals from stakeholders and the public. The Council will develop criteria by which to evaluate and select restoration project proposals. Once the projects are selected, they will be implemented and completed with Trustee Council oversight. Each project will include performance and success criteria by which to determine project completion. This restoration project alternative may be partnered with the other grant programs such as USFWS Partners for Fish and Wildlife or NDEP's Clean Water Act 319 Non-Point Source Pollution for sharing of administration and implementation costs.

The Trustee Council will allocate funds to appropriate groups who will coordinate the projects approved through this RP/EA. The management and monitoring aspects of approved projects will not be paid by Council funds. However, the Trustee Council will have the opportunity to provide input to any management and monitoring plans developed for projects implemented with Council funds. There may be opportunities, however, where other in-stream/riparian restoration, recreational fishing/human use improvements, or combinations thereof can occur on, or in relation to projects funded by the Council. In these situations, the Council will have more of an oversight role in the management and monitoring of these programs. Upon the cessation of the Trustee Council, the parent agencies, namely the USFWS along with CDFG and NDOW, will assume oversight jurisdiction and authority. This oversight authority is to ensure that projects implemented with Council funds are properly and effectively protected, restored and managed for fish and wildlife and their associated habitats.

The Trustee Council has the ultimate authority and responsibility for successful implementation and completion of restoration projects identified in this RP/EA. For restoration alternatives, however, assistance will be provided by various groups and individuals for the implementation, management and monitoring of the projects.

## 8.0 LITERATURE CITED

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- AFS Fish Management Chemicals Subcommittee. 2001. Relationship between rotenone use in fisheries management and Parkinson's disease. American Fisheries Society, Bethesda, Maryland.
- Bailey, R.G. 1995. Descriptions of ecoregions of the United States. Miscellaneous Publication No. 1391. U.S. Department of Agriculture, Forest Service, Washington, DC.
- Baldwin, C.K., F.H. Wagner, and U. Lall. 2003. Water resources. *In*: Wagner, F. H., editor, Rocky Mountain/Great Basin Regional Climate-Change Assessment. Report for the U.S. Global Change Research Program. Utah State University, Logan, UT.
- Barry, J. J. 1967. Evaluation of creel census, rotenone embayment, gill net, traps and electrofishing samples, by complete drainage of Lenape and Bischoff Reservoirs. Indiana Department Natural Resources, Division Fish Game, Fishery Research Section. 35 p.
- Betarbet, R., T. Sherer, G. MacKenzie, M. Carcia-Osuna, A. Panov, and J. Greenamyre. 2000. Chronic systemic pesticide exposure reproduces features of Parkinson's disease. *Nature Neuroscience* 3:12 1301-1306.
- Boyle, K.J. and M. Markowski. 2000. *Meta Analysis of Sport Fishing Values in the U.S: An Investigation of the Effects of Using Selected Groupings of Data*. Prepared for Economics Division, U.S. Fish and Wildlife Service, Department of the Interior.
- Bradbury, A. 1986. Rotenone and trout stocking. A literature review with special reference to Washington Department of Game's Lake Rehabilitation Program. Fisheries Management Report 86-2. 181 p
- Brandenburg, W.H., and K.B. Gido. 1999. Predation by nonnative fish on native fishes in the San Juan River, New Mexico and Utah. *Southwestern Naturalist* 44 (3): 392-394.
- California Government Code 8670.1 et seq. 1990. Lempert-Keene-Seastrand Oil Spill Prevention and Response Act.
- CDFG. California Department of Fish and Game. 1965. A progress report of the Twin Lakes Bridgeport kokanee salmon and catchable trout fishery. 40 pp.
- \_\_\_\_\_. 1983. An assessment of the use of chemical fish toxicants in California. Inland Fisheries Administrative Report No 83-2. 21 p.
- \_\_\_\_\_. 1994. Rotenone use for fisheries management. Final programmatic environmental impact report (subsequent). Sacramento, CA. 334 p.

- CDWR. California Department of Water Resources. 1992. Walker River Atlas. The Resources Agency, State of California, Sacramento, CA.
- Clement Associates. 1985. Chemical, physical, and biological properties of compounds present at hazardous waste sites. Prepared for the U.S. Environmental Protection Agency, Washington, DC.
- Cooper, J.J., and D.L. Koch. 1984. Limnology of a desertic terminal Lake, Walker Lake, Nevada, U.S.A. *Hydrobiologia* 118:275-292.
- Deacon, J.E. and W.L. Minckley. 1974. Desert fishes. *In* Desert Biology, vol. 2, ed. G.W. Brown, Jr., Academic Press, New York, New York.
- Dunham, J.B., M.M. Peacock, B.E. Rieman, R.E. Schroeter, and G.L. Vinyard. 1999. Local and geographic variability in the distribution of stream-living Lahontan cutthroat trout. *Transactions of the American Fisheries Society* 128 (5): 875-889.
- Edmondson, J., Conservation Director of CalTrout. 2001. Public letter to Robert Hight, Director of California Department of Fish and Game.
- Eisler, R. 1987. Polycyclic aromatic hydrocarbon hazards to fish, wildlife, and invertebrates: A synoptic review. Biological Report 85(1.11). U.S. Department of the Interior, Fish and Wildlife Service, Patuxent Wildlife Research Center, Laurel, MD. 81 pp.
- Engstrom-Heg, R., R. T. Colesante, and E. Silco. 1978. Rotenone Tolerances of Stream-bottom Insects. *New Your Fish and Game Journal* 25(1):31-41.
- Fausch, K.D. 1989. Do gradient and temperature affect distributions of, and interaction between, brook charr (*Salvelinus fontinalis*) and other resident salmonids in streams? *Biology of Charrs and Masu Salmon* 1: 303-322.
- Finlayson, B.J., R.A. Schnick, R.L. Cailteaux, L. DeMong, W.D. Horton, W. McClay, C. W. Thompson, and G.J. Tichacek. 2000. Rotenone use in fisheries management; administrative and technical guidelines manual.
- Forbis, T.A., L. Provencher, L. Frid, and G. Medlyn. 2006. Great Basin land management planning using ecological modeling. *Environmental Management*, 38(1):62-83.
- Gerstung, E.R. 1988. Status, life history, and management of the Lahontan cutthroat trout. *American Fisheries Society Symposium* 4:93-106.
- Gresswell, R.E. 1988. Status and management of cutthroat trout, *American Fisheries Society Symposium* 4.

- Griffith, J.S. Jr. 1988. Review of competition between cutthroat trout and other salmonids. American Fisheries Society Symposium 4: 134-140.
- Hampton, S., A. Montalvo, D. Higgins, and P. Sollberger. 2002. Assessment of natural resource damages as a result of the East Walker River Oil Spill on December 30, 2000. East Walker River Trustee Council. 21 p. plus appendices.
- Higgins, D.K. 2002. Assessment of damages to natural resources in the East Walker River from the Advanced Fuel Filtration spill: water, sediment, and fish tissue analysis. Final Report EC 34.14.9. Nevada Fish and Wildlife Office. U.S. Fish and Wildlife Service. Reno, Nevada. 22 pp.
- Hildebrand, R.H. 1998. Movements and conservation of cutthroat trout. Aquatic Ecology, 133 pp.
- Hoffman, D.A. and R.C. Payette. 1956. "Operation Carp" on a San Diego reservoir. Water Sewage Works 103(7):281-287.
- Houghton, Samuel G. 1994. *A Trace of Desert Waters: The Great Basin Story*. Reno: University of Nevada Press.
- Howald, A. 2000. Plant Communities. In: Smith, G., editor, *Sierra East: Edge of the Great Basin*. University of California Press, Berkeley, CA. 498 p.
- Humberstone, J.A. 1999. Walker River Basin water quality modeling. University of Nevada, Reno.
- Hynes, H. B. N. 1972. *The Ecology of Running Waters*. University of Toronto Press, Toronto. 555 p.
- Knapp, R.A., P.S. Corn and D.E. Schindler. 2001. The introduction of nonnative fish into wilderness lakes: good intentions, conflicting mandates, and unintended consequences. *Ecosystems* 4 (4): 275-278.
- Koch, D.L., Cooper, J.J., Lider, E.L., Jacobson, R.L., and Spencer, R.J. 1979. Investigations of Walker Lake, Nevada: Dynamic ecological relationships. University of Nevada, Desert Research Institute Publication No. 50010.
- LaRivers, I. 1962. *Fishes and fisheries of Nevada*. Nevada State Department of Fish and Game.
- MacDonald, D.D., C.G. Ingersoll, and T.A. Berger. 2000. Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. *Arch. Environ. Contam. Toxicol.* 39:20-31.
- Mares, M.A. 1999. *Encyclopedia of Deserts*. University of Oklahoma Press, Norman, OK. 654 p.



- Moore, J.W. and S. Ramamoorthy. 1984. Organic chemicals in natural water. Springer-Verlag, New York, NY.
- Morrison, M.L., B.G. Marcot, and R.W. Mannan. 1992. Wildlife Habitat Relationships. University of Wisconsin Press, Madison, WI. 364 p.
- National Academy of Science. 1983. Rotenone. Pages 63-70 in Drinking water and health, Volume 5. Safe Drinking Water Committee, Board on Toxicology and Environmental Health Hazards, Commission on Life Sciences, National Research Council, National Academy Press, Washington, D. C.
- NAC 445A.118 et seq. Nevada Administrative Code. Nevada Water Pollution Control. Standards for Water Quality.
- NAC 445A.159. Nevada Administrative Code. Nevada Water Pollution Control. Standards for Water Quality. Beneficial uses for Walker River.
- NAC 445A.1693. Nevada Administrative Code. Nevada Water Pollution Control. Standards for Water Quality. Beneficial uses for Walker Lake.
- NDOW. Nevada Department of Wildlife. 1997. Federal Aid Job Progress Report. West Walker River, Western Region. Fisheries Bureau Annual Project Report. 21 p.
- \_\_\_\_\_. 2004. Federal Aid Job Progress Reports F-20-39. East Walker River, Western Region. Fisheries Bureau Annual Project Report. 13 p.
- NDWP. Nevada Division of Water Planning. 2001. Walker River Chronology. Parts I and II. <http://www.state.nv.us/cnr/ndwp> (December 27, 2001).
- Public Resource Associates. 1994. Water resources in the Walker River Basin: a search for water to save Walker Lake. Reno, Nevada. Russell, I.C. 1885. Geological History of Lake Lahontan. United States Geological Survey, Monograph 11.
- Rand, G.M. and S.R. Petrocelli (eds.). 1985. Fundamentals of Aquatic Toxicology. Hemisphere Publishing Company, NY, 666 pp.
- Sada, D. 2000. Native Fishes. *In*: Smith, G., editor, Sierra East: Edge of the Great Basin. University of California Press, Berkeley, CA. 498 p.
- Schindler, D.W. 2000. Aquatic problems caused by human activities in Banff National Park, Alberta, Canada. *Ambio* 29 (7): 401-407.

- Schroeter, R. 1998. Segregation of stream dwelling Lahontan cutthroat trout and Brook trout: patterns of occurrence and mechanisms for displacement. M. S. thesis, University of Nevada, Reno.
- Sharpe, S.E., M.E. Cablk, and J.M. Thomas. 2007. The Walker Basin, Nevada and California: physical environment, hydrology, and biology. Publication No. 41231. Desert Research Institute. Reno, Nevada. 71 p.
- Shepard, B.B., B. Sanborn, L. Ulmer and D.C. Lee. 1997. Status and risk extinction for westlope cutthroat trout in the Upper Missouri River basin, Montana. North American Journal of Fisheries Management 17(4): 1158-1172.
- Sousa, R.J., F.P. Meyer, and R.A. Schnick. 1987. Better fishing through management. U.S. Fish and Wildlife Service, Washington, D.C.
- Stockwell, C. 1994. The Biology of Walker Lake. Biological Resources Research Center, University of Nevada Reno, Reno, NV.
- Thomas, J.M. 1995. Water budget and salinity of Walker Lake, western Nevada. U.S. Geological Survey Fact sheet FS-115-95. Carson City, Nevada.
- U.S. Department of the Interior, U.S. Fish and Wildlife Service and U.S. Department of Commerce, U.S. Census Bureau. October 2002. 2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation. Washington, D.C.
- USFS. U.S. Forest Service. 2002. Environmental Assessment: Rosaschi Ranch Restoration Project. Humboldt-Toiyabe National Forest, Bridgeport Ranger District, Bridgeport, California. 41 pp. plus appendices.
- USFWS. U.S. Fish and Wildlife Service. 1995. Lahontan cutthroat trout (*Oncorhynchus clarki henshawi*) recovery plan. U.S. Fish & Wildlife Service, Region I, Portland, Oregon.
- Whelan, J.E. 2002. Aquatic macroinvertebrate monitoring results of the 1995 and 1996 rotenone treatments of Manning Creek, Utah. Publication Number 02-04. Utah Division of Wildlife Resources, Salt Lake City, UT. 34pp.
- World Health Organization. 1989. International Agency for Research on Cancer (IARC) Monographs on the Evaluation of Carcinogenic Risks to Humans: Occupational exposures in petroleum refining; Crude oil and major petroleum fuels. Volume 45. IARC, Printed in the UK. 322 pp.
- WRBRIT. Walker River Basin Lahontan Cutthroat Trout Recovery Implementation Team. 2003. Short-term action plan for Lahontan cutthroat trout (*Oncorhynchus clarki henshawi*) in the Walker River Basin. Developed for the U.S. Fish and Wildlife Service. 117 p.

## 9.0 PREPARERS

The following Trustee/agency personnel participated in the development of this final RP/EA:

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# AFFS East Walker River Oil Spill Final Restoration Plan/Environmental Assessment

## APPENDICES

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- A. Settlement Agreement/Memorandum of Understanding..... 13 pages
- B. Summary of Public Comments and Trustee Responses..... 5 pages
- C. Written Public Comments Received..... 9 pages
- D. NEPA Decision Document/Finding of No Significant Impact..... 3 pages

**MEMORANDUM OF UNDERSTANDING  
RELATING TO THE  
*Advanced Fuel Filtration Systems East Walker River Oil Spill*  
BETWEEN THE  
CALIFORNIA DEPARTMENT OF FISH AND GAME  
OFFICE OF SPILL PREVENTION AND RESPONSE,  
THE NEVADA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
NEVADA DIVISION OF ENVIRONMENTAL PROTECTION,  
NEVADA DEPARTMENT OF WILDLIFE  
and  
THE U.S. FISH AND WILDLIFE SERVICE**

**I. INTRODUCTION**

This Memorandum of Understanding ("MOU") is between the California Department of Fish & Game ("CDFG") Office of Spill Prevention and Response ("OSPR"), the Nevada Department of Conservation and Natural Resources' Nevada Division of Environmental Protection ("NDEP"), Nevada Department of Wildlife (NDOW) and the U.S. Fish and Wildlife Service ("FWS") (collectively referred to as the "Trustees"). This MOU is entered into to ensure the coordination and cooperation of the Trustees in restoring, rehabilitating, replacing, and/or acquiring the equivalent of the natural resources injured as a result of the release of oil on December 30, 2000 from an Advanced Fuel Filtration Systems Inc. ("AFFS") tank truck into the East Walker River.

**II. PARTIES**

The following officials are executing this MOU as representatives of their respective agencies which act on behalf of the public as Trustees for natural resources under this MOU:

- Manager, California-Nevada Operations Office, U.S. Fish and Wildlife Service;
- Administrator, California Department of Fish and Game, Office of Spill Prevention and Response;
- Administrator, Nevada Department of Conservation and Natural Resources, Nevada Division of Environmental Protection; and
- Director, Nevada Department of Wildlife

**III. AUTHORITY**

The Trustees enter into this MOU pursuant to the authorities provided to Natural Resource Trustees by the Oil Pollution Act (33 U.S.C. § 2701 *et seq.*); the Federal Water Pollution Control Act (33 U.S.C. §§ 1251 *et seq.*); and the Oil Pollution Act Damage Assessment Regulations (15 C.F.R. Part 990). In addition, the Federal Trustees enter into this MOU pursuant

**MEMORANDUM OF UNDERSTANDING**  
**RELATING TO THE AFFS – East Walker River Oil Spill**

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to the authority provided in Subpart G of the National Contingency Plan (40 C.F.R. §§ 300.600 *et seq.*); and Executive Order 12580 (3 C.F.R., 1987 Comp. p. 193, 52 Fed. Reg. 2923 (January 23, 1987)), as amended by Executive Order 12777 (56 Fed. Reg. 54757 (October 19, 1991)). The CDFG also enters into this MOU pursuant to its natural resource trustee authority under Fish and Game Code sections 711.7 and 1802. The NDEP enters into this MOU pursuant to its authority under the Nevada Revised Statutes (NRS) 445A.300 to 445A.730, inclusive.

**IV. DEFINITIONS**

Whenever the following terms are used in this MOU, they shall have the following meanings:

A. Natural Resource and Natural Resources

"Natural Resource" and "Natural Resources" mean land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the State of California, Nevada, and/or the United States, and the "services" that the resources provide to other natural resources and/or humans.

B. Oil Spill

"Oil Spill" means the discharge of oil from an Advanced Fuel Filtration Systems, Inc. tank truck into the East Walker River, near Bridgeport, California on or about December 30, 2000. Some of the oil flowed downstream into Nevada.

C. Restoration or Restore

"Restoration" or "Restore" mean any action or combination of actions to restore, replace, rehabilitate, and/or acquire the equivalent of the Natural Resources and the "services" that were injured, lost, or destroyed by the Oil Spill.

D. Voting East Walker River Trustee Council Members

"Voting East Walker River Trustee Council members" shall mean the primary representatives appointed and authorized to vote on behalf of each Trustee, or in the event the primary representative(s) is (are) unable to participate at a given meeting of the Council, their respective alternate(s). Participation at a given meeting of the Council may be either in person or by telephone conference. The Council is described further in this MOU.

**MEMORANDUM OF UNDERSTANDING**  
**RELATING TO THE AFFS – East Walker River Oil Spill**

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**V. THE SETTLEMENT OF THE OIL SPILL**

Trustees believe the Oil Spill impacted stream biota, fish species, and other wildlife. In addition to causing wildlife injury, the Trustees believe the Oil Spill has impacted approximately 15 miles of fresh water stream and riparian habitat, and human use, in the East Walker River area.

A settlement of civil claims arising from the Oil Spill has been reached between the Trustees and the responsible party, Advanced Fuel Filtration Systems Inc., in lieu of litigation, and has been embodied in a Settlement Agreement. Pursuant to the Settlement Agreement, the AFFS paid a total of \$418,000.

The Settlement Agreement required payment of \$350,000 (the "NRD money") to be paid to the U.S. Department of the Interior ("DOI") for use by the Trustees for restoration activities and projects. The remaining \$68,000 of the \$418,000 is not subject to this MOU.

On behalf of the Trustees, DOI has deposited the NRD money into the Natural Resources Damage Assessment and Restoration Fund created pursuant to 43 U.S.C. § 1474b ("NRDAR Fund") as natural resource damages. The NRD money deposited into the NRDAR Fund will be maintained in a segregated account within the NRDAR Fund designated as the "East Walker River Restoration Fund" for the purpose of restoring the injured natural resources for which the United States and the States are co-trustees, without apportionment.

DOI shall manage and invest such funds. DOI will not make any administrative charges against these funds. Any return on investments or interest accrued on the "East Walker River Restoration Fund" is to be used for the benefit of the resources injured by the Oil Spill. Disbursements shall require approval of the Natural Resource Trustee Council created pursuant to Section VII of this MOU (hereafter referred to as the "East Walker River Trustee Council" or the "Council"). (See, Section VIII. below pertaining to authorization of expenditures.)

**VI. MOU PURPOSE and FUNDING**

The purpose of this MOU is to provide a framework for coordination and cooperation among the Trustees in the use of the NRD money from the Oil Spill settlement for wildlife projects, habitat restoration and protection, and human use projects.

The Trustees commit to the expenditure of the NRD money for the design, implementation, permitting (as necessary), and oversight of Restoration projects, and for the costs of complying with the requirements of the law to conduct a Restoration planning and implementation process. The Trustees share joint responsibilities regarding the injured wildlife, habitat, and human use losses.

The Trustees presently intend to apply approximately \$140,000 of the NRD money to fund Restoration projects benefiting in-stream and riparian habitat; approximately \$105,000 will be allocated for recreational fishing improvements; approximately \$55,000 will be allocated for continued benthic macro-invertebrate (BMI) surveys of the stream recovery; and approximately \$50,000 will be allocated for Trustee Council administration. However, ultimately these allocations may be adjusted based on actual restoration costs and needs as part of the Restoration planning process carried out by the Trustee Council.

**MEMORANDUM OF UNDERSTANDING  
RELATING TO THE AFFS – East Walker River Oil Spill**

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In addition, the FWS shall retain and utilize for restoration planning and oversight the remaining balance of the \$50,000 payment made to it by AFFS pursuant to a letter dated February 12, 2001.

Use of any allocation must be documented and an accounting provided to the East Walker River Trustee Council. Thereafter, these monies may only be disbursed to a Trustee agency pursuant to a budget, which has been duly approved by the East Walker River Trustee Council.

Interest earned on the “East Walker River Restoration Fund” NRD account and any excess funds from any of the categories above, may be used for any of the purposes described in this section. Priority consideration will be given to additional restoration projects which address those resources injured by the Oil Spill.

The Trustees will prepare a proposed Restoration Plan, containing details for specific projects and project selection criteria, upon which the public will be invited to offer comments. A final Restoration Plan will be developed after consideration of all public comments. The Trustees retain the ultimate authority and responsibility to determine the use of funds received for Natural Resource Damages in accordance with the provisions of applicable federal and state law, any applicable regulations governing use of recoveries for Natural Resource Damages, and the terms of the Settlement Agreement.

**VII. ORGANIZATION - AFFS EAST WALKER RIVER TRUSTEE  
COUNCIL AND LEAD TRUSTEES FOR SPECIFIC PROJECTS**

To implement this MOU, there is hereby created the East Walker River Trustee Council to which each of the Trustees will appoint one primary representative and at least one alternate representative. Each party to this agreement shall have one vote that shall be cast by the party's primary representative, or in the absence of the primary representative, by an alternate representative.

Prior to, or within twenty (20) working days after the final execution of this MOU, each Trustee shall notify the other Trustees of the names, addresses, email addresses, telephone numbers, and facsimile numbers of that Trustee's primary and alternative representatives to the East Walker River Trustee Council. Communications regarding East Walker River Trustee Council business shall be addressed to the primary and, unless the East Walker River Trustee Council directs otherwise, copied to the alternate representative and the Trustee legal representatives.

Designated representatives of the Legal Advisor of CDFG/OSPR, Nevada Office of the Attorney General, and the DOI's Office of the Solicitor shall serve as legal counsel to the East Walker River Trustee Council. The East Walker River Trustee Council will seek advisory participation from other federal, state, or local agencies or any other entity as deemed appropriate by the East Walker River Trustee Council.



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**VIII. DECISION MAKING**

A. Unanimous Approval of Voting Members Required

The Trustees agree that, except as specifically delegated to a specific Trustee pursuant to Section IX, below, decisions implementing this MOU and the Settlement Agreement shall require the unanimous approval of the voting East Walker River Trustee Council members. Such decisions shall be recorded in writing, either by resolution signed by the voting Council members participating in the Council meeting, or in minutes approved as to content and form by the voting East Walker River Trustee Council members participating in the Council meeting.

B. Authorization of Expenditures

All decisions authorizing expenditures of funds, including without limitation disbursements to Trustee agencies for agency costs, shall be memorialized in a Council resolution signed by the participating voting members. Such resolutions may cover the entire sum approved for a given project, project phase, or for particular activities. Approval authority for individual invoices associated with a particular project or activity may be delegated by the East Walker River Trustee Council to one or more of the Council members. In all cases, use of funds must be documented and an accounting provided to the East Walker River Trustee Council.

C. Dispute Resolution

The Trustees agree that decision making deliberations will focus on the Trustees' mutual purposes of restoring injured Natural Resources and diminished services rather than on individual Trustee control or trusteeship over those resources. In the event that unanimous agreement cannot be reached among the members of the East Walker River Trustee Council, the matter in dispute will be elevated within the Trustee agencies for resolution. If necessary, the Trustees may establish further mechanisms to resolve disputes, including consideration of trusteeship authority.

**IX. POWERS, DUTIES, AND RESPONSIBILITIES OF COUNCIL**

A. East Walker River Trustee Council

On behalf of the Trustees, the East Walker River Trustee Council shall coordinate and authorize all Trustee activities and matters under this MOU in accordance with the procedures contained in Section VIII (Decision Making), above. The East Walker River Trustee Council, in its discretion, may take whatever actions it determines are necessary to fulfill the trust responsibilities of each Trustee under, and to effectuate the purposes of, applicable Federal and State law. Any Trustee on the East Walker River Trustee Council may convene a meeting of the full East Walker River Trustee Council. It is expected that the East Walker River Trustee

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Council, in accordance with applicable laws and policies, may take the following actions to address the Trustees' Natural Resources Restoration responsibilities:

1. Oversee the development and implementation of the Restoration Plan and ensure public notice, opportunity for public input, and consideration of all public comments prior to preparing the final Restoration Plan;
2. Arrange for the letting of contracts, through one or more of the Trustees, that the East Walker River Trustee Council determines are necessary with consultants or contractors best qualified to provide services to the East Walker River Trustee Council;
3. Oversee the management and administration of monies received in the settlement for the purpose of implementing the Restoration Plan, which may include the transfer of funds to a trust fund account established with the National Fish and Wildlife Foundation or other similar non-profit organization;
4. Authorize or direct the Lead Trustee for specific projects to approve disbursements from the NRDAR Fund (or, as appropriate, from a Trust Fund account established with the National Fish and Wildlife Foundation or other similar non-profit organization) for specific Restoration Plan project costs, and to take all steps necessary to effect the disbursements when so directed by the East Walker River Trustee Council;
5. Select alternative Restoration projects if (1) any of the preferred Projects described in the final Restoration Plan prove infeasible, impractical, or otherwise not in the public interest, or (2) any funds remain after the successful implementation of the projects described in the final Restoration Plan, provided that such alternative projects address the injuries caused by the Oil Spill, are subject to public review and comment, and otherwise meet the requirements of applicable Federal and State law; and
6. Delegate specific duties to individual Trustee representatives. Certain duties set out below are hereby delegated to the Lead Trustee for specific projects.

**B. Lead Trustee for the Restoration Projects**

A Lead Trustee (State or Federal) shall be designated for each project selected in the Restoration Plan. Each Lead Trustee shall, for those projects for which it has been designated:

1. Ensure that the amounts allocated toward the Project(s) are well managed for the benefit of the injured resources;

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2. Ensure that the Project(s) and any use of funds for the Project(s), comply with all applicable laws, including the National Environmental Policy Act ("NEPA") (42 U.S.C.A. §§ 4321 et seq.), the Endangered Species Act ("ESA") (16 U.S.C. § 1531 et seq.), and the California Environmental Quality Act ("CEQA") (Pub. Resources Code §§ 21000 et seq.)
3. Provide for the East Walker River Trustee Council's approval a detailed statement of the proposed projects, project schedules, and estimated budgets for the life of the project(s), including an estimate of any contract, administrative, or overhead costs to be charged to the Project(s);
4. Obtain the East Walker River Trustee Council's written authorization to commence the Project(s);
5. Oversee, coordinate, and monitor the progress of the Project(s);
6. Submit quarterly reports (unless otherwise agreed) to the East Walker River Trustee Council which shall include a progress report, and an estimate of funds spent;
7. Establish and maintain records and relevant documents and provide these on a timely basis to the Lead Administrative Trustees for inclusion, as appropriate, in the administrative record;
8. Provide a final accounting to the East Walker River Trustee Council when the Project(s) is(are) completed and an interim accounting at any other time requested;
9. Prepare agenda items for meetings of the East Walker River Trustee Council regarding the Project(s);
10. Inform the other Trustees of all pertinent developments regarding the Project(s) on a timely basis; and
11. Carry out such other duties as directed by the East Walker River Trustee Council.

**C. Lead Administrative Trustees**

There shall be two Co-Lead Administrative Trustees, the CDFG and the USFWS. Except as otherwise specified below, the Co-Lead Administrative Trustees may carry out their responsibilities jointly and/or divide their administrative duties between themselves. The Co-Lead Administrative Trustees shall carry out the following duties:

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1. Coordinate and monitor all aspects of the Natural Resource Restoration process even if not specifically addressed above;
2. Schedule, provide notice of, and prepare agendas for general meetings of the East Walker River Trustee Council;
3. Act as the central contact points for the East Walker River Trustee Council;
4. Establish and maintain records and relevant documents other than those regarding specific Restoration projects and with the assistance of all Trustees establish and maintain any administrative record that is required; and
5. Carry out such other duties as directed by the East Walker River Trustee Council;
6. The USFWS Lead will perform routine administrative duties related to the NRDAR Fund account with the approval of the East Walker River Trustee Council, e.g., investments, disbursements , and distribution of regular Statements of Account Activity; and
7. The USFWS Lead will prepare procedures for disbursements and advance payments from the NRDAR Fund account for approval by the East Walker River Trustee Council;

The Co-Lead Administrative Trustees may delegate any of their duties to another Trustee with the concurrence of the East Walker River Trustee Council.

**X. CONFLICT OF INTEREST**

An East Walker River Trustee Council representative will abstain from discussing and voting on any issue coming before the East Walker River Trustee Council in which that representative has a personal financial interest. The Trustee Council representative will identify this conflict to the East Walker River Trustee Council prior to consideration and voting on the issue(s).

**XI. TELECONFERENCING**

A Trustee Council meeting may be convened by telephone conference call. Should a Trustee Council representative(s) be unable to travel to a meeting, then that representative(s) may participate by telephone conference and may vote by telephone on any issue requiring a vote by the voting East Walker River Trustee Council members.

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**XII. CONFIDENTIALITY**

The Trustees agree that it is generally in the public interest that scientific data arising out of their review of the injury to Natural Resources caused by the Oil Spill be made public. Public sharing of scientific data, wherever possible, will be the general policy of the Trustees. However, nothing in this MOU is intended as, nor shall it be construed to be, a general waiver of any attorney-client privilege or any protection afforded under the work product doctrine or any other doctrine or privilege under applicable law that has been or may be asserted in this matter and shall be without prejudice to any assertion of privilege or protection as to other documents or communications concerning the same or similar subject matter(s).

The parties to this MOU further agree that whenever a request for production of any written communication is received pursuant to any applicable Federal or State law, the request will be forwarded for response to the Trustee to which any privilege or protection may apply, or whose representatives originally generated or contributed to the record requested. Nothing contained herein shall be construed as prohibiting or restraining a Trustee or the East Walker River Trustee Council from agreeing to release any record. Nothing contained herein shall be construed as requiring a Trustee or the East Walker River Trustee Council to release privileged or protected communications.

**XIII. RESERVATION OF RIGHTS**

Nothing in this MOU is to imply that any signatory government is in any way abrogating or ceding any responsibility or authority inherent in its control or trusteeship over Natural Resources.

**XIV. LIMITATION**

Nothing in this MOU shall be construed as obligating the United States, the State of California or any other public agency, their officers, agents or employees, to expend any funds in excess of appropriations authorized by law.

**XV. THIRD-PARTY CHALLENGES OR APPEALS**

Nothing in this MOU may be the basis of any third party challenges or appeals. Nothing in this MOU creates any rights or causes of action in persons not parties to this agreement.

**XVI. MODIFICATION OF AGREEMENT**

Modification of this MOU must be in writing and approved by all parties to this MOU.

**MEMORANDUM OF UNDERSTANDING**  
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**XVII. TERMINATION**

This MOU shall be in effect from the date of execution until termination by agreement of the Trustees. At any time that the Trustees determine that the purposes set forth in this MOU have been satisfied, the MOU may be terminated. In the event any Trustee withdraws from the MOU, such withdrawal must be in writing and provided to the other parties to this MOU at least thirty days in advance of the withdrawal.

In the event of the withdrawal of any Trustee or the termination of this MOU, the Trustees shall give a full and complete accounting to the East Walker River Trustee Council of all restoration funds received, deposited, held, disbursed, managed, expended, or otherwise controlled by a Trustee in any joint or separate account as a result of the Oil Spill, pursuant to the Settlement Agreement or this MOU.

**XVIII. SEVERABILITY**

The terms of this MOU are severable. If any term or condition of this MOU is determined by a court of competent jurisdiction to be invalid, it shall be considered deleted and shall not invalidate any of the remaining terms and conditions.

**XIX. EXECUTION: EFFECTIVE DATE**

This MOU may be executed in counterparts. A copy with all original executed signature pages affixed shall constitute the original MOU and be retained by the Lead Administrative Trustee that maintains records, (see section IX. C. 4, above). The date of execution shall be the date of the signature of the last Trustee to sign the MOU.

**SIGNATURES:**

Dated: DEC 21, 2005

**CALIFORNIA DEPARTMENT OF FISH AND GAME**

By:



Lisa Curtis  
Acting Administrator  
Office of Oil Spill Prevention and Response

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Dated: 12/30, 2005

**NEVADA DIVISION OF ENVIRONMENTAL  
PROTECTION**



By:

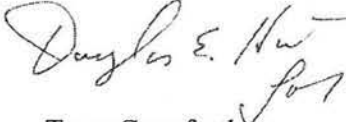
Leo Drozdoff  
Administrator

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Dated: 12/7, 2005

**NEVADA DEPARTMENT OF WILDLIFE**

By:   
Terry Crawford  
Director



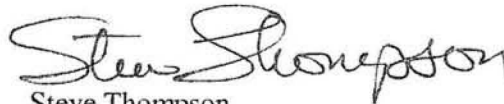
**MEMORANDUM OF UNDERSTANDING**  
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Dated: 12/07, 2005

**UNITED STATES FISH AND WILDLIFE SERVICE**

By:



Steve Thompson  
Manager  
California-Nevada Operations Office

## APPENDIX B. SUMMARY OF PUBLIC COMMENTS AND TRUSTEE RESPONSES

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The following is a summary of public comments for the revised draft DP/EA received by the East Walker River Trustees. These comments were received both in written and oral form from the following: 1) the public review and comment period from August 1 to September 15, 2008; and 2) the public meeting held by the East Walker River Trustees in Walker, California on August 20, 2008.

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Comment #1: The plan should address how expansion of the CDFG Riparian Enhancement and Fuels Reduction Project could be funded beyond the area described in the plan.

Response: Funding for the project will result in approximately \$38,000 that could be applied to treat more land along the East Walker River. While this would not be enough to treat the whole corridor within California, it should facilitate acquisition of further funding by demonstrating match for additional projects. In addition, the funds are in an interest-bearing account, and are growing while the disposition of funds is being determined. The State of California owns most of the land adjacent to the EWR, and the Lands Program is responsible for and actively engaged in seeking funds to manage State lands, including fuels reduction and riparian enhancement.

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Comment #2: For the East Walker River Wildlife Area Vehicle Access Control Project, the locations of the proposed boulder/barricades are not clearly defined in figure 3 of the Revised DRP/EA. Waypoints of the problem areas should also be provided.

Response: A map showing locations of the potential boulder/barricade sites has been provided in the final RP/EA. However, an on-site determination has not been conducted by CDFG to identify specific waypoints for problem areas. State land managers will identify which of the potential sites will receive treatment.

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Comment#3: It is recommended that the 'Rosaschi Ranch Conceptual Design Map', similar to what was presented at the public meeting on August 20, 2008 for the Rosaschi Ranch Outdoor Recreational Improvements Project be included in the final RP/EA.

Response: A scale-corrected map similar to the one presented at the public meeting on August 20, 2008 has been included in the final RP/EA (page 47).

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Comment #4: A clear definition of work details to be performed on the Rosaschi Ranch Outdoor Recreational Improvements Project should be provided in the plan. The revised DRP/EA does not provide any level of details for where the work is to take place other than the upper reach (portion) of the ranch in figure 5.

Response: Description of the details to be implemented for each phase of the Rosaschi Ranch Outdoor Recreational Improvements Project has been included in the final RP/EA in Table 3 (page 45).

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Comment #5: The Trustees should consider expanding the Rosaschi Ranch Outdoor Recreational Improvements portion of the Draft Plan by adding a parking lot and single vault toilet at the Cattle Guard access point.

Response: The proposal to expand the Rosaschi Ranch Outdoor Recreational Improvements Project will be considered by the Trustees in future planning efforts as the project, as described in the final RP/EA, is implemented. Additional restoration projects and/or modifications to existing projects, as identified in the final RP/EA would be subject to additional analyses under NEPA.

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Comment #6: The criteria for using detonation cord for the Slinkard Creek LCT Enhancement Project is not clear due to inconsistencies between what was written in the revised draft plan and what was communicated by the Trustee proponent (CDFG) at the public meeting on August 20, 2008.

Response: Detonation cord was included as an additional method for removal of brook trout to be used either separately or in combination with the application of rotenone. The inclusion of this method allows flexibility of resource managers to achieve the project goal should application of rotenone become cost-prohibitive or not supported as the preferred alternative in a separate CEQA process, which would require approval before implementing the project. It should be clarified, however, that while the high gradient portions of the creek should no longer need sediment removal, lower gradient meadow sections may benefit from use of detonation cord rather than rotenone. However, experience by CDFG fisheries biologists indicate detonation cord may not be effective in eradicating both eggs and young-of-year (i.e. small) brook trout. Therefore, rotenone is the preferred method to achieve project goals.

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Comment #7: The angling regulations that would be applied by the State of California to lower Slinkard Creek after implementation of the Slinkard Creek LCT Enhancement Project is not clear due to inconsistencies between what was written in the revised draft plan and what was communicated by the Trustee proponent (CDFG) at the public meeting on August 20, 2008 (limited bag vs. standard regulations).

Response: NEPA/CEQA documents must cover or address all alternatives which may occur. The current California fishing regulation on lower Slinkard Creek imposes a standard bag limit

for trout. Limited bag limits for lower Slinkard Creek are supported by the Trustees as well as the Region 6 CDFG office located in Bishop, California. However, CDFG currently does not have sufficient resources to propose and implement a limited bag regulation change for lower Slinkard Creek to the California State Fish and Game Commission. It is anticipated that, should LCT become re-established in lower Slinkard Creek, angling pressure from the existing standard limit regulation in place will be minimal due to limits in physical access by anglers to the stream. Dense vegetation exists in sections nearest to Hwy 89. Much of the open, easy-to-fish meadow section is further away from the highway and involves moderate hiking across uneven terrain with no vehicle access. However, any member of the public, whether a non-governmental-organization or an individual, can propose a limited bag regulation for any stream to the California State Fish and Game Commission. The California State Fish and Game Commission is made of up to five members, appointed by the Governor and confirmed by the Senate. The Commissioners are not full-time State employees, but individuals involved in private enterprise with expertise in various wildlife-related fields. They have a small staff, which handle day-to-day administrative activities. The Commission meets at least eleven times each year to publicly discuss various proposed regulations, permits, licenses, management policies and other subjects within its areas of responsibility.

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Comment #8: In order to facilitate support for native trout restoration within the local community and to provide the public with sufficient historical information with which to make an informed decision for this project, a complete listing of other LCT restoration projects within the Walker Basin along with a historical description of the projects, their current status, and an estimate of when those fisheries will be re-opened to the public for angling should be provided in the plan.

Response: An inclusion of a complete listing of other LCT restoration projects within the Walker Basin along with a description, status, and estimate of when those fisheries would be re-opened to the public for angling is outside the scope of the Trustees and this document.

A summary report of the history of LCT management in the Walker Basin has been recommended as a priority for CDFG, but a lack of Fisheries personnel has precluded this task. However, the following is a summary of LCT restoration projects in the Walker River watershed that was provided by CDFG in response to this public comment:

LCT populations have been established in the headwaters of Slinkard, Mill, Silver, Wolf, and Murphy creeks from LCT originating in ByDay Creek. These populations are separated from the mainstem fisheries by natural and/or manmade barriers that prevent upstream fish migration.

- Slinkard Creek – This creek was the first stream chosen for LCT restoration in the Walker basin for various reasons which included: within historic range for LCT, excellent fish habitat, secure State property, and relative ease of a rotenone treatment. In 1986, a barrier was created on Slinkard Creek when a headcut was treated using rock gabions to prevent continuous erosion and downcutting of the stream and subsequent dropping of the water table. Brook trout have been documented twice in the upstream restoration section. Slinkard Creek, at the Slinkard/Little Antelope Wildlife Area, was

treated with rotenone in 1987, after a salvage operation to rescue and translocate brook trout. In 1988, CDFG stocked Slinkard with: 202 LCT from the drought-impacted ByDay Creek. Lower Slinkard was not treated, and due to the aging barrier and brook trout immediately downstream of the barrier, the Slinkard population is not considered secure. Slinkard is one of three CDFG-designated high priority projects to secure existing LCT waters prior to initiating any projects on new waters, thus restoration activities in the EWR cannot be actively pursued by CDFG until existing LCT populations are secure from threats. Slinkard Creek is open to fishing with a limited season and catch and release.

- Mill Creek – This creek was treated with rotenone in 1988 and 1989, stocked with LCT from Slinkard Creek in 1991, and closed to legal angling in 1992. Internal CDFG actions to open Mill Creek to legal angling ceased abruptly with the occurrence of the 2002 Cannon Fire, which resulted in a direct fish kill in the most densely occupied three-mile portion of the creek on State and Forest lands. The LCT section of Mill Creek is above the section naturally inhabited by LCT, but LCT downstream of a natural barrier were extirpated by displacement and hybridization by the 1940's. Mill Creek is currently closed to legal angling. Non-native beaver have changed the hydrology of the creek, creating silt-bottomed, braided, slow-moving water and barriers that prevent LCT access to spawning habitat. Realignment of Mill Creek into one gravel-bottomed channel, and removal of the beaver are necessary to secure Mill Creek LCT from threats prior to legalizing angling.
- Wolf Creek – This creek was treated in 1991 and 1992, and 1993, and in 1993, the initial LCT stocking occurred, with subsequent stocking events. Wolf Creek LCT populations decreased following the 1997 flood event, however numbers trended upward, and internal actions to open it to legal angling proceeded. However, with the loss of the Heritage and Wild Trout (HWT) biologist, actions ceased. The HWT position was again filled briefly, however, the Department priority of eradicating northern pike diverted any HWT actions, and the position was again vacated, with no action having been taken. While still closed to angling, DFG Region 6 would support a citizen action to open the creek to catch and release angling.
- Silver Creek - This creek was chemically treated with rotenone in 1994, 1995, and 1996. In 1997 and subsequent years, LCT were released into Silver Creek. In 2004 while conducting a fish survey, with the goal of obtaining baseline population data to open the creek to angling, illegally introduced brook trout were found. A grant was obtained to assess the extent of infestation, and a subsequent grant has been obtained to conduct both removal and translocation actions. Until brook trout are no longer present in Silver Creek, this population will not be considered secure. It is currently closed to angling.

Additional information on the status of current and future planning of other LCT restoration projects in the Walker River Basin can be obtained by contacting the U.S. Fish & Wildlife Service representative from the Walker River Basin Recovery Implementation Team (WRBRIT):

Stephanie Byers –Senior Fisheries Biologist, Nevada Fish and Wildlife Office, U.S. Fish and Wildlife Service, 1340 Financial Blvd., Suite 234, Reno, Nevada 89502-7147, phone (775) 861-6300.

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Comment #9: The Slinkard Creek LCT Enhancement Project should be eliminated from consideration by the Trustees because it was not directly affected by the AFFS East Walker River Oil Spill.

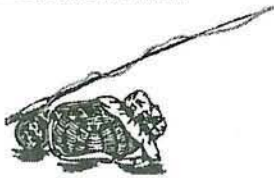
Response: Regulations for determining natural resource damages require trustees to “restore, rehabilitate, replace, or acquire the equivalent” of the injured natural resources and their services. Restoration actions can compensate for lost natural resources in various ways. In developing this final RP/EA, the Trustees have sought to identify a reasonable range of alternatives for consideration, including those with the potential to restore recreational services through actions to effectively restore, preserve or enhance the amount, quality or availability of the affected natural resources. Where available, these actions are believed by the Trustees to represent the best means of restoring natural resource services. Where options of this nature do not exist or are insufficient alone to address the public’s losses, restoration options capable of providing services of the same type and quality as those lost are generally preferred. Native fishes in the East Walker River were impacted by the AFFS East Walker River Oil Spill. However opportunities within the East Walker River that directly benefit native fishes have not been identified or are in such an early phase that implementation is not possible within the next few years. Implementation of the Slinkard Creek LCT Enhancement Project was preferred because it met many of the criteria for project selection outlined in Section 5.2 of the final RP/EA. Criteria of particular relevance were: 1) feasibility, 2) opportunities for collaboration (with the WRBRIT), and more importantly 3) the ability of the restoration alternative to enhance and protect endangered and threatened species.

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Comment #10: The Slinkard Creek LCT Enhancement Project should be eliminated so that more funding could be applied to other projects.

Response: Implementation of all projects described in this final RP/EA will not expend all of the settlement dollars received by the Trustees. In addition, the settlement monies received by the Trustees were placed in an interest bearing account and have slightly increased in value since they were originally deposited. The Trustees are committed to spending all restoration dollars to make the public whole from the natural resource damages and associated services that were lost as a result of this spill. Therefore, it is anticipated that funds remaining after implementation of projects in the final RP/EA will be allocated for supporting the expanding of projects such as the CDFG Riparian Enhancement and Fuels Reduction Project and other projects proposals that were submitted by the public during the public review and comment period from August 1 to September 15, 2008. However, funds that are to be expended on projects not identified within this final RP/EA will have to undergo additional CEQA/NEPA analysis separately prior to implementation.

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September 14, 2008

Damian K. Higgins  
U.S. Fish and Wildlife Service  
2800 Cottage Way, STE W-2006  
Sacramento, CA 95825

RE: East Walker River Revised Draft Restoration Plan

Mr. Higgins,

We have reviewed the Revised Draft Restoration Plan for the Advanced Fuel Filtration Systems East Walker River Oil Spill. Below are our comments to the plan.

**Project – CDFG Fuels Reduction & Riparian Enhancement Project:**

The plan currently calls for an estimated mile of riparian habitat to be treated by mechanically thinning dense vegetation. The last paragraph of the plan states "Following the approval of the project, it is anticipated that much of the corridor upstream to the Bridgeport Dam could potentially be treated and the cost estimated."

As the plan stands now all funds from the Oil Spill settlement will be expended and no monies would be available from the settlement to expand the "Demonstration Project" beyond the proposed one mile of treated area. The draft plan should address how the expansion of this project would be funded once the demonstration project is approved.

**Recommendation:** By deleting the proposed Slinkard Creek project which was NOT affected by the Oil Spill, sufficient funds would most likely be available to expand the demonstration project. Please see the attached Pre-Proposal to the East Walker River Trustee Council For Additional Restoration Projects **Option A**.

**Project – East Walker River Wildlife Area Vehicle Access Control:**

The plan states "The proposed project would occur on State lands immediately adjacent to the East Walker River (see Figure 3)." "Approximately eleven boulder/barricades would be placed at impacted sites"

Figure 3 of the plan does not clearly define where the proposed barricades are to be placed. Waypoints of the problem areas have already been created and the information should be included in the plan at a level of detail that clearly defines where the proposed work is to take place.

**Recommendation:** Provide a detailed map of the proposed sites to be barricaded.

### **Project – Rosaschi Ranch Outdoor Recreational Improvements**

The draft plan calls for an extensive amount of work to be done on the ranch including 2 new parking lots, 2 single vault toilets, accessible trails and trail heads, barrier rocks, interpretive signs benches and picnic tables however, the plan does not provide any level of detail as to where this work is to take place other than the overall view of the upper reach of the ranch shown in Figure 5.

Attached in Appendix A is a copy of the Rosaschi Ranch Conceptual Design map which was obtained from the USFS representative at the public meeting held on August 20<sup>th</sup> in Walker, CA. While the scale on the conceptual design map appears to be incorrect (it is assumed this is printing issue) the map does provide a somewhat reasonable level of detail of where the proposed work is to take place.

**Recommendations:** A Conceptual Design map with a correct scale should be provided in the plan. The design map should also differentiate the proposed new trails from existing roads/trails that plan to be incorporated into overall trail project. For instance the current design map would lead one to believe that the Phase II North side trail would be a new trail from the new parking lot at the bridge to the new parking lot further to the West. The plan however only calls for 1,560 feet of trail to be constructed while the overall trail length will be close to  $\frac{3}{4}$  of a mile long. A clear definition of the work to be performed should be included in the plan and is key to the success of any project. Please see the attached Pre-Proposal to the East Walker River Trustee Council For Additional Restoration Projects **Option B**.

### **Project – Slinkard Creek Lahontan Cutthroat Trout Enhancement**

Significant discrepancies with this portion of the plan exist between what is written in the plan and what was communicated by the trustee representative responsible for the Slinkard Creek project at the public meeting. Some examples of the discrepancies are:

- A.) The plan is calling for both a rotenone treatment to remove brook trout as well as detonation cord treatment to remove excess silt (and apparently brook trout) in the creek. When asked if excess silt was still an issue in the creek the representative indicated that it was doubtful that silt was still an issue in the creek and that detonation cord would probably not be required.
- B.) When asked to define “limited bag” as is stated in the plan the trustee representative was adamant that once the creek was restored that it would be open to standard regulations and would NOT be subject to a limited bag take for anglers.

The plan also makes reference to one of the goals of this project being to facilitate support for native trout restoration within the local community. In order to achieve this goal and to provide the public with sufficient historical information with which to make an informed decision this portion of the plan should provide the historical and ongoing efforts of LCT restoration projects within the Walker basin and the success of those projects. The plan makes vague reference to LCT restored waters within the basin and mentions that most are still closed. However the plan makes no mention of how many fisheries are currently closed while we’ve been waiting for “populations to stabilize”, how long they’ve been closed, what the current status is of the LCT that have been restored in those fisheries or if and/or when any of those fisheries might be reopened to allow angling for “Heritage Trout”.



**Recommendations:**

1. Delete the Slinkard Creek portion of the plan which was not affected by the oil spill and expend the monies on other work for the East Walker River where the spill occurred.
2. Include a complete listing of other LCT restoration projects within the Walker Basin along with a historical description of the projects, their current status and an estimate of when those fisheries will be re-opened to the public for angling to facilitate support for native trout restoration within the local community.
3. Resolve the discrepancies between the written draft plan and the trustee representative responsible for the project.
4. Make a final determination as to whether the creek requires the detonation cord treatment or not and if it is not required commit the planned funds to other projects.
5. If Slinkard Creek is to be open to standard regulations then there will need to be follow on efforts to sustain the fishery. When discussing this with the trustee representative we were informed that there would be no follow on effort even with standard regulations imposed on the creek. We find it highly doubtful that LCT's would sustain themselves under a standard limit take. More information needs to be provided regarding these issues.

The above constitutes the bulk of our comments to the Revised Draft Restoration Plan. Attached please find details for proposed alternatives that we hope will be considered.

We hope that these comments and the proposed alternative options are received in the constructive means with which they are intended.

Best Regards,

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**OPTION A**  
**Pre-Proposal to the East Walker River Trustee Council**  
**For Additional Restoration Projects**

**Concise Project Summary (1-2 pages plus any photos or maps)**

The project should address the following topics:

1. **Brief Project Description:** Extend the proposed Fuels Reduction & Riparian Enhancement Project as described in the Draft Plan to extend up stream towards the Bridgeport Dam. By deleting the Slinkard Creek portion of the Draft Plan which was not affected by the oil spill, funds could be used to extend the proposed fuels reduction project, as is proposed under the plan but is not currently funded, upstream from the proposed demonstration project towards the dam.
2. **Objective(s):** The objectives of this project are identical to the objectives of those listed in the Draft Plan. This proposal is merely a means of providing funding to a need that has been identified at a river that was damaged and has received a settlement for the damages to that river.
3. **Conservation Need:** As stated in the Draft Plan the dense woody stands of decadent, impenetrable, sometimes dead vegetation provides substandard wildlife habitat; prevents recreational access and egress for long sections (potentially a safety issue for in-stream recreationists and anglers which should be considered a priority).
4. **Proposed Methodology:** The methodology of this proposal would be identical to the methodology as described in the Draft Plan to accomplish the demonstration project.
5. **Project Readiness:** Upon completion of the demonstration project and before the contractor removes his equipment the results of the project could be inspected and approved to continue the work upstream. Thereby saving a re-mobilization by the contractor to move his equipment back to the project area. A need for the project has been identified and is ready for immediate action.
6. **Proposed Budget:** By deleting the Slinkard Creek project an additional \$75,500.00 would be made available to address public safety and fire issues that have been identified and documented. The current draft plan gives a budget of \$11,500.00 to treat approximately 1 mile of river front and up to 15 to 25 acres in size. The additional \$75,500.00 of settlement funds would allow for the treatment of approximately 6 more miles of river front and 90 additional acres of surrounding land.
7. **Attach photo (s) or a site map referenced in the project summary (if applicable).**  
See Figure 3 of the Draft Plan.

**OPTION B**  
**Pre-Proposal to the East Walker River Trustee Council**  
**For Additional Restoration Projects**

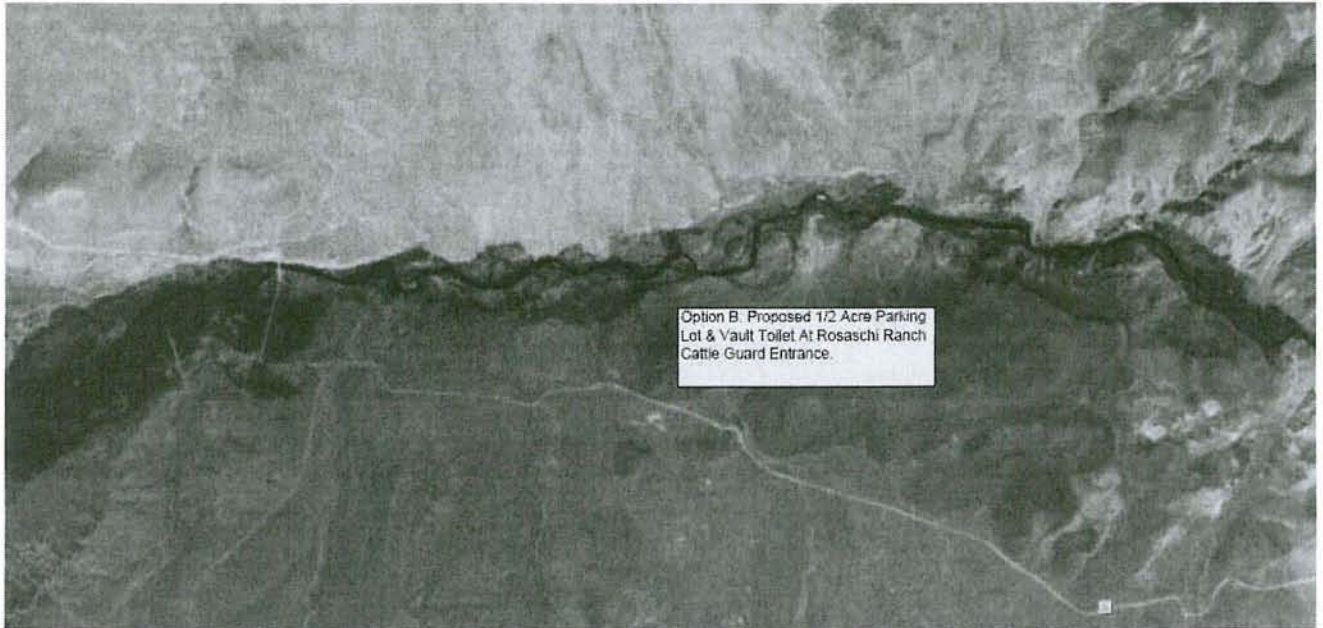
**Concise Project Summary (1-2 pages plus any photos or maps)**

The project should address the following topics:

1. **Brief Project Description:** Expand the Rosaschi Ranch Outdoor Recreational Improvements portion of the Draft Plan by adding a parking lot and single vault toilet at the Cattle Guard access point
2. **Objective(s):** To improve parking and access at the Cattle Guard entrance to Rosaschi Ranch using settlement funds received for damages made to that river.
3. **Conservation Need:** The additional parking lot and vault toilet will accomplish the same results as the currently proposed parking lots and vault toilets as are proposed in the Draft Plan with the added benefit that the funds received for damages caused to the East Walker River will be spent on improvements to the East Walker River.
4. **Proposed Methodology:** The methodology to construct the parking lot and vault toilet will be identical to those described in the Draft Plan.
5. **Project Readiness:** The area required for the parking lot and toilet is available and if this work is done in conjunction with the other proposed improvements should be able to be completed in a timely manner.
6. **Proposed Budget:** By deleting the Slinkard Creek portion of the project an additional \$75,500.00 of settlement funds received for damages to the East Walker River could be made available to provide improvements to the East Walker River instead of being spent on projects outside the East Walker area. The additional \$75,500.00 of settlement funds would allow for the installation of a parking lot and vault toilet at the Cattle Guard entrance. Using the same dollar breakdown provided in Phase I of the Draft Plan less costs for trailheads, trail and barrier rocks the total cost of the project would be \$71,300.00.
7. **Attach photo (s) or a site map referenced in the project summary (if applicable).**  
See attached conceptual design map.

**OPTION B**  
**Proposed Parking Lot and Vault Toilet At Rosaschi Ranch Cattle Guard Entrance**

Using Settlement Funds paid to compensate for damages done to the East Walker River construct a parking lot and vault toilet at the Rosaschi Ranch Cattle Guard entrance.



**OPTION C**  
**Pre-Proposal to the East Walker River Trustee Council**  
**For Additional Restoration Projects**

**Concise Project Summary (1-2 pages plus any photos or maps)**

The project should address the following topics:

- 8. Brief Project Description:** This being the least appealing of the options previously provided, would be to re-write the Slinkard Creek project portion of the Draft Plan to include resolving the discrepancies between the Plan and the trustee member responsible for implementing the project and defining specifically what needs to happen to Slinkard Creek and how it will be accomplished. Then include any follow on efforts that will be required to open the creek to angling again including a definition of “limited bag” if it is determined that special regulations will apply to the creek as well as a realistic estimate of when the creek will be opened to angling (“when populations stabilize” is no longer an acceptable definition of when a fishery will be re-opened). Once the Draft Plan is re-written to include all of the above in a clear and concise manner then it is time to give back to the angling community by opening other closed LCT waters in the Walker Basin. It is our understanding that the following areas are currently closed within the Walker Basin: By Day Creek, Silver Creek and Wolf Creek. Add to that other fisheries outside the Walker Basin that have been closed to anglers such as the East Carson River above Carson Falls, Corral Valley Creek, Coyote Valley Creek, Silver King Creek above Tamarack Lake Creek of which the USFWS intends to take another 7 to 11 miles of stream which is currently a phenomenal wild trout fishery. If it is truly the Trustee’s intent to facilitate support for native trout restoration within the local community... then it’s time to give some of these fisheries back to the community. We suggest that both Silver Creek and Wolf Creek be opened to the angling public with a no-limit regulation on the brook trout persisting in Silver Creek and Standard Regulations be applied to Wolf Creek to be a test bed of how well LCT’s will take angling pressure. This “test bed” will be a good indication of what will be required as a follow on effort at Slinkard Creek.
- 9. Objective(s):** To facilitate support for native trout restoration within the local angling community.
- 10. Conservation Need:** By opening these waters it will allow more active participation by dedicated anglers to help manage restored waters in a responsible manner. While an open LCT fishery is doubtful to attract the general angling public (Meese Meadows for example) it may attract dedicated anglers which could help in the reduction of Brook Trout in the Silver Creek fishery.
- 11. Proposed Methodology:** The methodology to open Silver Creek and Wolf Creek would be a matter of regulation changes.
- 12. Project Readiness:** The creeks are currently stocked with LCT’s and Silver Creek is receiving competitive pressure from Brook Trout persisting in the stream. No current information is available as to the stability of populations in the creeks however these

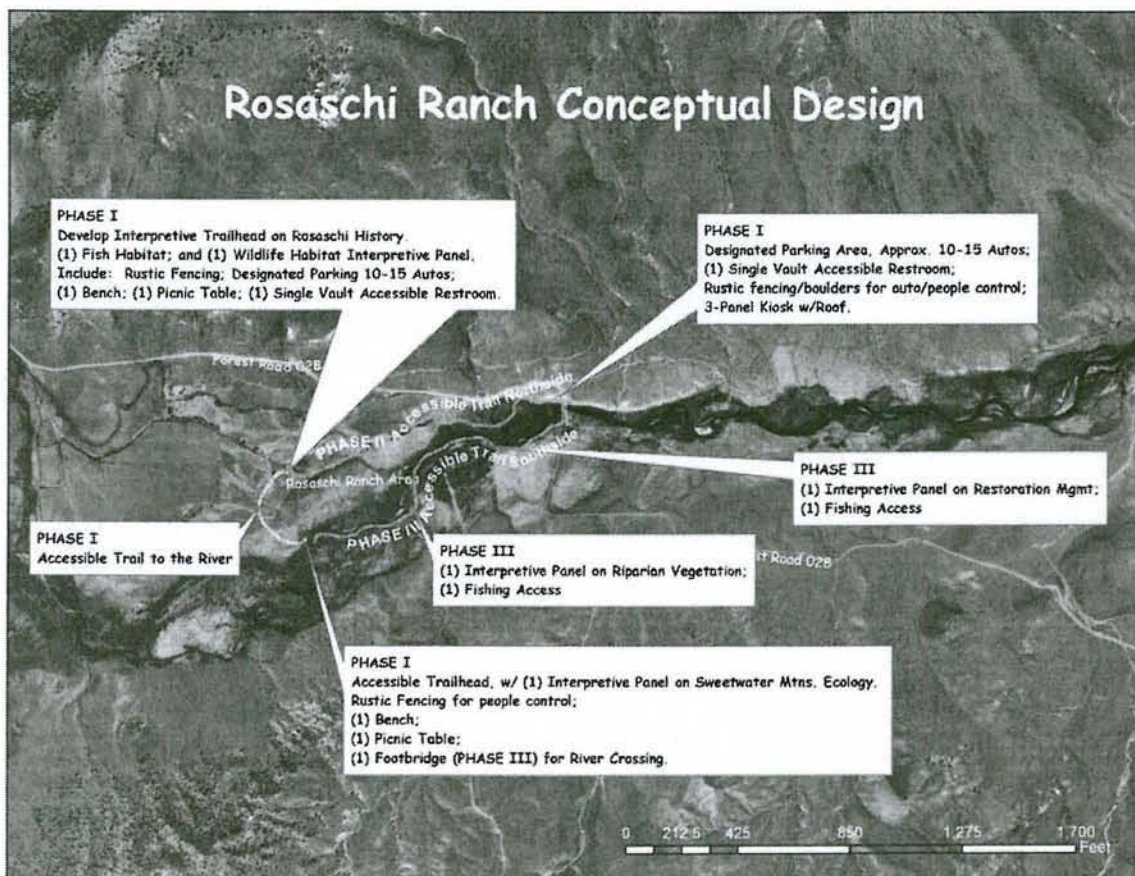
fisheries have been closed for a significant number of combined years that one would expect that if a species were able to survive they would have established themselves by now.

**13. Proposed Budget:** It is unknown what the cost of a change to the CDF&G regulations would be. We would suspect that this would be a nominal cost. Add \$1,000.00 for budgeting purposes.

**14. Attach photo (s) or a site map referenced in the project summary (if applicable).**  
No site map or photo's are required for this proposal.

## APPENDIX A Rosaschi Ranch Conceptual Design

While the scale of the conceptual design appears to be incorrect the design does offer significantly more information about the proposed work to be done on the Rosaschi Ranch portion of the East Walker River. The Draft Plan should incorporate a corrected version of the conceptual design with the proper scale and a clear delineation between what trails are to be constructed and what existing trails will be incorporated into the new trail system. The public has a right to a clear and concise plan defining as well as showing what improvements are being made and how the settlement monies are to be spent.



### USFWS East Walker River Conceptual Design Map

Note scale length to length of proposed trails (it is understood that this is most likely an issue of reducing the image to a printable size however the plan should incorporate an accurate design map with an accurate scale.)

**FINDING OF NO SIGNIFICANT IMPACT**  
for the  
**Advanced Fuel Filtration Systems East Walker River Oil Spill  
Restoration Plan and Environmental Assessment**

**U.S. Fish & Wildlife Service, Department of the Interior  
August 2009**

**Background**

Under the Oil Pollution Act of 1990 (OPA), the U.S. Fish and Wildlife Service (USFWS); the California Department of Fish and Game, Office of Spill Prevention and Response (CDFG); the Nevada Department of Wildlife (NDOW); and the Nevada Division of Environmental Protection (NDEP) (collectively, the Trustees) have prepared the Advanced Fuel Filtration Systems East Walker River Oil Spill Restoration Plan and Environmental Assessment (RP/EA). The RP/EA assesses damages and evaluates restoration alternatives for natural resource injuries due to the December 30, 2000 spill of approximately 3,600 gallons of No. 6 fuel oil into the East Walker River near the California-Nevada border (the Spill). The spill resulted from a tanker truck, operated by Advanced Fuel Filtration Systems, Inc. (AFFS) of Corona, California, that overturned on California State Route 182 north of Bridgeport, California. The fuel visibly oiled approximately ten miles of stream habitat, seven of which were in California (Mono County) and three in Nevada (Lyon County). The USFWS is the lead Federal trustee agency for NEPA compliance for this project. The cooperating State trustee agency (and co-lead on the Trustee Council) is the CDFG.

The RP/EA proposes restoration projects that compensate for natural resource injuries caused by the Spill. It was concluded that nearly all the birds and mammals that regularly came into contact with the water within the first 10 miles of the spill zone were injured either directly or indirectly by the spill. This conclusion was based on the amount of oil spilled, the number expected to be along the stream at the time of the spill, and the number of birds and mammals recovered. Bird and mammal species killed by the spill included one Virginia rail (*Rallus limicola*), two American dippers (*Cinclus mexicanus*), one American mink (*Mustela vison*), and six beavers (*Castor canadensis*). Significant acute impacts occurred to aquatic macro-invertebrates and fish due to the toxicity of the oil spilled and the actions needed to facilitate cleanup such as the reduction in river flows and the use of equipment within the riverine environment. Approximately 21 dead fish were collected during the cleanup operations, the majority of which were mountain whitefish, and the aquatic macro-invertebrate community was severely impacted. Analyses by the Trustees indicated that fish populations were lower in 2001 because of at least three separate spill related causal factors which lead to significantly fewer fish in 2001: 1) anchor ice in the East Walker River created from exceptionally cold weather and low flow management used for oil cleanup purposes; 2) a reduction of food supply as a result of injuries to macro-invertebrates; and 3) direct toxicity from exposure to polycyclic aromatic hydrocarbons (PAHs) contained in the spill oil. In terms of injuries to recreational services, the Spill had a direct impact on angling in Nevada. During the response period, angling was curtailed in portions of Nevada, causing cancellations of reservations at private ranches. Angling in California was unaffected, as fishing season was closed until April 28. Through the rest of the



year, angling was likely impacted in both states. The Trustees estimated that 5,500 angler days were lost due to the spill.

### **Restoration Alternatives**

The RP/EA evaluated several categories of restoration alternatives, including a "no action" alternative, and developed criteria to evaluate and prioritize restoration projects under consideration. The Trustees considered and rejected the no-action alternative, which relied on natural processes for recovery of the injured natural resources. Natural recovery does not allow for recovery of interim losses suffered by the resources and the OPA clearly establishes trustee responsibility to seek compensation for interim losses pending recovery of natural resources. Furthermore, technically feasible alternatives for restoration are available. The trustees selected the following preferred restoration alternatives:

1. CDFG Riparian Enhancement & Fuels Reduction Project
2. Slinkard Creek Lahontan Cutthroat Trout Enhancement
3. Rosaschi Ranch Outdoor Recreational Improvements
4. East Walker River Wildlife Area Vehicle Access Control
5. East Walker River Wildlife Area Restroom

This document concludes that a Finding of No Significant Impact (FONSI) is appropriate for all of the restoration actions selected for implementation by the Trustees as identified in the RP/EA and summarized here, with the possible exception of the Slinkard Creek Lahontan Cutthroat Trout Enhancement Project. As this project is more fully developed, it may undergo additional environmental analysis prior to implementation.

### **Public Involvement**

The public has been afforded several opportunities to participate in the restoration planning process. The first was a 30-day review/comment period for the initial draft RP/EA from March 14, 2008 to April 15, 2008, during which the public was given an opportunity to review and comment on preliminary restoration alternatives. After the 30-day public review and comment period on the on the initial draft RP/EA document, a revised draft RP/EA was released for a 45-day review/comment period on July 31, 2008 during which the public was given an opportunity to review and comment on the preliminary restoration alternatives and submit ideas of their own. During this 45-day review/comment period a public workshop was held on August 20, 2008 in Walker, California to further solicit public input. The revised draft RP/EA was also made available in hardcopy at the public library in Bridgeport, California and on the CDFG website during the 45-day review/comment period.

### **Determination**

The NEPA implementing regulations describe the minimum criteria that Federal agencies should consider in evaluating the potential significance of proposed actions (40 CFR 1508.27). The regulations explain that significance embodies considerations of both context and intensity. In the case of site-specific actions such as those selected in the RP/EA, the appropriate context for considering significance of action is local, as opposed to national or international.

With respect to intensity of the impacts of the selected restoration actions, the NEPA regulations suggest consideration of ten factors:

1. Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.
2. The degree to which the proposed action affects public health or safety.
3. Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.
4. The degree to which the effects on the quality of the human environment are likely to be highly controversial.
5. The degree to which the effects on the quality of the human environment are highly uncertain or involve unique or unknown risks.
6. The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.
8. The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.
9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.
10. Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

Based upon review and evaluation of the restoration projects and the environmental effects in the RP/EA, and consideration of the factors listed in 40 CFR 1508.27, the USFWS has determined that four of the projects composing the preferred alternative (CDFG Riparian Enhancement & Fuels Reduction Project, Rosaschi Ranch Outdoor Recreational Improvements Project, East Walker River Wildlife Area Vehicle Access Control Project, and East Walker River Wildlife Area Restroom Project), do not constitute major Federal actions significantly affecting the quality of the human environment within the meaning of Section 102(2)(C) of NEPA, either by themselves, or collectively. The Slinkard Creek Lahontan Cutthroat Trout Enhancement Project is pending further environmental review and a determination as to whether it constitutes a significant action will be made upon completion of that review. Accordingly, an Environmental Impact Statement is not required for four of the restoration projects, and a FONSI is appropriate.

Authorized Official:

*Margaret J. Kolar*  
*Acting*  
Regional Director  
Pacific Southwest Region  
U.S. Fish and Wildlife Service

Date 8/6/09