

STAFF SUMMARY FOR APRIL 14, 2021

9. MOUNTAIN LION (CONSENT)**Today's Item****Information** ☐**Action** ☒

Consider granting DFW's request for a six-month extension to deliver its one-year status review report on the petition to list six populations of mountain lion (*Puma concolor*) as threatened under the California Endangered Species Act (CESA).

Summary of Previous/Future Actions

- | | |
|--|---|
| • Received petition | Jun 25, 2019 |
| • FGC transmitted petition to DFW | Jul 5, 2019 |
| • Published notice of receipt | Jul 26, 2019 |
| • Public received petition and FGC approved DFW's request for 30-day extension | Aug 7-8, 2019; Sacramento |
| • Received DFW's petition evaluation | Feb 21, 2020; Sacramento |
| • FGC determined listing may be warranted | Apr 15-16, 2020; Webinar/ Teleconference |
| • Today act on DFW's request of six-month extension | Apr 14, 2021; Webinar/Teleconference |

Background

In Jun 2019, FGC received a petition from the Center for Biological Diversity and the Mountain Lion Foundation to list six populations identified as the southern California/central coast evolutionarily significant unit (ESU) of mountain lion as threatened under CESA.

In Apr 2020, FGC determined that the petition provides sufficient information to indicate that the petitioned action may be warranted. FGC published notice of that determination and notice regarding the ESU's protected, candidate species status on Apr 21, 2020. Pursuant to California Fish and Game Code Section 2074.6, DFW has one year to complete a status review from the date of notice, unless FGC grants an extension of time.

Today, FGC will consider a request by DFW for a six-month extension to complete its status review, to further analyze and evaluate the available science, to undergo the peer review process, and to complete its status review (Exhibit 1). FGC must receive the status review report before it can make a final listing decision.

Significant Public Comments

1. The Santa Ynez Band of Chumash Indians supports the CESA listing of mountain lion, notes the importance of the species to the tribe, and forwards a summary of Chumash cultural resource sites surrounding the Liberty Canyon Wildlife Crossing project that is expected, in part, to benefit mountain lions (Exhibit 2).

Recommendation

STAFF SUMMARY FOR APRIL 14, 2021

FGC staff: Approve request for a six-month extension to complete the status review under a motion to adopt the consent calendar.

DFW: Approve request for a six-month extension to complete status review.

Exhibits

1. [DFW memo, received Feb 17, 2021](#)
2. [Email from Sam Cohen, Santa Ynez Band of Chumash Indians, received Mar 14, 2021](#)

Motion/Direction

Moved by _____ and seconded by _____ that the Commission adopts the staff recommendations for items 3-10 on the consent calendar.

Memorandum

Date: February 17, 2021

To: Melissa Miller-Henson
Executive Director
Fish and Game Commission

From: Charlton H. Bonham
Director

Subject: Request for 6-Month Extension, Mountain Lion ESU Status Review

Per Section 2074.6 of the Fish and Game Code, the California Department of Fish and Wildlife (Department) requests an extension of time, by 6 months, to further analyze and evaluate available science, to undergo the peer review process, and to complete the status review for the proposed Southern California/central Coast ESU of mountain lion. Such an extension would change the due date of the Department's report to November 3, 2021, which is 18 months from the date the candidacy findings were published (May 3, 2020).

If you have any questions or need additional information, please contact Scott Gardner (Scott.Gardner@wildlife.ca.gov).

ec: Stafford Lehr, Deputy Director
Wildlife and Fisheries Division
Stafford.Lehr@Wildlife.ca.gov

Scott Gardner, Chief
Wildlife Branch
Scott.Gardner@Wildlife.ca.gov

From: Sam Cohen <scohen@santaynezchumash.org>
Sent: Sunday, March 14, 2021 10:19 AM
To: FGC <FGC@fgc.ca.gov>
Cc: Sam Cohen <scohen@santaynezchumash.org>
Subject: CESA listing of Mountain Lions

To the Honorable Fish and Game Commission and to its Tribal Committee:

The Santa Ynez Band of Chumash Indians ("Chumash") thank you and the Department for listing Mountain Lions as endangered and threatened under CESA.

The Chumash people have a special relationship with Mountain Lions and support this continued CESA listing.

Many thanks,
Sam Cohen



Sam Cohen

Government Affairs and Legal Officer
Santa Ynez Band of Chumash Indians

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GARY PACE, COMMITTEE MEMBER



February 17, 2021

By Email and Certified Mail

Mariam Dahdul
Associate Environmental Planner (Archaeology)
District Native American Coordinator
California Department of Transportation, District 7
100 S. Main Street, MS 16A
Los Angeles, CA 90012
(213) 266-6891 | mariam.dahdul@dot.ca.gov

RE: NHPA Section 106 Consultation Request (Section 106)
Liberty Canyon Wildlife Crossing, Route 101 at Post Mile 33.0, Agoura Hills, CA

Dear Ms. Dahdul:

The Santa Ynez Band of Chumash Indians ("Tribe") as the only federally recognized Chumash Tribe, hereby request NHPA Section 106 consultations in regards to the Liberty Canyon Wildlife Crossing ("Project"). The Tribe has determined the proposed action/Project is an undertaking subject to compliance with Section 106 (codified at 54 United States Code [USC] 306108) of the National Historic Preservation Act of 1966, as amended (54 USC 300101 et seq.: Historic Preservation).

Attached please find a summary of Chumash cultural resource sites surrounding the Project.

Although ecological connectivity is systemically important and critical to the long-term viability of many species, much of the information we have related to the functioning of the wildlife corridor from Route 101 north to the Santa Clara River is the result of the study and tracking of carnivore species- most notable of these is the Mountain Lion. The Mountain Lion has the largest home-range requirements of the Santa Monica Mountains mammal species, and among the species studied, known to be the most genetically imperiled. Apex species such as the Mountain Lion play a critical role in ecosystem functionality and "balance". Their importance to the wildlife corridor is not merely ecological but also cultural. In particular, we note the critical importance of the Mountain Lion in this Chumash landscape and cosmology, a population recently listed as critically endangered:

The Chumash perceived a world that was five-tiered with three main divisions. The world above Itiashup was filled with wonderful and immensely powerful, though potentially dangerous, "sky people" including Sun, his daughters, Moon, Morning Star, and Shnilemun Sky Coyote, among many others. Sun's name in the Chumash sacred language was Kakunupmawa, meaning "the radiance of the child of the winter solstice." The dawn light of each new day is Kakunupmawa's breath expressed as a sigh. Bears, rattlesnakes, deer, mountain lions and ravens were the "pets of Sun." Other California Tribes also considered the mountain lion as sacred and therefore were not hunted, such, for example, Agua Caliente and Tribes of peninsular California, considered the bear, coyote, jaguar, eagle, owl and mountain lion as sacred and therefore were not hunted.

The Chumash Tribe looks forward to working with you to further protect sacred Mountain Lions and creating a wildlife corridor over Route 101 at Liberty Canyon. The Tribe hereby appoints Sam Cohen, Government Affairs and Legal Officer (cell: 805-245-9083, scohen@sybmi.org) as its Section 106 representative. The Elders Council hereby appoints Nakia Zavalla, Culture Director (nzavalla@santaynezchumash.org) as their Section 106 representative.

Sincerely,

A handwritten signature in black ink, appearing to read 'KB' followed by a stylized flourish.

Kenneth Kahn,
Tribal Chairman

CC:
Claudia Harbert
Senior Environmental Planner
Cultural Resources Unit
Division of Environmental Planning
Caltrans District 7
213.335.0124

CC:
Kbecker@scicrm.com

**STATE OF THE LINKAGE REPORT:
East Branch of the Santa Monica-Sierra Madre
Mountains Connection**



**By: Resource Conservation District of the Santa Monica Mountains (RCDSMM)
With: SC Wildlands (formerly South Coast Wildlands)**

**For:
Santa Ynez Band of Chumash Indians**

January 2021

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Purpose of the Report

Habitat loss and fragmentation are the leading threats to biodiversity, especially in light of climate change. Countering these threats requires maintaining and restoring connections between our existing natural areas to form a regional wildland network. An interconnected system of wildlands would allow natural ecological processes—such as migration and range shifts with climate change - to continue operating as they have for millennia. South Coast Missing Linkages, a highly collaborative inter-agency effort, has designed such a network (www.scwildlands.org) to preserve landscape level processes and maintain connected wildlife populations from the Sierra Nevada to Baja California and from the beaches of the Santa Monica Mountains to the deserts of Anza Borrego Desert State Park. In 2008, South Coast Wildlands published *South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion*, a summary of several individual linkage design reports between 2003 and 2006. The South Coast Missing Linkages are largely considered the backbone of a regional conservation strategy for southern California.

One of the primary South Coast Missing Linkages Designs proposed was the Santa Monica to Sierra Madre Connection (Penrod et al. 2006), which is one of the few remaining coastal to inland connections in the South Coast Ecoregion and is the focus of this study. Since their publication, these linkage designs have been used as a primary tool for ecological planning efforts, resulting in a number of important subsequent scientific and regulatory plans, as well as provided a guide for direct purchase and restoration of key properties.

The Santa Monica-Sierra Madre Linkage serves to connect land in the Santa Monica Mountains National Recreation Area which includes substantial conservation investments with the Sierra Madre Range of Los Padres National Forest. The linkage includes a number of “branches” between the isolated yet functional Santa Monica Mountains wildland-urban ecosystem on the south, and the large-scale reserve of the Sierra Madre Mountains in the north. The easternmost branch of this Connection design includes portions of the north-central Santa Monica Mountains, Simi Hills, Santa Susana Mountains, Santa Clara River Valley and southeastern Sierra Madre Mountains of western Los Angeles and eastern Ventura Counties. This easternmost branch is the subject of this report, as shown below in Figure 1. This “State of the East Branch Wildlife Linkage Report” was commissioned by the Santa Ynez Band of Chumash Indians, in support of their ongoing work in conservation of cultural and ecological resources in the Santa Clara River Valley, as well as the critical linkage areas north and south of the Valley.

Approach

The State of the East Branch Wildlife Linkage Report was developed as follows:

- Research and compilation of existing studies and data related to habitat connectivity and related or integrated cultural preservation studies and materials related to the easternmost

branch of the Santa Monica- Sierra Madre Habitat Linkage. This branch of the overall linkage system includes the Simi Hills Critical Wildlife Passage Area, and eastern portions of the Santa Susana Mountains habitat linkages.

- Assessment of these various studies and proposals, noting specific conditions relevant to overall wildlife habitat connectivity, such as:

- Work of the multi-agency working group Linkage Implementation Alliance,
 - CDFW Conceptual Area Protection Plans (CAPPs),
 - Ventura County Habitat Linkage & Wildlife Corridor overlay zone,
 - Conservation Easement plans from the region
 - Burro Flats Cultural District NHR application materials,
 - Santa Clara River restoration efforts
 - Liberty Canyon Wildlife Passage Projects (Undercrossing and Overcrossing)
 - and others (see Appendix A for complete bibliography)

- Evaluation of these existing studies, plans and proposals, noting progress and or challenges encountered since the 2006 Linkage Design publication, and summation and mapping of the current state of the easternmost Santa Monica-Sierra Madre Connection, including the Simi Hills Critical Wildlife Passage Area, and eastern portions of the Santa Susana Mountains habitat linkages.

- Assessment and mapping of the current state of the Linkage, identifying data gaps and potential fragmentation pressures, and summation of the opportunities and constraints to maintaining and enhancing Habitat Linkage function, making recommendations for prioritizing existing connectivity efforts, and identifying new project and acquisition opportunities.

METHODS

Existing Conditions Data Collection and Mapping

An extensive internet search was performed to compile as many existing studies and planning documents as possible that specifically apply to the study area. Additionally, a variety of local experts and planners were contacted to provide additional white or gray papers. A list of these resources is found in Appendix A.

The 2006 Linkage Design guided subsequent ecological study, public investment in land purchases and restoration, and regulatory study and change amount at the county and municipal level. Much of this work and its results were available on public GIS databases, and allowed us to identify changes in the Linkages areas since 2006. The metadata associated with all the GIS layers is provided in Appendix B.

Part of this effort included identifying interested parties within the linkage study area. A list of those public agencies and private groups is found in Appendix C.

To allow greater examination of the maps shown in the text, we also provide 11x17

versions in Appendix D.

Opportunities and Constraints Analysis and Mapping

A series of maps were generated to highlight existing conditions, integrate sensitive species and climate concerns, and finally integrate all planning documents pertinent to the study area.

ANALYSIS

Existing Conditions

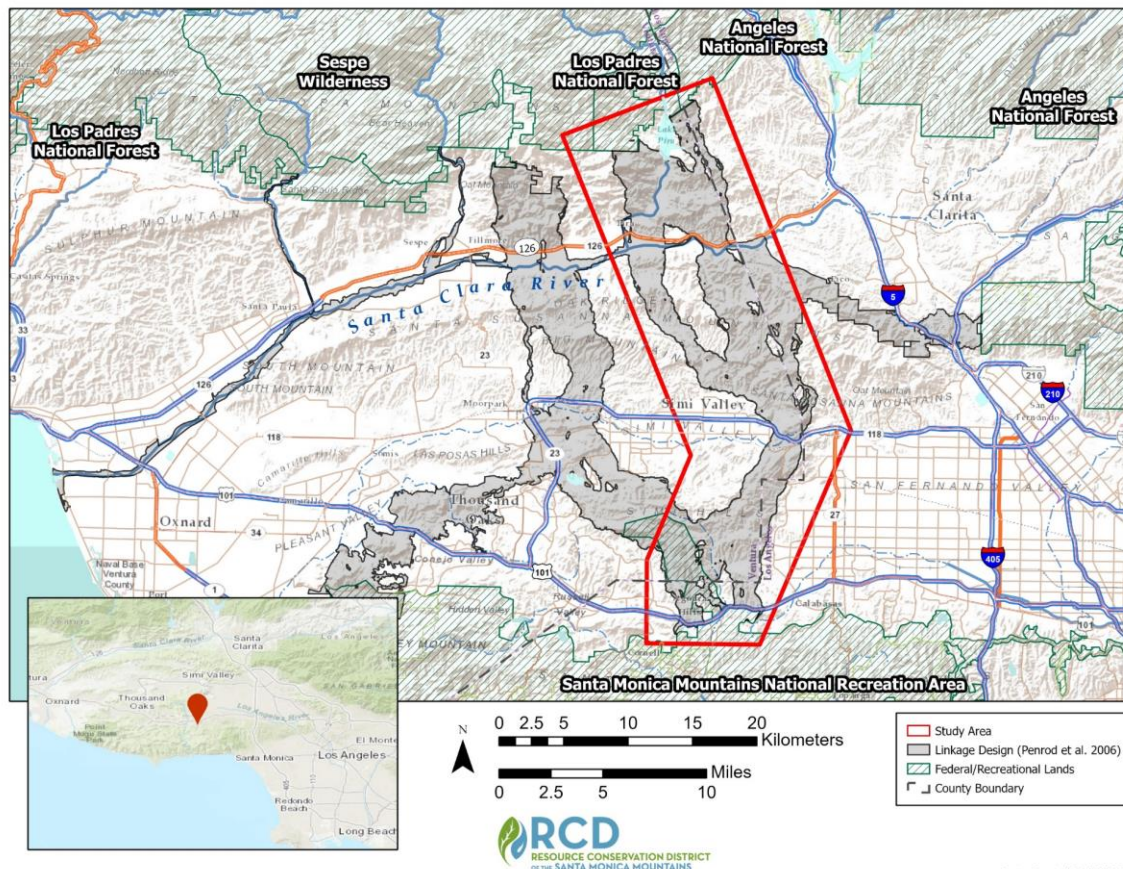


Figure 1. Study area in relation to the Santa Monica – Sierra Madre Linkage Design

Figure 1 provides an overview of the study area within the context of the Santa Monica Mountains – Sierra Madre Mountains region and the linkage design that connects these ranges. The open space of the Simi Hills and Santa Susana Mountains contains our best remaining habitat linkage between the Santa Monica Mountains, and core wild lands of the Los Padres National Forest/Sierra Madre Mountains. Without that linkage, the genetic viability of a wide range of diverse species would be greatly diminished. In the case of the Santa Monica Mountains population of mountain lions (*Puma concolor*), without at least one new breeding individual using this linkage into the Santa Monica Mountains every two years, the local population has a nearly 100% chance of extinction in the next

50 years. (Riley et al. 2016).

Over the past 30 years, a diverse collection of conservation groups and governmental agencies have invested nearly a billion dollars in a successful effort to prevent the irreversible fragmentation of the Santa Monica Mountains ecosystem and maintain its full complement of native species. Collectively these actions have resulted in over 14,469 acres conserved within the study area since the 2006 Linkage Study analysis (7,300 acres in fee acquisition and 7,169 in conservation easements), as shown in Figure 2. Caltrans and several other agencies and organizations are in the planning and initial construction phase of an \$80 million investment project to restore connectivity across the most significant impediment to wildlife movement in the linkage, the 101 Freeway. Other wildlife passage improvements have been completed on State Route 23, 118, and 126. While there have been significant conservation investments in the linkage, much more remains to be done in order to provide suitable habitat and linkage opportunities into the future.

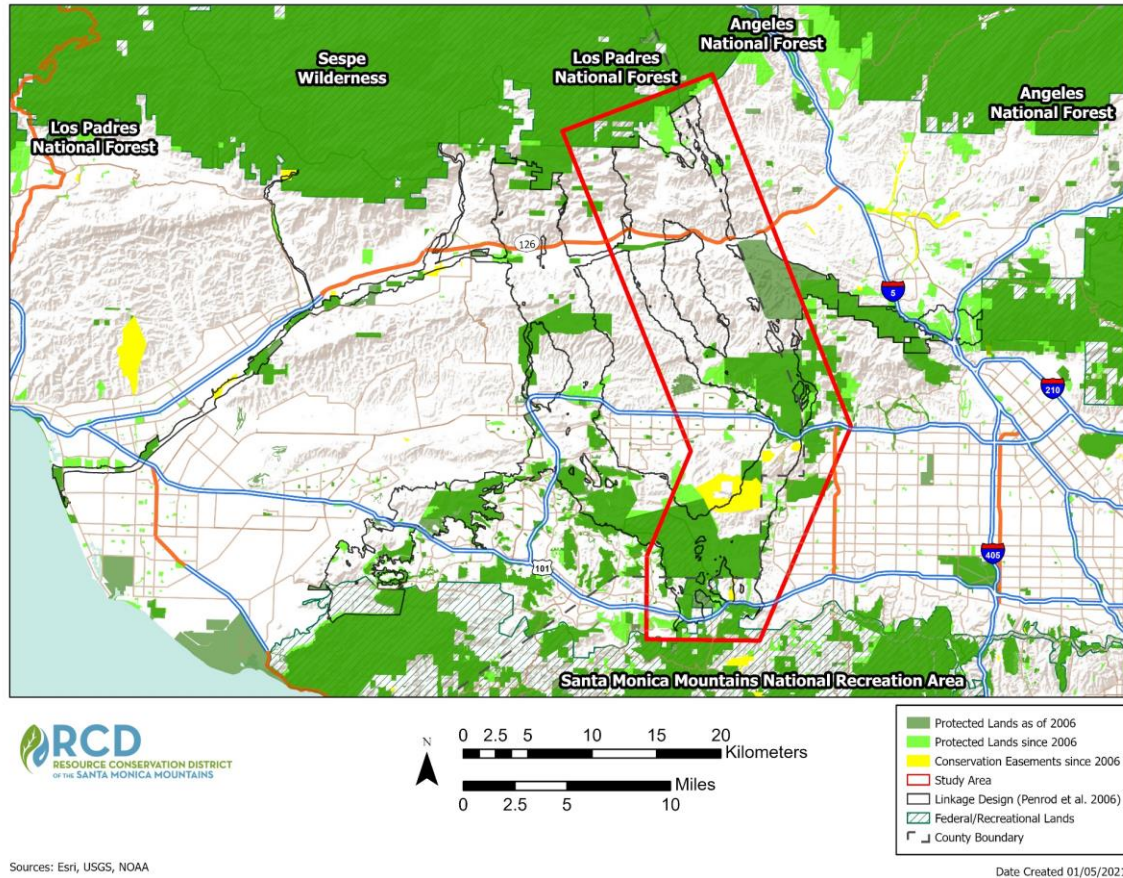


Figure 2. Protected lands 2006-2020

The Santa Monica-Sierra Madre Linkage has been integrated into numerous local, regional, state, and federal plans (Figure 3). The boundaries of the federally conceived Rim of the Valley Corridor (National Park Service 2015) largely follow the Santa Monica

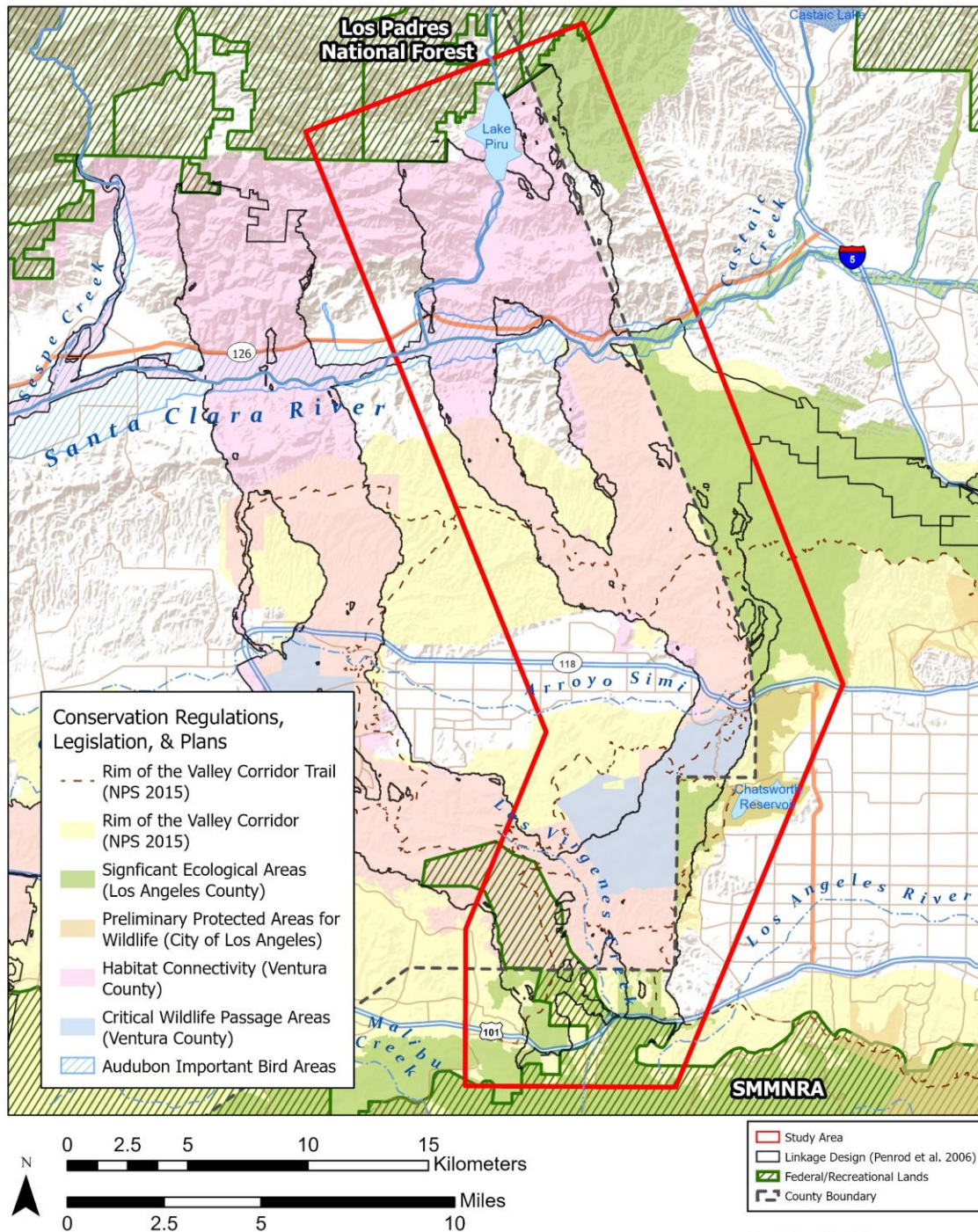
– Sierra Madre Linkage Design, which the report calls “the most thorough and specific” habitat connectivity planning effort in the region. The linkage designs were also integrated into the Significant Ecological Areas update for Los Angeles County’s General Plan 2035. In early 2019, the Ventura County Board of Supervisors passed the Habitat Connectivity & Wildlife Corridor Overlay Zone and associated ordinances. The overlay zone is based on two of the linkage designs, the Santa Monica-Sierra Madre Connection and the Sierra Madre-Castaic Linkage <https://vcrma.org/habitat-connectivity-and-wildlife-movement-corridors>. The ordinance addresses night-time lighting, fencing, stream buffers, setbacks for wildlife crossings, invasive plant species, and clustering development in Critical Wildlife Passage Areas (CWPA). The Ventura County Habitat Connectivity and Wildlife Corridor Overlay Zone is the most comprehensive county/city ordinances for wildlife movement in California, and likely the nation, if not the world.

The entire study area is included in either the Significant Ecological Area in Los Angeles County or the Wildlife Linkage Overlay Zone in Ventura County with the Simi Hills CWPA covering the area of the eastern branch of the linkage south of State Route 118 (Simi_Hills_CWPA.pdf (vcrma.org)).

The Santa Monica – Sierra Madre linkage has also been included in city General Plans, including Simi Valley (<https://www.simivalley.org/home/showdocument?id=6867>), Thousand Oaks (<https://www.toaks.org/home/showdocument?id=342>), Agoura Hills (<http://www.ci.agoura-hills.ca.us/home/showdocument?id=14678>), and Calabasas (<https://www.cityofcalabasas.com/pdf/documents/gpac/CalabasasFinalGeneralPlan.pdf>).

Portions of the study area in northwest part of the City of Los Angeles municipal boundary have been included in the City Planning Department proposed PAWs (Protected Areas for Wildlife) study area, which is further described online at https://planning.lacity.org/odocument/35895914-e118-4b85-a358-0d3e6f07e36e/2019_Wildlife_Workshop_Presentation.pdf.

Additionally, NGO’s like the Audubon Society and CalTrout have identified important areas for birds (i.e., Important Bird Areas) and federally listed southern steelhead trout.



Sources: Esri, USGS, NOAA

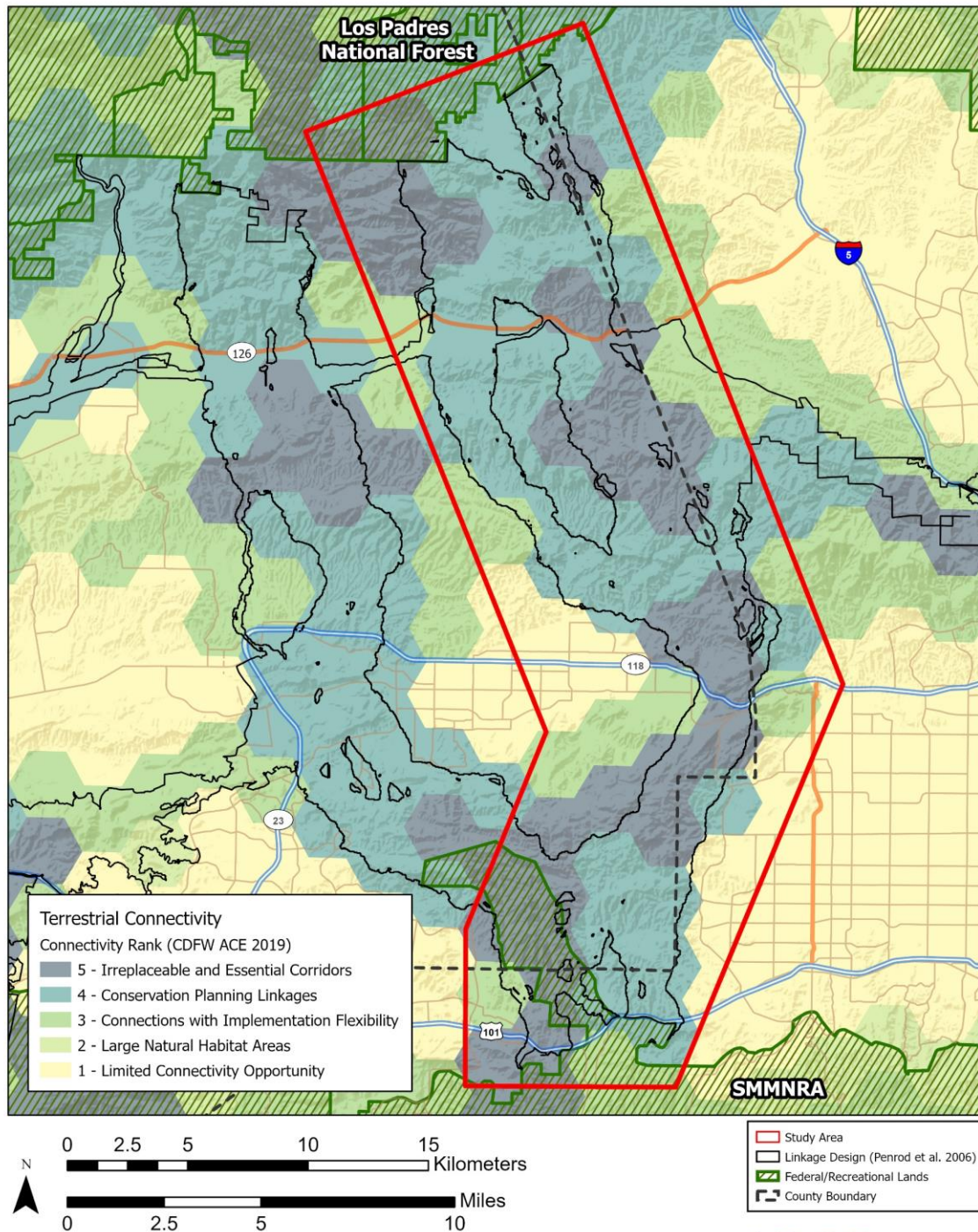
Date Created 12/29/2020



Figure 3. Conservation Regulations, Legislation and Plan Overlay

California Department of Fish and Wildlife (CDFW) recently compiled and synthesized the best-available spatial information in California on connectivity and wildlife movement into the Terrestrial Connectivity Dataset (Figure 4) to better integrate biodiversity conservation with transportation and infrastructure planning. The Terrestrial

Connectivity dataset is one of the four key components of CDFW's Areas of Conservation Emphasis (ACE) data visualization platform, along with terrestrial Biodiversity, Significant Habitats, and Climate Resilience (CDFW 2019). The Terrestrial Connectivity dataset summarizes information by ACE hexagons (2.5 square miles each) including the presence of mapped corridors or linkages and the juxtaposition with large, contiguous, natural areas. This map builds on the California Essential Habitat Connectivity Project (Spencer et al. 2010), based on guidance given in that report, and incorporates species-specific, fine-scale linkage information, such as the Santa Monica-Sierra Madre Linkage (Penrod et al. 2006) that has been developed at a regional scale. CDFW's (2019) Terrestrial Connectivity identifies the great majority of the study area as irreplaceable and essential corridors.



Sources: Esri, USGS, NOAA

Date Created 12/23/2020



Figure 4. Terrestrial Connectivity (CDFW ACE 2019)

The Santa Monica – Sierra Madre Linkage supports a multitude of irreplaceable biological resources. Among the diversity of organisms occurring here, many species are listed as endangered, threatened, or sensitive by natural resource agencies. The coastal California gnatcatcher (*Poliophtila californica californica*) is perhaps one of the best-

known species dependent on coastal sage scrub communities. The region's wetland and riparian communities are important to resident, over-wintering, and migratory birds on the Pacific Flyway, in addition to providing year-round habitat and critical resources for resident species.

A number of imperiled species depend on riparian communities in the region for breeding habitat, including songbirds such as least Bell's vireo (*Vireo bellii pusillus*) and southwestern willow flycatcher (*Empidonax traillii extimus*), as well as amphibians and reptiles like California red-legged frog (*Rana draytonii*), foothill yellow-legged frog (*Rana boylei*), arroyo toad (*Anaxyrus californicus*), and western pond turtle (*Emys marmorata*). Southern steelhead trout (*Oncorhynchus mykiss irideus*) also inhabit several rivers and streams in the region. Vernal pools provide essential habitat for listed species such as Riverside fairy shrimp (*Streptocephalus woottoni*) and California Orcutt grass (*Orcuttia californica*). The study area also provides habitat for numerous imperiled plant species, such as Braunton's milk-vetch (*Astragalus brauntonii*), San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*) and Lyon's pentachaeta (*Pentachaeta lyonii*). In addition to providing habitat for rare and endangered species, the linkage provides habitat for species that require extensive wildlands to survive, such as mountain lion and American badger (*Taxidea taxus*).

Roughly 60,000 acres of the overall linkage is designated as critical habitat for coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, California condor, California red-legged frog, arroyo toad, and Braunton's milk-vetch. An additional 52 miles of streams/rivers in the linkage are designated as critical habitat for steelhead trout along the Santa Clara River and its estuary, Santa Paula Creek, Sespe and Little Sespe Creeks, Hopper Creek, Pine Canyon Creek and Piru Creek. Audubon Society has also identified the Santa Clara River Valley as an Important Bird Area. Maintaining and restoring habitat connectivity can help prevent additional species from becoming endangered, it can stabilize existing populations, and it can prevent costly long-term recovery efforts.

A close examination of the abundance and distribution of sensitive, rare, threatened and endangered species listed in the California Natural Diversity Database for the study area indicates that over 100 listed and sensitive plant and animals and sensitive natural communities have been recorded in the eastern strand of the linkage (Table 1). This includes eight listed plants, two listed shrimp, three listed amphibians and fish, and eight listed bird species. Many others that do not have formal listing are considered species of special concern and on various watch lists. Figure 5 identifies the areas of most concern for these particular species within the study area. Note that the tracking records for mountain lions are not included but utilized much of the entire study area outside development.

Table 1. California Natural Diversity Database: Species of concern present within map extent

Common Name	Scientific Name	Federal Listing	California Listing
Agoura Hills dudleya	<i>Dudleya cymosa ssp. agourensis</i>	Threatened	None
American badger	<i>Taxidea taxus</i>	None	None
American peregrine falcon	<i>Falco peregrinus anatum</i>	Delisted	Delisted
Arroyo chub	<i>Gila orcuttii</i>	None	None
Arroyo toad	<i>Anaxyrus californicus</i>	Endangered	None
Bank swallow	<i>Riparia riparia</i>	None	Threatened
Bell's sage sparrow	<i>Artemisiospiza belli belli</i>	None	None
Blochman's dudleya	<i>Dudleya blochmaniae ssp. blochmaniae</i>	None	None
Braunton's milk-vetch	<i>Astragalus brauntonii</i>	Endangered	None
Burrowing owl	<i>Athene cunicularia</i>	None	None
California condor	<i>Gymnogyps californianus</i>	Endangered	Endangered
California glossy snake	<i>Arizona elegans occidentalis</i>	None	None
California horned lark	<i>Eremophila alpestris actia</i>	None	None
California leaf-nosed bat	<i>Macrotus californicus</i>	None	None
California legless lizard	<i>Anniella sp.</i>	None	None
California mountain kingsnake (San Diego population)	<i>Lampropeltis zonata (pulchra)</i>	None	None
California Orcutt grass	<i>Orcuttia californica</i>	Endangered	Endangered
California red-legged frog	<i>Rana draytonii</i>	Threatened	None
California screw moss	<i>Tortula californica</i>	None	None
Canyon live oak ravine forest	Canyon Live Oak Ravine Forest	None	None
Chaparral nolina	<i>Nolina cismontana</i>	None	None
Chaparral ragwort	<i>Senecio aphanactis</i>	None	None
Cismontane alkali marsh	<i>Cismontane Alkali Marsh</i>	None	None
Coast horned lizard	<i>Phrynosoma blainvillii</i>	None	None
Coast patch-nosed snake	<i>Salvadora hexalepis virgultea</i>	None	None
Coast Range newt	<i>Taricha torosa</i>	None	None
Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	None	None
Coastal California gnatcatcher	<i>Polioptila californica californica</i>	Threatened	None
Coastal whiptail	<i>Aspidoscelis tigris stejnegeri</i>	None	None

Common Name	Scientific Name	Federal Listing	California Listing
Conejo buckwheat	<i>Eriogonum crocatum</i>	None	Rare
Conejo dudleya	<i>Dudleya parva</i>	Threatened	None
Cooper's hawk	<i>Accipiter cooperii</i>	None	None
Coulter's goldfields	<i>Lasthenia glabrata ssp. coulteri</i>	None	None
Crotch bumble bee	<i>Bombus crotchii</i>	None	None
Davidson's bush-mallow	<i>Malacothamnus davidsonii</i>	None	None
Dune larkspur	<i>Delphinium parryi ssp. blochmaniae</i>	None	None
Foothill yellow-legged frog	<i>Rana boylei</i>	None	Candidate Threatened
Gerry's curly-leaved monardella	<i>Monardella sinuata ssp. gerryi</i>	None	None
Gertsch's socialchemmis spider	<i>Socalchemmis gertschi</i>	None	None
Golden eagle	<i>Aquila chrysaetos</i>	None	None
Grasshopper sparrow	<i>Ammodramus savannarum</i>	None	None
Greata's aster	<i>Symphyotrichum greatae</i>	None	None
Hoary bat	<i>Lasiurus cinereus</i>	None	None
Late-flowered mariposa-lily	<i>Calochortus fimbriatus</i>	None	None
Least Bell's vireo	<i>Vireo bellii pusillus</i>	Endangered	Endangered
Loggerhead shrike	<i>Lanius ludovicianus</i>	None	None
Lyon's pentachaeta	<i>Pentachaeta lyonii</i>	Endangered	Endangered
Mainland cherry forest	Mainland Cherry Forest	None	None
Malibu baccharis	<i>Baccharis malibuensis</i>	None	None
Many-stemmed dudleya	<i>Dudleya multicaulis</i>	None	None
Marcescent dudleya	<i>Dudleya cymosa ssp. marcescens</i>	Threatened	Rare
Mesa Horkelia	<i>Horkelia cuneata var. puberula</i>	None	None
Monarch - California Overwintering Population	<i>Danaus plexippus pop. 1</i>	None	None
Nevin's Barberry	<i>Berberis nevinii</i>	Endangered	Endangered
Newhall Sunflower	<i>Helianthus inexpectatus</i>	None	None
Ojai Navarretia	<i>Navarretia ojaiensis</i>	None	None
Pallid Bat	<i>Antrozous pallidus</i>	None	None
Palmer's Mariposa-Lily	<i>Calochortus palmeri var. palmeri</i>	None	None

Common Name	Scientific Name	Federal Listing	California Listing
Peirson's Morning-Glory	<i>Calystegia peirsonii</i>	None	None
Plummer's Mariposa-Lily	<i>Calochortus plummerae</i>	None	None
Prairie Falcon	<i>Falco mexicanus</i>	None	None
Riverside Fairy Shrimp	<i>Streptocephalus woottoni</i>	Endangered	None
Riversidian Alluvial Fan Sage Scrub	Riversidian Alluvial Fan Sage Scrub	None	None
Ross' Pitcher Sage	<i>Lepechinia rossii</i>	None	None
San Bernardino Ringneck Snake	<i>Diadophis punctatus modestus</i>	None	None
San Diego Black-Tailed Jackrabbit	<i>Lepus californicus bennettii</i>	None	None
San Diego Desert Woodrat	<i>Neotoma lepida intermedia</i>	None	None
San Fernando Valley Spineflower	<i>Chorizanthe parryi</i> var. <i>fernandina</i>	Proposed Threatened	Endangered
Santa Ana Sucker	<i>Catostomus santaanae</i>	Threatened	None
Santa Monica Grasshopper	<i>Trimerotropis occidentiloides</i>	None	None
Santa Susana Tarplant	<i>Deinandra minthornii</i>	None	Rare
Short-Joint Beavertail	<i>Opuntia basilaris</i> var. <i>brachyclada</i>	None	None
Slender Mariposa-Lily	<i>Calochortus clavatus</i> var. <i>gracilis</i>	None	None
Slender-Horned Spineflower	<i>Dodecahema leptoceras</i>	Endangered	Endangered
Southern California legless lizard	<i>Anniella stebbinsi</i>	None	None
Southern California rufous-crowned sparrow	<i>Aimophila ruficeps canescens</i>	None	None
Southern california threespine stickleback stream	Southern California Threespine Stickleback Stream	None	None
Southern coast live oak riparian forest	Southern Coast Live Oak Riparian Forest	None	None
Southern cottonwood willow riparian forest	Southern Cottonwood Willow Riparian Forest	None	None
Southern mixed riparian forest	Southern Mixed Riparian Forest	None	None
Southern riparian forest	Southern Riparian Forest	None	None
Southern sycamore alder riparian woodland	Southern Sycamore Alder Riparian Woodland	None	None
Southern tarplant	<i>Centromadia parryi</i> ssp. <i>australis</i>	None	None

Common Name	Scientific Name	Federal Listing	California Listing
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	Endangered	Endangered
Spotted bat	<i>Euderma maculatum</i>	None	None
Steelhead - southern California DPS	<i>Oncorhynchus mykiss irideus</i> pop. 10	Endangered	None
Swainson's hawk	<i>Buteo swainsoni</i>	None	Threatened
Tricolored blackbird	<i>Agelaius tricolor</i>	None	Candidate Endangered
Two-striped gartersnake	<i>Thamnophis hammondi</i>	None	None
Unarmored threespine stickleback	<i>Gasterosteus aculeatus williamsoni</i>	Endangered	Endangered
Valley needlegrass grassland	Valley Needlegrass Grassland	None	None
Valley oak woodland	Valley Oak Woodland	None	None
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	Threatened	None
Walnut forest	Walnut Forest	None	None
Western mastiff bat	<i>Eumops perotis californicus</i>	None	None
Western pond turtle	<i>Emys marmorata</i>	None	None
Western red bat	<i>Lasiurus blossevillii</i>	None	None
Western small-footed myotis	<i>Myotis ciliolabrum</i>	None	None
Western spadefoot	<i>Spea hammondi</i>	None	None
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	Threatened	Endangered
White rabbit-tobacco	<i>Pseudognaphalium leucocephalum</i>	None	None
White-tailed kite	<i>Elanus leucurus</i>	None	None
White-veined monardella	<i>Monardella hypoleuca</i> ssp. <i>Hypoleuca</i>	None	None
Yellow warbler	<i>Setophaga petechia</i>	None	None
Yellow-breasted chat	<i>Icteria virens</i>	None	None
Yuma myotis	<i>Myotis yumanensis</i>	None	None

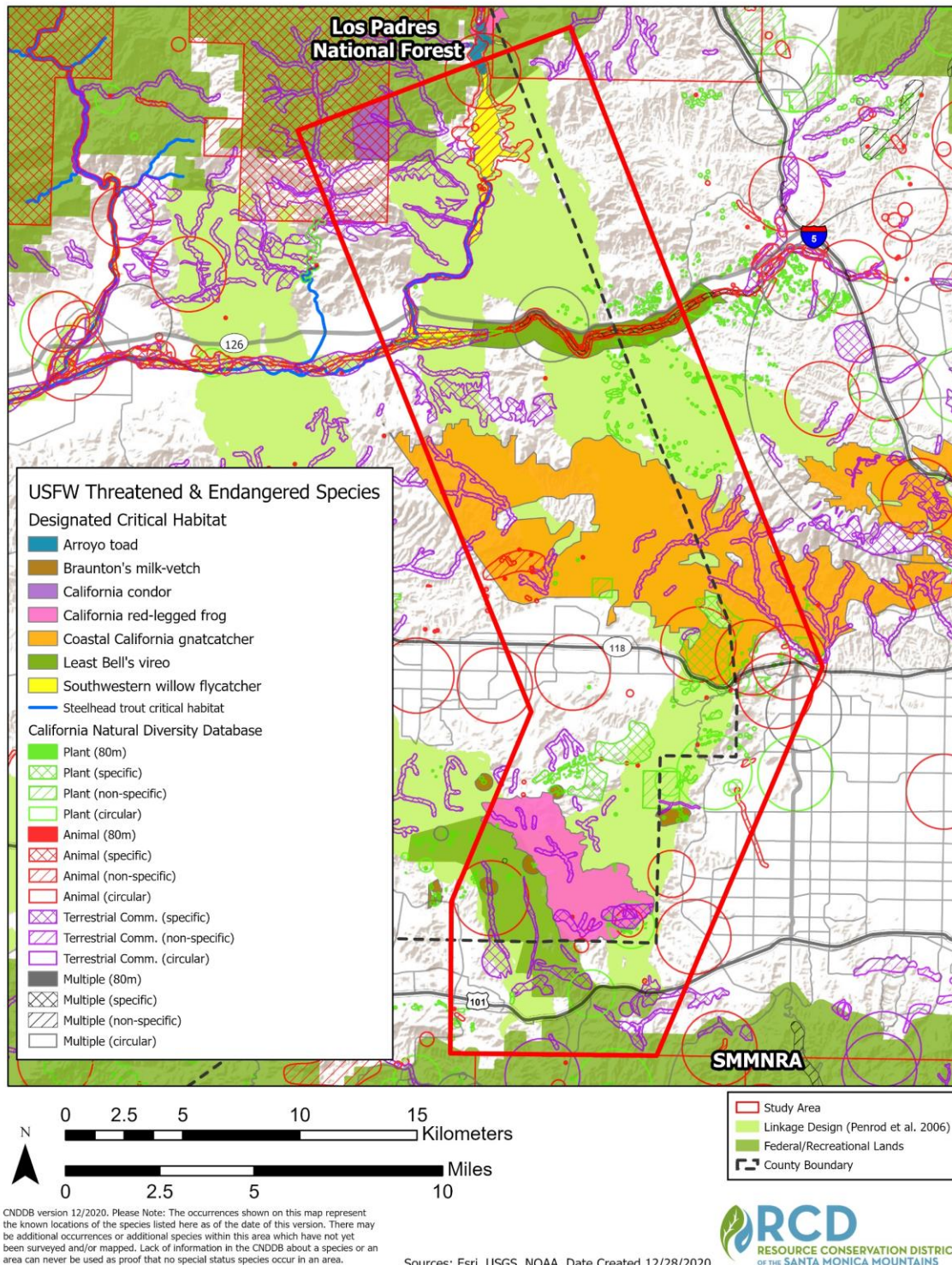


Figure 5. USFWS Threatened and Endangered Species, Designated Critical Habitat and CNDDDB observations

Last but not least, we wanted to examine the impacts of potential climate change to the initial analysis of existing conditions. Using the mapping provided by Resilient and Connected Network analysis (The Nature Conservancy 2020), we can consider how

potentially viable linkages could be impacted by climate changes. Figure 6 quantifies the importance of an area by measuring how much flow passes through it and how concentrated that flow is. The four prevalent flow types identified by TNC (2020) each suggest a different conservation strategy:

Diffuse flow: areas that are extremely intact and consequently facilitate high levels of dispersed flow that spreads out to follow many different and alternative pathways. A conservation aim might be to keep these areas intact and prevent the flow from becoming concentrated. This might be achievable through land management or broad-scale conservation easements.

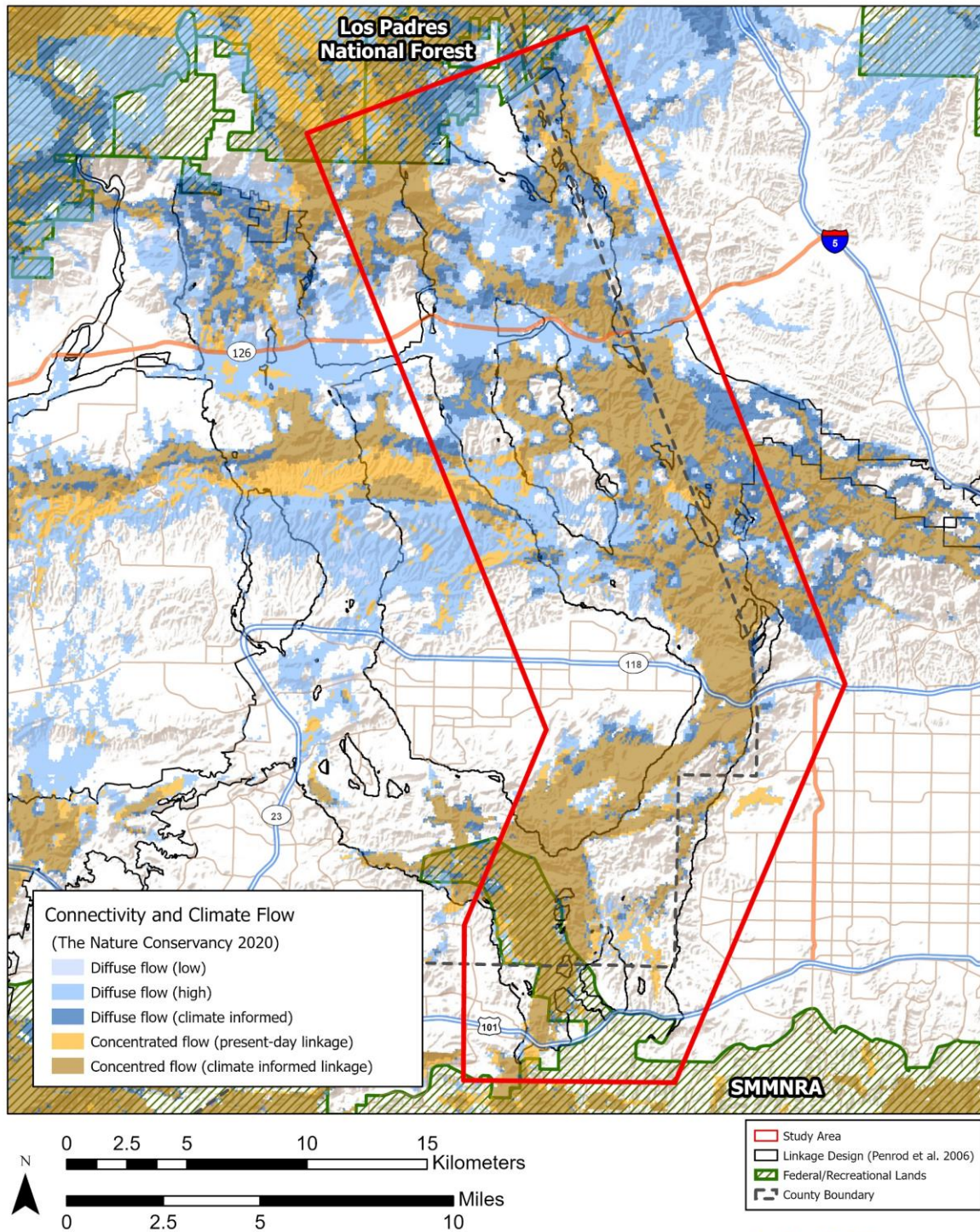
Concentrated flow: areas where large quantities of flow are concentrated through a narrow area. Because of their importance in maintaining flow across a larger network, these pinch points are good candidates for land conservation.

Constrained flow: areas of low flow that are neither concentrated nor fully blocked but instead move across the landscape in a weak reticulated network. These areas present large conservation challenges.

In some cases, restoring a riparian network might end up concentrating the flow and creating a linkage that will be easier to maintain over time.

Blocked/Low flow: areas where little flow gets through and is consequently deflected around these features. Some of these might be important restoration areas for restoring native vegetation or altering road infrastructure might reestablish a historic connection.

The eastern strand of the Santa Monica – Sierra Madre Linkage, or the study area, is identified as having fairly continuous Concentrated Flow all the way from the Santa Monica Mountains National Recreation Area to Los Padres National Forest (Figure 6). It is essential to conserve this connection to allow species and full communities to shift their ranges in response to climate change.



Sources: Esri, USGS, NOAA

Date Created 12/29/2020



Figure 6. Connectivity and Climate Flow (TNC 2020)

Opportunities for and Constraints to Connectivity by Linkage Zones

Figure 7 is a composite map produced from many of the layers above to illustrate the density of overlapping conservation conditions, be they related to climate, species or morphology/connectivity. The darkness and opacity of the polygon increases with the density of conservation study and priority layers. The specific data inputs used include:

- Santa Monica - Sierra Madre Linkage (SCML 2006),
- Terrestrial Connectivity (CDFW ACE 2019)
- Connectivity and Climate Flow (TNC 2019)
- Terrestrial Resilience Region (TNC 2019)
- Rim of the Valley Corridor (NPS 2015)
- Habitat Connectivity & Wildlife Corridor (Ventura County)
- Critical Wildlife Passage Areas (Ventura County)
- Significant Ecological Areas (Los Angeles County)
- Potential Protected Areas for Wildlife (City of Los Angeles)

The net result shows the relative conservation importance of areas within the linkage design, and identifies the gaps between any “islands” of critical importance. The “High Conservation Emphasis Linkage Areas” is a polygon containing the highest density of conservation layers along the linkage, excluding land already protected for conservation.

Although these highest emphasis areas are of primary importance, linkage connectivity is possible in a wider area, which is represented by the “Maximum Viable Linkage” polygon. Ideally, the entire Maximum Viable Linkage would be maintained, to allow for the diffuse flow conditions described above in the TNC discussion, and to minimize edge effects. However, it is likely that situations will arise in which it may not be possible to conserve the High Conservation Emphasis areas of the Linkage immediately or even ever. In such cases, if connections can be preserved within the lower emphasis portions of the Maximum Viable Linkage, those investments should be made.

Note in particular that the High Emphasis polygons intersect the 2,400 acres of land at Santa Susana Field Lab site, that while currently under a conservation easement, may ultimately be subjected to significant habitat removal by a currently mandated remediation. The remediation approach ultimately applied will determine the amount of habitat that remains, and the efficacy of the linkage at this location. Additionally, the SSFL area spans much of the width of the entire Maximum Viable Linkage area, as it is bounded on both East and West by new developments with active on-going construction at Dayton Canyon and Runkle Canyon. Therefore, a remediation approach that provides for public safety but limits the surface acreage of habitat removed, and the duration of the disruptive excavation and off-haul process at SSFL, is critical to maintaining connectivity in the entire East Branch of the Santa Monica Mountains to Sierra Madre Connection. Complete discussion of the SSFL Critical Linkage Area follows below.

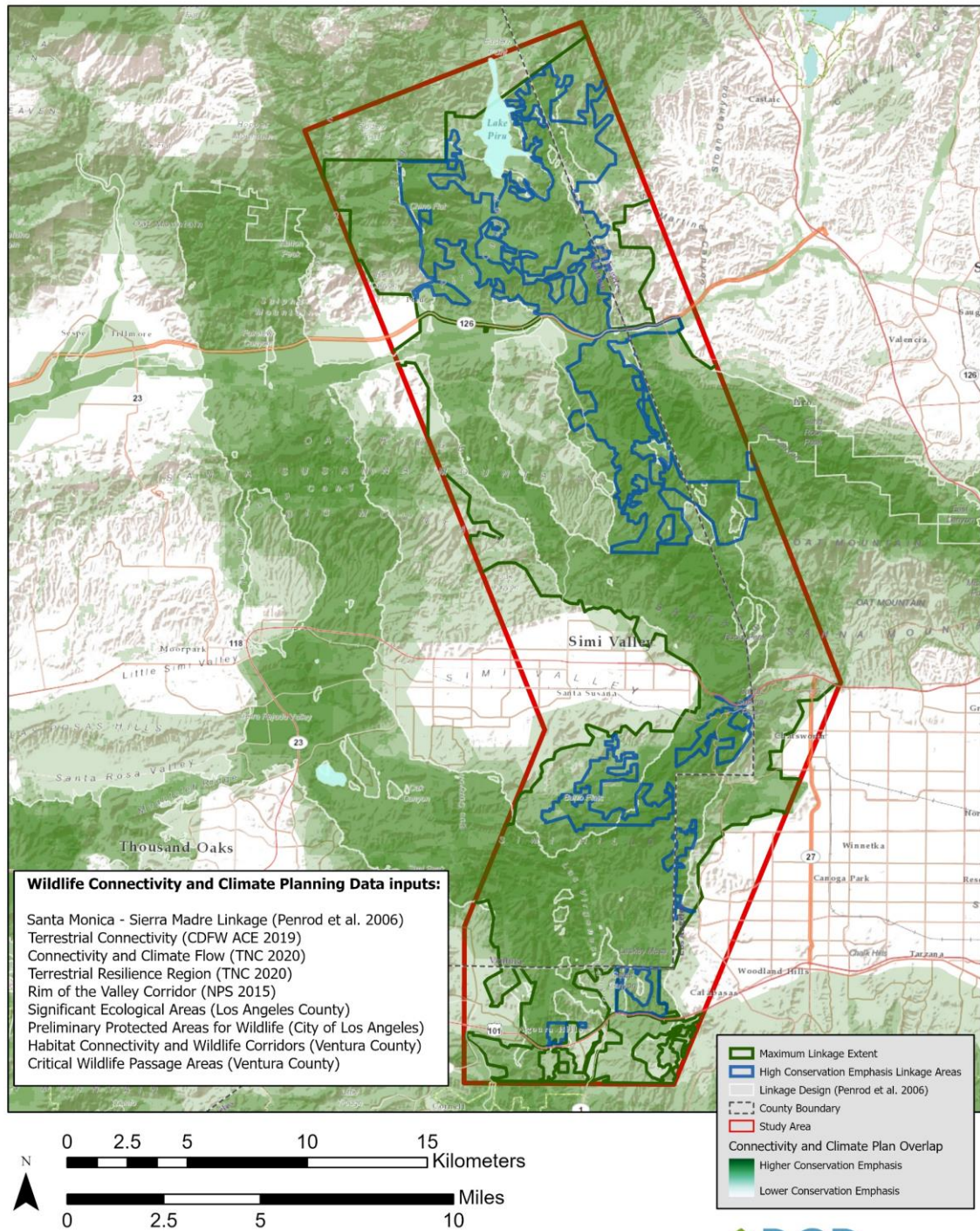
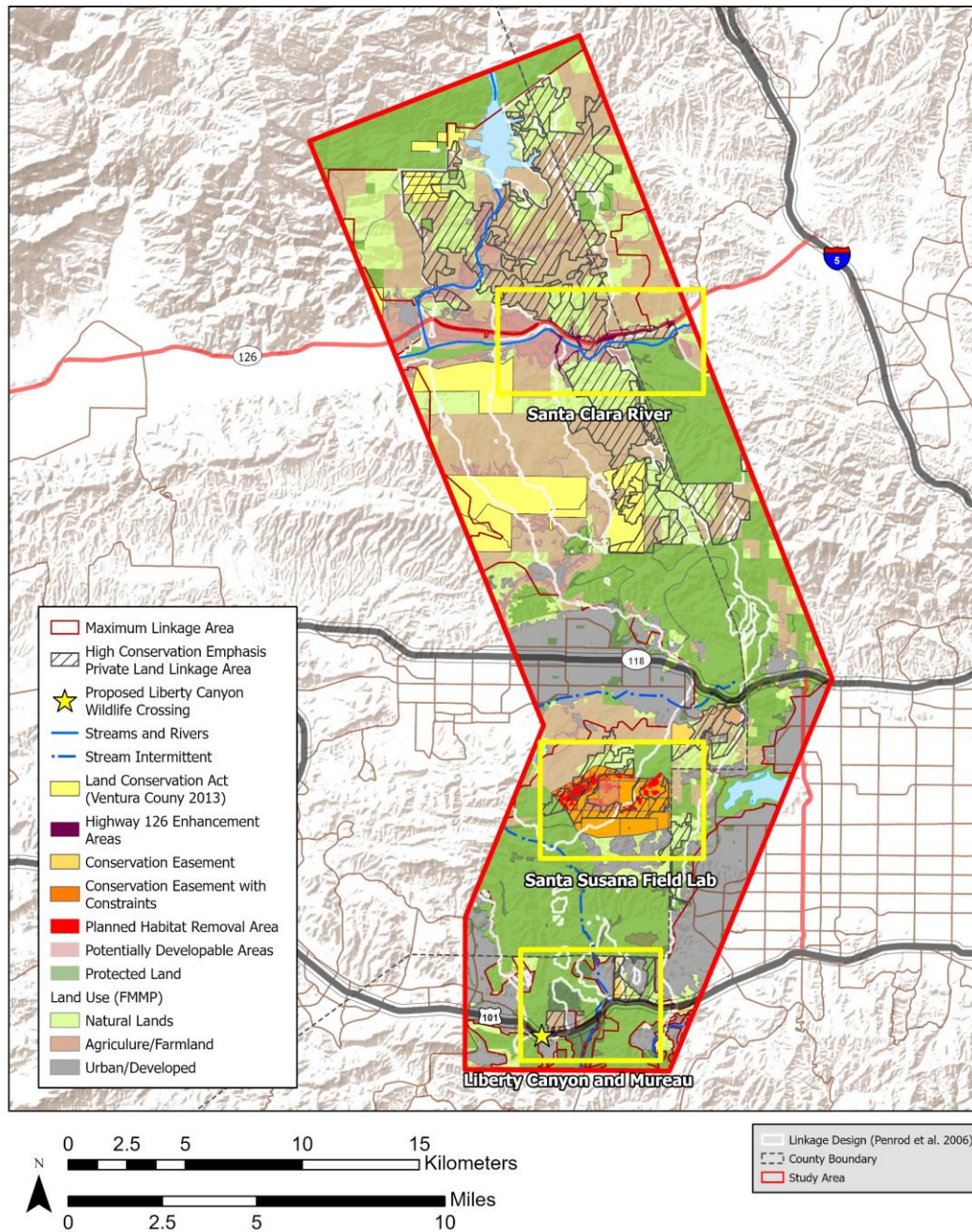


Figure 7. Wildlife Connectivity Prioritization

By further analyzing the connectivity priorities identified in Figure 7, we identified three sub-zones that are essential to maintaining and restoring connectivity function within the East Branch, which are highlighted in Figure 8. These include:

- a. Liberty Canyon and Mureau Road 101 Freeway Critical Linkage Zones
- b. Santa Susana Field Lab/Sky Valley Critical Linkage Zone
- c. Santa Clara River-126 Freeway Critical Linkage Zone

To identify potential priorities in the Critical Linkage Zones, we identified potentially developable parcels as natural lands with < 50 percent slope with road access that may be more threatened by habitat loss and fragmentation.



Sources: Esri, USGS, NOAA

Date Created 01/22/2021



Figure 8. Locations of Key linkage zones

Opportunities for and Constraints to Connectivity by Critical Linkage Zones:

The East Branch of the Santa Monica-Sierra Madre Connection encompassed a great deal of conservation land that existed in 2006. Since that time, purchases and easements have further defined the potential of the linkage. These protected areas form the core segments of the linkage, and the areas with barriers to passage or unprotected lands are now well defined. The future efficacy of the linkage rests in the ultimate design and management of these remaining existing or potential barriers to habitat connectivity. The Critical Linkage Zones of the East Branch of the Santa Monica-Sierra Madre Connection and the current opportunities for, and constraints to connectivity follow below, moving from south to north.

Although ecological connectivity is systemically important and critical to the long-term viability of many species, much of the information we have related to the functioning of our Linkage Zones is the result of the study and tracking of carnivore species- most notable of these is the Mountain Lion. The Mountain Lion has the largest home-range requirements of the Santa Monica Mountains mammal species, and among the species studied, known to be the most genetically imperiled. Apex species such as the Mountain Lion play a critical role in ecosystem functionality and “balance”. Their importance to the Linkage is not merely ecological but also cultural. While the Cultural conditions of the East Branch Linkage are the subject for a future assessment, we do note here that the Linkage and adjacent territory includes ancestral lands of the Chumash people. In particular, we note the critical importance of the Mountain Lion in this Chumash landscape and cosmology, a population recently listed as critically endangered:

The Chumash perceived a world that was five-tiered with three main divisions. The world above Itiashup was filled with wonderful and immensely powerful, though potentially dangerous, "sky people" including Sun, his daughters, Moon, Morning Star, and Shnilemun Sky Coyote, among many others. Sun's name in the Chumash sacred language was Kakunupmawa, meaning "the radiance of the child of the winter solstice." The dawn light of each new day is Kakunupmawa's breath expressed as a sigh. Bears, rattlesnakes, deer, mountain lions and ravens were the "pets of Sun." Other California Tribes also considered the mountain lion as sacred and therefore were not hunted, such, for example, Agua Caliente and Tribes of peninsular California, considered the bear, coyote, jaguar, eagle, owl and mountain lion as sacred and therefore were not hunted.

a. Liberty Canyon and Mureau Road 101 Freeway Critical Linkage Zones

From the Conejo Grade in Thousand Oaks, to the 405 freeway, the Santa Monica Mountains are separated from the Simi Hills and linkages north to the Sierra Madre by the 101 Freeway, and typically an additional two, and often a four-lane collector road on either side, with associated development. In fact, there remain only two locations where

these fully developed conditions do not (yet) exist, including a wildlife passage zone just west of, and including the Liberty Canyon Road/101 Freeway interchange, and an area adjacent to a 1 mile stretch of Mureau Road immediately east of Las Virgenes/Malibu Canyon road extending to Crummer Canyon (Figure 9). These two potential wildlife passage areas at the 101 Freeway form the southern terminus of the East Branch of the Santa Monica-Sierra Madre Connection linkage design (Penrod et al. 2006).

Mureau Road Potential Wildlife Passage Zone

In the city of Calabasas, a large reserve of protected land meets the south edge of the 101 Freeway at a drainage running parallel to the freeway. This stretch of undeveloped land is also uninterrupted by any through-route/collector road, from Las Virgenes Road on the west to the westernmost extent of Calabasas Road on the east. On the north side of the freeway at this location, there is a broad undeveloped right of way separating the parallel Mureau Road from the freeway. This condition spans from Malibu Canyon Road on the west to Calabasas Road overpass on the east, a distance of 1 mile. Two primary culverts under the freeway connect two narrow and undeveloped drainages running up to the north between developed areas north of Mureau Road with the protected areas north of those developments, and the reserve south of the freeway.



Figure 9. Liberty Canyon and Mureau Rd Linkage Zone

Potential for linkage enhancement here consists of three target areas for habitat restoration- the preserved but ecologically degraded open space south of the freeway; Caltrans' right of ways on both the north and south of the 101 Freeway; and along the streams that flow south from Laskey Mesa in the Simi Hills through culverts under the freeway. In addition to habitat restoration opportunities described below, crossing improvements are needed to accommodate wildlife movement across the 101 Freeway and Mureau Road in this area.

The preserved open space to the south, while relatively large, has shown little use by carnivore species (mountain lion and bobcat) in tracking studies, likely due to its lack of cover from decades of historic sheep grazing. The limited wildlife passage may be due secondarily to a section of the open space where existing and proposed (at the east dead-end of Agoura Road) development restricts the total passage area to 2,500 feet in width- though narrower sections of quality habitat connecting destination habitats see much greater use immediately to the west at Liberty Canyon. The opportunity here is to restore the degraded condition of this large area of upland habitat to enhance cover and improve wildlife use and passage conditions. Habitat restoration will be necessary to draw wildlife from the south to the freeway passage zone on the north.

The north-facing slopes of this southern open space reserve at the south side of the freeway corridor are vegetated with a mix of mostly non-native grassland with freestanding coast live oaks and valley oaks in a savannah condition, with additional sparse Oak Woodland habitat found in the draws. The north-facing aspect of the slopes with its existing concavities and riparian areas, have good potential for restoration as woodland and riparian habitat. An additional reason for restoration at this location is wildfire reduction. The “fine fuels” of the non-native grassland components on both sides of the freeway, are easily (and frequently at this location) ignited, and once burning, spread wildfire quickly particularly when wind-driven. Oak Woodland and riparian habitat, by comparison, is significantly less prone to ember ignition, and transfers ground fire much more slowly even in windy conditions, due to the understory and windbreak effects of the tree canopy. Los Angeles County Fire Department staff has mapped the area as a potential fine-fuels replacement project site, which would add cover and ecological diversity to support wildlife use and movement- while adding a level of protection to The Oaks and western Park Granada subdivisions in the city of Calabasas.

The same opportunity for enhanced riparian and woodland habitat exists north of the freeway, within the mile of Caltrans 101 Freeway right of way. This undeveloped space between the freeway and Mureau road varies from 200’ to 400’ deep, providing significant potential pocket habitat, similar to that restored by MRCA between Agoura Road and the freeway to the west of Liberty Canyon Road. Culverts under Mureau Road connect this space with Crummer Canyon and smaller draws that connect with Gates Canyon, both of which are protected by conservation easement and link to the large open space reserve to the north. A similar restoration and wildlife cover enhancement as might be implemented here was recently completed along secondary drainages within Caltrans right of way at the Liberty Canyon Undercrossing Improvement Project west of this location.

Crummer Canyon is a narrow riparian draw located between two subdivisions in unincorporated Los Angeles County, yet has shown use by Mountain Lions coming down from the protected Linkage habitat in the north. Tracking shows these animals moving down the canyon before being confronted with a lack of crossing opportunity, at which point they turn back and leave the canyon. Here, as at the south side, extensive vegetation removal has left most of the banks in non-native grasslands and on the east facing slope and in the riparian area there is significant opportunity for habitat

improvement and defensible space from wind- and terrain-driven wildfire and ember storms.

No useable infrastructure to accommodate wildlife movement across the 101 Freeway currently exists in this area. There is a culvert at Crummer Canyon that runs under Mureau Road but a trash guard at the entrance prevents use by most medium-sized and large wildlife species. This structure appears to be a 6-foot box culvert but about 3 feet in it becomes a circular pipe approximately 5 foot in diameter that immediately heads to the west, so there is no visibility to the other side but it empties into the Caltrans Right of Way. The creek likely runs below the 101 Freeway through an elaborate pipe system to reach contiguous protected lands immediately south of the freeway that stretch all the way to Malibu Creek State Park. With the tremendous investments in conserving land on both sides of the freeway here, we strongly recommend installing wildlife-friendly structures that are tall enough and sufficiently wide to provide a view to the other side, with earthen substrate flooring.



Figure 10. Concrete culvert with trash guard draining Crummer Canyon.

Liberty Canyon Critical Linkage Zone

Over the past several years, a partnership of public sector conservation agencies, in cooperation with Caltrans, has pursued the development of a Wildlife Passage project at Liberty Canyon. Protected lands immediately to the north and south of the future crossing area are frequented by wildlife, including carnivores collared as part of various tracking studies. The East Branch Santa Monica-Sierra Madre Connection begins here, at the site of the one of the few successful Mountain Lion crossings of the 101 Freeway (Figure 11).

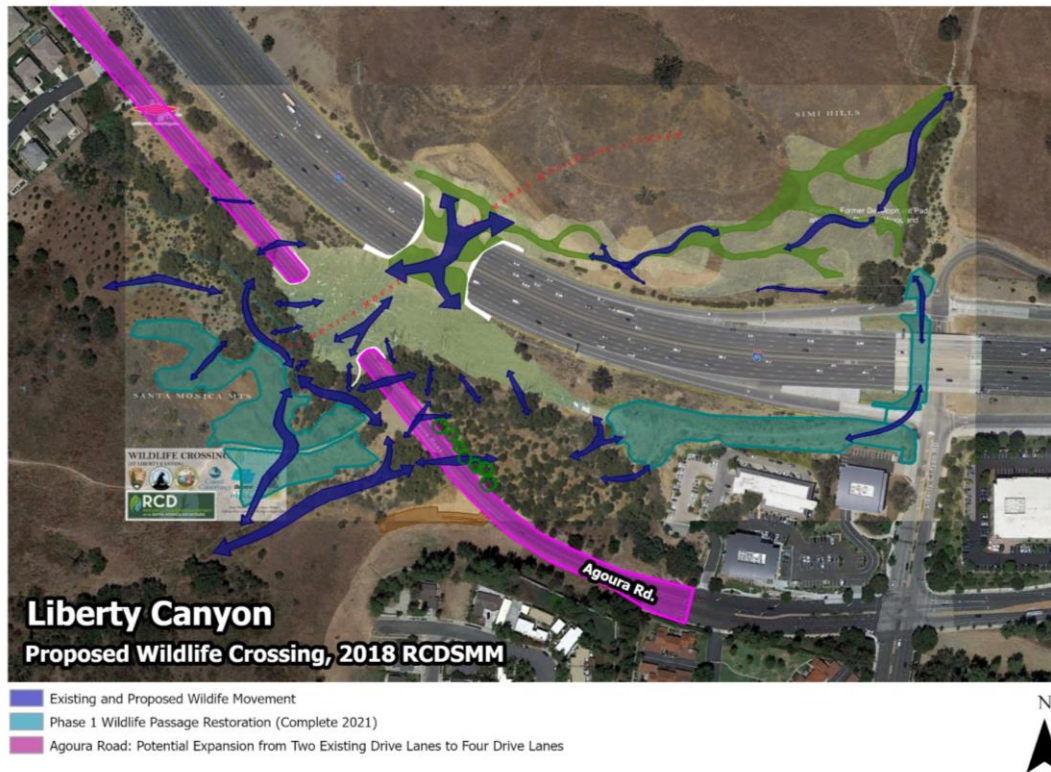


Figure 11. Liberty Canyon linkage zone

The wildlife passage master plan developed by the RCDSMM on behalf of the partner agencies includes underpass and overpass components (Figure 12 below). The wildlife crossings were located here as part of a multi-agency process due to:

- Its location at the southern terminus of the Santa Monica to Sierra Madre Mountains Connection.
- The availability of public land with good habitat on both sides of the freeway, with a 1,200' gap for wildlife passage over Agoura Road between areas of development to the east and west- the last 1,200 feet of clear connection between publicly owned lands on either side of the 101 Freeway in the central Santa Monica Mountains.
- The existence of only 2 lanes of collector road traffic adjacent to the freeway (as opposed to the four lane collector roads to the east in Calabasas and to the west in Agoura Hills), with no collector road on the north side of the Freeway.
- The documented evidence of frequent wildlife use on both sides of the crossing area (NPS radio-collared wildlife studies).

The Liberty Canyon site is the only remaining centrally located site within the Santa Monica Mountains that has the characteristics essential to a landscape-scale wildlife overcrossing.

The RCDSMM is nearing completion of the first phase of the restoration and passage enhancement project, the Liberty Canyon Undercrossing. The undercrossing project created a faux-riparian vegetated passage with dense cover on public land on both sides of the freeway, on the embankment and right of way areas of the freeway itself, and at the shoulders of and within the undercrossing zone of Liberty Canyon Road. The narrowest portion of the corridor restoration area was widened by the addition of restoration on adjacent private land at a former parking lot. The addition of new and enhanced existing fencing provided by Caltrans serves to funnel wildlife to safe passage under the freeway.

The total length of the underpass restoration corridor is 1,800 feet/.33 miles north of Agoura Road and 1,300 feet/0.25 miles south of Agoura Road. The total acreage restored/enhanced is approximately 6.8 acres.

All of the restoration and passage improvement elements for the Phase 1 undercrossing will work in concert with the Phase 2 vegetated wildlife overpass at Liberty Canyon, without modification to the completed Phase 1 restoration work.

RCDSMM also provided the schematic design for the Liberty Canyon Wildlife Overpass for the second phase of Caltrans design process, which is currently in the Final Design and Engineering Phase, and expected to break ground in 2022

On the north side of the freeway, a relatively wide area of habitat will provide access to northeast of the freeway overpass will not only provide local supply of fill to be used for the southern approach slopes of the crossing, but will also allow for the restoration of the original riparian bottomlands and expand the heavily utilized riparian zone closer to the north eastern access to the wildlife crossing over the freeway, while better limiting light and sound from the freeway.



Figure 12. Liberty Canyon Wildlife Crossing (artist rendering)

The deck of the Wildlife overpass at the 200' span of the freeway will average 180' in width and be covered with topographically varied habitat. On the south side of the freeway, the approach slopes will flare to the east and west, and extend in part over

Agoura Road to allow for the least possible slope gradient and maximum toe of slope length to provide crossing access. Nevertheless, the habitat, and therefore the potential for wildlife passage, on the south side of the freeway and Agoura Road is much more constrained by existing development.

Of the last remaining 1200' of viable crossing at Liberty Canyon a maximum width of about 200' will be grade-separated over the Agoura Road overpass, with the remaining 1000' of passage area including the surface of Agoura Road itself. Currently, both sides of Agoura Road in this 1200' stretch are heavily utilized by wildlife including Mule deer, bobcat and coyote, and according to NPS data points, at least on occasion, mountain lion. Regular crossings of Agoura Road occur here not only due to the presence of high-quality habitat on both sides of the road, including heavily traveled riparian corridor ending at an Arroyo willow wetland area on the south, and a restored coast live oak woodland and legacy valley oak riparian area on the north- but also due to the narrow road and gravel shoulder, low vehicle speed limits, and dark conditions, free of artificial street lighting.

It is therefore critical to effective wildlife passage that the entire length of this last remaining 1200' stretch along Agoura Road be managed into the future to limit fragmentation of habitat in this critical crossing zone. The current road conditions are two traffic lanes, no sidewalks, no streetlights, and a speed limit suited to the road. These existing favorable crossing conditions should be at least maintained, and ideally improved for wildlife passage. For effective crossing function, this section of Agoura Road should remain, small, narrow, and dark at night with traffic calming and speed limits intended to limit the risk of vehicular collisions with wildlife. However, non-standard design conditions required by the City of Agoura Hills resulted in an Agoura Road overpass design that could potentially allow for a four-lane road to be installed in the future.

Working with the Caltrans and partners in the initial design phases, Agoura Hills city staff initially proposed that a 70' wide span be provided over Agoura Road. Eventually, the city accepted a 54' span between abutments of the Agoura Road overpass, and these dimensions are included in the final design, significantly steepening the required approach slopes on the south side of the road. Although two lanes of traffic and two Class A bicycle lanes are provided in the approved design, this span is 12' wider than the standard for such two-lane collector roads. In fact, this width is the minimum standard width for four lanes of traffic and two bike lanes.

While revision to the Agoura Hills General Plan, and a significant Environmental Analysis would be required to undertake a road-widening project at this "last best crossing location" from the Santa Monica Mountains to the Simi Hills, the 54' dimension leaves open that possibility. Such a lane-adding/road widening project would increase exponentially the likelihood of wildlife-vehicle collisions or require narrowing the passage area to less than 20% of its potential crossing width with exclusion fence, or both, and significantly increase the fragmentation of habitat that the \$80 million Wildlife Passage Project at Liberty Canyon is

intended to rectify. The existence of artificially illuminated four-lane boulevards immediately east of the project site and road-widening projects in the Agoura Hills city limits west of the Old Agoura neighborhood show that encroachment on this narrow road is already happening, and pressure to connect the 4-lane sections, and so disconnect the Linkage will likely increase in the future. With the recent protection of land along Agoura Road that had been proposed for development west of the site, some of that pressure lessened. Nevertheless, if the Agoura Road Wildlife overpass section is built at 54' as proposed, rather than the 42' in width that is standard for 2-lane collector roads, the possibility of road widening in the crossing project area exists.



Figure 13. Overview of proposed wildlife crossing - 2018 schematic design by RCDSMM

b. Santa Susana Field Lab/Sky Valley Critical Linkage Zone

The former Santa Susana Field Lab (SSFL) sits among a vast and spectacular collection of protected properties (e.g. Sage Ranch, El Escorpion, Upper Las Virgenes Open Space Preserve) that have been preserved as open space. The SSFL, in recognition of its cultural history that long predates its use for rocket engine development and testing, and its future as conserved habitat, has lately been called “Sky Valley” or ‘alapay in the Chumash language. The 2,400 acres of Sky Valley (all but the interior 400 acres owned by NASA) is now guaranteed by the current landowner, The Boeing Company, as conserved for only recreational and limited educational use and open space by conservation easement. This easement was intended to ensure the ongoing protection of an important ecosphere of rare flora and fauna and promote biodiversity immediately adjacent to Southern California’s largest urban region. The easement will ultimately

prevent the site from degradation, and so protect nearly the entire width of the East Branch Linkage.

However, the ultimate area of habitat to be protected will not be known until a legally mandated remediation of the site is completed. The easement could not legally preclude contaminant removal at the site- nor can it control the methodology used to achieve that contaminant removal or the amount of habitat (and underlying soil) to be removed, the extent to which this loss of habitat will be temporary or permanent, or the length of years or decades in which the demolition and excavation of the existing habitat takes place. Therefore, protection of the (remaining) natural resources of Sky Valley does not take full effect until the California Department of Toxic Substance Control (DTSC) deems the contaminant removal process complete. So despite the conservation easement preventing future development of these 2,400 acres for all but conservation and recreational uses, the site is perhaps the most imminently threatened portion of the East Branch Linkage. The threat to the functionality of the Linkage is due to the proposed contaminant removal approach (“Agreements on Consent”, or “AOC”) that exceeds existing State requirements for remediation (“Risk-Based”) that results in an increase in habitat and soil removal in excess of 90%, as discussed below and shown in Figure 14.

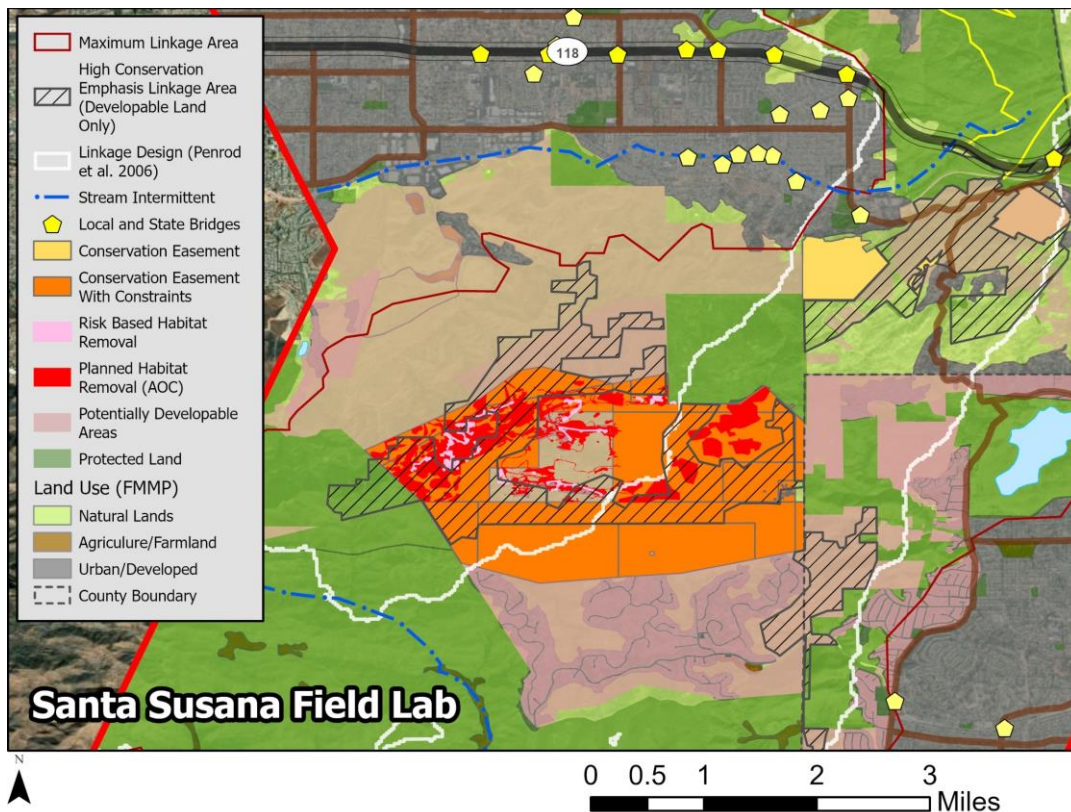


Figure 14. Santa Susana Field Lab linkage zone

The approach ultimately taken to make the site safe for future will determine whether the Linkage remains functional or is permanently fragmented. Prior to the initiation of

formal environmental study and documentation being initiated, and “Agreement on Consent” (AOC) was constructed by the government entities with jurisdiction, defining the level of contamination removal that would be required for each constituent. The agreement was driven by an attempt to achieve “background” levels for nearly all of the contaminants present- essentially the levels that might have historically existed prior to any developed use of the land. This approach was an “agreement” to go well beyond the level of contaminant removal required by the laws governing all land in the state of California.

The decision and agreement to “clean to background” per “Look-Up Tables” was initially made in absence of mapped and measured assessment of the impacts of this choice, at least in the public sphere. Unfortunately, when the studies were ultimately initiated the AOCs were considered a baseline requirement, and so in the case of the NASA property, no Risk-Based alternative was even investigated- as would be required at any other remediation site in California. If the AOC proposals for increased reduction in contaminants to remain on site rather than the Risk-Based State law are applied as currently planned, hundreds of acres of habitat and the native soils underneath will be removed to the level required for “non-detect” of contaminants, likely to bedrock for most constituents.

Complicating matters further is the fact that although there are only two owners of the entire 2,800 acres, The Boeing Company and NASA, the responsibility for contaminant removal at “Area 4” was assumed by the federal Department of Energy (DOE) though the determination of the methodology and approval of the final Environmental Document is to be authorized by DTSC. Ethnographically and ecologically, Sky Valley is “one place”, but the impact analysis for the environmental review process was so fragmented so as to make the potential future result for habitat and connectivity- and so the cumulative impact of the various remediation projects- difficult to determine. The maps of this report show the latest publicly available mapping of these proposed impacts for all three owners, and give the most current and likely scenario for impacts to habitat and connectivity. Simply stated, what Figure 14 shows is that the proposed methodology will permanently disrupt most of the entire width of the available “Maximum Viable Linkage”, with additional impact during the period of excavation and earth-movement. Alternative approaches to achieving a site that is safe for its users and communities surrounding Sky Valley, while maintaining and enhancing the efficacy of the Linkage are available, however.

Current state law requires that contaminant removal be done based on “Risk-Based” measurements according to the intended end use of the land requiring remediation. This means that land that may be used for agricultural or residential use requires a greater level of contaminant removal, than does an industrial or recreational land use. While the Agreements on Consent are “legal” agreements, they overlay current State law that requires far less contaminant removal and relocation for undeveloped conservation land than does a future residential use. Therefore, the risk-based approach would result in a dramatically different footprint of remediation, and the agreement to remove more than is required has a far greater impact than would otherwise be required. Additionally, the less

intensive land uses often allow for less intensive remediation approaches that allow the soil and its overlying habitat to remain in place during the remediation period, rather than being removed and transported to a hazardous or solid waste landfill - as would be the case with the methodology currently proposed at both the DOE and NASA- administered contaminant removal and relocation plans.

The difference in total acreage of habitat and soil removal between these two approaches is shown in Figure 14. Over 580 acres of habitat is proposed to be removed or modified in the proposed AOC approach, versus less than 30 acres of estimated habitat removal/modification in the Risk-Based approach (*Boeing Area 1 polygons have not been published, so the estimate of removal for that portion of the site is based on using the percentage difference between these approaches on Area 4. Using Area 4 and Area 2 comparisons, the Risk based approach results in between 4% and 6% of the habitat loss of the AOC methodology). Not only is the legal risk-based approach far less impactful in total area of habitat loss, but the duration of the excavation activity is not more than a two to three years of localized activity in a conservation risk-based approach. The AOC approach is estimated to require more than two decades of widespread earth movement by heavy equipment.

To accomplish the removal of these hundreds of thousands of truckloads of habitat and soil excavation within 25 years would also require work at night under artificial illumination, and a work footprint spanning nearly the entire width of the Maximum Viable Linkage area. This would vastly diminish, if not eliminate entirely, the potential use of the area as core or passage habitat during the excavation and grading period in precisely the time period considered critical to genetic viability of the Santa Monica mountain lion population (Riley et al. 2016). Just this past month, the first visible genetic defects appeared in that population, the same kinked tails in kittens that appeared in the Florida Puma population- the only less genetically diverse population of mountain lions in the US than those of the Santa Monica Mountains.

For decades, a diverse collection of conservation groups and governmental agencies have invested nearly a billion dollars in a successful effort to prevent the irreversible fragmentation of the Santa Monica Mountains ecosystem and maintain its full complement of native species, and are in the planning and initial construction phase of a project to connect those mountains with the Simi Hills via an \$80 million investment to restore crossing habitat over and under the 101 Freeway. The DTSC approach to remediation now planned would largely sever connectivity between the Santa Monica Mountains and the National Forest Lands of the Sierra Madre Mountains that those hundreds of millions of dollars invested to date have conserved.

The attached detail maps (Figure 14) are based on the most recent projections available to show the difference between the AOC-driven contaminant removal footprint, and that of a Risk-based approach that reflects the permanent Conservation Easement recorded for the Boeing-owned properties. This includes footprint areas in Area 4 that are described for treatment under an “environmental” alternative, which is described as “risk-based”, but for which no information regarding the ultimate amount of habitat removal or impact

to these areas was provided. Therefore, since these areas are shown as contaminant removal polygons in the final EIR, they are shown as habitat impacts in the maps.

We understand that in light of their donated conservation easement now precluding any development or agricultural use of the site, the Boeing Company is challenging the requirement for the AOC agreement standards to be applied to the remediation that is their responsibility. However, we also understand that a residential standard is being proposed as an alternative. If that is the case, then this standard would still be in excess of that required under the Risk-based state law, and can be expected to result in habitat loss and lead to additional time of disruption to habitat functionality in excess of that required by that law as it applies to open space and recreational use.

Constraints to Connectivity:

The open space of the Simi Hills and Santa Susana Mountains contains our best remaining habitat linkage between the Santa Monica Mountains and core wild lands of the Sierra Madre Mountains in the Los Padres National Forest. The 2,800-acre SSFL property is therefore a critical stepping-stone to the protected wilderness of the Los Padres National Forest. The property constitutes more than 25% of the remaining privately-owned open space area of the linkage between the proposed 101 Freeway Wildlife Overpass and the existing 118 Freeway Wildlife Tunnel at Corringanville, and spans 75% of the width of the 2006 mapped Linkage. As such, its continued functionality is of critical importance particularly in the next few decades, if we are to maintain our current level of regional biodiversity and avoid local extinctions.

If the linkage is severed, the genetic viability of a wide range of diverse species would be greatly diminished. In the case of the Santa Monica Mountains population of mountain lions, without at least one new breeding individual using this linkage into the Santa Monica Mountains every two years, the local population has a nearly 100% chance of extinction in the next 50 years (Riley et al. 2016). In April of 2020, the California State Fish and Game Commission granted temporary endangered status to the southern California mountain lion population, highlighting the importance of maintaining and restoring habitat connectivity for mountain lions in the Santa Monica, Santa Ana, San Gabriel, Tehachapi, and Santa Cruz mountain ranges. A final decision on the listing is expected in 2022.

Opportunities for Connectivity:

With legal challenges and favorable court orders, remediation approaches can be selected, designed and phased according to Risk-Based standards currently applicable elsewhere throughout the state, and so protect the ecological viability of the Linkage both during and after cleanup. The Boeing Company's commitment to conservation- as evidenced by their completed Conservation Easement to the North American Land Trust- can be supported by Local, State and Federal Agencies and NGOs involved in the protection of local Natural Resources and biodiversity. The Boeing Company has standing to pursue a risk-based remediation approach on the properties for which they have responsibility, as well as the Area 4 property they own, but for which DTSC and

DOE now propose to apply AOC standards. Other NGOs may also find a mission-appropriate response in the courts to support a safe and legal approach that maintains the viability of this most critical habitat linkage- and that is appropriate to the perpetual conservation outcome for the 2,400 acres protected voluntarily by the Boeing Company. Properly remediated, protected and preserved as open-space, this natural habitat and area would lend itself to promoting outdoor recreation and education of a historically unique site that honors environmental stewardship as well as pre- and post-modern human activities that embody our rich and diverse cultures.

Chatsworth Simi-Divide/118 Freeway Critical Connectivity Area

Immediately northeast of the Sky Valley Conservation Easement and south of the 118 Freeway at Corriganville Park are roughly half a dozen parcels that are also critical to protect to maintain functional connectivity. There is a 15-foot concrete box culvert linking Corriganville Park south of State Route 118 with Rocky Peak Park to the north of SR-118. Coastal sage scrub is the dominant plant community on both sides of the structure. Several researchers have confirmed use of this passage by wildlife. In fact, mountain lions have been documented using the Corriganville Tunnel on several occasions (Edelman 1991, Ng 2000, LSA 2004, Riley et al. 2006). Ng also recorded mule deer, coyote, bobcat, raccoon, and striped skunk using this structure.

The Rocky Peak Overpass is about a half mile east of the Corriganville structure described above. This roadway overpass connects Santa Susana State Historic Park south of SR-118, with Rocky Peak Park to the north. Dominant plant communities in the vicinity of the structure include coastal sage scrub and chamise chaparral. LSA (2004) documented coyote, bobcat, raccoon, and skunk utilizing this structure, in addition to vehicles, equestrians, hikers, and cyclists. Caltrans biologists documented mule deer at Rocky Peak Road over three field seasons (pers. comm. Amy Pettler, Caltrans, April 9, 2004 in LSA 2004).

There is also a 5-foot arched culvert located approximately 1 mile east of Rocky Peak Road, linking Santa Susana State Historic Park south of SR-118 with Joughin Dedicated Open Space and Rocky Peak Park north of the freeway. LSA (2004) captured a family of raccoons on film on several occasions during their study, as they frequently utilized this structure to cross under the freeway. Several rodents were also recorded but were not identified to species.

c. Santa Clara River 126 Freeway Critical Linkage Zone

The Santa Clara River travels 116 river miles from the western San Gabriel Mountains (that create one boundary of the linkage study area) to the Pacific Ocean between the cities of Ventura and Oxnard. Elevations range from 8800 feet to sea level and incorporate both private and public lands (Los Padres and Angeles National Forests). It is one of the largest river systems in southern California that retains much of its natural hydrologic and geomorphologic character, which results in reaches of high-quality aquatic habitat that supports numerous endangered, threatened and rare species. The low summer flows contrast with high “flashy” storm flows, reflecting the dynamic range of

conditions typical of Mediterranean climates. Management of the 1,626 square mile watershed is primarily overseen by Ventura County, who has developed watershed guidance documents related to flood and storm water protection, groundwater extraction, flow diversions, water quality, agriculture practices, and wildlife connectivity.

Additional oversight is provided by numerous state and federal plans designating critical habitat for the arroyo toad, southern steelhead trout, and many other species. Restoring access from the ocean upstream to the upper watershed is a recovery plan goal for southern steelhead trout (NMFS 2012) with numerous agencies and stakeholder groups working to remove barriers and preserve flows (Caltrout 2017, Stillwater Sciences 2008).

In addition to the terrestrial and aquatic species of concern, several avian species including the California condor, coastal California gnatcatcher, Least Bell's vireo and southwestern willow flycatcher could all potentially be found using habitat located within the proposed linkage area.

The geomorphology of the Santa Clara River creates challenges to development along the slopes in the upper watershed, but the 30-mile-long coastal alluvial zone supports extensive agricultural and other developments. The reach of the river included in the linkage study area (Figure 15) receives surface inputs from the upper headwaters and major tributaries such as Castaic and Piru, as well as from the Saugus and Valencia Water Reclamation Plants. These tributaries are highly managed and contain Castaic Lake, as well as Pyramid Lake and Lake Piru Reservoirs, which alter the natural hydrologic regimes. Numerous fish barriers have been documented that preclude steelhead migration up and downstream (Stoecker and Kelly 2005, Caltrout 2017). Despite these alterations, the river still supports populations of western pond turtles, arroyo toad, and resident rainbow trout.

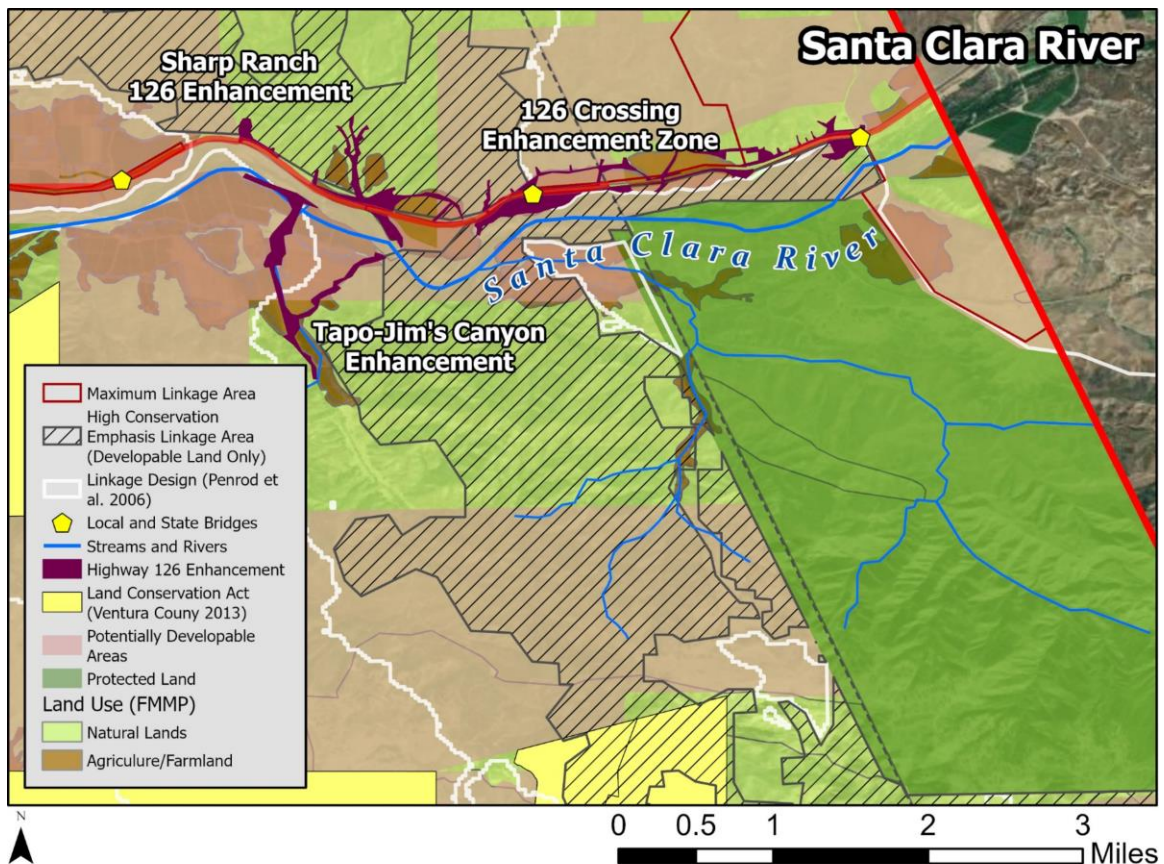


Figure 15. Santa Clara River linkage zone

The Santa Clara River meanders along the 126 Freeway through the linkage. The freeway was built mostly at grade but several existing structures facilitate various levels of animal movement across this transportation barrier. A great majority of the Santa Clara River Valley has been in agriculture since the late 1800's but opportunities remain to restore functional connectivity here. Agriculture is much preferable to urban or industrial development and is fairly permeable to more mobile species, such as mountain lion or bobcat.

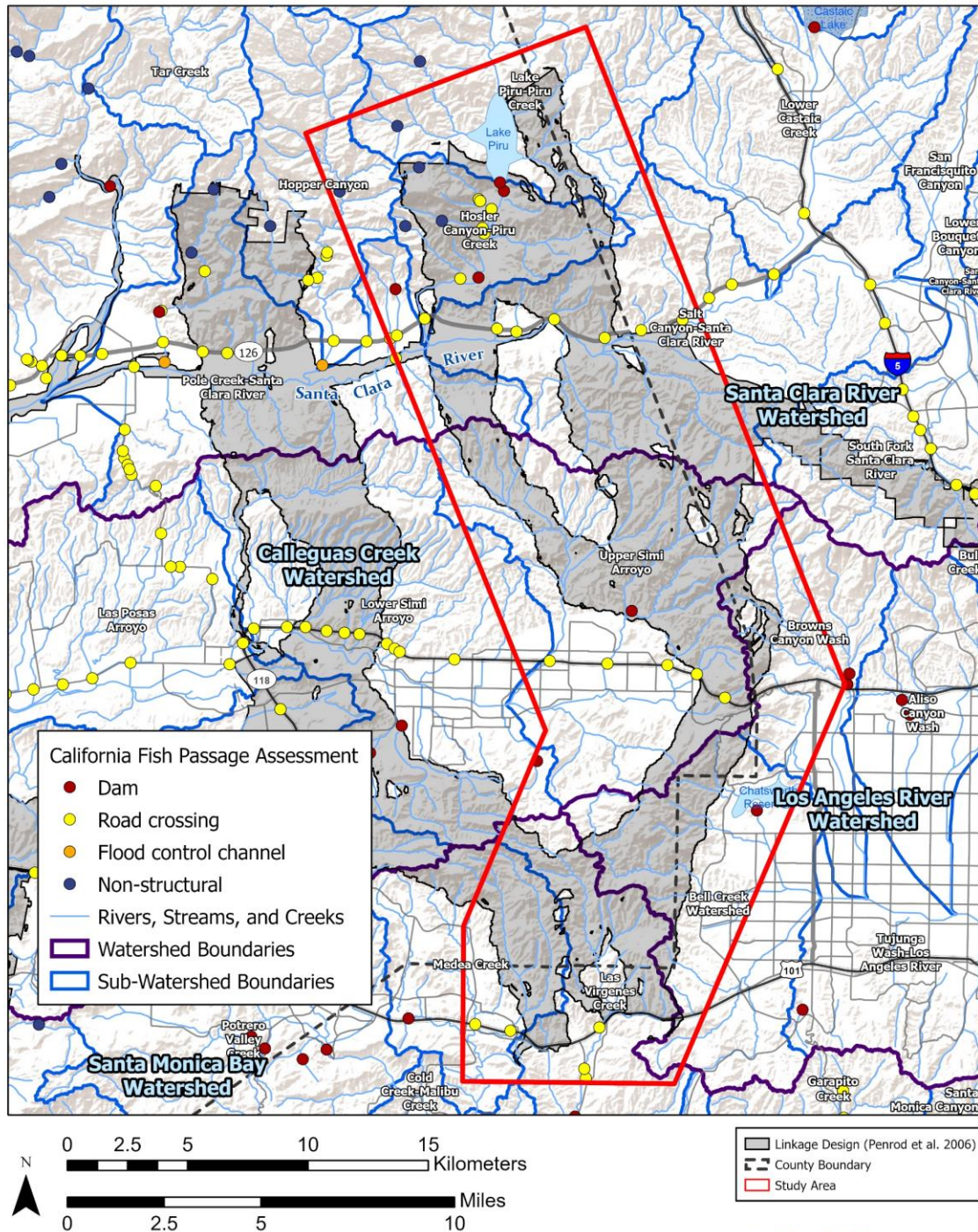
Piru Creek flows under SR-126 through a multi-chamber concrete bridge roughly 15 feet high. South of the freeway, the creek and the immediate uplands on the eastern bank are dominated by alluvial fan sage scrub with willow, mule fat, and other riparian plant species in wetter sites, while north of the freeway there is very little vegetative cover until above Piru Creek Road where there is a well-developed riparian forest stretching to the Santa Felicia Dam. Piru Creek, although altered and degraded by dams and diversions, still provides habitat for several special status aquatic and semi-aquatic species, including steelhead trout, and should be a focus of riparian restoration efforts.

About half a mile east of Piru Creek, there is a 2-lane dirt road that passes beneath SR-126 via an arched culvert built for agricultural operations at Camulos Ranch. Small drainage culverts also occur every 1200 to 1500 feet under SR-126.

The eastern branch of the linkage between Tapo and Potrero Canyons is dominated by fairly contiguous natural habitats, including coastal sage scrub, chaparral, grassland, oak woodlands and riparian forests. There are two one-lane dirt roads that go under the highway through arched culverts for agricultural operations on Newhall Ranch, along with several small drainage culverts. These structures should be maintained and enhanced during the next transportation improvement project. We strongly recommend maintaining the wild character of this branch of the linkage, one of the last remaining areas where natural habitats are still contiguous between the Santa Susana Mountains and the Sierra Madre Ranges. We suggest acquisition of open space or conservation easements, and habitat restoration where necessary to enhance the ecological integrity of the linkage.

Figure 15 shows the connectivity zone and identifies the tributaries being used by these animals to move into the Santa Clara River bottom. On the north, potential paths of travel are identified based upon topography, though the oilfields in the hills immediately north of the river do not show mountain lion locations. Using the Maximum and High Conservation Emphasis layers and these tributary movement paths, we have identified potential areas for crossing enhancement, and potential easements over agricultural lands where the existing and potential paths suggest the best locations for habitat improvement to support wildlife passage and use.

In addition to the terrestrial connectivity potential, Figure 16 illustrates the opportunities and constraints for aquatic species. The opportunities to expand connections from the Santa Clara River mainstem to the upper reaches of these tributaries would also enhance connections for mountain lions and other species with larger home ranges who take advantage of riparian corridors for dispersal.



Sources: Esri, USGS, NOAA

Date Created 01/18/2021



Figure 16. Fish passage barriers identified within the study area.

FINDINGS AND RECOMMENDATIONS/NEXT STEPS

This investigation shows that good and steady progress has been made on conserving and strengthening the efficacy of the East Branch linkage. To continue to build upon the success of the last 14 years, we suggest the following as recommended tasks for the next phase of study and implementation:

1. Identify “least cost” and/or shortest continuous connections

Identification of “least cost” and/or shortest continuous connections between areas of existing protected linkage; sometimes referred to as the “stringline” of protected connection. Individual “Conceptual Area Protection Plan” (CAPP) studies have been completed for the entire linkage for CDFW, and initial priorities have been established. For purpose of protecting potential Real Estate negotiations, these are not shown. While progress has been made in acquisition of properties, a continuous line of protected land from the Santa Monica Mountains has not yet been achieved, with gaps remaining at all of the critical passage sites.

To establish a permanent continuous network of protected lands would involve the Linkage partner agencies to identify current opportunities, assess the opportunities and costs of potential linkage paths, initiate or continue conversations with willing landowners, build strategies, budgets and identify funding strategies and sources.

2. Conduct more detailed assessments of “buildability” and development potential of parcels within Critical Linkage Zones to further evaluate acquisition priorities.

Such an assessment would result in further clarification of relative development risk, both to know which properties are effectively “protected” due to regulatory or physical limitations to development, and the actual likely market value of those that have development potential

3. Develop Feasibility and Conceptual Design Plans for Critical Connectivity areas, including Mureau Road/101 Freeway, Bell Canyon/Santa Susana Field Lab, Chatsworth Simi Divide/118, and Santa Clara River/126 Freeway. These studies would result in strategic alternatives based on site, owner and habitat specific conditions.

4. Track planned and programmed transportation improvements projects on the 101, 118, and 126 freeways to identify projects that could offer further opportunities to integrate wildlife crossing improvements.

5. Engage key non-profits involved in mountain lion listing (MLF, CBD) to change currently planned remedial actions on the SSFL in order to lessen the total acreage amount and physical extent of permanent habitat loss and duration of excavation impacts in this critical linkage area

6. Continue to integrate NPS scientists research and monitoring data to inform above recommended actions.

7. Complete similar Linkage update for the West Branch of the Santa Monica- Sierra Madre Mountains Connection.

All of the above listed actions would assist the conservation partners that have been so successful thus far at advancing the goals of the 2006 Linkage Design.

Appendix A – Existing Data and Studies

Annotated Bibliography

Biological Resources with Connectivity Emphasis

Beier, P. and R. F. Noss. 1998. *Do habitat corridors provide connectivity?* Conservation Biology, 12(6):1241-1252. Available at:

http://proecoazuero.org/wpcontent/uploads/2012/11/A.B3006_Beier_1998_eng.pdf

Report detailing the importance of habitat corridors in terms of maintaining population viability in urbanized and fragmented areas.

Bell, E., R. Bottorff, P. Brand, A. Coyne, T. Dudley, C. Kudija, M. Larson, C. Meneghin, B. Orr, E. Remsen, L. Riege, M. Stoecker, L. Verdone, M. Waiya, J. Weiner, and K. Zimmerman. 2013. *Strategic Plan 2013-2017*. Produced by Santa Clara River Steelhead Coalition and Cal Trout. Prepared for the California Department of Fish and Wildlife. Available at: rmarlow@caltrout.org

Strategic plan detailing recovery efforts for southern steelhead trout in the Santa Clara River watershed, which lies within the Santa Monica Mountains to Sierra Madre Linkage area. The plan involves collaboration from multiple partners to improve the status of the species. A major goal is to improve habitat connectivity in riparian corridors.

Bell, E., R. Bottorff, P. Brand, A. Coyne, T. Dudley, C. Kudija, M. Larson, C. Meneghin, B. Orr, E. Remsen, L. Riege, M. Stoecker, L. Verdone, M. Waiya, J. Weiner, and K. Zimmerman. 2013. *Implementation Plan 2013-2017*. Produced by Santa Clara River Steelhead Coalition and Cal Trout. Prepared for the California Department of Fish and Wildlife. Available at: rmarlow@caltrout.org

This plan is a collaborative effort between state, local and federal agencies, fisheries conservation groups, researchers, restoration contractors, and other interested parties to explore and develop an effective methodology and plan to restore and recover anadromous fish populations by addressing a host of limiting factors (e.g., man-made fish passage barriers.) The Framework is extensively tied to California's State Wildlife Action Plan (SWAP) and Southern California Steelhead Recovery Plan.

Benson, J., J. Sikich, and S. Riley. 2020. *Survival and competing mortality risks of mountain lions in a major metropolitan area*. Biological Conservation, Volume 241, 108294. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0006320719311346?via%3Dihub>.

Details human and naturally caused mortality of mountain lions in the highly fragmented Los Angeles and Ventura County areas. The study focused on the Santa Monica Mountains National Recreation Area and the surrounding areas, including the Simi Hills, Santa Susanna Mountains, Los Padres National Forest, Griffith Park, and the Verdugo Mountains. The study found that one of the leading causes of adult mortality was associated with anthropogenic barriers while the leading cause for subadult mortality was due to interaction with adult males. It recommends improving habitat fluidity to prevent human caused mortality, as well as allow for the expansion of the range so that subadults can avoid adult males.

Booth, M. T. 2020. *Patterns and potential drivers of steelhead smolt migration in southern California*. North American Journal of Fisheries Management
Available at: <https://doi.org/10.1002/nafm.10475>

Documents downstream smolt in the Santa Clara River over 19 years based on data from the Vern Freeman Diversion.

Bui D., J. Decruyenaere, C. Green, D. Koutnik, K. Vazquez, and B. Witler. 2007. *Santa Monica Mountains Local Coastal Program Technical Appendices*. Prepared by the County of Los Angeles Department of Regional Planning.
Available at: https://planning.lacounty.gov/coastal/smm_documents

A comprehensive appendix made for the LA County Department of Regional Planning as pertains to the Santa Monica Mountains. Each appendix details specific facets of the environment such as: native and non-native species of plants and the damage such invasive species cause to the surrounding ecosystems; historic and cultural value of the area, significance of the geologic conditions and their relations to surrounding fault lines, preservation of significant ridgelines, and what disturbances to the ridgelines are prohibited; and air and water quality and factors that cause pollutants to disturb the ecosystem. All these appendices are used for the purpose of serving a cease and desist to any parties that violate the preservation of the Santa Monica Mountains as detailed in each of these areas.

CA Audubon And California State University - Channel Islands. 2019. *Habitat Connectivity and Wildlife Corridor Project*. Available at:
https://ca.audubon.org/sites/default/files/vc_hwc_audubon_2019_3_29.pdf.

Presentation detailing the importance of preserving and enhancing habitat connectivity between natural areas. The intended results are to develop a standard for land use and to create developments that allow species to move between natural lands while still protecting property rights. Focuses on linkages and wildlife corridors in Ventura county, including the Santa Monica-Sierra Madre Linkage.

California Department of Fish and Wildlife. 2020. *Threatened and Endangered Species list*. Available at: <https://wildlife.ca.gov/conservation/cesa>

A list containing the status of both federally and state listed species, as well as species of special concern.

Casterline M., E. Fegraus, E. Fujioka, L. Hagan, C. Mangiardi, M. Riley, and H. Tiwari. 2003. *Wildlife Corridor Design and Implementation in Southern Ventura County, California*. Prepared by the Master of Environmental Science and Management Class of 2003. Prepared for the Donald Bren School of Environmental Science and Management at University of Santa Barbara.
Available at: <https://bren.ucsb.edu/projects/wildlife-corridor-design-and-implementation-southern-ventura-county>.

Project describing the methodology used to designate wildlife corridors between southern Ventura county and Los Padres National Forest. The report examines the feasibility of implementing a corridor by highlighting the relationship between ecological

and socioeconomic factors. A spatially explicit implementation plan is created to provide an array of corridor implementation strategies. This three-step process is intended to be a scalable solution used to design and implement wildlife corridors throughout the state of California.

Edeleman, P. 1991. *Critical wildlife corridor/habitat linkage areas between the Santa Susana Mountains, the Simi Hills and the Santa Monica Mountains*. Prepared for the Nature Conservancy.

Available at: <https://www.worldcat.org/title/critical-wildlife-corridorhabitat-linkage-areas-between-the-santa-susana-mountains-the-simi-hills-and-the-santa-monica-mountains/oclc/30554902>

A study describing critical Wildlife Corridor Linkage Areas between the Santa Susana Mountains, the Simi Hills, and the Santa Monica Mountains that identifies several important wildlife movement corridors in the area. The report describes and identifies the locations of important wildlife linkages on a series of maps based on field studies as well as regional and local aerial photography.

Goforth, R. R. 2000. *Local and landscape-scale relations between stream communities, stream habitat and terrestrial land cover practices*. Dissertation Abstracts International Part B: Science and Engineering 8:3682

Available at: <https://www.elibrary.ru/item.asp?id=5453980>

Provides information on the Watershed Habitat Evaluation and Biotic Integrity Protocol (WHEBIP), which was developed to assess watershed stream integrity. Future conservation strategies were developed using this protocol.

Hovore, F., T. Even, D. Wing, K. Penrod, R. Ramirez and T. Savaikie. 2008. *Santa Clara River Watershed Amphibian and Macroinvertebrate Bioassessment Project*. Los Angeles and Ventura Counties, California. Prepared for the Santa Clara River Trustee Council. Prepared by Wishtoyo Foundation. Available at: nrm.dfg.ca.gov

Report summarized sampling for amphibians and benthic macroinvertebrates in seven sites within the main stem of the Santa Clara River and four tributaries including Aliso, Escondido, lower Sespe and Santa Paula creeks. Three amphibian species were found in all locations (California chorus frog, Pacific chorus frog and California toad) but arroyo toad and California red-legged frog were not observed in the study sites although historically present even in the main stem. Invasive African clawed frogs and bullfrogs were documented throughout and are a serious threat.

Marlow, R. 2019. *Santa Clara River Steelhead Coalition – Quarterly Report: Jan – Mar 2019*. April 11th 2019. Available at: rmarlow@caltrout.org

Reporting discussing all activity of the Santa Clara River Steelhead Coalition. Details include the progress of its ongoing projects, meeting summaries and objectives, calls to action, and correspondence with its cooperating partners between January and March 2019.

Marlow, R. 2020. *Santa Clara River Steelhead Coalition – Quarterly Report: Jan – Mar 2020*. May 5th 2020. Available at: rmarlow@caltrout.org

Report discussing all activity of the Santa Clara River Steelhead Coalition. Details include the progress of its ongoing projects, meeting summaries and objectives, calls to action, and correspondence with its cooperating partners between January and March 2020.

Marlow, R. 2020. *Santa Clara River Steelhead Coalition – Quarterly Report: Jul – Sept 2020*. October 27th 2020. Available at: rmarlow@caltrout.org

Report discussing all activity of the Santa Clara River Steelhead Coalition. Details include the progress of its ongoing projects, meeting summaries and objectives, calls to action, and correspondence with its cooperating partners between July and September 2020.

Ng, S.J. 2000. Wildlife use of underpasses and culverts crossing beneath highways in southern California. MS Thesis, California State University Northridge, Northridge, CA. 58pp.

Ng, S. J., J. W. Dole, R. M. Sauvajot, S. P. Riley, and T. J. Valone. 2004. *Use of highway under crossings by wildlife in southern California*. Biological Conservation, 115(3):499-507.

Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0006320703001666>

Report providing evidence of undercrossing use by wildlife in southern California. The study includes data using motion activated cameras and concludes that wildlife was more likely to utilize the undercrossings if habitat was suitable on both sides.

Penrod, K., C. Cananero, P. Beier, C. Luke, W. Spencer and E. Rubin. 2004. *South Coast Missing Linkages Project: A Linkage design for the San Gabriel-Castaic Connection*. South Coast Wildlands, Idyllwild, CA. Available at: www.scwildlands.org

Report detailing a collaborative effort to identify potential routes between existing protected areas using landscape permeability (i.e., least cost corridor) analyses to identify the best potential movement routes allowing species to move between the San Gabriel and Castaic Ranges of the Angeles National Forest. This study is specific to the San Gabriel-Castaic Connection. The resulting maps and recommendations have been used to guide planning, acquisition, and management decisions.

Penrod, K., C. R. Cabanero, P. Beier, C. Luke, W. Spencer, R. Sauvajot, S. Riley and D. Kamradt. 2006. *South Coast Missing Linkages Project: A linkage design for the Santa Monica- Sierra Madre Connection*. Produced by South Coast Wildlands, Idyllwild, CA. www.scwildlands.org, in cooperation with National Park Service, Santa Monica Mountains Conservancy, California State Parks, and The Nature Conservancy. Available at: http://www.scwildlands.org/reports/scml_santamonica_sierramadre.pdf.

Report detailing collaborative effort to identify potential routes between existing protected areas using landscape permeability (i.e., least cost corridor) analyses to identify the best potential movement routes allowing species to move between wildlands in the Santa Monica, Simi Hills, Santa Susana, and Sierra Madre Ranges. This study is specific

to the Santa Monica-Sierra Madre Connection. The resulting maps and recommendations have been used to guide planning, acquisition, and management decisions.

Psomas. 2002. *Regional wildlife corridors, wildlife utilization, and open space in the Simi Valley region, Ventura and Los Angeles Counties, California*. Revised draft, June 17. Prepared for Unocal Land and Development Company by Psomas Natural Resources Group. Costa Mesa, California. June 17.

Riley, S.P., G.T. Busteed, L.B. Kats, T.L. Vandergon, L. F. Lee, R. Dagit, J.L Kerby, R.N. Fisher, and R.M. Sauvajot, 2005. *Effects of urbanization on the distribution and abundance of amphibians and invasive species in southern California streams*. Conservation Biology, 19(6):1894-1907.
Available at: <https://conbio.onlinelibrary.wiley.com/doi/full/10.1111/j.1523-1739.2005.00295.x>

Paper detailing the effects of urbanization on aquatic ecosystems and their faunal populations. The study was conducted within the Santa Monica Mountains National Recreation area, which is in the southernmost part of the linkage and study area. These results have been utilized for conservation and management planning within the area.

Riley, S.P., J. P. Pollinger, R. M. Sauvajot, E.C. York, C. Bromley, T. K. Fuller, and R. K. Wayne. 2006. *FASTTRACK: A southern California freeway is a physical and social barrier to gene flow in carnivores*. Molecular Ecology, 15(7):1733-1741.
Available at: <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1365-294X.2006.02907.x>

Report describing a study done of coyote and bobcat migration and their correlation with southern California highways. The study found that freeways can restrict gene flow even in wide-ranging species and suggests that for territorial animals, migration levels across anthropogenic barriers need to be an order of magnitude larger than commonly assumed to allow for genetic differentiation.

Riley, S.P., R. M. Sauvajot, T. K. Fuller, E. C. York, D. A. Kamradt, C. Bromley, and R. K. Wayne. 2003. *Effects of urbanization and habitat fragmentation on bobcats and coyotes in southern California*. Conservation Biology, 17(2):566-576.
Available at: https://www.researchgate.net/publication/227513029_Effects_of_Urbanization_and_Habitat_Fragmentation_on_Bobcats_and_Coyotes_in_Southern_California

Report detailing habitat fragmentation conditions of bobcats and coyotes in southern California due to urban development. Population ranges include in the SMMNRA and other areas within the linkage and study area.

Sauvajot, R.M., E. C. York, T. K. Fuller, H. S. Kim, D. A. Kamradt, and R. K. Wayne. 2000. *Distribution and status of carnivores in the Santa Monica Mountains, California: preliminary results from radio telemetry and remote camera surveys*. 2nd interface between ecology and land development in California, US. Geological Survey Open-File, Rep. 00-62:113-123.
Available at:
<https://books.google.com/books?hl=en&lr=&id=RAAlAQAAIAAJ&oi=fnd&pg=PA113>

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rnia:+preliminary+results+from+radio+telemetry+and+remote+camera+surveys&ots=fu
RPQAPkEw&sig=rPYDMDQ6Ns-B8ZFfWRY41ZcLj
Iw#v=onepage&q=Distribution%20and%20status%20of%20carnivores%20in%20the%2
0Santa%20Monica%20Mountains%2C%20California%3A%20preliminary%20results%2
0from%20radio%20telemetry%20and%20remote%20camera%20surveys&f=false

Report detailing preliminary results of carnivore research in the Santa Monica Mountains National Recreation Area. The methods include using radio telemetry and remote camera surveys to evaluate ranges and distributions of carnivores to see which species are affected by fragmentation conditions. Results of this study were utilized in park planning, land protection, and restoration efforts.

Sauvajot, R.M., M. Buechner, D.A. Kamradt and C.M. Schonewald. 1998. *Patterns of human disturbance and response by small mammals and birds in chaparral near urban development*. Urban Ecosystems, 2(4):279-297.

Available at: <https://link.springer.com/article/10.1023/A:1009588723665>

Report detailing habitat fragmentation conditions of small mammal and resident bird species in southern California due to urban development. Population ranges include in the SMMNRA and other areas within the linkage and study area.

South Coast Wildlands. 2008. South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion. 67pp. Available at <http://scwildlands.org/reports/SCMLRegionalReport.pdf>.

Report summarizing several individual linkage design reports addressing critically important landscape level connections across the South Coast Ecoregion, which are largely considered the backbone of a conservation strategy for southern California's wildlands.

Spencer, W.D., P. Beier, K. Penrod, K. Winters, C. Paulman, H. Rustigian-Romsos, J. Strittholt, M. Parisi, and A. Pettler. 2010. *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California*. Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highways Administration.

Available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18690&inline>.

Report detailing the collaborative effort between multiple agencies describing habitat connectivity throughout California. The report includes three products. 1. A statewide habitat connectivity map, 2. The data that was used to produce that map, and 3. Guidelines for future road development with local and regional connectivity plans in mind. The resulting maps were then compared to multiple other reports, and the resulting maps and recommendations have been used to guide management and planning efforts, especially those regarding transportation.

Stoecker, M. and E. Kelley. 2005. *Santa Clara River Steelhead Habitat Assessment and Recovery Opportunities Lower Santa Clara River Watershed*, Ventura and Santa Barbara Counties. Prepared for The Nature Conservancy and The Santa Clara River Trustee Council.

Available at: http://parkway.scrwatershed.org/wkb/scrbiblio/stoeckerkelley2005/attachment_download/StoeckerKelley2005_FinalReportUpdate1-17-06.pdf

Report detailing the habitat conditions, population status, and migration barriers of *Oncorhynchus mykiss* within the lower Santa Clara River watershed from the Piru Creek tributary to the areas downstream. The report summarizes the barriers that fall within the highest priority for removal category to improve fish passage between headwater habitats and the Pacific Ocean.

U.S. Fish and Wildlife Service. 1996. *California Condor Recovery Plan, Third Revision*. Portland, Oregon. 62 pp.

Available at: https://www.fws.gov/cno/es/calcondor/PDF_files/USFWS-1996-Recovery-Plan.pdf

Recovery plan that provides details on the efforts to conserve declining California condor populations. Details prehistoric, historic, and current ranges of the species. Areas of the linkage are included in the species current range, including the Sespe Wilderness and Los Padres National Forest.

U.S. Fish and Wildlife Service. 1998. *Draft Recovery Plan for the Least Bell's vireo*.

U.S. Fish and Wildlife Service, Portland, OR. 139 pp.

Available at: https://ecos.fws.gov/docs/recovery_plan/980506.pdf

Report detailing the status of the federally endangered Least bell's vireo. The primary reason for the decline of the species is attributed to habitat loss and parasitism by the *Molothrus ater*. Critical ranges for the species occur within the linkage and study area.

U.S. Fish and Wildlife Service. 2002. *Recovery Plan for the California Red-legged Frog (Rana aurora draytonii)*. U.S. Fish and Wildlife Service, Portland, Oregon. viii + 173 pp.

Available at: http://ecos.fws.gov/docs/recovery_plans/2002/020528.pdf

Report detailing the status of the federally endangered California red-legged frog. The primary causes for the decline of the species include habitat loss, predation by, and competition with non-native species, and the introduction of chytrid fungus. Critical ranges for the species occur within the linkage and study area.

U.S. Fish and Wildlife Service. 2002. *Southwestern Willow Flycatcher Recovery Plan*. Albuquerque, New Mexico. i-ix + 210 pp., Appendices A-O

Available at: https://www.fs.fed.us/rm/pubs_other/rmrs_2002_finch_d001.pdf

Report detailing the status of the federally endangered southwestern willow flycatcher. The primary reason for the decline of the species is attributed to habitat loss and parasitism by the *Molothrus ater*. Critical ranges for the species occur within the linkage and study area.

USFWS. 2011. *Final Rule Revised Critical Habitat for the Arroyo Toad*. Federal Register Vol. 76(27) February 9, 2011.

Available at: <https://www.govinfo.gov/content/pkg/FR-2011-02-09/pdf/2011-1703.pdf>

Provides details on the 98,366 acres of designated critical habitat to support Arroyo Toad populations in various watersheds and throughout various counties. Critical ranges for the species occur within the linkage and study area.

Wishtoyo Foundation and Cal Trout. 2019. *Santa Paula Creek Bacteria Sampling 2019*. Available at: rmarlow@calt trout.org

A report compiling the data of sampling results performed by Cal Trout and the Wishtoyo Foundation in response to concerns of *E. coli* concentrations. Samples were taken along Steckel County Park and Ventura Ranch KOA between May 2019 and November 2019. The report analyzes this data and concludes that although they found traces of bacteria, they are localized phenomena and do not pose a threat to the surrounding area.

Climate Resources

Dagit, R., T. Hartwig, C. Simon, J. Decruyenaere, D. LeFer, T. Scott, M. Witter, M. Ferriter, L. Jessup, R. Ly and J. Spector. 2019. *Los Angeles County Native Tree Priority Planting Plan for the Santa Monica Mountains National Recreation Area*. Final Report for Los Angeles County Contract #SPF03-03. Resource Conservation District of the Santa Monica Mountains, Topanga, CA. Available at: <https://www.rcdsmm.org/wp-content/uploads/2019/12/Los-Angles-County-SMMNRA-FINAL-Native-Tree-Priority-Planting-Plan-12.13.19.pdf>

Provides rationale and climate evaluated maps suggesting recommended priority planting areas for native trees throughout the Santa Monica Mountains.

Los Angeles County Department of Regional Planning. 2014. *Unincorporated Los Angeles County Community Climate Action Plan 2020*. Public Draft. January. Los Angeles. Prepared with assistance from ICF International. Available at: <https://planning.lacounty.gov/ccap/background>

Identifies goals and objectives to address pending climate changes in the county. Protecting and increasing carbon sinks using vegetation and protecting open spaces is one of the identified goals.

Point Reyes Bird Observatory (PRBO). 2011. *Projected effects of climate change in California: ecoregional summaries emphasizing consequences for wildlife. Version 1.0*. Prepared by PRBO. Available at: <http://data.prbo.org/apps/bssc/climatechange>

Summarizes projected impacts of climate change on temperature, precipitation, stream flow, fire, vegetation changes and threats to wildlife in ecoregions throughout the state.

Thorne, J. H., R. M. Boynton, A. J. Holguin, J. A. E. Stewart, and J. Bjorkman. 2016. *A climate change vulnerability assessment of California's terrestrial vegetation*. Final Report to California Department of Fish and Wildlife. Information Center for the Environment, University of California Davis.

Provides analysis of vegetation communities throughout the state and maps their vulnerability to various climate change scenarios. Chaparral, Foothill and Valley Forests

and Woodlands, and Riparian corridors are all examined, and the maps provide information for the Santa Clara River watershed and linkage area.

Cultural Resources

Bryne, S. 2012. *From the Stone Age to the Space Age: Santa Susana Field Laboratory Cultural History*. Proceedings of the Society for California Archaeology, Volume 26.

Available at:

<https://www.scahome.org/publications/proceedings/Proceedings.26Bryne.pdf>.

Report detailing the numerous prehistoric sites located within the current area of the Santa Susana Field Laboratory (SSFL). The report details the history of the area, from prehistoric sites, to the ranches in the 1800s, to the development of rocket engines in the 1900s.

California Wilderness Coalition. 2002. *Wild Harvest, Farming for Wildlife and Profitability: A Report on Private Land Stewardship*.

Available at: <https://www.worldcat.org/title/wild-harvest-farming-for-wildlife-and-profitability-a-report-on-private-land-stewardship/oclc/51677133>

A report on farming for wildlife and profitability with an emphasis on conservation and natural resources.

Knight, A. 2012. *Three Chumash-Style Pictograph Sites in Fernandeano Territory*. Proceedings of the Society for California Archaeology, Volume 26.

Available at: <https://scahome.org/publications/proceedings/Proceedings.26Knight.pdf>

Report detailing three sites with historical and cultural significance to the Chumash Tribe within the Simi Hills. The sites include the Burro Flats, the Lake Manor, and the Chatsworth sites. Each of them contains polychrome pictographs and other types of rock art, as well as well-developed midden piles abundant with artifacts.

Lawson, N., D. Theodoratus J. Whiteman, and the local Native American Communities 2017. *Ethnographic Overview of the Native American Communities in the Simi Hills and Vicinity*. Prepared for National Aeronautics and Space Administration.

Available at: https://ssfl.msfc.nasa.gov/files/documents/local/2017/SSFL_Ethnographic_Overview_public.pdf.

Report detailing the Native American cultural significance of the areas that include the Santa Susana Field Laboratory (SSFL). The goal of this study was to learn more about the historic Native American uses of the Burro Flats Site Complex, the SSFL, and the Simi Hills in response to the proposed demolition and cleanup activities.

Stevens, Clark., M. Sotona, M. Vestuto, D. Gandy, S. Cohen. (2020). *'alalpay - Institute of Archeo-Astronomy and Rocket Engineering Research Project*. Prepared by the Resource Conservation district of the Santa Monica Mountains for the Santa Ynez Band of Chumash Indians.

Available at: https://www.rcdsmm.org/wp-content/uploads/2020/06/Alalpay-Design-Booklet_Sam-Cohen.pdf

Research project describing the environmental, cultural and historical significance of “sky valley”, which shares the location with the Santa Susana Field Laboratory. It details proposed clean up plans, as well as hopeful plans to create an interpretive center for the public.

Planning Documents

AMEC Earth and Environmental. 2004. *Santa Clara River Natural River Management Plan*. Prepared for Ventura County Watershed Protection District, Los Angeles County Department of Public Works and SCREMP Project Steering Committee.

Available at: <http://parkway.scrwatershed.org/wkb/scrbiblio/scrempfinal.html>

This plan focuses on the cumulative impacts associated with the 1200 acres of drainages affected by the Newhall Ranch Development proposed for the next 20 years. The reaches affected include the south fork of the Santa Clara river, the mouth of Bouquet Creek, San Francisquito Creek and the river from Castaic Creek upstream to the confluence with the Bouquet Canyon Development.

AMEC Earth and Environmental. 2005. *Santa Clara River Enhancement Management Plan*. Prepared for Ventura and Los Angeles Counties and the SCREMP Project Steering Committee. Available at:

http://parkway.scrwatershed.org/wkb/scrbiblio/scrempfinal/attachment_download/SCREMP2005Final.pdf

This study provides guidance on managing the preservation, sustainability and enhancement of the 500-year floodplain zone in the mainstem of the Santa Clara river. The report focuses on preserving a continuous riparian corridor, restoring degraded areas, and management policies that prioritize maintaining and enhancing resources.

AMEC 2005. *Santa Clara River Watershed Project Management Plan (Reconnaissance and Feasibility)*.

Available at: http://parkway.scrwatershed.org/wkb/scrbiblio/scrempfinal/attachment_download/SCREMP2005Final.pdf

Focused primarily on flood control management, this study provides technical background to better understand the integration of development and water resource and quality protection.

California Department of Parks and Recreation. 2008. *Santa Susana Pass State Historic Park Administrative Draft Final Environmental Impact Report*. SCH#2006061092.

January 2008. Available at:

<http://www.parks.ca.gov/pages/21299/files/administative%20draft%20web%20post.pdf>

Provides guidance for the preservation and restoration of Santa Susana Pass State Historic Park including biological, cultural and trail resources.

Craig, K., S. Jenniches, P. Johnson and J. Lee. 2009. *Re-imagining Access: ARCS of Experience for the Santa Clara River*. *Santa Clara River Parkway Vision Plan*. Prepared for California State Coastal Conservancy. Prepared by Cal Poly Pomona Department of Landscape Architecture Studio 606. Available at:

http://wcvc.ventura.org/documents/PDF/SCRW/Santa_Clara_River_Parkway_Vision_Plan_Studio_606_2009.pdf

Presentation outlining the objectives and goals of the Santa Clara River Parkway Vision Plan. These include restoring hydrologic and geomorphic processes that create habitat, providing flood protection to adjacent lands, and supporting public access and recreation opportunities within the area.

Diggory, Z., S. Araya and E. Panzer. 2011. *Santa Clara River Parkway Restoration Strategy maps – an integrated tool for managing and restoring parkway parcels.*

Presentation for the Santa Clara River Parkway Workshop 8 September 2011. Stillwater Sciences. Available at: <http://parkway.scrwatershed.org/parkwayplanning.html>

Article describing the Santa Clara River Parkway Project. The goals of this project were to acquire, conserve, and restore floodplain lands within the Santa Clara River Corridor. Currently, over 3,000 acres and 15 miles of river corridor have been acquired, out of the eventual goal of 6,000 acres and 25 miles.

Los Angeles County. 2015. *Los Angeles County General Plan*. Adopted October 2015. Available at: https://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf

General plan providing details on policy, goals, and framework for unincorporated areas of Los Angeles County. This is an update to the County's plan that was published in 1980.

Los Angeles County. 2019. *Significant Ecological Areas Ordinance*. Adopted December 2019. Available at: <https://planning.lacounty.gov/site/sea/2020/02/19/new-sea-ordinance-is-now-in-effect/>

Ordinance describing the new permitting requirements, development standards, and review processes for any proposed developments within Los Angeles County Significant Ecological Areas.

Los Angeles County. 2020. *Santa Monica Mountains North Area Plan*. Adopted December 2020. Available at: <https://planning.lacounty.gov/smmnap>

Provides guidelines for development in the 32 square mile area extending from the Santa Monica Mountains Local Coastal Plan boundary north.

LSA Associates, Inc. 2004. Final wildlife corridor assessment Ventura state route 118. Prepared for Caltrans District 7 Division of Environmental Planning.

National Marine Fisheries Service. 2012. *Southern California Steelhead Recovery Plan*. Available: <https://repository.library.noaa.gov/view/noaa/15988>

Provides historical background, threat assessments, and recovery actions for southern steelhead trout populations found between the Santa Maria River and the Tijuana River.

National Park Service. *Final General Management Plan and Environmental Impact Statement Santa Monica Mountains National Recreation Area, California*. Vol 1. And 2 Available at: <https://www.nps.gov/samo/learn/management/loader.cfm?csModule=security/getfile&PageID=383979>

Provides the framework and priorities guiding management of the Santa Monica Mountains National Recreation Area.

National Park Service. 2016. *Rim of the Valley Corridor Special Resource Study*.

Available at: <http://npshistory.com/publications/samo/srs-summary.pdf>

Study detailing the addition of the Rim of the Valley Corridor to the Santa Monica Mountains National Recreation Area. The Study area includes parts of the SMMNRA, Angeles National Forest, San Gabriel Mountains National Monument, and multiple other managed and conserved lands. The proposed unit will contribute to recreational opportunities, habitat conservation and wildlife corridors, scenic landscapes, sites of historical and archaeological importance, and geologic and palaeontologic resources.

The Nature Conservancy. 2007. Upper Santa Clara River Watershed Conservation Plan

Available at:

https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjLxPrj_d_tAhXGGzQIHU2RD5AQFjAAegQIBhAC&url=https%3A%2F%2Fwww.cer.c.usgs.gov%2Forda_docs%2FDocHandler.ashx%3Ftask%3Dget%26ID%3D1315&usg=AOvVaw1WAEvFd9CSNL5WWdVhf11L

Plan detailing the efforts to preserve the upper watershed of the Santa Clara River. The plan highlights long and short-term goals, where success would mean the protection of the land, control of invasive species, restoration of key sites, and the implementation of land use planning and policy.

Santa Clara River Trustee Council. 2002. *Santa Clara River Trustee Council Restoration Plan*. Available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=17205>

This restoration plan emerged from a 1997 settlement that provides direction for land acquisition/conservation easements, invasive species removal, a grant program for restoration projects, education and outreach information and watershed evaluation and monitoring.

Santa Monica Mountains Conservancy. 2020. *Strategic Objectives*.

Available at: <http://smmc.ca.gov/objectives.html>

Lists the objectives for the SMMC which include implementation of the Santa Monica Mountains Comprehensive Plan (1979) and implementing the Rim of the Valley Trails Corridor Master Plan.

Stillwater Sciences. 2005. *Santa Clara River Parkway Floodplain Restoration Feasibility Study Final Report*. Prepared for the California State Coastal Conservancy.

Available at: http://parkway.scrwatershed.org/wkb/scrbiblio/techreportreference.2008-11-03.4888377697/attachment_download/Feasibility%20report_FINAL_compressed.pdf

Report detailing the feasibility of the floodplain restoration goals included in the Santa Clara River Parkway Vision. The report states that a restoration strategy including both passive and active components is necessary to improve instream habitat and aquatic habitat availability and diversity.

United Water Conservation District. 2009. *Santa Clara River Watershed Habitat Conservation Plan*. Available at: http://wvcv.ventura.org/documents/PDF/SCRW/Santa_Clara_River_Habitat_Conservation_Plan_Development_2009_presentation.pdf

Powerpoint presentation outlining the process for procuring an Incidental Take permit and creating habitat conservation plan for steelhead trout recovery and passage.

Ventura County. 2019. *Final General Plan Amendment Resolution*.

Available at: https://docs.vcrma.org/images/pdf/planning/HCWC/Resolution_19-15.pdf

Revises the resource appendix and adds background information on habitat connectivity and wildlife corridors including maps and zoning changes.

Ventura County. 2019. *Ordinance 4537 Habitat connectivity and Wildlife Corridors and the Critical Wildlife Passage area overlay zones*

Available at: https://docs.vcrma.org/images/pdf/planning/HCWC/Ordinance_4537.pdf

Guidelines for Ordinance 4537 passed in 2019 that outlines codes and standards protecting wildlife corridors, the habitat surrounding these corridors, and procedures to prevent the disturbance of such zones.

Ventura County. 2019. *Ordinance 4539 Newly-established habitat connectivity and wildlife corridors overlay zone and/or critical wildlife passage areas overlay zone*

Available at: https://docs.vcrma.org/images/pdf/planning/HCWC/Ordinance_4539.pdf

Amendment ordinance that classifies zones within the newly defined wildlife corridors.

Threat Studies

Santa Susana Field Laboratory: *Order on Consent for Interim Response Action for the Radioactive Materials Handling Facility*. Remote community meeting. 11 Jun. 2020.

Available at: https://dtsc.ca.gov/sitecleanup/santa_susana_field_lab/ssfl_whats_new/

Remote meeting detailing planned cleanup and response efforts at the radioactive materials handling facility within the Santa Susana Field Lab.

Mooney, H. and E. Zavaleta. 2016. *Ecosystems of California*. Univ of California Press.

Available at:

https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwilrfTl7uHtAhXOGjQIHbuFC0IQFjAAegQIBhAC&url=http%3A%2F%2Fcalnat.ucanr.edu%2Ffiles%2F263126.pdf&usg=AOvVaw3E98EFm99EpaH_xXqwl_Ru

Report detailing threats and recommended responses specific to the unique southern California ecosystem. These threats include wildfires, native soil degradation, atmospheric pollution, climate change, biodiversity loss, invasive species, etc. Additionally, the report breaks down the threat categories by southern California ecosystems, including estuaries, intertidal zones, coastal sand dunes, coastal sage scrub, grasslands, oak woodlands, wetlands, and more. The report ultimately recommends a new ecosystem stewardship framework that is based on resiliency.

Stevens, Clark P. 2013.” Comments on the Draft Environmental Impact Study (DEIS) for Demolition and Environmental Cleanup Activities for the NASA-administered portion of the Santa Susana Field Laboratory (SSFL), Ventura County, California”. Received by SSFL Project Director at NASA Allen Elliott, Resource Conservation District of the Santa Monica Mountains, 1 Oct. 2013.

Available at: <https://www.rcdsmm.org/resources/reports-and-publications/>

A letter addressed to the Draft Environmental Impact Study (DEIS) project director at NASA from the Resource Conservation District of the Santa Monica Mountains in response to a proposed plan of remediation and clean-up within the area. The letter addresses that plan does not thoroughly investigate the consequences of the remediation to the surrounding ecosystem, nor does it address any potential alternatives. The letter then details possible alternatives the project may consider that account for the possible damage to the surrounding area.

Stevens, Clark P. “Comments on the Draft Programmatic Agreement Among NASA, the CSHPO, and the Advisory Council on Historic Preservation”. Received by SSFL Project Director at NASA Allen Elliott, Resource Conservation District of the Santa Monica Mountains, 17 Jan. 2014.

A letter addressed the Santa Susana Field Lab project director with NASA from the Resource Conservation District of the Santa Monica Mountains in response to the Draft Programmatic Agreement Among NASA, the CSHPO, and the Advisory Council on Historic Preservation. The letter requests a revision of the Draft PA that defers demolition until 2016 to preserve architecturally and historically important artifacts.

Stevens, Clark P. “Draft Program Environmental Impact Report for the Santa Susana Field Laboratory Project”. Received by the Director of the California Department of Toxic Substances Control Barbara A. Lee, Resource Conservation District of the Santa Monica Mountains, 7 Dec. 2017.

A letter addressed to the Director of the Draft Program Environmental Impact Report for the Santa Susana Field Laboratory Project from the Resource Conservation District of the Santa Monica Mountains in response to a proposed plan of remediation and clean up with in the area. The letter recommends that the plan be revised to include at least one risk-based alternative that would result in the land becoming a recreational open space and critical habitat linkage area.

Appendix B – GIS File Metadata

Audubon Important Bird Areas

Description: This map indicates the location and conservation priority of Important Bird Areas throughout the U.S. BirdLife International is a global coalition of more than 100 country partner organizations. The Important Bird Areas Program was initiated by BirdLife International in Europe in the 1980's. Since then, over 8,000 sites in 178 countries have been identified as Important Bird Areas, with many national and regional IBA inventories published in 19 languages. Hundreds of these sites and millions of acres have received better protection as a result of the Important Bird Areas Program.

As the United States Partner of BirdLife International, the National Audubon Society administers the IBA Program in the U.S. Audubon launched its Important Bird Areas initiative in 1995, establishing programs state by state. State-based IBA programs provide conservation leaders with the flexibility to tailor the program to their individual state needs, and they also give Audubon members and local volunteers the greatest opportunities to protect sites in their communities. Conservation activities are being conducted at many of these IBAs. A U.S. IBA Committee has been established to review IBA data and assures the credibility of all IBAs of continental or global significance

Dates: Created August 4, 2015. Updated February 26, 2020

Credits: National Audubon Society,
http://www.landscape.org/map_descriptions/plants_animals/iba/27030/

Point of Contact:

Person's Name: Nicholas Moy

Organization's Name: Natureserve

Data URL https://gis.audubon.org/arcgisweb/rest/services/NAS/ImportantBirdAreas_Polygon/MapServer:

Data Type: Shapefile, polygon

Field Definitions:

OBJECTID: unique identifier

Shape: geometry

Acres: area in acres

Hectares: area in hectares

IBA_Names: name of important bird area

Accuracy_M: GPS accuracy in meters

Scale: map scale

Audubon_co: Conservation status of area

Region: region

Chapter: Audubon chapter

IBA_Code: unique IBA identifier

IBA_Name: name of IBA

Access Constraints: Public

Use Constraints: Public

Data Distribution: Public

Progress: In progress

File Location & Name:

Location – G:\Projects2020Forward\4032_Linkage_AnalysisDec2020\SHp_GDB

Name: Audubon_IBA.shp

Keywords:

Theme: IBA, IBAs, Important areas, global, continental, state, bird, Audubon

Place: USA

The California Conservation Easement Database (CCED)

Abstract: The California Conservation Easement Database (CCED) contains lands protected under conservation easements. It is a parallel data set to the California Protected Areas Database (CPAD), which covers protected areas owned in fee. CCED is maintained and published by GreenInfo Network (www.greeninfo.org)

Dates: The first version of the CCED database was released in April 2014, the latest update is from June 2020.

Point of Contact:

E-Mail Address: cpad@calands.org

Data URL: <https://data.cnra.ca.gov/dataset/california-conservation-easement-database>

Credit: CCED, Greeninfo Network

Data Type: Shapefile; Polygon

Field Definitions:

Object ID: Unique Identifier for GIS dataset

Ease_label: Type of easement (all conservation easements)

SiteName: Name of the easement site

S_emthd1: Organization responsible for easement

Eholdtype: Type of easement

Pubaccess: Closed/Open/Restricted access

Duration: Duration of easement

Comments: Comments on easement polygon

Project ID: Unique identifier for the project

Dtmboardap: Year of approval

County: County location of easement

Src_align: Where data was acquired

Src_attr: Where attribute data was acquired

Cced_id: Unique cced identifier

Nced_uid: Unique nced (national) identifier

Gis_acres: Size of easement in acres as calculated by GIS software

Year_est: Year easement was acquired

Datentry: date when data was entered

E_type: Easement type

Shape_length: perimeter of polygon as calculated by GIS software

Shape_area: Area of polygon as calculated by GIS software

Access Constraints: Public

Use Constraints: Public

Data Distribution: Public

Progress: In progress. Last updated August 12, 2020.

Update Frequency: Twice annually

File Location & Name:

Location: G:\Projects2020Forward\4032_Linkage_AnalysisDec2020\SHp_GDB

Names: CCED_2020a

Keywords:

Theme: Conservation, easements, open space, parks, protected lands, public lands

Place: California

California Fish Passage Assessment Database (ds69)

Summary: The Passage Assessment Database (PAD) is an ongoing inventory of known and potential barriers to anadromous fish in California. It compiles currently available fish passage information from more than two hundred data sources, and allows past and future barrier assessments to be standardized and stored in one place. The inventory is to be used to identify barriers suitable for removal or modification to restore spawning and riparian habitat for salmon and steelhead, and to enhance aquatic and riparian habitat. The PAD is intended to be compatible with a variety of other data sets related to anadromous fish issues. PAD records are saved with geographic location information. Each barrier record is indexed to the 24k high-resolution NHD allowing the user to combine the PAD with other fisheries data tied to the same hydrography.

Description: The Passage Assessment Database (PAD) geospatial file contains locations of known and potential barriers to salmonid migration in California streams with additional information about each record. The PAD is an ongoing map-based inventory of known and potential barriers to anadromous fish in California, compiled and maintained through a cooperative interagency agreement. The PAD compiles currently available fish passage information from many different sources, allows past and future barrier assessments to be standardized and stored in one place, and enables the analysis of cumulative effects of passage barriers in the context of overall watershed health. The database is set up to capture basic information about each potential barrier. It is designed to be flexible. As the database grows, other modules may be added to increase data detail and complexity. For the PAD to be useful as a restoration tool, the data within the PAD need to accurately depict the on-the ground reality of fish passage constraints. This requires the PAD to retrieve new barrier data and updates to existing sites and to have verified and vetted the information it receives. In 2013, new PAD data standards were designed to standardize this process, and refine the data in PAD making the data more robust. The standard is available online at: <https://nrmsecure.dfg.ca.gov/FileHandler.ashx?DocumentID=78802>. The new standards have been implemented for all new records since 2013. In the future, the new standards will be implemented for all existing records. If after reading the metadata, additional details about the PAD project are needed, please visit the CalFish website at www.calfish.org/PAD or refer to the PAD Methodology document at <http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=19037>.

Credit: Since the inception of the Passage Assessment Database, funding for the compilation of these data have been provided by the California Coastal Conservancy, U.S. Fish and Wildlife Service (USFWS), NOAA Fisheries and the California Department of Fish and Wildlife (CDFW). The CDFW Fisheries Restoration Grant Program is one of the most recent and longest funders of the PAD. The USFWS has recently provided funding for the compilation of miles upstream, etc. Pacific States Marine Fisheries Commission staff manage and compile data into this dataset. Datasets were collected and supplied by multiple agencies and organizations, and the PAD would not be possible without these datasets (see the "Source Citation" element (srccite) for more information). We would like to thank Daniel Wierich from the United States Geological Service for metadata support. He reviewed and edited the metadata for compliance with the Federal Geographic Data Committee Content Standard for Digital Geospatial Metadata.

Dates: Created September 25, 2020

Point of Contact:

Person's Name: Joel Boros

Organization Name: California Department of Fish and Wildlife

Telephone Number: (916) 445-2438

E-Mail Address: Joel.Boros@wildlife.ca.gov

Data URL: <https://map.dfg.ca.gov/metadata/ds0069.html>

Data Type: Shapefile, point

Field Definitions:

Object ID: unique identifier

Shape: feature geometry

PAD_ID: unique identifier

PassageID: unique identifier
 StreamName: name of the stream
 TributaryT: Name of main tributary outlet
 SiteName: name of site
 SiteType: type of fish passage feature
 BarStatus: status of fish passage feature
 Species: species of fish affected
 Lifestage: life stage of fish affected
 Direction: direction of fish movement
 NumStructure: number of structures included
 Protocol: protocol used to assess feature
 AssessedBy: organization assessing passage feature
 SurveyDate: data assessed
 TrtStatus: state of feature
 YrTreated: year the feature was treated

TreatedBy: organization treating the feature
 StructOwner: owner of feature or structure
 Landowner: owner of the land the feature or structure is on
 FishWayType: type of passage
 Watershed: watershed feature is in
 County: county feature is in
 CalWatHR: California water main division
 CalWatHA: California water subdivision
 CalWatHSA: California water subdivision
 CalWatNo: California water number
 NHDCOMID: unique identifier
 LLID: unique identifier
 Point_X: X value
 Point_Y: Y value
 Miles_upstream: distance upstream

Access Constraints: Public

Use Constraints: The PAD is a database of ongoing inventory of fish passage assessments related to fish passage in California. Since it is an inventory of assessments; the PAD includes information on known and potential barriers, non-barriers, remediated sites, and unscreened diversions which can impede fish passage. Known barriers (that is, total, partial, temporal, total and partial, total and temporal records) should be parsed or queried from the dataset, and reported as the number of barriers in California. Records with unknown or unassessed passage status, have the potential to block fish passage, and should be reported as potential barriers. Contact the PAD Administrator (Anne.Elston@wildlife.ca.gov), if you have questions about using, reporting or analyzing data in this dataset. The data in the PAD are a reflection of the datasets that have been found to date by PAD staff, not the actual state of fish passage in streams. Refer to "Data Quality" (dataqual) for information regarding data quality and limitations of this dataset. The PAD was intended to track the anadromous fish passage assessments in California; however, over time passage assessments related to non-anadromous species and some passage assessments outside of California have been added to the PAD. Per the current PAD data standards,

<https://nrmsecure.dfg.ca.gov/FileHandler.ashx?DocumentID=78802>, both will be maintained in the dataset but not added to the PAD anymore. Additionally, it should be noted that many fish passage assessments recorded in the PAD are outside of the current species range and within their historical range. National Oceanic and Atmospheric Administrations (NOAA) Distinct Population Segment boundaries, http://www.westcoast.fisheries.noaa.gov/maps_data/species_population_boundaries.html, along with the PAD, can be used to indicate barriers below major rim dams and within the species current geographic area.

Data Distribution: Public

Progress: incomplete

File Location & Name:

Location: G:\Projects2020Forward\4032_Linkage_AnalysisDec2020\SHp_GDB
Name: ds69.gdb

Keywords:

Theme: Habitat fragmentation, Coastal, Streams, Habitat connectivity, Anadromous species, Passage assessments, Stream flow, Dams, Road crossings, Barriers (structures), Culvert, Steelhead, Diversion,
Place: California

California Important Farmland: 2018

Abstract: These data include the counties released for the 2018 data year up through the most recent release. Established in 1982, Government Code Section 65570 mandates FMMP to biennially report on the conversion of farmland and grazing land, and to provide maps and data to local government and the public. The Farmland Mapping and Monitoring Program (FMMP) provides data to decision makers for use in planning for the present and future use of California's agricultural land resources. The data is a current inventory of agricultural resources. This data is for general planning purposes and has a minimum mapping unit of ten acres.

Purpose: The Farmland Mapping and Monitoring Program (FMMP) provides data to decision makers for use in planning for the present and future use of California's agricultural land resources. The data is a current inventory of agricultural resources. This data is for general planning purposes and has a minimum mapping unit of ten acres.

Dates: Created June 7, 2016, last updated 2018

Point of Contact:

Organization's Name: California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program

Telephone Number: (916) – 327 -0850

E-Mail Address: fmmp@conservation.ca.gov

Data URL:

<https://gis.conservation.ca.gov/portal/home/item.html?id=16e43ece55474ca4a4f705ab4f64cb98>

Data Type: Shapefile; polygon

Field Definitions:

Shape: feature geometry

Upd_year: year last updated

County_na: name of the county

Polygon_ac: acreage

Shape_leng: length of polygon

Shape_area: area of polygon

Polygon_ty: type of farmland

Access Constraints: Public

Use Constraints: This data does not reflect general plan or zoning designations, city limit lines, changing economic or market conditions, or other factors which may be taken into consideration when land use policies are determined. This data is not designed to be used for parcel specific planning purposes due to its scale and the size of the minimum mapping unit (10 acres). The Department of Conservation makes no warranties as to the suitability of this data for any particular purpose.

Data Distribution: Public

Progress: In progress

Update Frequency: Biannually

File Location & Name:

Location: G:\Projects2020Forward\4032_Linkage_AnalysisDec2020\SHP_GDB

Name: losangeles2018.shp and ventura2018.shp

Keywords (optional):

Theme: farmland, California farmland, farmland monitoring, urbanization, land use, agriculture, conservation FMMP, important farmland, prime farmland

Place: California

California Natural Diversity Database

Abstract: The **California Natural Diversity Database (CNDDDB)** is an inventory of the status and locations of rare plants and animals in California. CNDDDB staff work with partners to maintain current lists of rare species, as well as to maintain an ever-growing database of GIS-mapped locations for these species.

Dates: Last updated December 1, 2020

Point of Contact:

Person's Name: Kristine Spencer

Organization's Name: California Department of Fish and Wildlife

Telephone Number: (916)-322-2493

E-Mail Address: Kristine.Spencer@wildlife.ca.gov

Data URL: <https://wildlife.ca.gov/Data/CNDDDB/Maps-and-Data>

Data Type: Shapefile; polygon

Field Definitions:

Shape: feature geometry

Object ID: unique identifier

SNAME: scientific name

CNAME: common name

Sensitive: species information quantified as sensitive

FEDLIST: federal listing classification

CALLIST: California state listing classification

SRANK: State rank

THREAT: potential threats to the species in a specific area

GENERAL_: general comments

Symbology: designated symbology

Access Constraints: Subscription needed

Use Constraints: Depending on the scale of the map, CNDDDB data can be displayed or summarized in some form. The concern is that, while it is important that the CNDDDB information is available to those whose job it is to conserve species, there is the very real possibility that some people will use the detailed location information to do harm to a species or its habitat. Because of the sensitivity of the data, we try to limit the level of location detail that is made readily available to the public. Please abide by the following guidelines when displaying CNDDDB data: Symbology: Always use the standard CNDDDB symbology.

Data Distribution: Disclaimer/Date: Always include the CNDDDB disclaimer on your map, along with the month/year of the dataset you are using. The disclaimer text is: *"CNDDDB version MM/YYYY. Please Note: The occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not yet been surveyed and/or mapped. Lack of information in the CNDDDB about a species or an area can never be used as proof that no special status species occur in an area."* For maps at a scale larger than 1:350,000: At any scale larger (more zoomed in) than 1:350,000 the polygon layer should not be shown on a public map. This is because at scales larger than 1:350,000, there is enough detail for a user to easily determine exactly where a species is located and that is what we are trying to prevent.

Progress: In progress

Update Frequency: Monthly

File Location & Name:

Location: G:\Projects2020Forward\4032_Linkage_AnalysisDec2020\ SHP_GDB

Name: CNDDDB.shp

Keywords:

Theme: California Natural Diversity Database, CNDDDB

Place: California

The California Protected Areas Database (CPAD)

Abstract: The California Protected Areas Database (CPAD) is a GIS database of lands that are owned in fee and protected for open space purposes by over 1,000 public agencies or non-profit organizations. It is the authoritative GIS database of parks and open space in California. CPAD is maintained and by GreenInfo Network (www.greeninfo.org).

Credit: CPAD, Greeninfo Network

Dates: Created June 17, 2020

Point of Contact:

E-Mail Address: cpad@calands.org

Data URL: https://data.cnra.ca.gov/dataset/0ae3cd9f-0612-4572-8862-9e9a1c41e659/resource/5de6b92d-0534-422f-816e-45dbc1c48104/download/cpad_2020a.zip

Data Type: Shapefile; polygon

Field Definitions:

FID: Unique identifier for GIS dataset

Shape: Shapefile shape – polygon

Holding_ID: unique identifier for the holding

Access_TYP: Type of access permitted in area

Unit_ID: Unique identifier for the unit

SUID_NMA: Unique identifier for superunit

AGENCY_ID: Unique identifier for the responsible agency

AGENCY_NAME: Name of responsible agency

AGENCY_LEV: Level of agency

AGENCY_TYP: Type of agency

AGENCY-WEB: Agency's website

LAYER: Type of holding

MNG_AG_ID: Unique identifier of the managing agency

MNG_AG_LEV: Level of the managing agency

MNG_AG_TYP: Managing agency type

SITE_NAME: Name of the site

ALT_SITE_N: Alternate site name

PARK_URL: Public land website

LAND_WATER: Indicates if area is on land or water

CITY: City location

COUNTY: County location

ACRES: Size of area in acres

LABEL_NAME: GIS label display text

DATE_REVIS: Last revision date

SRC_ATTR: Where attribute data was acquired

SRC_ALIGN: Where data was acquired

YR_PROTECT: Year area became protected

YR_EST: Year the area was established

DES_TP: Type of area

Access Constraints: Public

Use Constraints: Public

Data Distribution: Public

Progress: In progress. Last updated August 12, 2020

Update Frequency: Semiannual

File Location & Name:

Location: G:\Projects2020Forward\4032_Linkage_AnalysisDec2020\SHp_GDB

Names: CPAD_2020a

Keywords:

Theme: Open space, parks, protected lands, public lands

Place: California

CDFW Terrestrial Connectivity – ACE – [ds2734]

Summary: Terrestrial Connectivity, Areas of Conservation Emphasis (ACE), version 3.1. Last updated 08/21/2019. The Terrestrial Connectivity dataset is one of the four key components of the California Department of Fish and Wildlife (CDFW) Areas of Conservation Emphasis (ACE) suite of terrestrial conservation information along with terrestrial Biodiversity, Significant Habitats, and Climate Resilience. The Terrestrial Connectivity dataset summarizes information on terrestrial connectivity by ACE hexagon including the presence of mapped corridors or linkages and the juxtaposition to large, contiguous, natural areas. This dataset was developed to support conservation planning efforts by allowing user to spatially evaluate the relative contribution of an area to terrestrial connectivity based on the results of statewide, regional, and other connectivity analyses.

Credit: California Terrestrial Connectivity update, June 30, 2019: California Department of Fish and Wildlife, Conservation Analysis Unit. ACE 3 Working Group and ACE 3 Development Team, California Department of Fish and Wildlife. ACE 3 Connectivity Subgroup: Melanie Gogol-Prokurat, Shannon Lucas, Steve Torres, Sandra Hill, Peter Perrine, Karen Miner, Elizabeth Hubert, Stuart Itoga, and Kristi Cripe. Statewide datasets: Natural Landscape Blocks California Essential Habitat Connectivity Analysis [ds621] (Spencer et al. 2010) Essential Connectivity Areas - California Essential Habitat Connectivity Analysis [ds620] (Spencer et al. 2010) Terrestrial Landscape Intactness (1km) - 2016 [ds2670], <https://databasin.org/datasets/e3ee00e8d94a4de58082fdb91248a65> Omniscap (TNC 2018) <https://www.scienceforconservation.org/science-in-action/connectivity-roadmap> Regional datasets: South Coast Missing Linkages [ds419] (South Coast Wildlands 2008) Wildlife Linkages San Joaquin Valley [ds417] (Endangered Species Recovery Program 1996; USFWS 1998, Table 11) Habitat Connectivity Ventura County [ds565] (subset of South Coast Missing Linkages, ds419; South Coast Wildlands 2008) Linkage Design for the California Desert Linkage Network [ds822] (Penrod et al. 2012) Linkage Design for the California Bay Area Linkage Network [ds852] (Penrod et al. 2013) Northern Sierra Nevada Foothills Wildlife Linkages [ds1005] (Krause et al. 2015) Northern Sierra Nevada Foothills Riparian Corridors [ds1018] (Krause et al. 2015) Core Linkages Region 5 Connectivity Monitoring Strategic Plan [ds2698] (SDMMP and TNC 2017, Volume 2B, Section 8) Core Habitat Areas Region 5 Connectivity Monitoring Strategic Plan [ds2697] (SDMMP and TNC 2017, Volume 2B, Section 8) Central Valley Core Reserved and Corridors [ds2693] (Huber et al, UC Davis) Focused Planning Areas Northwestern San Diego County [ds2770] Orange County Reserves [ds2699] (County of Orange 1996, Section 4.4) Mayacamas to Berryessa [ds2819] Coyote Valley and Santa Clara Valley [ds2823] Modoc Habitat Connectivity (Gallo et al., Conservation Biology Institute, 2019)

Dates: Created October 26, 2017, updated August 21, 2019

Point of Contact:

Person's Name: Melanie Gogol-Prokurat

Organization's Name: California Department of Fish and Wildlife

Telephone Number: (916) 324 - 9265

E-Mail Address: melanie.gogol-prokurat@wildlife.ca.gov

Data URL:

<https://map.dfg.ca.gov/metadata/ds2734.html#:~:text=The%20Terrestrial%0D%20Connectivity%20dataset%20is%20one%20of%20the,with%20terrestrial%20Biodive%0Drity%2C%20Significant%20Habitats%2C%20and%20Climate%20Resilience.>

Data Type: Shapefile; polygon

Field Definitions:

ObjectID: unique identifier for GIS data

Shape: field geometry

HEX_ID: unique identifier for each hexagon in the dataset

Connectivity_rank: ACE Rank 1-5

Linkage_dataset: 1st of lineage dataset that overlap in each hexagon

NLB_pcmt: natural landscape block percent; percent of hexagon that is covered by a natural landscape block

Sq_Miles: area in square miles

Eco_Sect: code for the USDA ecoregion in which the majority of the hexagon falls in

Eco_Name: the name of the USDA ecoregion that the majority of the hexagon fall in

Jepson_eco: the name of the Jepson ecoregion in which the majority of the hex falls in

County: the name of the county that the majority of the hex falls in

Pct_channelized _omniscap: percent of hexagon mapped as channelized by Omniscap model (TNC 2018)

Species_movement: List of species for which priority wildlife movement data is available within the hexagon, such as corridors or road crossing locations based on gps collars, and roadkill hotspot information.

Shape.STArea(): Area of hexagon calculated by GIS

Shape.STLength(): Length of hexagon calculated by GIS

Access Constraints: Public

Use Constraints: The ACE data is subject to certain assumptions and limitations that must be considered in any use or application of the data. All ACE data layers are limited by the accuracy and scale of the input data. ACE is a compilation of the best available scientific information; however, many of these datasets are not comprehensive across the landscape, may change over time, and should be revised and improved as new data become available.

The user accepts sole responsibility for the correct interpretation and use of these data, and agrees not to misrepresent these data. CDFW makes no warranty of any kind regarding these data, express or implied. By downloading these datasets, the user understands that these data are in draft condition and subject to change at any time as new information becomes available. The user will not seek to hold the State or the Department liable under any circumstances for any damages with respect to any claim by the user or any third party on account of or arising from the use of data or maps. CDFW reserves the right to modify or replace these datasets without notification.

The ACE maps display biological and recreational values based on available data and constrained by the limitations of the data. The values may be influenced by level of survey effort in a given area. The ACE data represent broad-scale patterns across the landscape, and the value of any single hexagon should be interpreted with caution. ACE is a decision-support tool to be used in conjunction with species-specific information and local-scale conservation prioritization analyses.

The ACE maps do not replace the need for site-specific evaluation of biological resources and should not be used as the sole measure of conservation priority during planning. No statement or dataset shall by itself be considered an official response from a state agency regarding impacts to wildlife resulting from a management action subject to the California Environmental Quality Act (CEQA).

Progress: In progress

File Location & Name:

Location: G:\Projects2020Forward\4032_Linkage_AnalysisDec2020\SHp_GDB

Names: ds2734.gdb

Keywords:

Theme: terrestrial, biodiversity, native, richness, rare, endemic, sensitive habitat, ACE, riparian, wetland, rare natural community, game, bird, reptile, amphibian, mammal, plant

Place: California

ESRI USA Detailed Streams

Description: This layer presents detailed rivers and streams in the United States. It provides a database of linear water features that interconnects and identifies the stream segments or reaches that comprise the surface water drainage system of the United States.

Credits: Esri; National Hydrography Dataset – U.S. Geological Survey in cooperation with U.S. Environmental Protection Agency

Dates: Created November 5, 2010, updated June 18, 2019

Point of Contact:

Organization's Name: ESRI

Data URL: <https://www.arcgis.com/home/item.html?id=1e29e33360c8441bbb018663273a046e>

Data Type: Layer Package; Line

Field Definitions:

Object ID: unique identifier

NAME: name of river/stream

FTYPE: type of water body

FCODE: hydrographic category

FCODE_Desc: description of the FCODE

STRM_LEVEL: stream level

METERS: length of line in meters

FEET: length of line in feet

SHAPE: geometry of feature

Access Constraints: Public

Use Constraints: The datasets included within Esri Data & Maps are subject to varying redistribution rights that have been granted by Esri's third party data suppliers. Consult the Redistribution Rights document to determine the ways in which Licensee is permitted to use and redistribute each specific dataset and the applicable disclaimers, attribution requirements, and other conditions of use.

Data Distribution: Public

Progress: In progress

File Location & Name:

Location – G:\offsiteFiles\Maps and Data\usa\hydro

Name: USA Detailed streams.lyr

Keywords:

Theme: layer, line, hydrography, inland waters, streams, rivers, United States

Place: USA

ESRI USA Major Roads

Description: U.S. Major Roads represents interstates, freeways, U.S. and state highways, major streets and roads, primary, secondary, and local roads, access ramps, ferry crossings, and other major thoroughfares within the United States.

Dates: Created November 3, 2010, updated June 18, 2019

Credits: Sources: Esri, TomTom North America, Inc.

Point of Contact:

Organization's Name: ESRI

Data URL: <https://www.arcgis.com/home/item.html?id=871852b13b53426dabdf875f80c04261>

Data Type: Shapefile, line

Field Definitions:

Object ID: unique identifier

Shape: geometry

Prefix: road prefix

Pretype: type of road

Name: name of road

Suffix: road suffix (rd, ave, blvd)

Class: road class

Class_Route: road class

HWY_TYPE: type of highway (state, interstate, freeway)

HWY_Symbol: Highway number for label

Shape_length: geometry calculated by GIS

Access Constraints: public

Use Constraints: The datasets included within Esri Data & Maps are subject to varying redistribution rights that have been granted by Esri's third party data suppliers. Consult the Redistribution Rights document to determine the ways in which Licensee is permitted to use and redistribute each specific dataset and the applicable disclaimers, attribution requirements, and other conditions of use.

Data Distribution: Public

Progress: In progress

File Location & Name:

G:\offsiteFiles\Maps and Data\usa\trans

Name: USA Major Highways.lyr

Keywords:

Theme: line, highways, roads, interstates, freeways, major streets, secondary and local roads, shields, access ramps, ferries, transportation, United States, Puerto Rico, 2010, layer

Place: USA

Essential Connectivity Areas California Essential Habitat Connectivity (CEHC) [ds620]

Summary: The Essential Connectivity Map shows a statewide network of 850 relatively intact Natural Landscape Blocks (ranging in size from 2,000 to about 3.7 million acres) connected by 192 Essential Connectivity Areas (Table 3.1).

Purpose: The purpose of the map is to focus attention on large areas important to maintaining ecological integrity at the broadest scale. Natural areas excluded from this broad-brush Essential Connectivity Network can therefore not be "written off" as unimportant to connectivity conservation or to sustaining California's natural heritage.

Description: The California Department of Transportation (Caltrans) and California Department of Fish and Game (CDFG) commissioned the California Essential Habitat Connectivity Project because a functional network of connected wildlands is essential to the continued support of California's diverse natural communities in the face of human development and climate change. The Essential Connectivity Map depicts large, relatively natural habitat blocks that support native biodiversity (Natural Landscape Blocks) and areas essential for ecological connectivity between them (Essential Connectivity Areas). This coarse-scale map was based primarily on the concept of ecological integrity, rather than the needs of particular species. Essential Connectivity Areas are placeholder polygons that can inform land-planning efforts, but that should eventually be replaced by more detailed Linkage Designs, developed at finer resolution based on the needs of particular species and ecological processes. Furthermore, because the Essential Habitat Connectivity Map was created at the statewide scale, based on available statewide data layers, and ignored Natural Landscape Blocks smaller than 2,000 acres squared, it has errors of omission that should be addressed at regional and local scales.

Dates: Created February 28, 2010. Last updated April 28, 2014

Point of Contact:

Person's Name: Greg Ewing

Organization's Name: California Department of Fish and Game

E-Mail Address: bios@dfg.ca.gov

Data URL: <https://map.dfg.ca.gov/metadata/ds0620.html>

Data Type: Shapefile; Raster

Field Definitions: Rater dataset – Pixel values range from least to most permeable.

Access Constraints: Public

Use Constraints: The user accepts sole responsibility for the correct interpretation of this report and the correct use of its accompanying data sets in environmental documents. The Essential Habitat Connectivity map delineates lands likely important to wildlife movement between large, mostly natural areas at the statewide scale based on available data and assumptions provided in this report. It omits small natural areas and does not reflect movement needs of particular species. It is a decision-support tool to be refined by finer-scale analyses and local linkage designs. DO NOT assume that lands outside Natural Landscape Blocks or Essential Connectivity Areas are unimportant to wildlife populations or movements.

Data Distribution: Public

File Location & Name:

Location: G:\Projects\2020Forward\4032_Linkage_AnalysisDec2020\ SHP_GDB

Names: ds620.gdb

Keywords:

Theme: Least-cost Corridor, Essential, Habitat, Natural Landscape Blocks, Linkage, environment, Linkage

Place: California

Land Conservation Act – Ventura County

Summary: To identify current Land Conservation Act contracts within Ventura County through December 31, 2013

Description: Identification of property that is currently under LCA contract within Ventura County unincorporated areas. Includes contracts recorded before the January 1, 2014 lien date. The "Type" attribute column specifies whether contract is 10 year (LCA) or 20 year (FSZA), or whether it was not renewed. PNNR is a partial non-renewal and ENNR is an entire non-renewal.

Dates: Created December 31, 2013

Point of Contact:

Person's Name: Jose Moreno

Organization's Name: County of Ventura

Telephone Number: (805) – 477-1585

E-Mail Address: Jose.Moreno@ventura.org

Data URL: <https://www.ventura.org/gis-and-mapping/maps/>

Data Type: Shapefile, polygon

Field Definitions:

Shape: feature geometry

ObjectID_1: unique identifier

LCA: land conservation act ID

ACRES: area feature in acres

TYPE: type of land conservation

RECORD_DAT: date recorded

EFFECT_DAT: date effective

RECORD_NUM: record number

EXP_DATE: date the conservation expires

EXP_YR: year the conservation expires

NAME_: name of the conserved area

START_DAT: start of conservation

Access Constraints: Public

Use Constraints: The information contained hereon was created by the Ventura County Geographical Information System (GIS), which is designed and operated solely for the convenience of the County and related contract entities. The County does not warrant the accuracy of this information, and no decision involving a risk of economic loss or physical injury should be made in reliance thereon.

Data Distribution: Public

Progress: Complete

File Location & Name:

Location: G:\Projects2020Forward\4032_Linkage_AnalysisDec2020\ SHP_GDB

Name: LCA_2013.shp

Keywords:

Theme: Land Conservation Act, Williamson Act, Farmland Conservation

Place: Ventura County

Linkage Boundary (ds0419)

Summary: The purpose of this generalized feature class is to delineate the outer boundaries of the 12 (out of 15) linkages identified by the South Coast Missing Linkages Project.

Description: A Linkage Design addresses the potential movement needs for several focal species.

Dates: Created December 2, 2008

Credits: South Coast Wildlands

Point of Contact:

Person's Name: Kristeen Penrod

Organization's Name: South Coast Wildlands

Telephone Number: (206) 285 - 1916

E-Mail Address: kristeen@scwildlands.org

Data URL: <https://map.dfg.ca.gov/metadata/ds0419.html>

Data Type: shapefile, polygon

Field Definitions:

Object ID: unique identifier

Shape: geometry

Proj_name: project name

Proj_desc: project description

Area_acres: area in acres

AREA_HA: area in hectares

Shape.STArea(): area measurement

Shape.STLength(): length measurement

Access Constraints: Public

Use Constraints: Data should only be used within appropriate context.

Disclaimer: The State makes no claims, promises, or guarantees about the accuracy, completeness, reliability, or adequacy of these data and expressly disclaims liability for errors and omissions in these data. No warranty of any kind, implied, expressed, or statutory, including but not limited to the warranties of non-infringement of third party rights, title, merchantability, fitness for a particular purpose, and freedom from computer virus, is given with respect to these data.

Progress: complete

File Location & Name:

Location: G:\Projects2020Forward\4032_Linkage_AnalysisDec202\ SHP_GDB

Name: ds0419.gdb

Keywords:

Theme: biota, Linkage Design, Permeability Analysis, South Coast Wildlands, Wildlife Conservation, Patch Size and Configuration, environment, California, Least Cost Corridor Analysis, South Coast Missing Linkages Project

Place: California

Los Angeles County Parcels

Description: This dataset contains current parcel boundaries and related attributes for approximately 2.4 million parcels maintained by the Los Angeles County Assessor (updated monthly).

Credit: Los Angeles County Open Data

Dates: Date created – July 20, 2020, Last updated – October 9, 2020

Point of Contact:

E-Mail Address: gisinfo@assessor.lacounty.gov

Data URL: <https://egis-lacounty.hub.arcgis.com/datasets/parcels>

Data Type: Shapefile; polygon

Field Definitions:

OBJECTID	Bathrooms3	LegalDescLine4
AIN	SQFTmain3	LegalDescLine5
APN	DesignType4	LegalDescLineLast
SitusHouseNo	YearBuilt4	LegalDescription
SitusFraction	EffectiveYear4	CENTER_LAT
SitusDirection	Units4	CENTER_LON
SitusUnit	Bedrooms4	CENTER_X
SitusStreet	Bathrooms4	CENTER_Y
SitusAddress	SQFTmain4	LAT_LON
SitusCity	DesignType5	Shape
SitusZIP	YearBuilt5	Shape.STArea()
SitusFullAddress	EffectiveYear5	Shape.STLength()
TaxRateArea	Units5	
TaxRateCity	Bedrooms5	
AgencyClassNo	Bathrooms5	
AgencyName	SQFTmain5	
AgencyType	Roll_Year	
UseCode	Roll_LandValue	
UseCode_2	Roll_ImpValue	
UseType	Roll_PersPropValue	
UseDescription	Roll_FixtureValue	
DesignType1	Roll_HomeOwnersExemp	
YearBuilt1	Roll_RealEstateExemp	
EffectiveYear1	Roll_PersPropExemp	
Units1	Roll_FixtureExemp	
Bedrooms1	Roll_LandBaseYear	
Bathrooms1	Roll_ImpBaseYear	
SQFTmain1	SpatialChangeDate	
DesignType2	ParcelCreateDate	
YearBuilt2	ParcelTypeCode	
EffectiveYear2	Assr_Map	
Units2	Assr_Index_Map	
Bedrooms2	QualityClass1	
Bathrooms2	QualityClass2	
SQFTmain2	QualityClass3	
DesignType3	QualityClass4	
YearBuilt3	QualityClass5	
EffectiveYear3	LegalDescLine1	
Units3	LegalDescLine2	
Bedrooms3	LegalDescLine3	

Access Constraints: Public

Use Constraints: The data herein is for informational purposes, and may not have been prepared for or be suitable for legal, engineering, or surveying intents. The County of Los Angeles reserves the right to change, restrict or discontinue access at any time.

Data Distribution: Public

Progress: In progress

Update Frequency: Monthly

File Location & Name:

Location: G:\Projects2020Forward\4032_Linkage_AnalysisDec2020\ SHP_GDB

Names: parcels_in_study_area.shp

Keywords:

Theme: Parcels, Los Angeles

Place: Los Angeles County

Los Angeles County Significant Ecological Areas

Description: Significant Ecological Area (SEA) means an area that is determined to possess an example of biotic resources that cumulatively represent biological diversity for the purposes of protecting biotic diversity, as part of the Los Angeles County General Plan or a city's general plan. Additional regulations shall be applied based on County Code 22.56.215: 'Significant Ecological Areas — Additional Regulations'.

Credit: Los Angeles County Open Data

Dates: Last updated December 5, 2020

Point of Contact:

E-Mail Address: dhoffman@planning.lacounty.gov

Data URL: <https://egis-lacounty.hub.arcgis.com/datasets/significant-ecological-area-sea?geometry=-122.414%2C32.456%2C-114.175%2C35.641>

Data Type: Shapefile; polygon

Field Definitions:

OBJECTID: Unique identifier for GIS data

SEA_Name: Name of significant ecological area

SEA_Type: Type of significant ecological area

Implementation: Identifies whether the ordinance complies

Access Constraints: Public

Use Constraints: The data herein is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying intents. The County of Los Angeles reserves the right to change, restrict or discontinue access at any time.

Data Distribution: Public

Progress: In progress

Update Frequency: Yearly

File Location & Name:

Location: G:\Projects2020Forward\4032_Linkage_AnalysisDec2020\SHp_GDB

Names: Significant_ecological_area_SEA_

Keywords:

Theme: Los Angeles County, open data, significant ecological areas, SEA, environmental, Department of Regional Planning

Place: Los Angeles, California

Caltrans – Local Bridges

Description: The bridge inventory data was obtained from Caltrans Structure Maintenance and Investigations (SMI) Database, as of December, 2018. SMI performs bridge inspections in accordance with federal regulations on over 12,000 State Highway bridges and approximately 12,200 bridges owned by local government agencies. Caltrans bridge inspectors are responsible for maintaining the safety and integrity of over 24000 bridges owned by the State of California and California's local government agencies.

Dates: Created January 15, 2019. Updated March 26, 2020

Point of Contact:

Organization's Name: California Department of Transportation

Telephone Number: (916) 654-7073

E-Mail Address: caltrans.gislib@dot.ca.gov

Data URL: https://gisdata.dot.ca.gov/arcgis/rest/services/Highway/Local_Bridges/MapServer/0

Data Type: Shapefile, point

Field Definitions:

Object ID: unique identifier

Shape: geometry

Dist: district

CO: county location

Route: route that bridge is on

Bridge: bridge ID number

Bridge X: X coordinate

Bridge Y: Y coordinate

City: city location

Lat: latitude

Long: longitude

Name: name of the bridge

LOC: location of bridge along route

YRBLT: year bridge was built

FAC: street bridge is closest to

APWID: width measurement

LENG: length measurement

DW_AREA: area measurement

Dir: direction

INTERSEC: water body the bridge intersects

Access Constraints: Public

Use Constraints: Public

Data Distribution: Public

Progress: In progress

File Location & Name:

Location: G:\Projects2020Forward\4032_Linkage_AnalysisDec2020\SHp_GDB

Name: local_bridges.shp

Keywords:

Theme: Local Bridges, Highway, Clearinghouse, CAOpenData, California Department of Transportation, California State Transportation Agency

Place: USA

Caltrans - State Highway Bridges

Description: The bridge inventory data was obtained from Caltrans Structure Maintenance and Investigations (SM&I) Database as of 05/08/2020. SM&I performs bridge inspections in accordance with federal regulations on over 13,201 State Highway bridges and approximately 13,332 bridges owned by local government agencies. Caltrans bridge inspectors are responsible for maintaining the safety and integrity of over 26000 bridges owned by the State of California and California's local government agencies.

Dates: Created January 24, 2019, updated January 27, 2020

Point of Contact:

Organization's Name: California Department of Transportation

Telephone Number: (916) 654-7073

E-Mail Address: caltrans.gislib@dot.ca.gov

Data URL: https://gisdata.dot.ca.gov/arcgis/rest/services/Highway/State_Highway_Bridges/MapServer/0

Data Type: Shapefile, point

Field Definitions:

Object ID: unique identifier

Shape: geometry

Dist: district

CO: county location

Route: route that bridge is on

Bridge: bridge ID number

Bridge X: X coordinate

Bridge Y: Y coordinate

City: city location

Lat: latitude

Long: longitude

Name: name of the bridge

LOC: location of bridge along route

YRBLT: year bridge was built

FAC: street bridge is closest to

APWID: width measurement

LENG: length measurement

DW_AREA: area measurement

Dir: direction

INTERSEC: water body the bridge intersects

Access Constraints: Public

Use Constraints: Public

Data Distribution: Public

Progress: In Progress

File Location & Name:

Location: G:\Projects2020Forward\4032_Linkage_AnalysisDec2020\SHp_GDB

Name: state_highway_bridges.shp

Keywords (optional):

Theme: Highway, Clearinghouse, State Bridges, CAOpenData, California Department of Transportation, California State Transportation Agency

Place: USA

Preliminary Protected Areas for Wildlife (PAWs)

Description: This preliminary dataset was originally based on the Los Angeles County Significant Ecological Areas dataset. It was expanded on through work with consultants such as the ESA. These preliminary protected areas for wildlife have been determined to possess an example of biotic resources that cumulatively represent biological diversity.

Dates: Last updated June 24, 2020

Point of Contact:

Person's Name: Tom Tran

Organization's Name: Los Angeles City Planning

Telephone Number: (213) 978-1547

E-Mail Address: tom.t.tran@lacity.org

Data Type: Shapefile, polygon

Field Definitions:

Shape: feature geometry

NewSEA: name of significant ecological area

Acres: area of feature in acres

Access Constraints: Not public

Use Constraints: Data is preliminary. Legend should say "preliminary or proposed protected areas for wildlife"

Data Distribution: Not public

Progress: In progress

File Location & Name:

Location: G:\Projects2020Forward\4032_Linkage_AnalysisDec2020\SHp_GDB

Name: PAWs.shp

Keywords:

Theme: proposed, protected, wildlife, City of Los Angeles

Place: Los Angeles

Rim of the Valley Boundary

Summary: This vector polygon dataset delineates a boundary produced for legislation to designate the Rim of the Valley Unit of the Santa Monica Mountains National Recreation Area.

Description: This vector polygon dataset delineates a boundary produced for legislation to designate the Rim of the Valley Unit of the Santa Monica Mountains National Recreation Area. The boundary was based on the Selected Alternative (see additional metadata below), recommended to Congress in the Rim of the Valley Corridor Special Resource Study. The Secretary of the Interior transmitted the final study to Congress on February 16, 2016. Changes from the Selected Alternative include removal of parcels with active or idle oil and gas operations, based on data downloaded from the California Department of Conservation, division of Oil, Gas, and Geothermal Resources in March, 2015; February 2016; July 2017; and July 2018. Additional parcels were excluded including those comprising the Santa Susana Field Lab. The boundary was adjusted to exclude all of the Scholl Canyon Landfill properties. The current revision was completed on July 31, 2018.

Dates: Data submitted February 16, 2016, last updated July 31, 2018

Point of Contact:

Person's Name: Denise Kamradt

Organization's Name: National Park Service

Telephone Number: 818-597-1036

E-Mail Address: denise@samo.nps.gov

Data Type: Shapefile; polygon

Field Definitions:

Shape: feature geometry

Area: feature area

Perimeter: feature perimeter

Acres: feature area in acres

Hectares: feature area in hectares

Access Constraints: Not public

Use Constraints: The selected alternative is a recommendation and would require congressional legislation. In the absence of such legislation, the study remains a recommendation. Boundaries are generally drawn at a broader, landscape scale and do not necessarily correspond to property ownership. Additionally, the recommended boundary does not imply or convey any ownership or direct legal authority over the lands within it. These data are not meant to be used or displayed at scales greater than 1:24,000.

Data Distribution: Not public

Progress: Complete

File Location & Name:

Location – G:\Projects2020Forward\4032_Linkage_AnalysisDec2020\SHp_GDB

Name: Rim_of_the_valley_boundary_U.shp

Keywords:

Theme: National Park Service, Santa Monica Mountains National Recreation Area, Rim of the Valley Corridor, Santa Monica Mountains Conservancy, Rim of the Valley Corridor Special Resource Study, NPS, SMMC, RIVA, SAMO

Place: Southern California

Rim of the Valley Trail

Abstract: The Rim of the Valley Corridor study area contains nationally significant resources. The topographically and geographically complex study area encompasses a mosaic of natural communities that span coastal and montane ecosystems and support high levels of biodiversity. More than 10,000 years of human habitation are represented in the cultural resources found within the study area. The area also contains significant resources, not currently represented in the national park system, which offer new opportunities for scientific research, interpretation, and education and are therefore suitable for inclusion in the national park system.

Purpose: The Consolidated Natural Resources Act of 2008 (P.L. 110-229, May 2008) directed the NPS to evaluate: (1) the suitability and feasibility of designating all or a portion of the area known as the Rim of the Valley Corridor as a unit of Santa Monica Mountains National Recreation Area (SMMNRA); and (2) the methods and means for the protection and interpretation of this corridor by the National Park Service, other federal, state, or local government entities or private or non-governmental organizations. The Rim of the Valley Corridor is described in legislation as the area generally including the mountains encircling the San Fernando, La Crescenta, Santa Clarita, Simi, and Conejo Valleys in southern California.

Credits: National Park Service

Dates: Created in 2015

Point of Contact:

Person's Name: Denise Kamradt

Organization's Name: National Park Service

Telephone Number: 818-597-1036

E-Mail Address: denise@samo.nps.gov

Data Type: Shapefile, polyline

Field Definitions:

Shape: feature geometry

NAME: description of feature part

Length: length of feature part

Access Constraints: Not public

Use Constraints: The selected alternative is a recommendation and would require congressional legislation. In the absence of such legislation, the study remains a recommendation. Boundaries are generally drawn at a broader, landscape scale and do not necessarily correspond to property ownership. Additionally, the recommended boundary does not imply or convey any ownership or direct legal authority over the lands within it. These data are not meant to be used or displayed at scales greater than 1:24,000.

Data Distribution: Not Public

Progress: Complete

File Location & Name:

Location – G:\Projects2020Forward\4032_Linkage_AnalysisDec2020\SHp_GDB

Name: Rim_of_the_valley_trail.shp

Keywords:

Theme: National Park Service, Santa Monica Mountains National Recreation Area, Rim of the Valley Corridor, Santa Monica Mountains Conservancy, Rim of the Valley Corridor Special Resource Study, NPS, SMMC, RIVA, SAMO

Place: Southern California

Steelhead (Southern California DPS) - STSCA

Summary: These data depict critical habitat for steelhead in the Southern California Distinct Population Segment (DPS).

Description: These data represent the stream segments designated as critical habitat by the National Marine Fisheries Service (NOAA Fisheries). The linework is based on California Department of Fish and Game (CDFG) and Pacific States Marine Fisheries Commission (PSMFC) 1:100,000 scale stream based routed hydrography. NMFS biologists divided the routed hydrography into stream segments using the best available information to represent local steelhead distribution and habitat. As a result, each segment has its own unique identifier (GIS_Link) and related presence and habitat information. Data from the following were used as during the designation process: California Department of Fish and Game, Pacific States Marine Fisheries Commission, California Geospatial Information Data Library, State Coastal Conservancy, California Department of Forestry, US Geological Survey.

Credits: NOAA Fisheries, West Coast Region

Dates: Last updated December 3, 2020

Point of Contact:

Person's Name: Shanna Dunn

Organization's Name: NOAA West Coast Regional Office

Telephone Number: (503) – 231 – 2135

E-Mail Address: Shanna.dunn@noaa.gov

Data URL: <https://map.dfg.ca.gov/metadata/ds0184.html>

Data Type: Shapefile, polyline

Field Definitions:

FID: unique identifier

Shape: feature geometry

EVENTID: unique identifier

LLID: unique identifier

BEGFT: start of feature in feet

ENDFT: end of feature in feet

GIS_LINK: GIS specific link

ESU: species

STREAM: stream name

PRESENCE: species present

SPAWNHAB: spawning habitat present

QUALSPWN: spawning habitat quality

REARHAB: rearing habitat present

QUALREAR: quality of rearing habitat

MIGRAHAB: migration habitat present

QUALMIGR: quality of migration habitat

ESTUAHAB: estuary habitat present

QUALESTU: quality of estuary habitat

Access Constraints: Public

Use Constraints: These data are supplemental to the final rule to designate critical habitat; they are not intended to replace the information contained within the final rule. For an exact legal description of critical habitat, please consult the Federal Register notice for critical habitat.

Data Distribution: Public

Progress: in progress

File Location & Name:

Location - G:\Projects2020Forward\4032_Linkage_AnalysisDec2020\SHp_GDB

Name: STSCA_ch.shp

Keywords:

Theme: Southern California, steelhead, critical habitat, ESA

Place: California

The Nature Conservancy Conservation Portfolio

Abstract: his dataset is made up of features aggregated from Ecoregional Assessments as well as other planning methodologies used across The Nature Conservancy to identify areas of biodiversity significance and prioritize conservation action. More information about ecoregional assessments and other conservation planning methodologies is available at The Nature Conservancy's Conservation Gateway, the Ecoregional Assessment Status Tool (EAST), and at <http://maps.tnc.org>.

Purpose: his dataset is made up of features aggregated from Ecoregional Assessments as well as other planning methodologies used across The Nature Conservancy to identify areas of biodiversity significance and prioritize conservation action. More information about ecoregional assessments and other conservation planning methodologies is available at The Nature Conservancy's Conservation Gateway, the Ecoregional Assessment Status Tool (EAST), and at <http://maps.tnc.org>.

Credit: The Nature Conservancy

Dates: Publication date: December 20, 2011

Point of Contact:

Person's Name: David Smetana

Organization's Name: The Nature Conservancy

Telephone Number: 703- 841- 5346

E-Mail Address: dsmetana@tnc.org

Data URL: <http://maps.tnc.org/files/metadata/Portfolio.xml>

Data Type: Shapefile, polygon

Field Definitions:

OBJECTID – Unique identifier

NAME – Name of portfolio area

DESCR – Description of portfolio area

FUNC_LEVEL – The functional level of a feature

HAB_INT – Habitat type of a feature

SENSITIVE - Indicates whether a feature may be displayed publicly. 'N' may be displayed and shared publicly. 'Y' may be used by TNC staff internally only. '<Null>' may be used by TNC's Conservation and Data Information Systems staff only.

SENS_COM – Notes about the sensitivity of a feature

BND_COM – Notes about the Geometry of a feature

BND_MOD - Notes about modifications made or iterations of feature geometry.

SITENUM – The number of the ecoregional assessment that the feature originated from

EANAME - The name of the ecoregional assessment that a feature originated from.

NOTES – Notes about a feature

REVIEW_DATE - The date a feature was reviewed by TNC staff or was aggregated into the dataset.

REVIEWER_NAMES - The date a feature was reviewed by TNC staff or was aggregated into the dataset.

SOURCEFILE -The date a feature was reviewed by TNC staff or was aggregated into the dataset.

SOURCEFIELD - The date a feature was reviewed by TNC staff or was aggregated into the dataset.

GLOBALID - The date a feature was reviewed by TNC staff or was aggregated into the dataset.

SOURCERECID - The date a feature was reviewed by TNC staff or was aggregated into the dataset.

CAID -The date a feature was reviewed by TNC staff or was aggregated into the dataset.

SHAPE - The date a feature was reviewed by TNC staff or was aggregated into the dataset.

EAST_ID -The date a feature was reviewed by TNC staff or was aggregated into the dataset.

EAST_URL 0 The date a feature was reviewed by TNC staff or was aggregated into the dataset.

TNCID -Unique ID for attributing species and natural community targets to portfolio area features.

Access Constraints: Public

Use Constraints: Limitations of the use of this dataset are tiered and managed record by record using attribution. Non-sensitive features may be shared with the public subject to the terms of the Conservancy's Conservation Commons sharing protocol. Sensitive features may be used by TNC staff for internal use only. Null sensitivity values represent features that are under construction and may only be used by Conservation Data and Information Systems staff. Please refer to the Resource Constraints section of this metadata for additional use limitations.

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Data Distribution: Public

Progress: Complete

File Location & Name:

Location: G:\Projects2020Forward\4032_Linkage_AnalysisDec2020\ SHP_GDB

Names: TNC_Portfolio_Phase2_Global and state_CA

Keywords

Theme: TNC, The Nature Conservancy, conservation, environment, ecoregion, ecoregional assessments, ecoregional portfolio, conservation priorities, biota, boundaries, environment, geoscientific Information, location, planning Cadastre

Place: World, Worldwide, Global

The Nature Conservancy – Connectivity and Climate Flow

Summary: Resilience concerns the ability of a living system to adjust to climate change, moderate potential damages, take advantage of opportunities, or cope with consequences; in short, the capacity to adapt. The Nature Conservancy's resilience analysis develops an approach to conserve biological diversity while allowing species and communities to rearrange in response to a continually changing climate. See more at: <http://nature.org/climateresilience>.

Description: In the Resilient and Connected Network analysis, sites and linkages between them identified by the combination of resilience, flow, and biodiversity were integrated into a single network. The network is designed to represent resilient examples with all the characteristic physical environments of the region while maximizing the amount of diversity contained within in them and the natural flow that connects them. By building the network around the natural pathways that allow species populations to shift and then identifying representative resilient sites situated within those pathways, the network is specifically configured to sustain biological diversity while allowing nature to adapt and change.

The Resilient and Connected Landscapes analysis was tailored to regions based on input from regional steering committees that modified factors to capture local ecological functions important to each region. This national dataset is directly derived from the 9 regional datasets and care should be taken to understand the different methods in each of the regions.

Dates: Created April 14, 2020, updated May 4, 2020

Credits: The Nature Conservancy, Eastern Resource Office, Eastern Conservation Science (ECS), Boston, MA

Point of Contact:

Person's Name: Timothy Boucher

Organization's Name: The Nature Conservancy

E-Mail Address: tboucher@tnc.org

Data URL: <https://tnc.maps.arcgis.com/home/item.html?id=2821dfa522f24bde86aa9a5b8188bdc4>

Data Type: Shapefile; raster

Field Definitions:

Object ID: unique identifier

Value: raster value

Count: number of pixels

Description: value description

Diffuse flow: areas that are extremely intact and consequently facilitate high levels of dispersed flow that spreads out to follow many different and alternative pathways. A conservation aim might be to keep these areas intact and prevent the flow from becoming concentrated. This might be achievable through land management or broad-scale conservation easements.

Concentrated flow: areas where large quantities of flow are concentrated through a narrow area. Because of their importance in maintaining flow across a larger network, these pinch points are good candidates for land conservation.

Constrained flow: areas of low flow that are neither concentrated nor fully blocked but instead move across the landscape in a weak reticulated network. These areas present large conservation challenges.

In some cases, restoring a riparian network might end up concentrating the flow and creating a linkage that will be easier to maintain over time.

Blocked/Low flow: areas where little flow gets through and is consequently deflected around these features. Some of these might be important restoration areas where restoring native vegetation or altering road infrastructure might reestablish a historic connection.

Access Constraints: Public

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The Nature Conservancy compiled this data set from publicly available data sources and this data is freely distributable without permission from Eastern Division Conservation Science. This data set must be cited on all electronic and hard copy products using the language of the Data Set Credit. The Nature Conservancy shall not be held liable for improper or incorrect use of the data described and/or contained herein. Any sale, distribution, loan, or offering for use of these digital data, in whole or in part, is prohibited without the approval of The Nature Conservancy. The use of these data to produce other GIS products and services with the intent to sell for a profit is prohibited without the written consent of The Nature Conservancy. All parties receiving these data must be informed of these restrictions. The Nature Conservancy shall be acknowledged as data contributors to any reports or other products derived from these data.

Data Distribution: Public

Progress: Complete

File Location & Name:

Location: G:\Projects2020Forward\4032_Linkage_AnalysisDec2020\SHp_GDB

Names: Connectivity_and_climate_flow.lyr

Keywords:

Theme: Climate Flow, Upslope, Downslope, Northward, CONUS

Place: USA

USFWS Critical Habitat

Description: This page contains the spatial data for active proposed and final critical habitat for FWS only and Joint FWS/NMFS threatened and endangered species. ECOS is a FWS-sponsored platform for FWS data. The ECOS critical habitat on-line mapper includes (some, not all of the) proposed and final critical habitat for species listed as Threatened and Endangered by the FWS, or that are jointly managed by FWS/NMFS.

Credit: USFWS

Dates: Last updated November 9, 2020

Point of Contact:

Organization Name: United States Fish and Wildlife Service

Phone Number: (916)-414-6464

https://www.fws.gov/offices/Directory/ListOffices.cfm?statecode=6

Data URL: <https://ecos.fws.gov/ecp/report/table/critical-habitat.html>

Data Type: Shapefile; polygon

Field Definitions:

Scientific Name: Scientific name of the species as defined in the 50 CFR Part 17.

Where Listed: Where the species is listed under the Endangered Species Act as defined in the 50 CFR Part 17.

FWS Lead Region: Lead region for the species.

ESA Listing Status: Current listing status as defined in the 50 CFR Part 17.

Critical Habitat Type: Proposed / Final

Federal Register Publication: Authoritative source for the critical habitat designation.

Critical Habitat Shapefile: Downloadable spatial and metadata records for critical habitat area as defined in the Federal Register publication.

Acres and Miles: Spatially derived acres and/or stream miles based on the Critical Habitat Shapefile available here for download.

Access Constraints: Public

Use Constraints: Public

Data Distribution: Public

Progress: In Progress

File Location & Name:

Location: G:\Projects2020Forward\4032_Linkage_AnalysisDec2020\SHp_GDB

Names: CRITHAB_POLY

Keywords:

Theme: Critical habitat, threatened, endangered, sensitive

Place: USA

USGS Watershed Boundary Dataset (12-Digit Hydrologic Units)

Description: The USGS Watershed Boundary Dataset (WBD) defines the areal extent of surface water drainage to a point, accounting for all land and surface areas. Watershed Boundaries are determined solely upon science-based hydrologic principles, not favoring any administrative boundaries or special projects, nor particular program or agency. The intent of defining Hydrologic Units (HU) for the Watershed Boundary Dataset is to establish a base-line drainage boundary framework, accounting for all land and surface areas. At a minimum, the WBD is being delineated and georeferenced to the USGS 1:24,000 scale topographic base map meeting National Map Accuracy Standards (NMAS). Hydrologic units are given a Hydrologic Unit Code (HUC).

Credit: USGS

Dates: Created August 9, 2019, last updated October 23, 2019

Point of Contact:

Organization Name: United States Geologic Survey

E-Mail Address: datahelp@ftw.usda.gov

Data URL: <https://data.ca.gov/dataset/ca-usgs-watershed-boundary-dataset-12-digit-hydrologic-units>

Data Type: Shapefile, polygon

Field Definitions:

FID: unique identifier

Shape: feature geometry

TNMID: unique identifier

LoadDate: date uploaded

AreaAcres: area of polygon in acres

AreaSqKm: area of polygon in square kilometers

HUC12: HUC code number

Name: name of watershed

HUType: type of watershed

HUMod: moderator of data

Access Constraints: Public

Use Constraints: Public

Data Distribution: Public

Update Frequency: Irregular

File Location & Name:

Location: G:\Projects2020Forward\4032_Linkage_AnalysisDec2020\ SHP_GDB

Names: Hu_12_watershds

Keywords:

Theme: California, watersheds, USGS, HUC12

Place: California

Ventura County Parcels

Description: This data represents the Assessor's Parcel boundaries for Ventura County. Assessor's parcels are used to determine tax rates, and do not necessarily represent legal parcels, as tax rates may vary within a legal parcel. Includes all parcel data.

Point of Contact:

Person's Name: Jose Moreno

Organization's Name: County of Ventura

Telephone Number: (805) – 477-1585

E-Mail Address: Jose.Moreno@ventura.org

Data URL: <https://www.ventura.org/gis-and-mapping/mapping-base/#>

Data Type: Shapefile, polygon

Field Definitions:

Shape: feature geometry

PID: unique identifier

APN: APN number

APN: APN 10 number

SHAPE_AREA: area measurement

SHAPE_LENGTH: length measurement

Access Constraints: Public

Use Constraints: The data layers provided hereon were created by the Ventura County Geographical Information System (GIS), which is designed and operated solely for the convenience of the County and related contract entities. The County does not warrant the accuracy of this information, and no decision involving a risk of economic loss or physical injury should be made in reliance thereon.

Data Distribution: Public

Progress: In progress

File Location & Name:

Location: G:\Projects2020Forward\4032_Linkage_AnalysisDec2020\ SHP_GDB

Names: parcels_in_study_area.shp

Keywords:

Theme: Ventura County parcels

Place: Ventura County

Ventura County Zoning

Description: The purpose of Zoning Ordinances is to protect and promote the public health, safety and general welfare; to provide the environmental, economic and social advantages which result from an orderly, planned use of resources, to establish the most beneficial and convenient relationships among land uses and to implement Ventura County's General Plan.

Purpose: Ventura county habitat connectivity and critical wildlife passage areas were obtained from this layer.

Dates: Created June 21, 2002, updated April 3, 2019

Point of Contact:

Person's Name: Kay Clark

Organization's Name: County of Ventura

Telephone Number: (805) 654-2463

E-Mail Address: kay.clark@mail.co.ventura.ca.us

Data URL: <https://www.ventura.org/gis-and-mapping/mapping-base/#>

Data Type: Shapefile; polygon

Field Definitions:

Shape: feature geometry

Zone: county zone description

Shape_length: length of feature

Shape_area: area of feature

Access Constraints: Public

Use Constraints: The data layers provided hereon were created by the Ventura County Geographical Information System (GIS), which is designed and operated solely for the convenience of the County and related contract entities. The County does not warrant the accuracy of this information, and no decision involving a risk of economic loss or physical injury should be made in reliance thereon.

Data Distribution: Public

Progress: In progress

File Location & Name:

Location: G:\Projects2020Forward\4032_Linkage_AnalysisDec2020\ SHP_GDB

Names: zoning_designation.shp

Keywords:

Theme: Ventura County parcels

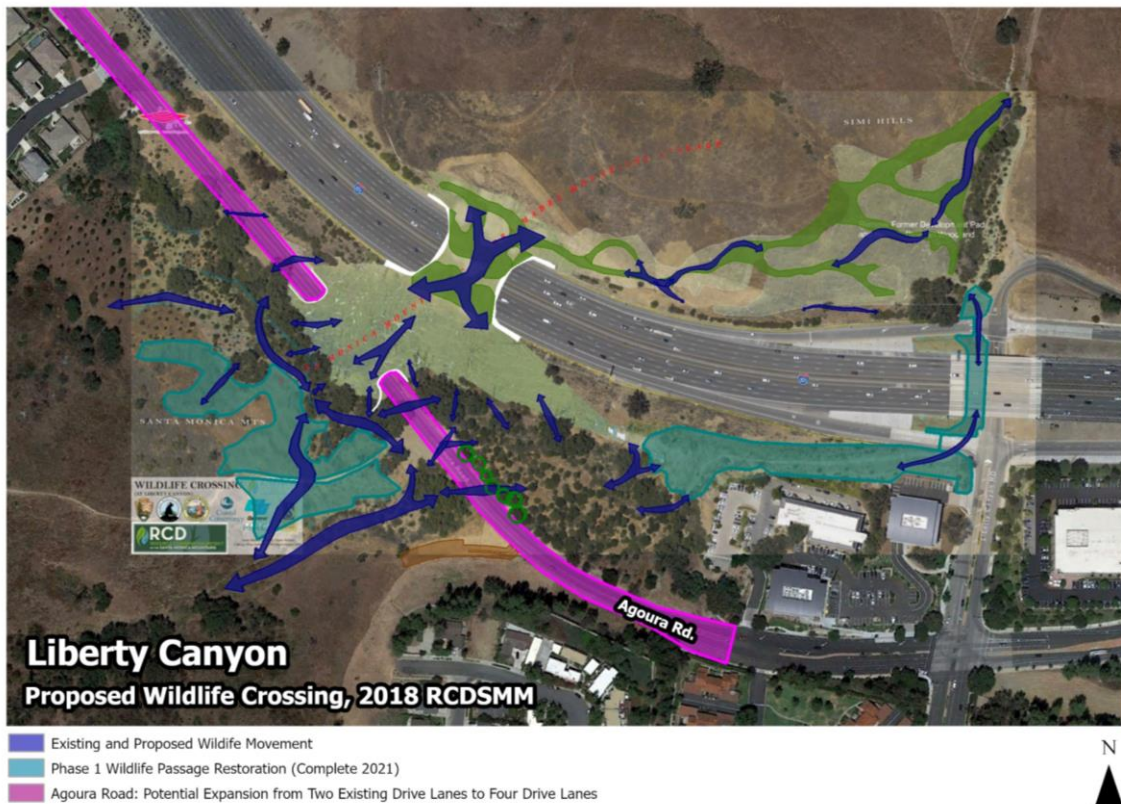
Place: Ventura County

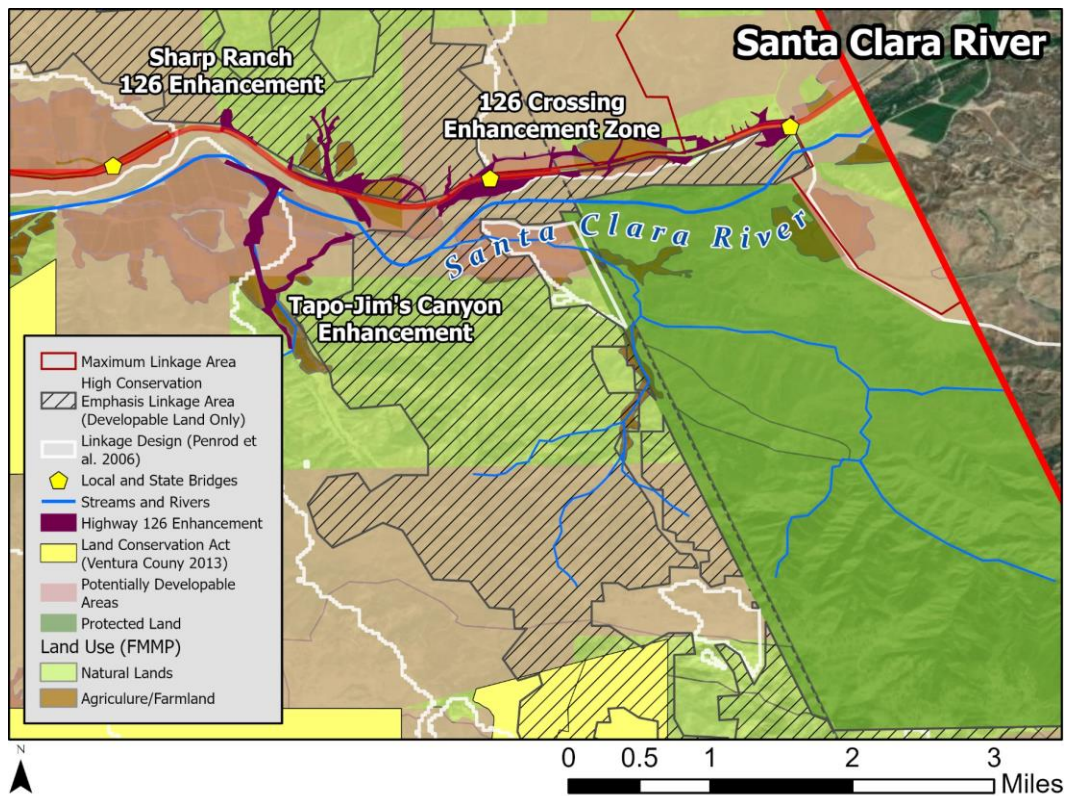
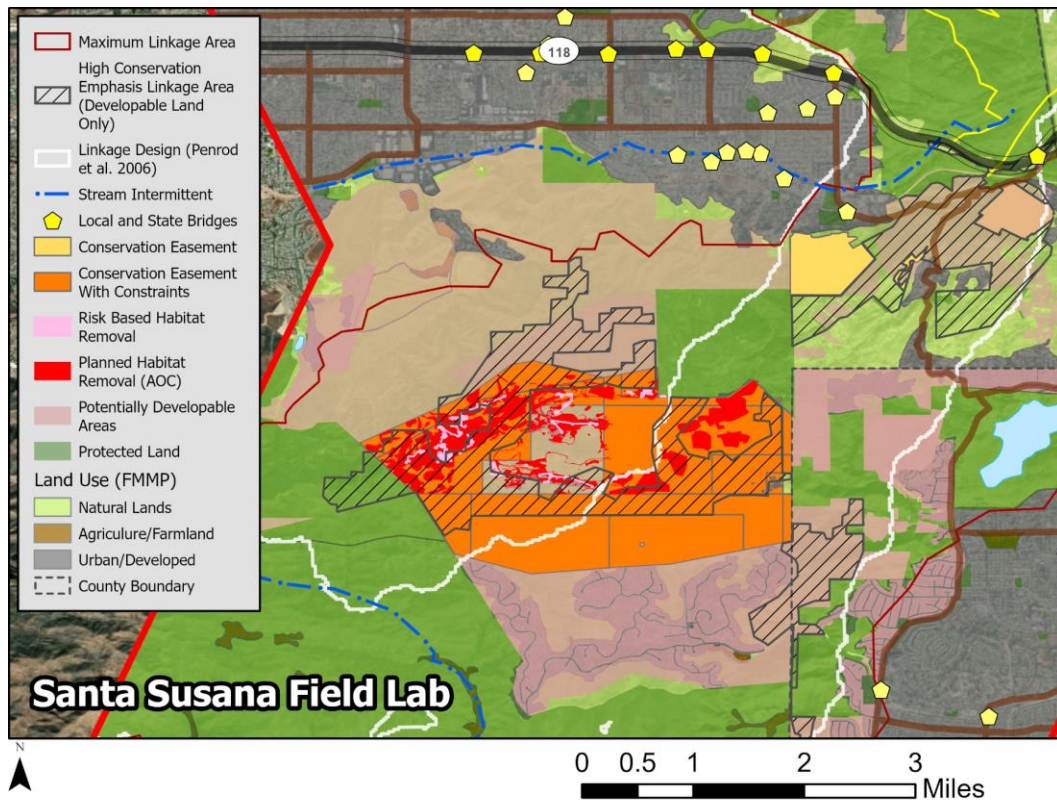
Appendix C. Interested Partner Agencies and Organizations

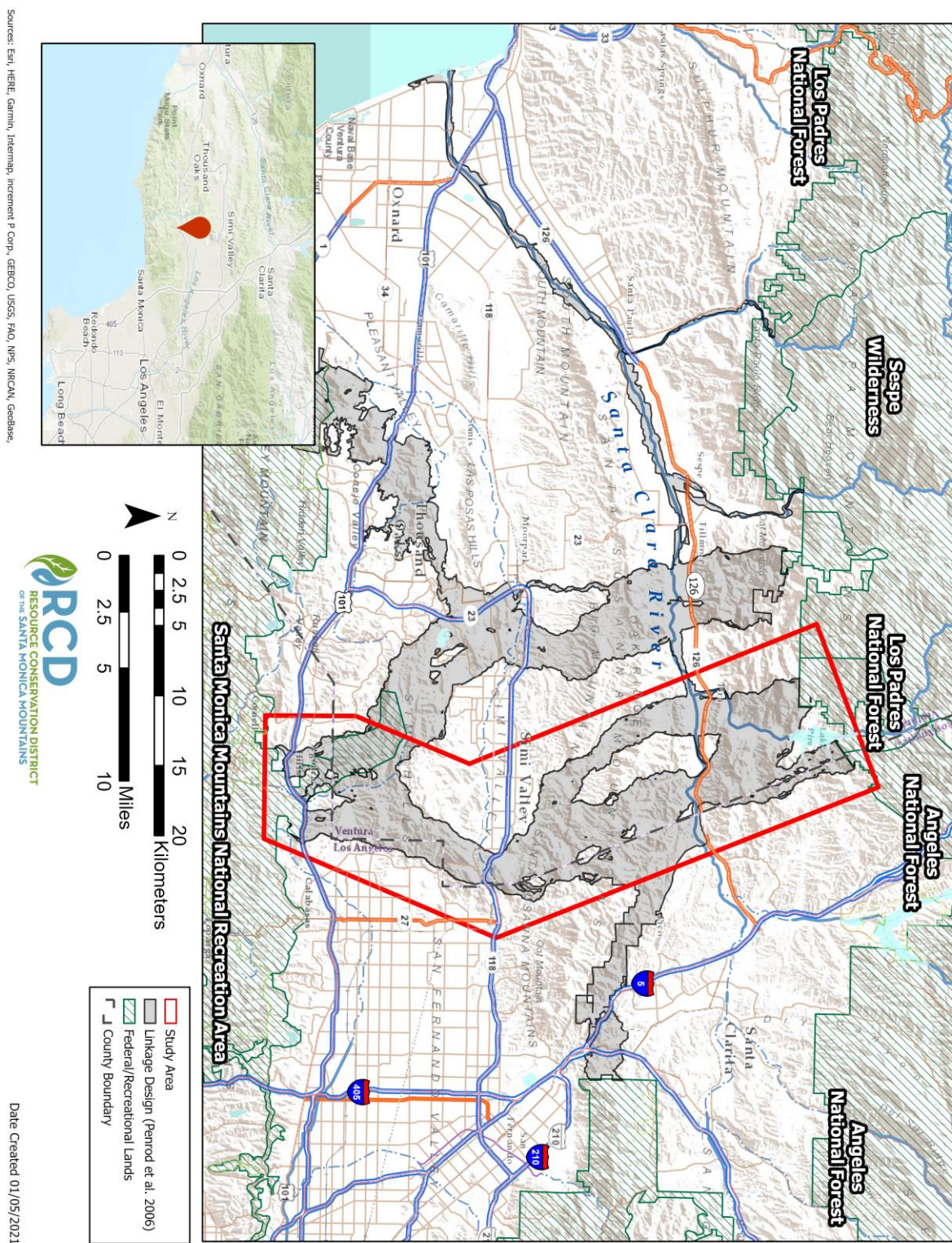
Audubon Society- San Fernando Valley and Ventura chapters
Boeing Company – Santa Susanna Field Lab
California Coastal Conservancy
Caltrans
California Trout
California Department of Parks and Recreation
California Department of Fish and Wildlife
California Native Plant Society
California Regional Water Quality Control Board
California State Polytechnic University, Pomona
California State University Channel Islands
California Wilderness Coalition
California Wild Heritage Campaign
City of Agoura Hills
City of Calabasas
City of Santa Clarita
City of Fillmore
City of Piru
City of Simi Valley
Community of Piru
Farm Bureau of Ventura County
Five Point Valencia/Newhall Ranch Development
Friends of the Santa Clara River
Keep Sespe Wild
Los Angeles County
Mountains Recreation and Conservation Authority
National Marine Fisheries Service
National Park Service- Santa Monica Mountains National Recreation Area
Nature Conservancy
National Soil Conservation Service
Rancho Simi Recreation and Park District
Resource Conservation District of the Santa Monica Mountains
Santa Barbara Channel Keeper
Santa Clarita Organization for Planning and the Environment (SCOPE)
Santa Clara River Steelhead Coalition
Santa Clara River Trustee Council
Santa Clara River Watershed Conservancy
Santa Monica Mountains Trails Council
Santa Ynez Band of Chumash Indians
Save Open Space and Agricultural Resources (SOAR)
Sierra Club
South Coast Wildlands
Stillwater Sciences

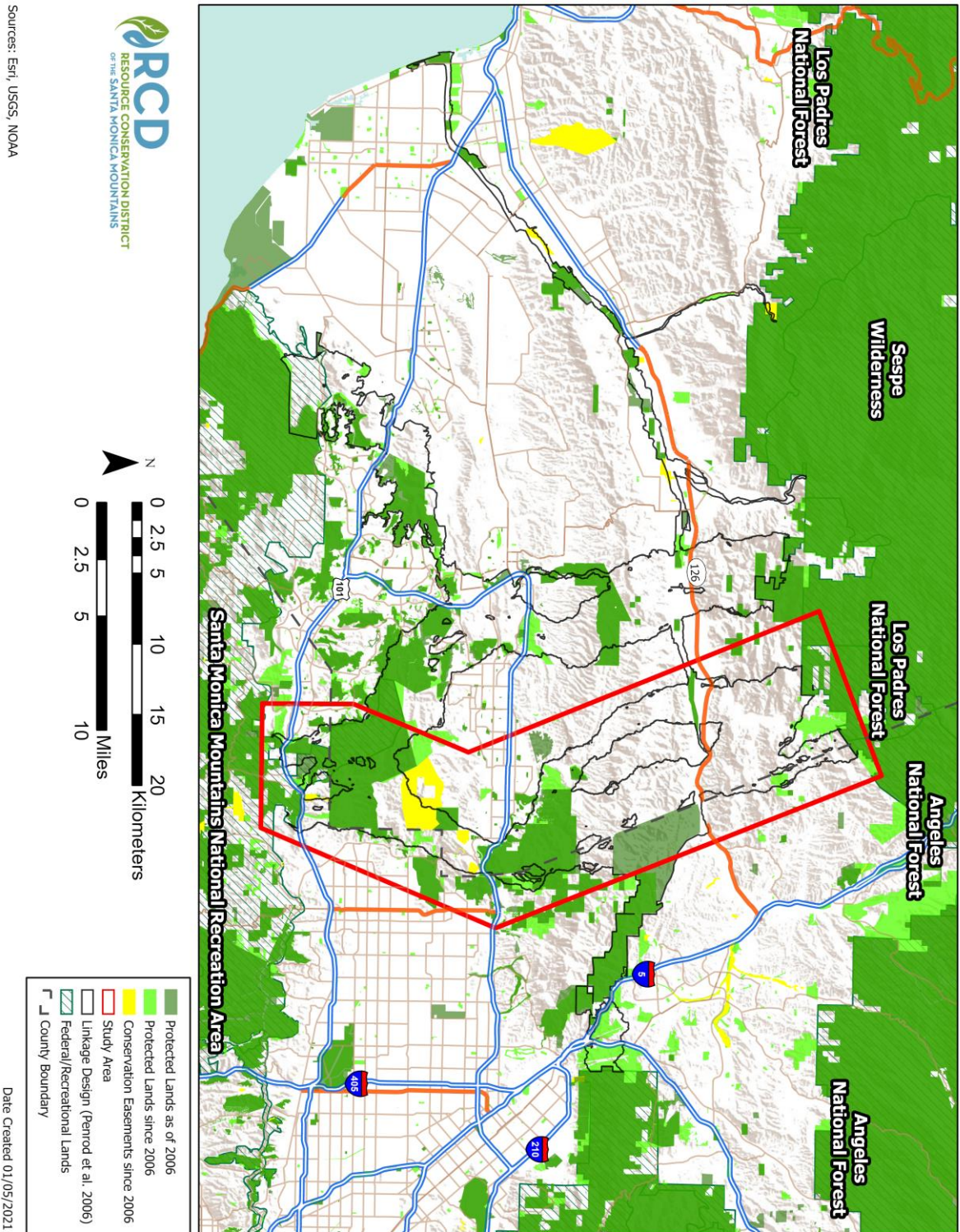
Stoecker Ecological
Trust for Public Lands
United Water Conservation District
US Army Corps of Engineers
US Fish and Wildlife Service
US Forest Service
US Geological Survey
University of California Santa Barbara
University of California Los Angeles
University of California Agriculture and Natural Resources
Ventura Community College
Ventura County
Ventura County Resource Conservation District
Wildlands Conservancy
Wildlife Conservation Board
Wishtoyo Foundation

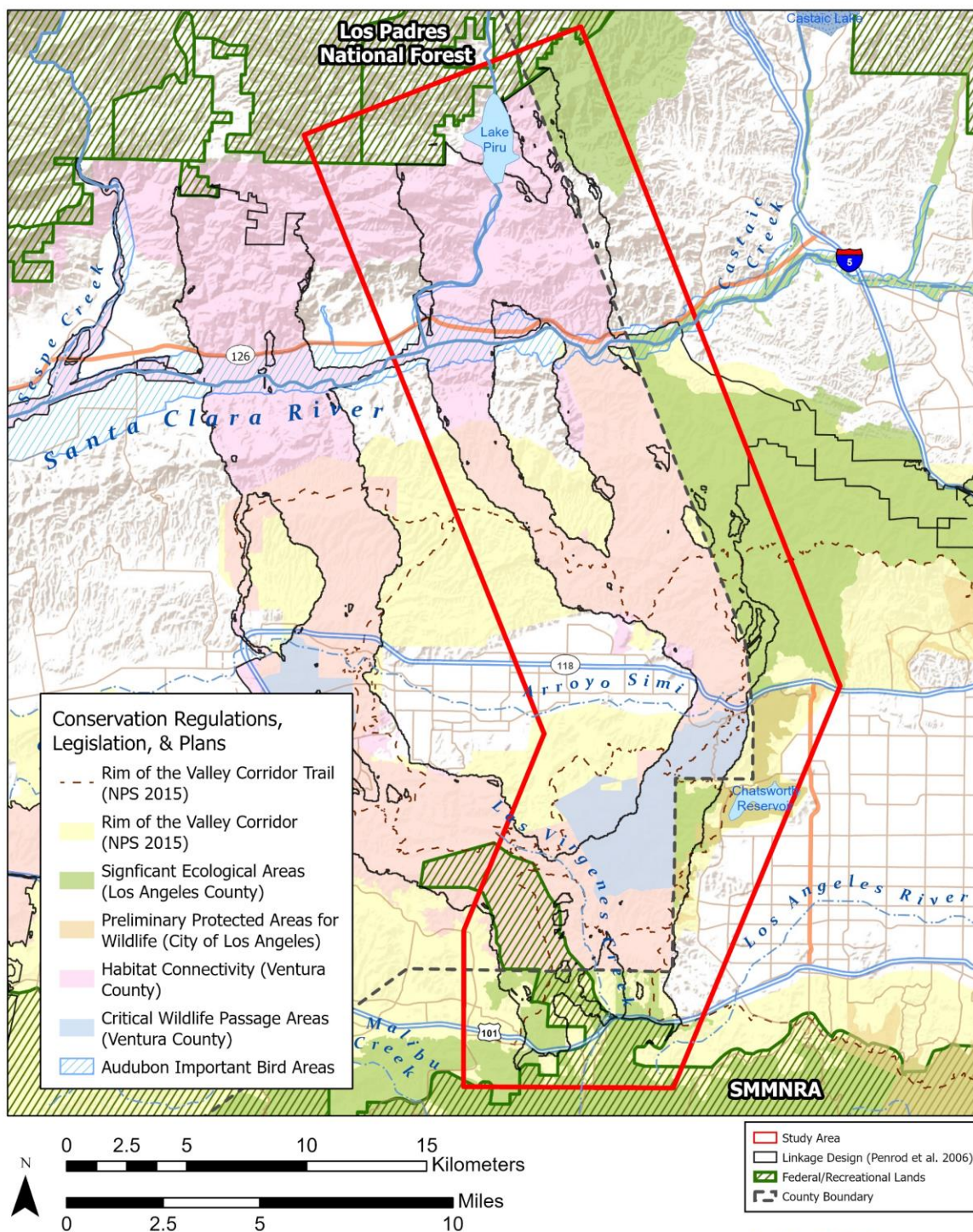
Appendix D. Full Size Maps







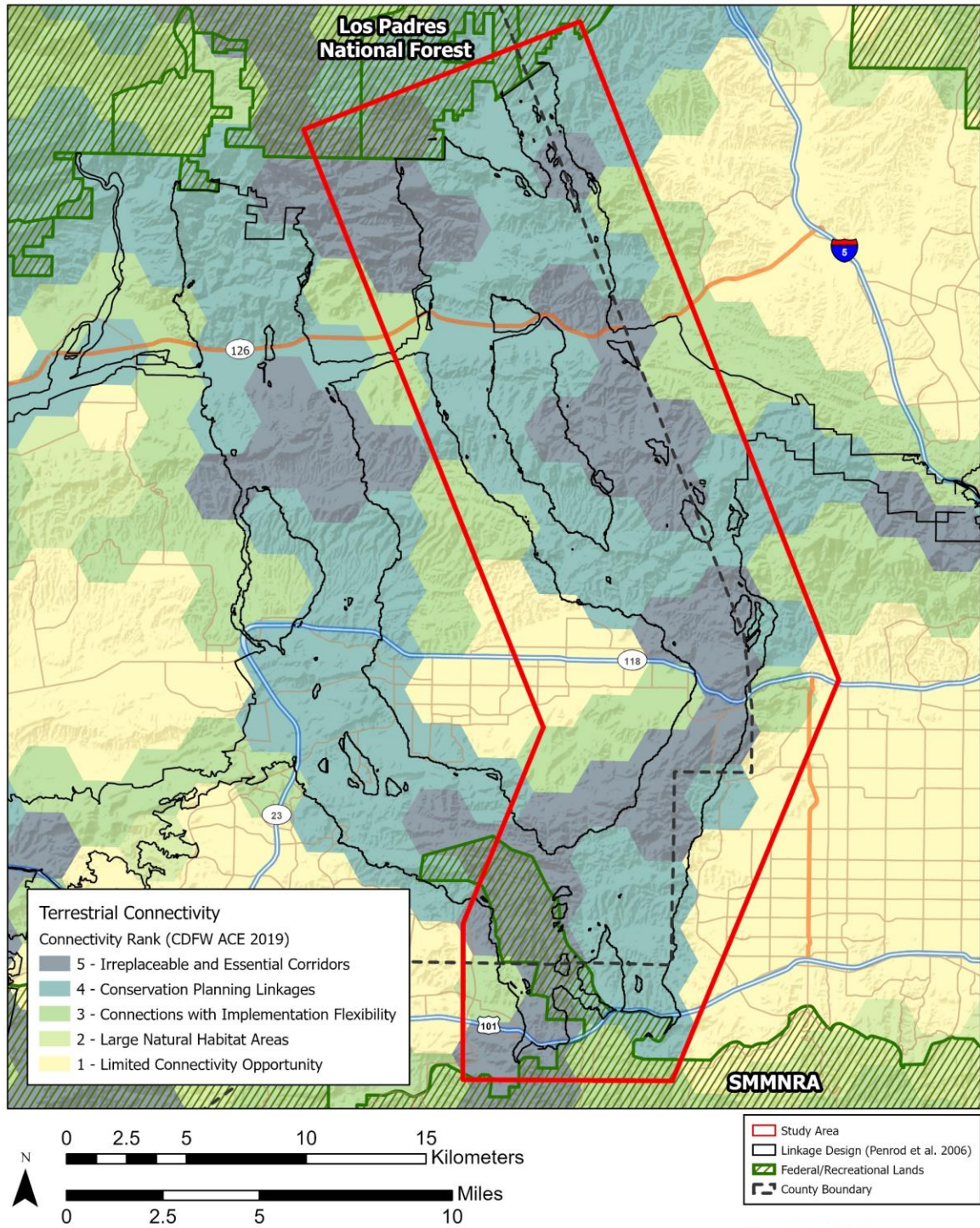




Sources: Esri, USGS, NOAA

Date Created 12/29/2020

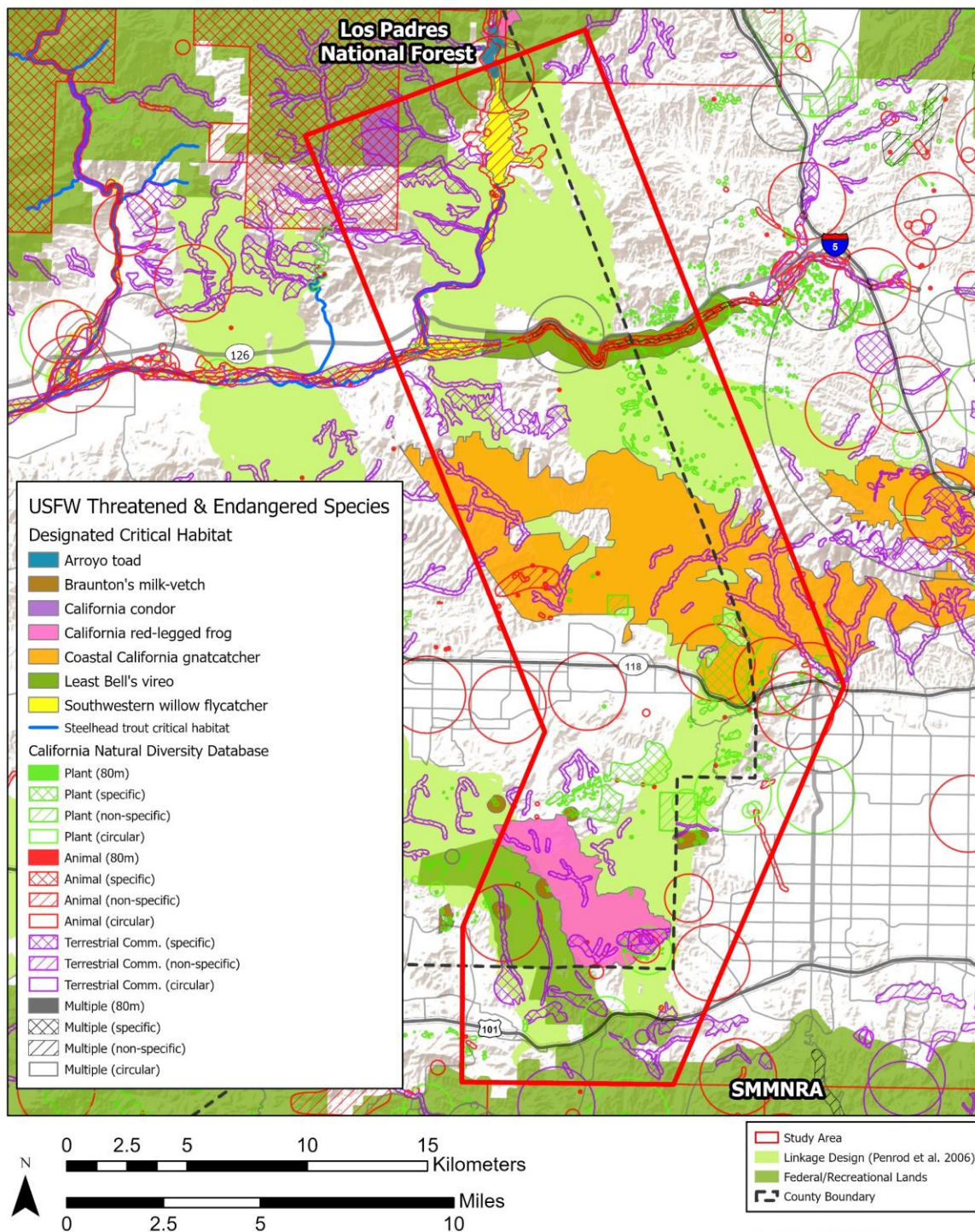




Sources: Esri, USGS, NOAA

Date Created 12/23/2020

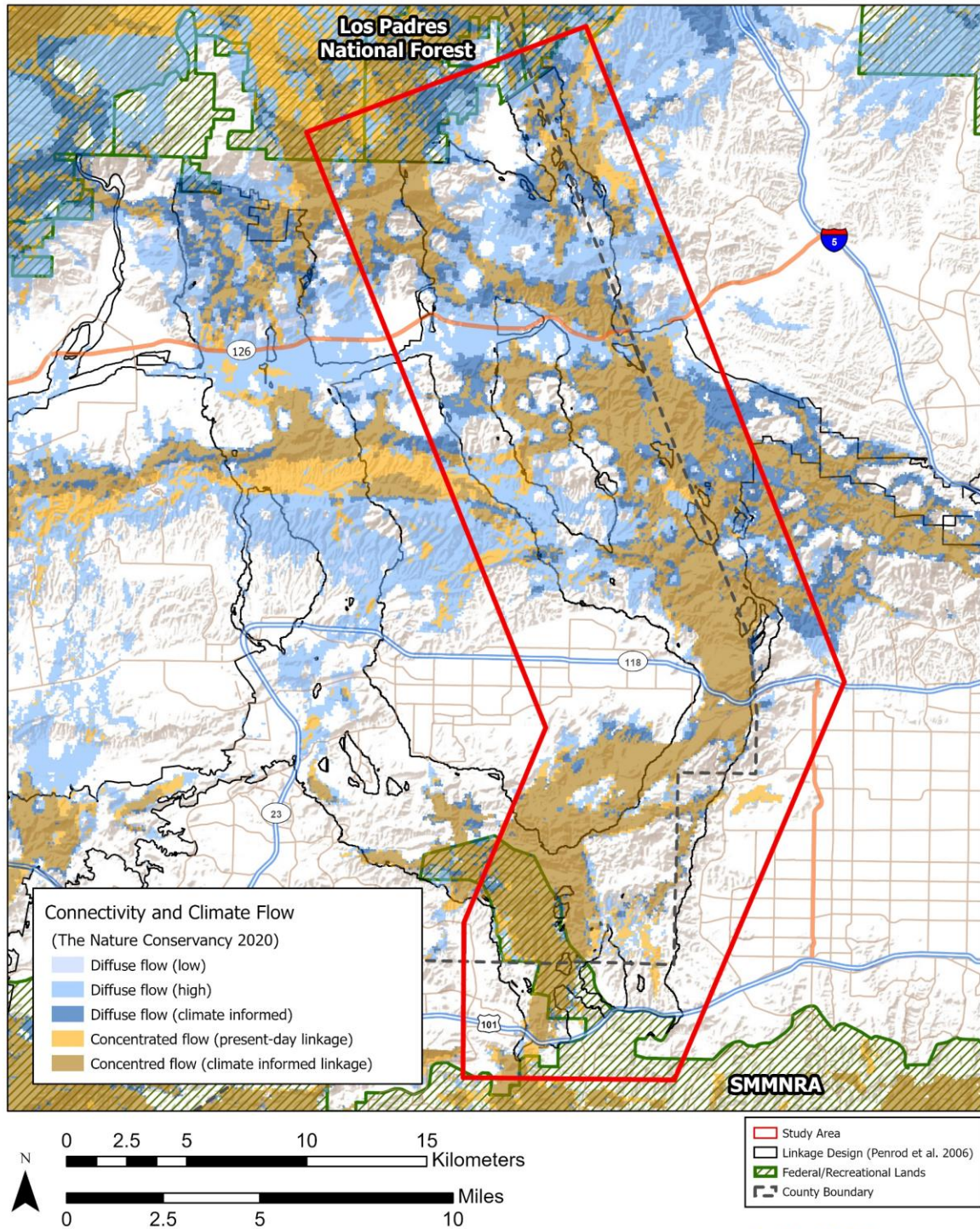




CNDDDB version 12/2020. Please Note: The occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not yet been surveyed and/or mapped. Lack of information in the CNDDDB about a species or an area can never be used as proof that no special status species occur in an area.

Sources: Esri, USGS, NOAA Date Created 12/28/2020



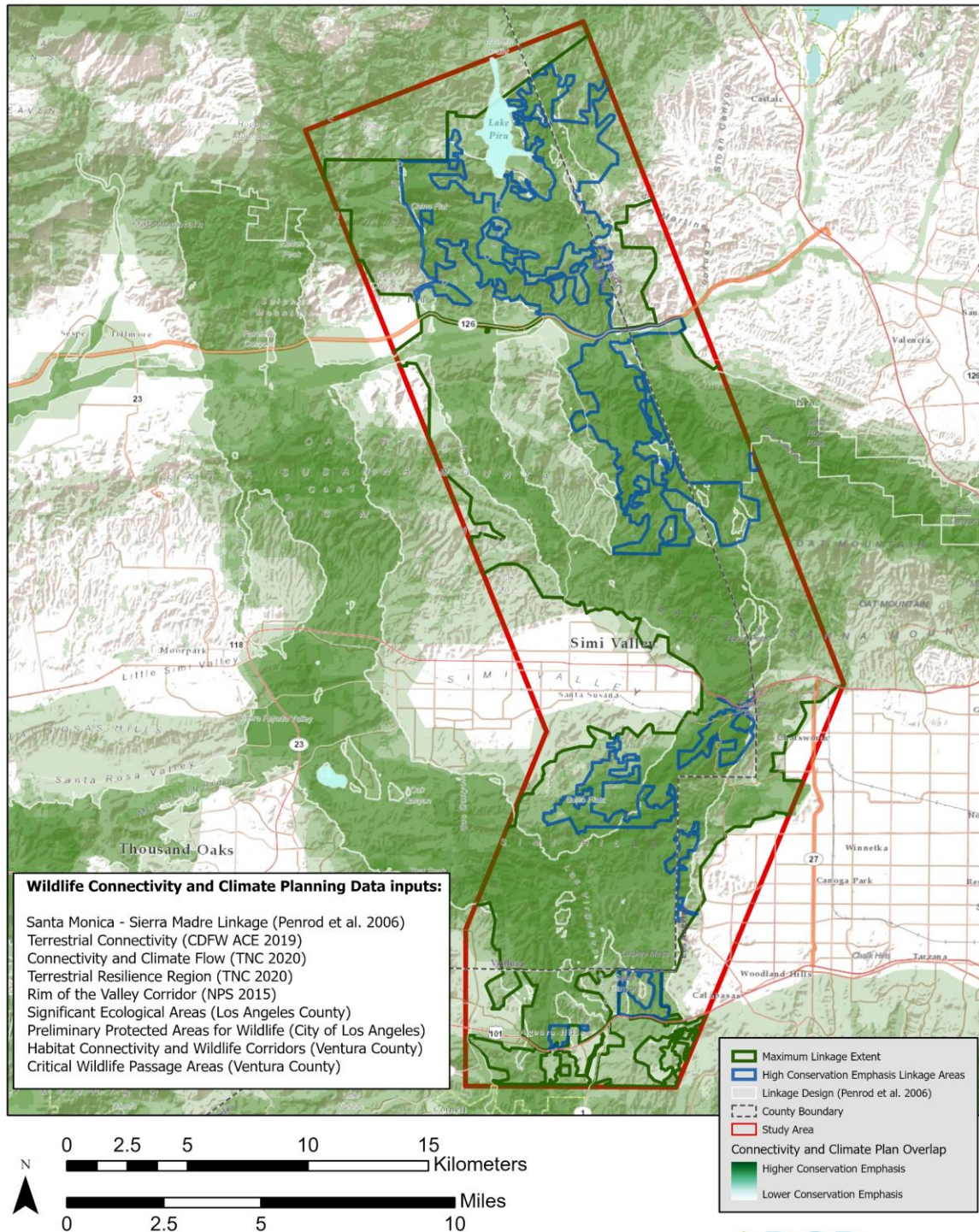


Sources: Esri, USGS, NOAA

Date Created 12/29/2020



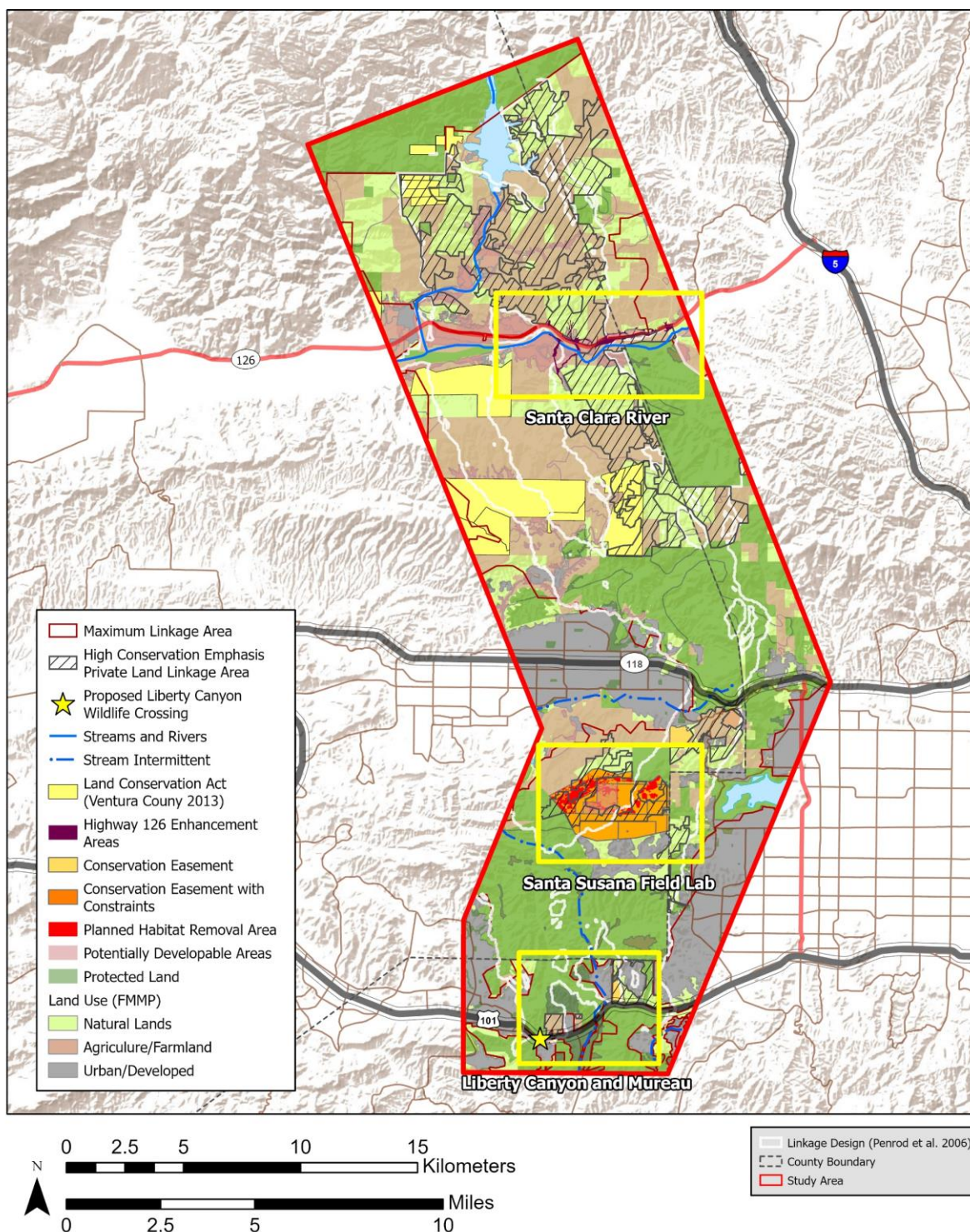
RCDSMM State of the East Branch Wildlife Linkage Report 12.30.20



Sources: Esri, USGS, NOAA,

Date Created 12/29/2020





Sources: Esri, USGS, NOAA

Date Created 01/22/2021



