

# Wildlife Conservation Board Meeting

November 21, 2019, 10:00am

Natural Resources Building,

First Floor Auditorium

1416 9<sup>th</sup> Street, Sacramento, California 95814

# #8. Recovering and Sustaining Monarch and Pollinator Populations



Example of a pollinator hedgerow planted by Gold Ridge Resource Conservation District to benefit pollinator species.

# #8. Recovering and Sustaining Monarch and Pollinator Populations



Narrow leaf milkweed planted as a companion plant with valley oak.

# #8. Recovering and Sustaining Monarch and Pollinator Populations



Resource Conservation Districts routinely work with school groups and community organizations as part of their outreach and educational programs.

# #8. Recovering and Sustaining Monarch and Pollinator Populations



Pollinator plants planted by a Resource Conservation District to benefit pollinator species.

# California Monarch Recovery Project Various Counties



# #9. California Monarch Recovery Project



In 2019, Xerces Society planted twenty miles of hedgerows for pollinators in the Central Valley including 5 miles with both native milkweed and monarch nectar plants.

# #9. California Monarch Recovery Project

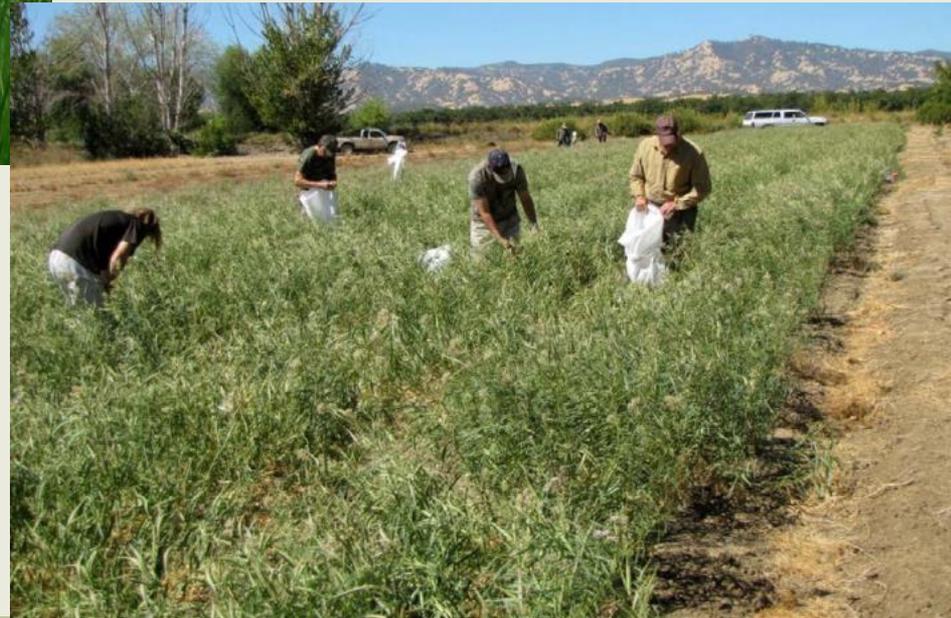


Snowy milkweed in a hedgerow along almond orchard in California.

# #9. California Monarch Recovery Project



In 2014, Xerces Society worked with an almond farm in California to restore grassland area that includes milkweed.



# #9. California Monarch Recovery Project



A monarch overwintering site at the Fiscalini Ranch Preserve in Cambria where the Xerces Society proposes working with the Cambria Community Services District to develop and implement a site management plan.



# #9. California Monarch Recovery Project



A monarch overwintering site in Pismo State Beach



# #9. California Monarch Recovery Project



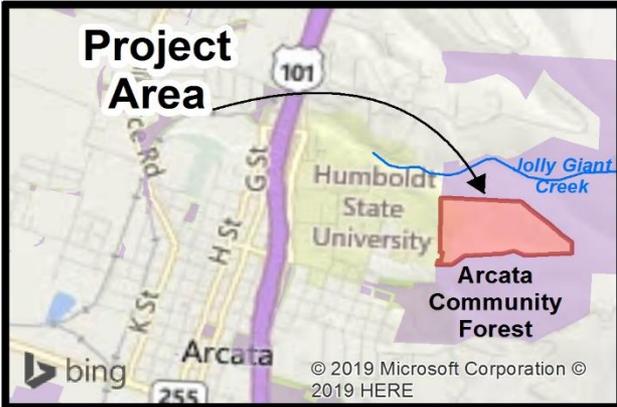
A cluster of overwintering monarchs



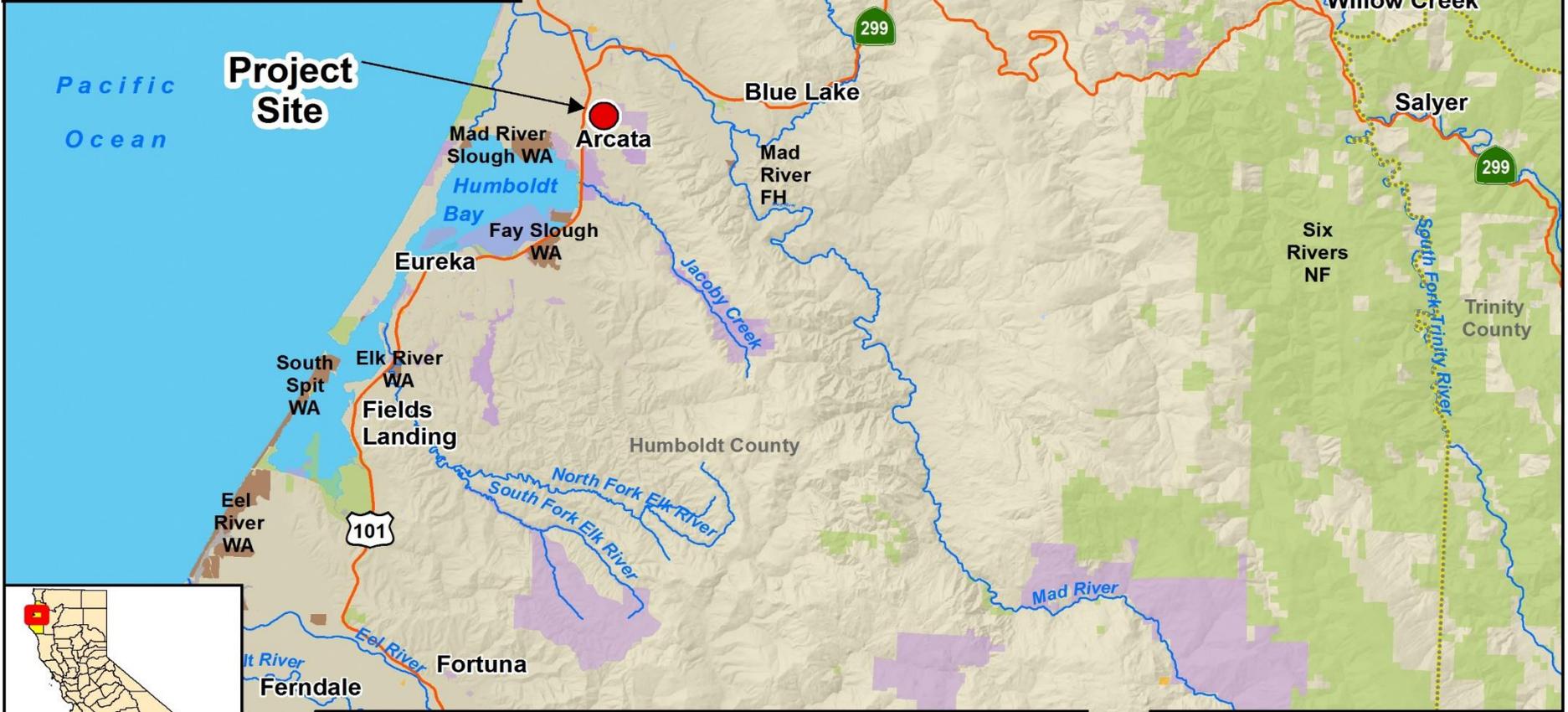
# #10. China Hill, Expansion 4



This item has been withdrawn from consideration at this time.



- Project Area
- California Department of Fish and Wildlife
- State
- Federal
- Other



**CAL FIRE Forsyth Conservation Easement  
Humboldt County**

7.5 Miles

WCB  
State of California  
Wildlife Conservation Board

10 WCB 11/21/2019

# #11. CAL FIRE Forsyth Conservation Easement



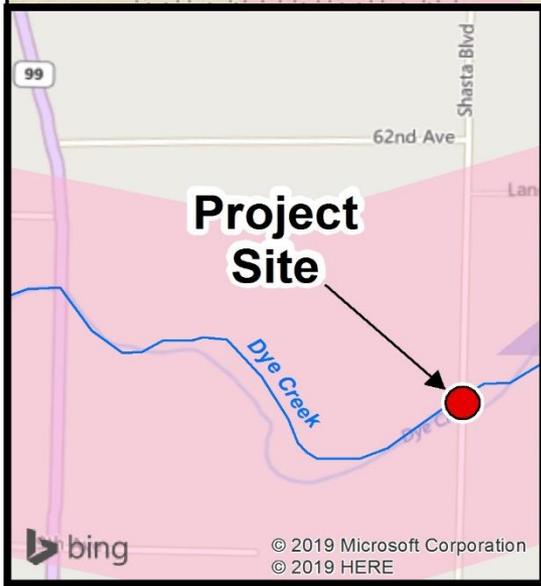
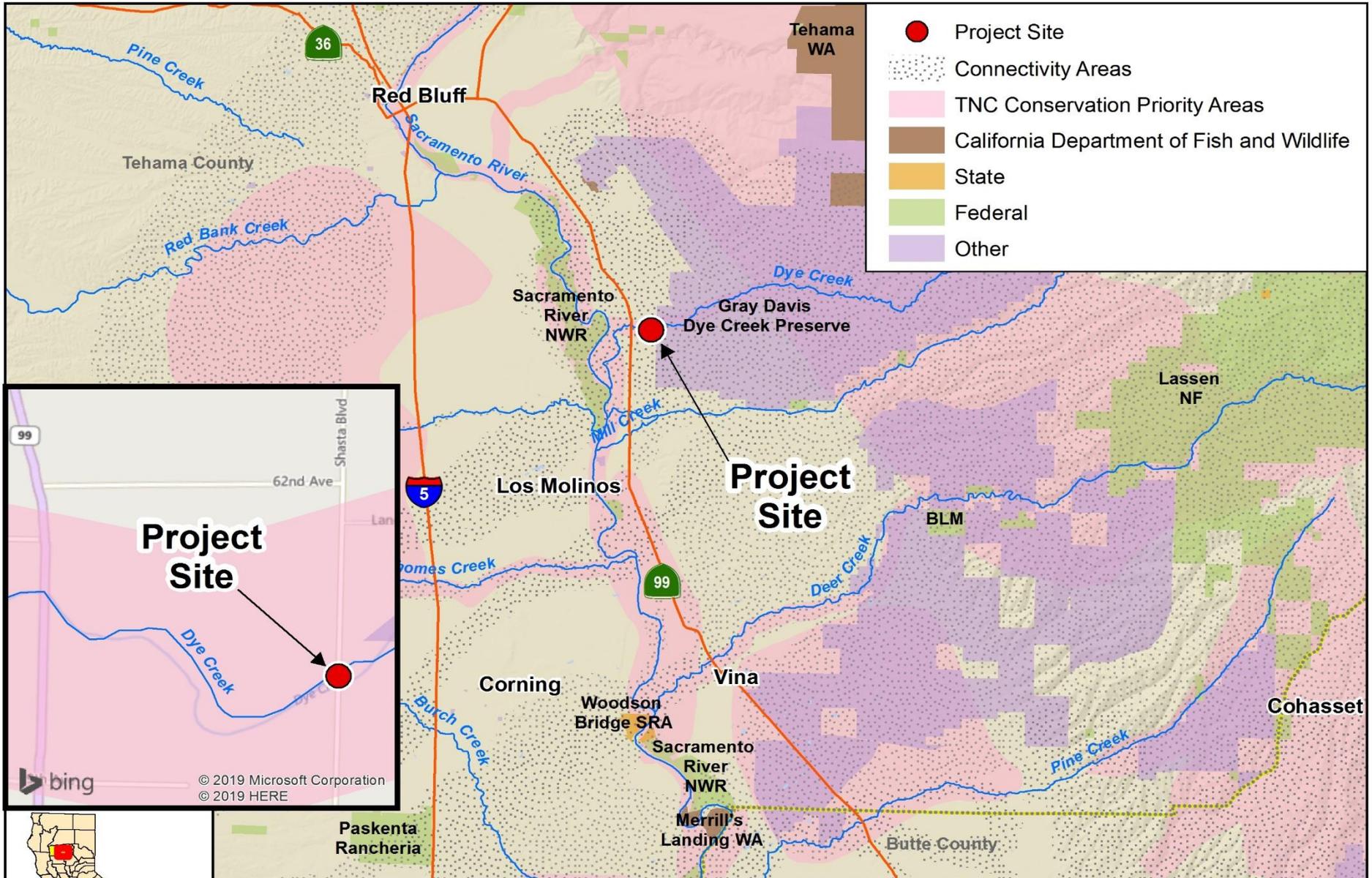
Looking  
northwest into  
entrance of  
Forsyth tract  
from Arcata  
Community  
Forest main road

# #11. CAL FIRE Forsyth Conservation Easement



Looking southwest at main road intersection (above) and with creek culvert (right).





**Dye Creek Low Water Crossing Fish Passage Planning  
Tehama County**

# #12. Dye Creek Low Water Crossing Fish Passage Planning



The current low water crossing with its undersized 12-inch diameter culverts has filled with sediment and is impeding fish passage.

# #12. Dye Creek Low Water Crossing Fish Passage Planning

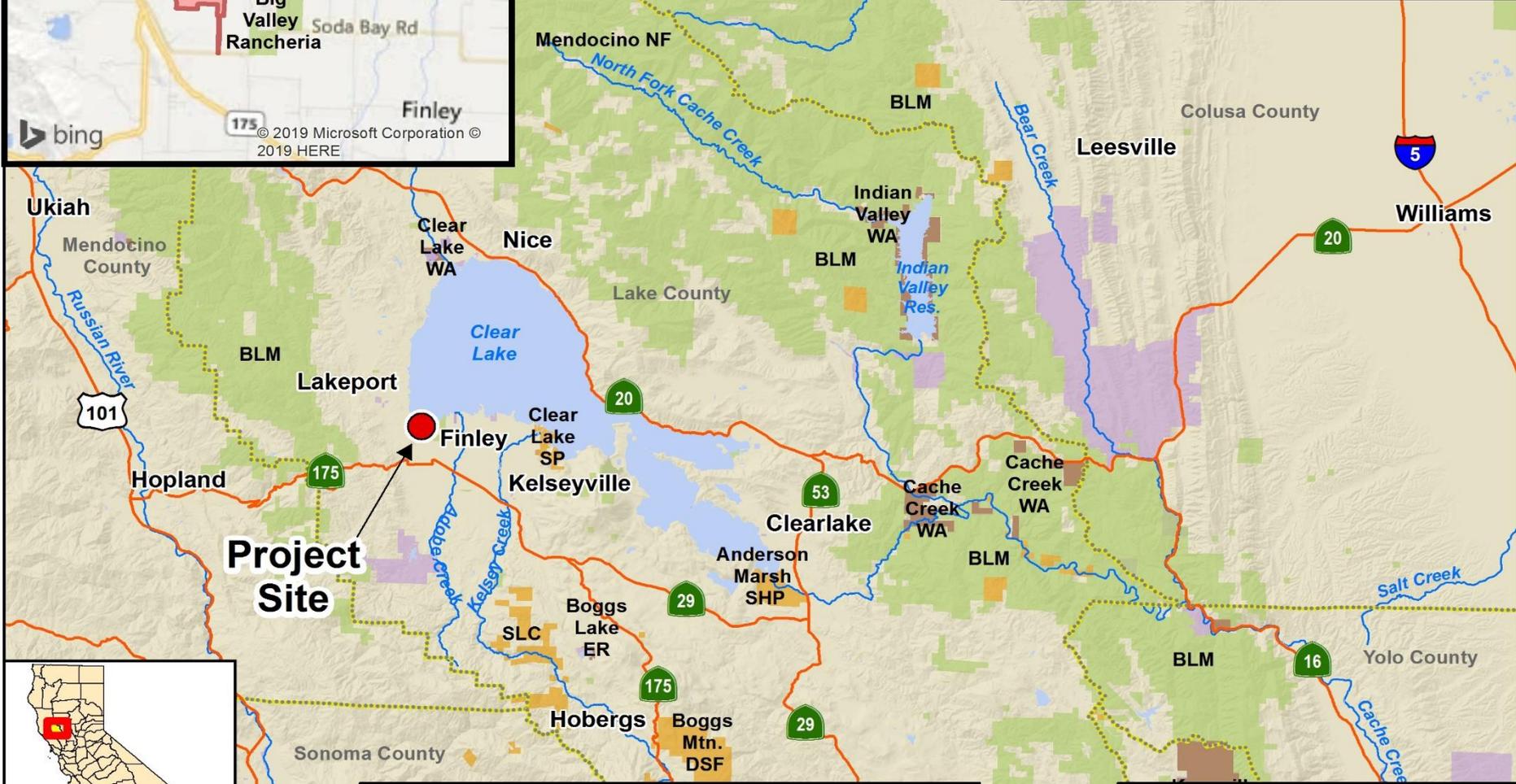
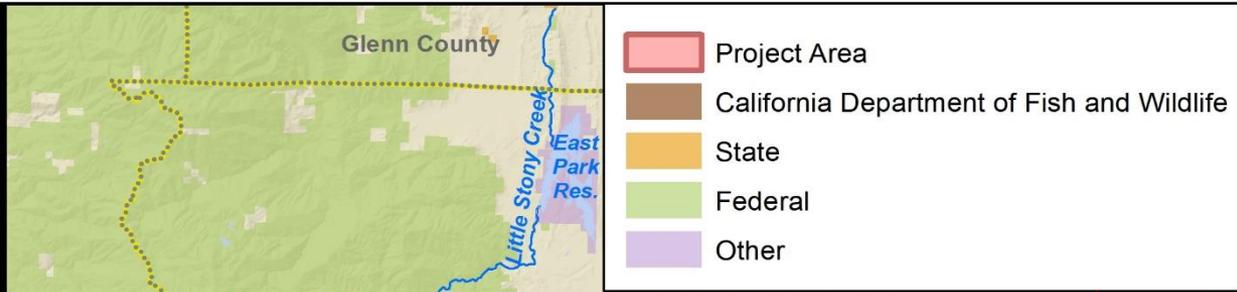
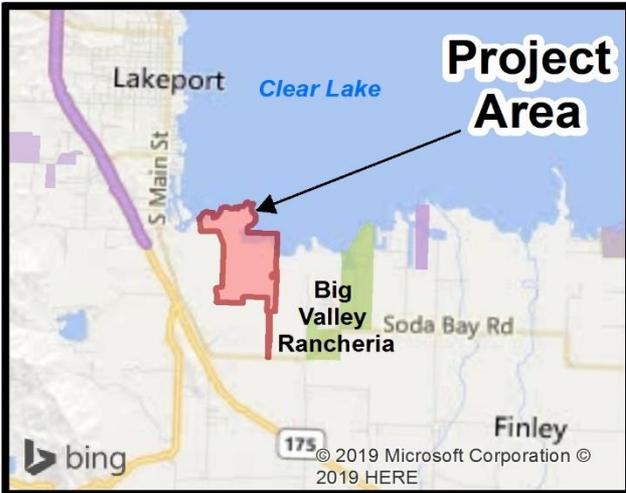


Dye Creek running over Shasta Boulevard after a winter storm event. The current culverts are insufficient to handle the average amount of water flow.

# #12. Dye Creek Low Water Crossing Fish Passage Planning



The water overflowing on to Shasta Boulevard can create a hazard for vehicles.



# Big Valley Wetlands, Expansion 1 Lake County

# #13. Big Valley Wetlands, Expansion 1



Canal along the eastern edge of the property

# #13. Big Valley Wetlands, Expansion 1



Westerly view of the property

# #13. Big Valley Wetlands, Expansion 1

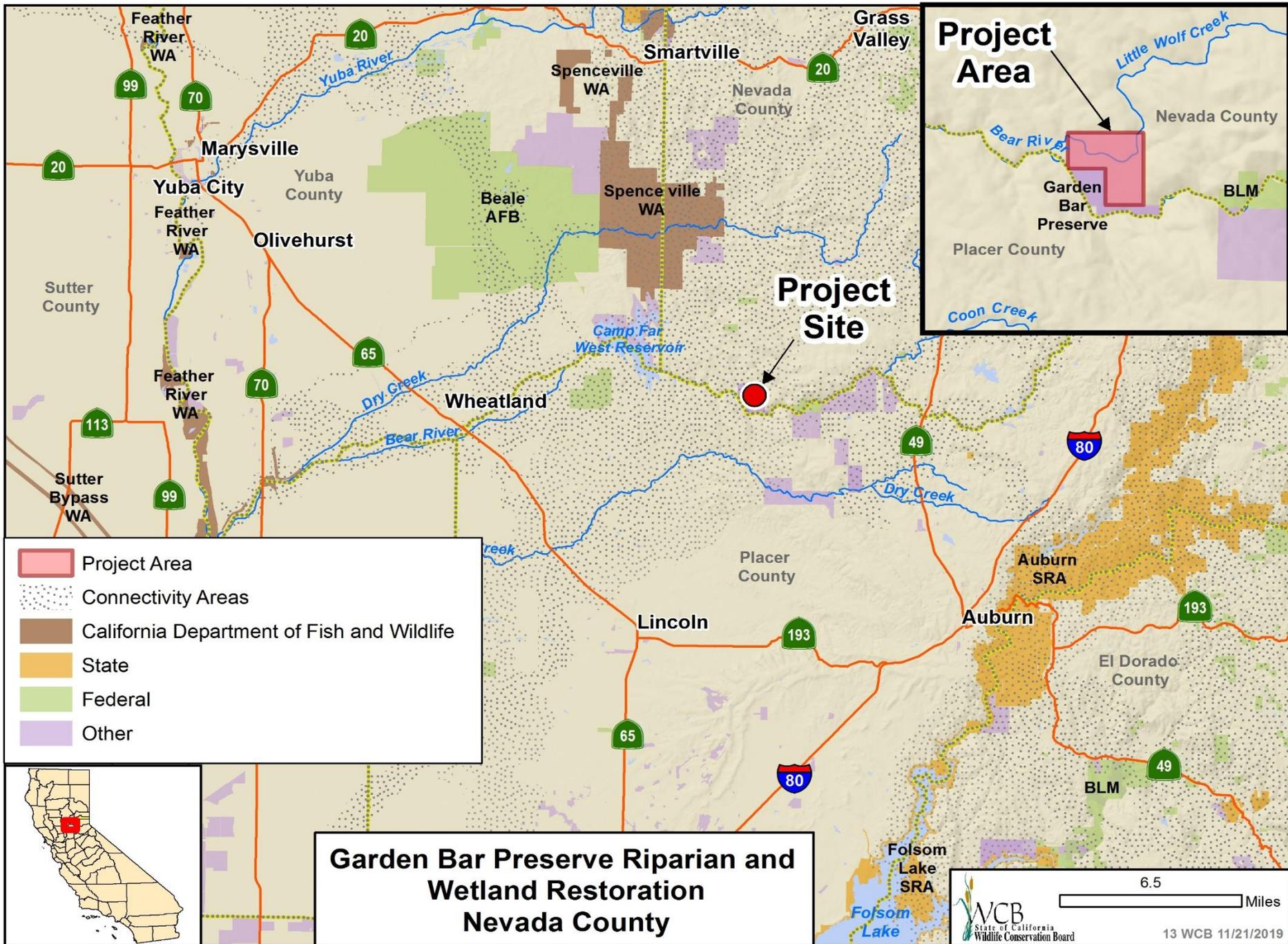


Northerly view of the property

# #13. Big Valley Wetlands, Expansion 1



Northeast view of the property



- Project Area
- Connectivity Areas
- California Department of Fish and Wildlife
- State
- Federal
- Other



**Garden Bar Preserve Riparian and Wetland Restoration  
Nevada County**

6.5 Miles

WCB  
 State of California  
 Wildlife Conservation Board

13 WCB 11/21/2019

# #14. Garden Bar Preserve Riparian and Wetland Restoration



3-acre restoration area in foreground and Little Wolf Creek corridor in background

# #14. Garden Bar Preserve Riparian and Wetland Restoration



Looking at 3-acre restoration area with back to Little Wolf Creek

# #14. Garden Bar Preserve Riparian and Wetland Restoration



Seasonal tributary at western edge of restoration site

# #14. Garden Bar Preserve Riparian and Wetland Restoration



Upstream  
reach of Little  
Wolf Creek  
within project  
area

# #14. Garden Bar Preserve Riparian and Wetland Restoration

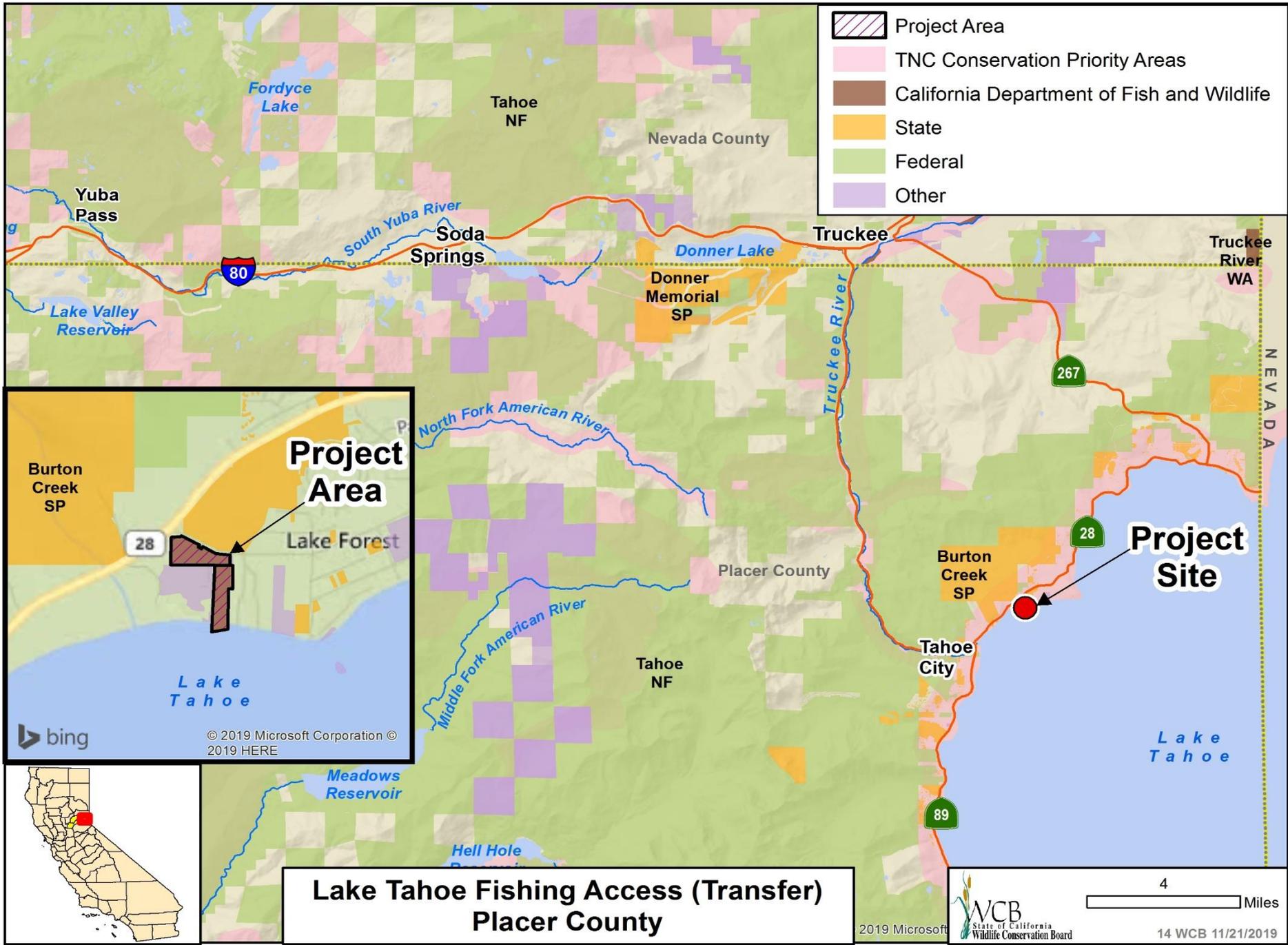


Downstream reach of  
Little Wolf Creek within  
project area

# #14. Garden Bar Preserve Riparian and Wetland Restoration



Looking at Little Wolf Creek and location of proposed beaver dam analog



# Lake Tahoe Fishing Access (Transfer) Placer County

# #15. Lake Tahoe Fishing Access (Transfer)



Lake Forest  
project  
signage

# #15. Lake Tahoe Fishing Access (Transfer)



Access to project site off Lake Forest road. Kiosk is to the right of the picture in the background.

# #15. Lake Tahoe Fishing Access (Transfer)



Lake Forest  
Boat Ramp

# #15. Lake Tahoe Fishing Access (Transfer)



Looking back  
to the Lake  
Forest boat  
ramp from the  
end of the  
dock.

# #15. Lake Tahoe Fishing Access (Transfer)



Lake Forest  
boat ramp  
parking lot

# #15. Lake Tahoe Fishing Access (Transfer)



Boat launch  
restroom  
facility in the  
background

# #15. Lake Tahoe Fishing Access (Transfer)



Lake Forest  
boat ramp  
kiosk

# #15. Lake Tahoe Fishing Access (Transfer)

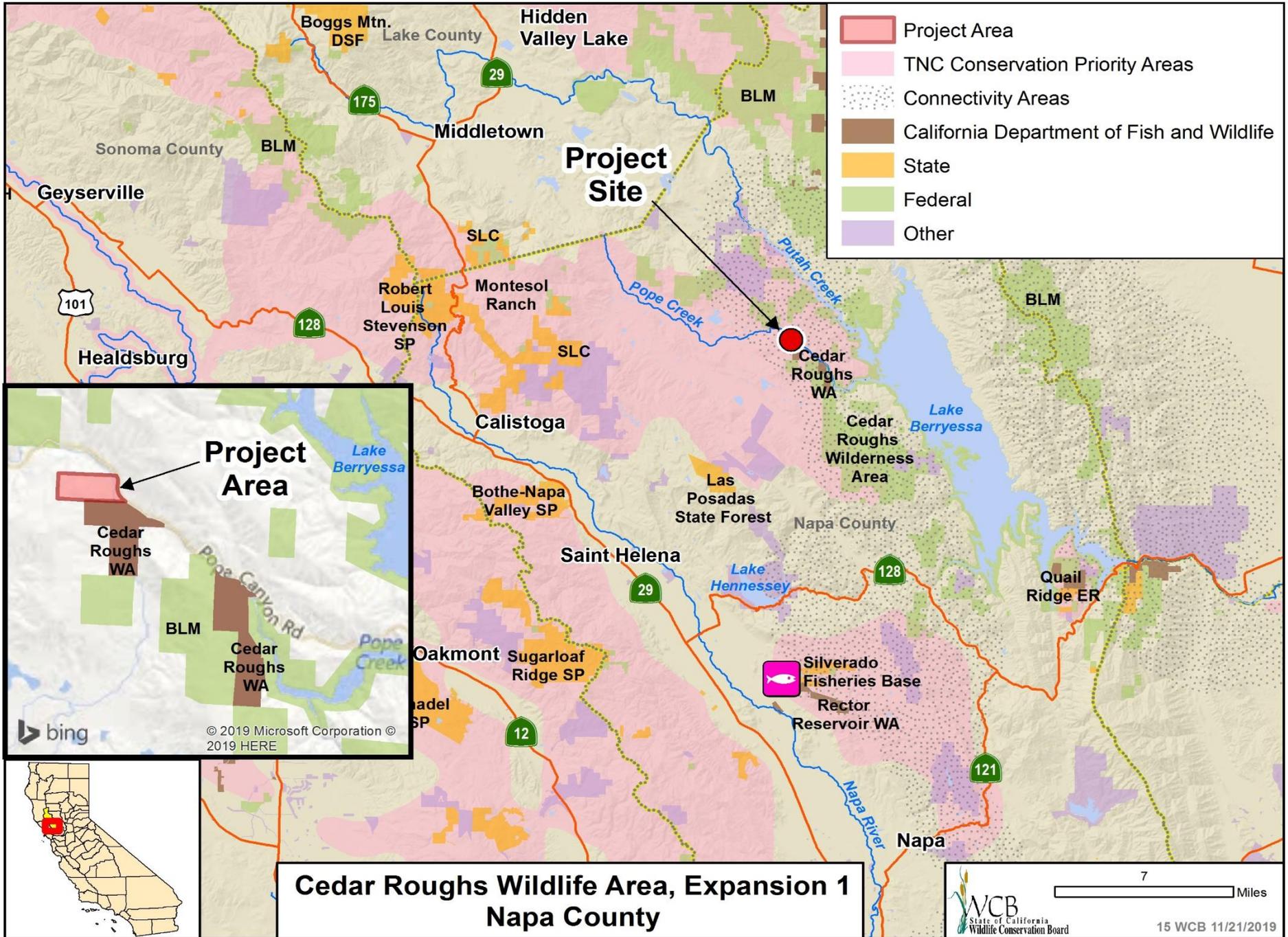


Campground  
signage

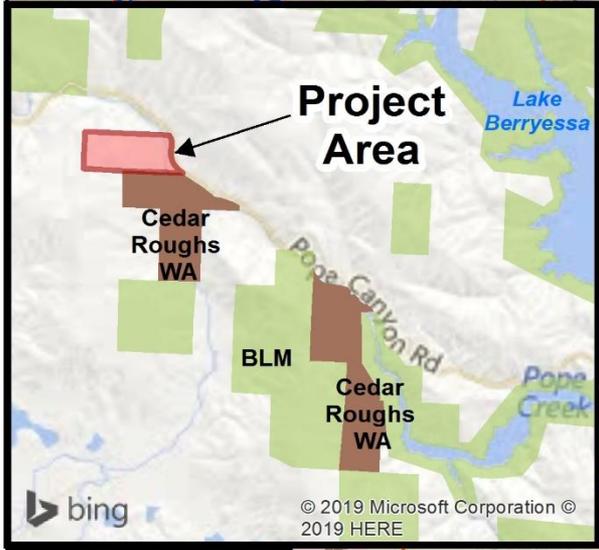
# #15. Lake Tahoe Fishing Access (Transfer)



Typical Lake Forest campsite



- Project Area
- TNC Conservation Priority Areas
- Connectivity Areas
- California Department of Fish and Wildlife
- State
- Federal
- Other



## Cedar Roughs Wildlife Area, Expansion 1 Napa County

# #16. Cedar Roughs Wildlife Area, Expansion 1



Northeast view  
of the property  
looking down on  
Pope creek.

# #16. Cedar Roughs Wildlife Area, Expansion 1



Looking west  
from Pope  
Canyon Road

# #16. Cedar Roughs Wildlife Area, Expansion 1



Oak grove with  
gently sloped  
open area

# #16. Cedar Roughs Wildlife Area, Expansion 1



Looking west from  
southeastern  
edge of the  
property

# #16. Cedar Roughs Wildlife Area, Expansion 1



View through  
oak woodlands  
to Pope Creek



# #17. Monarch Wings Across California, Expansion and Connectivity



Pollinator habitat

# #17. Monarch Wings Across California, Expansion and Connectivity



Pollinator habitat workshop

# #17. Monarch Wings Across California, Expansion and Connectivity



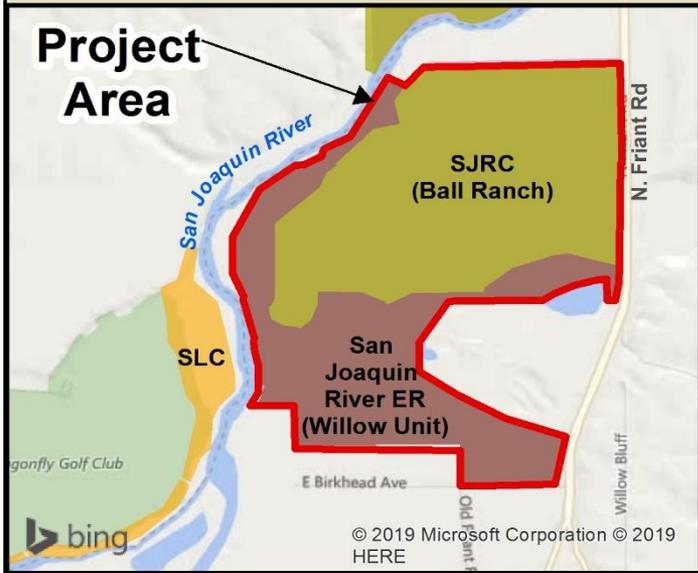
Pollinator  
identification  
training

# #17. Monarch Wings Across California, Expansion and Connectivity

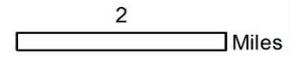


Pollinator habitat site visit

- Project Area
- San Joaquin River Conservancy
- California Department of Fish and Wildlife
- State
- Federal
- Other



**San Joaquin River Parkway  
Ball Ranch Habitat Restoration Planning and CEQA  
Fresno County**



# #18. San Joaquin River Parkway, Ball Ranch Habitat Restoration



View from the northern border of Ball Ranch looking south at annual grassland and oak woodland in the distance.

# #18. San Joaquin River Parkway, Ball Ranch Habitat Restoration



Oak woodland at Ball Ranch

# #18. San Joaquin River Parkway, Ball Ranch Habitat Restoration

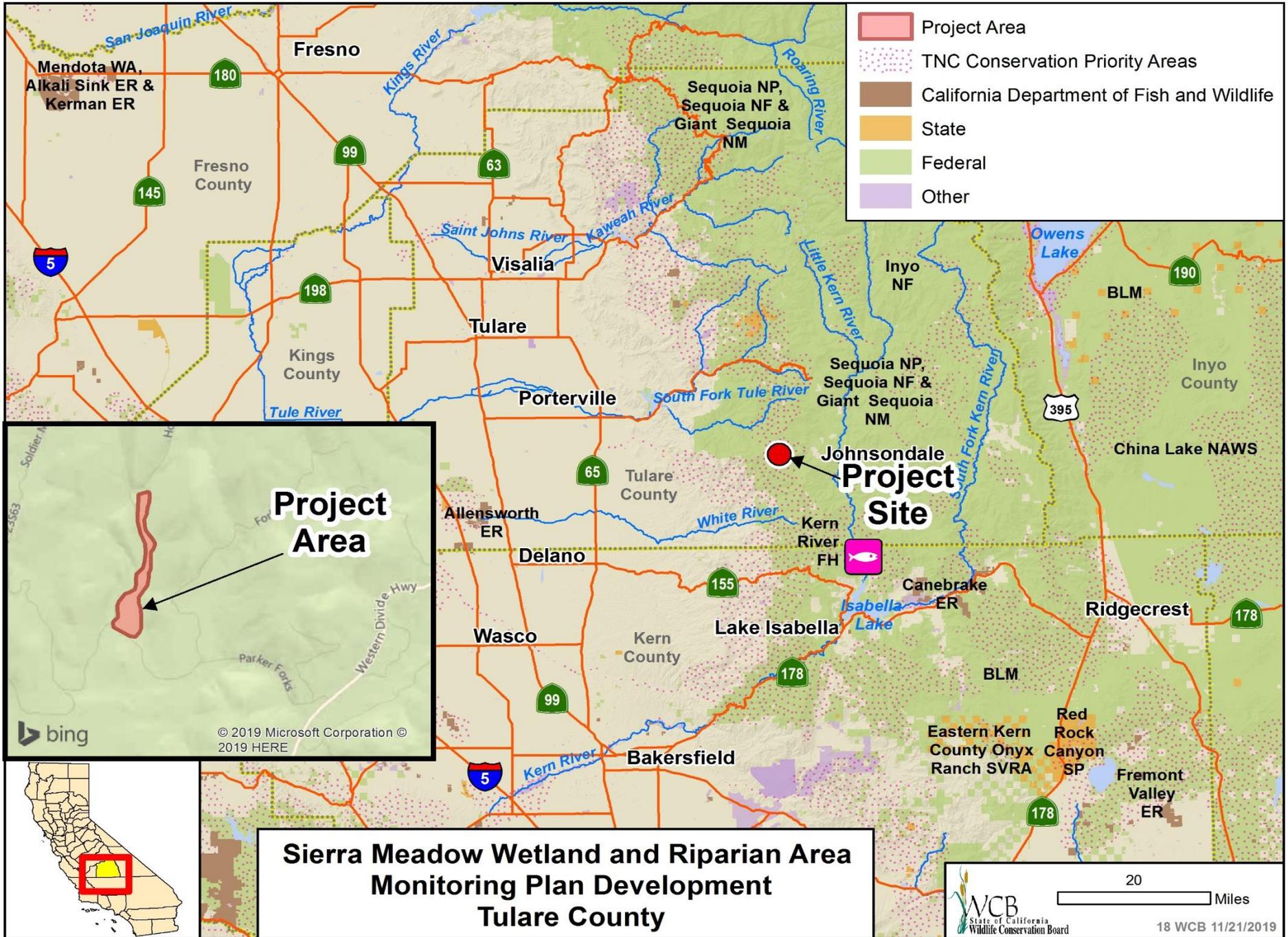


Pond with riparian vegetation at Ball Ranch

# #18. San Joaquin River Parkway, Ball Ranch Habitat Restoration



Stand of non-native, invasive Tree of Heaven (*Ailanthus altissima*)



- Project Area
- TNC Conservation Priority Areas
- California Department of Fish and Wildlife
- State
- Federal
- Other



**Sierra Meadow Wetland and Riparian Area  
Monitoring Plan Development  
Tulare County**

# #19. Sierra Meadow Wetland and Riparian Area Monitoring



Cattle grazing  
on Horse  
Meadow

# #19. Sierra Meadow Wetland and Riparian Area Monitoring



Horse meadow  
channel incision

# #19. Sierra Meadow Wetland and Riparian Area Monitoring



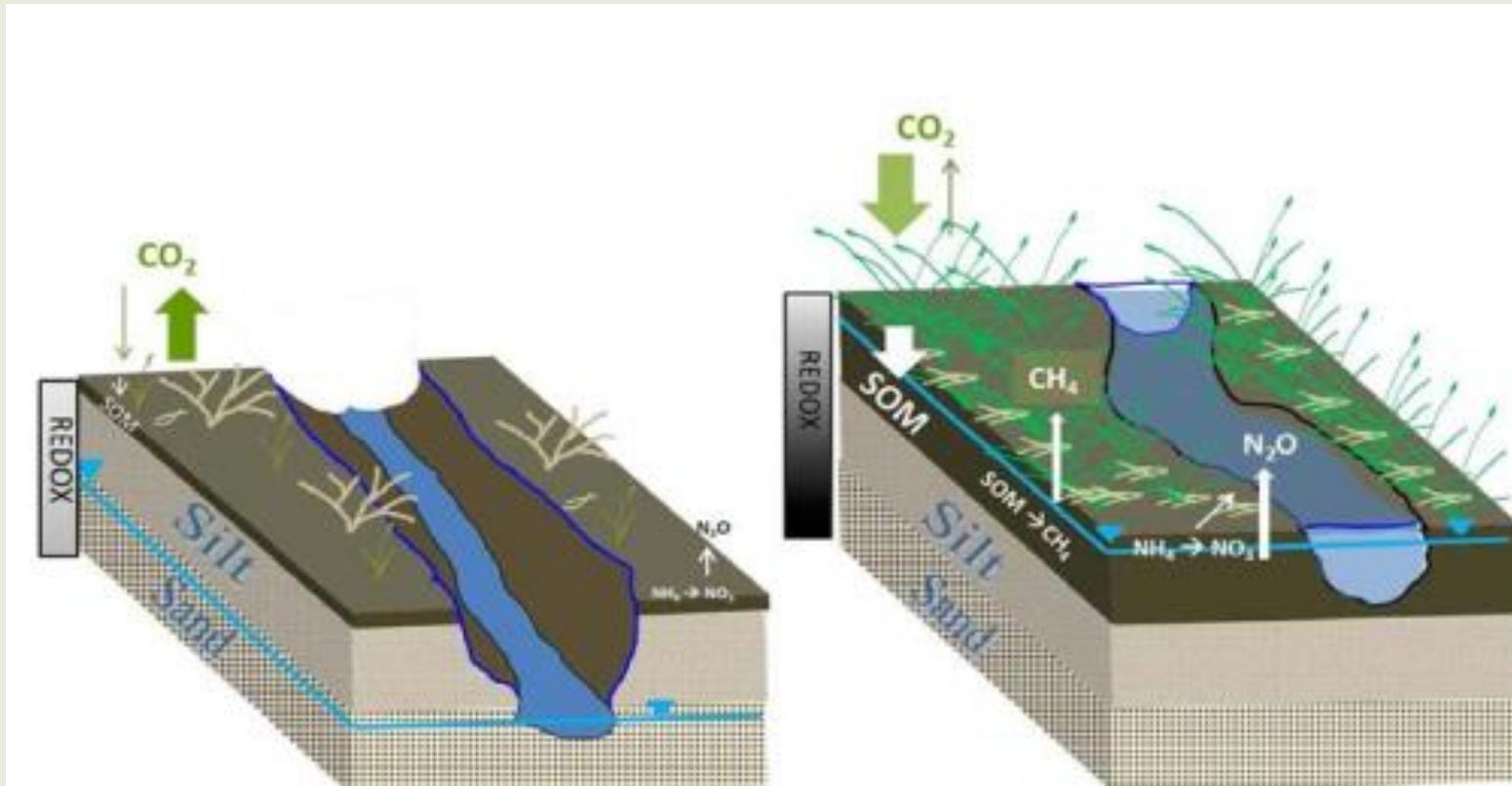
Horse Meadow

# #19. Sierra Meadow Wetland and Riparian Area Monitoring



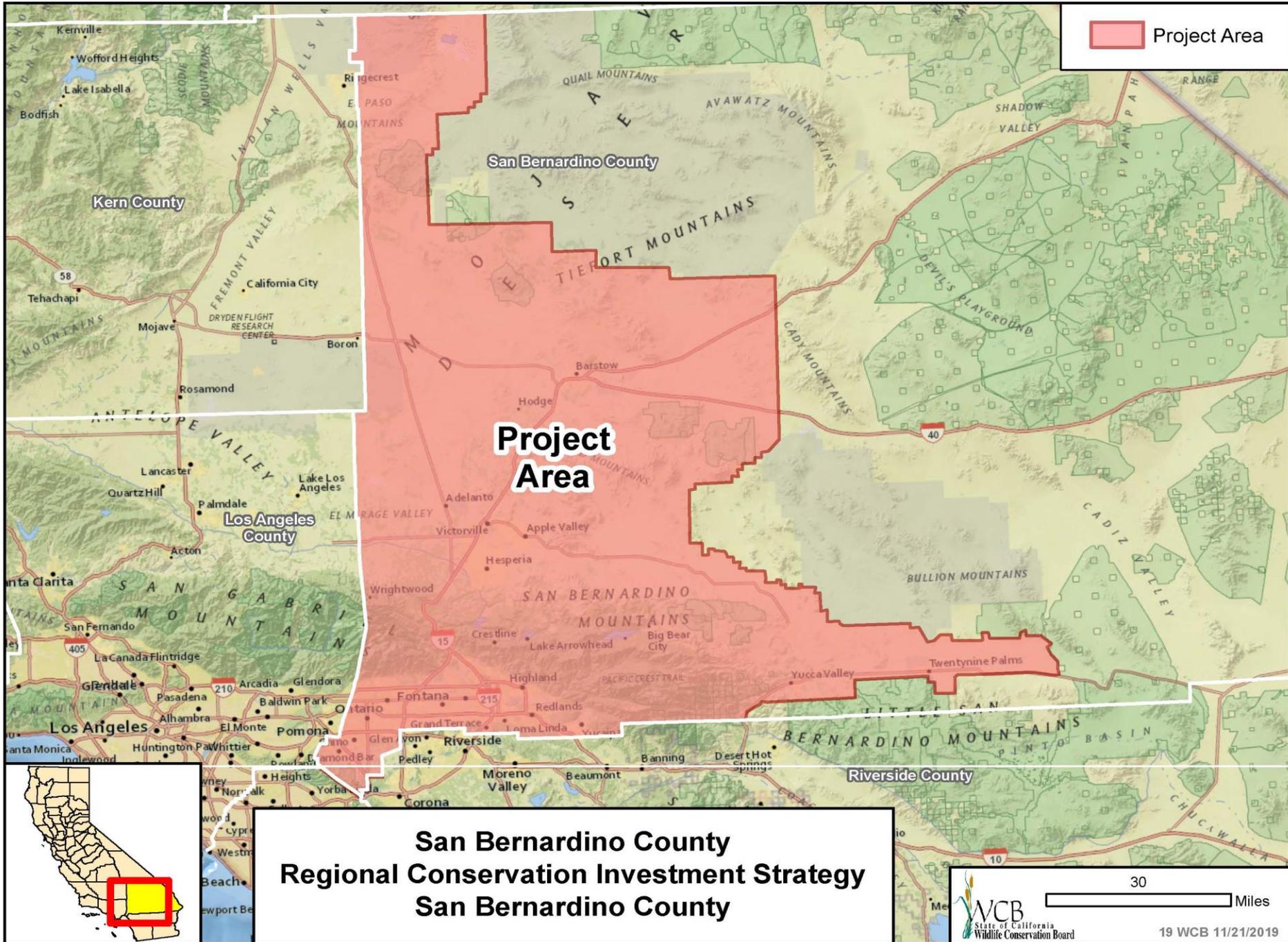
Horse Meadow

# #19. Sierra Meadow Wetland and Riparian Area Monitoring



Conceptual model, comparing degraded and restored meadow conditions

Project Area



**Project Area**



**San Bernardino County  
Regional Conservation Investment Strategy  
San Bernardino County**



30 Miles

# #20. San Bernardino County Regional Conservation Investment Strategy



Burrowing owl and Desert Tortoise (left) and Santa Ana Sucker (right)

# #20. San Bernardino County Regional Conservation Investment Strategy



Coastal Scrub

# #20. San Bernardino County Regional Conservation Investment Strategy

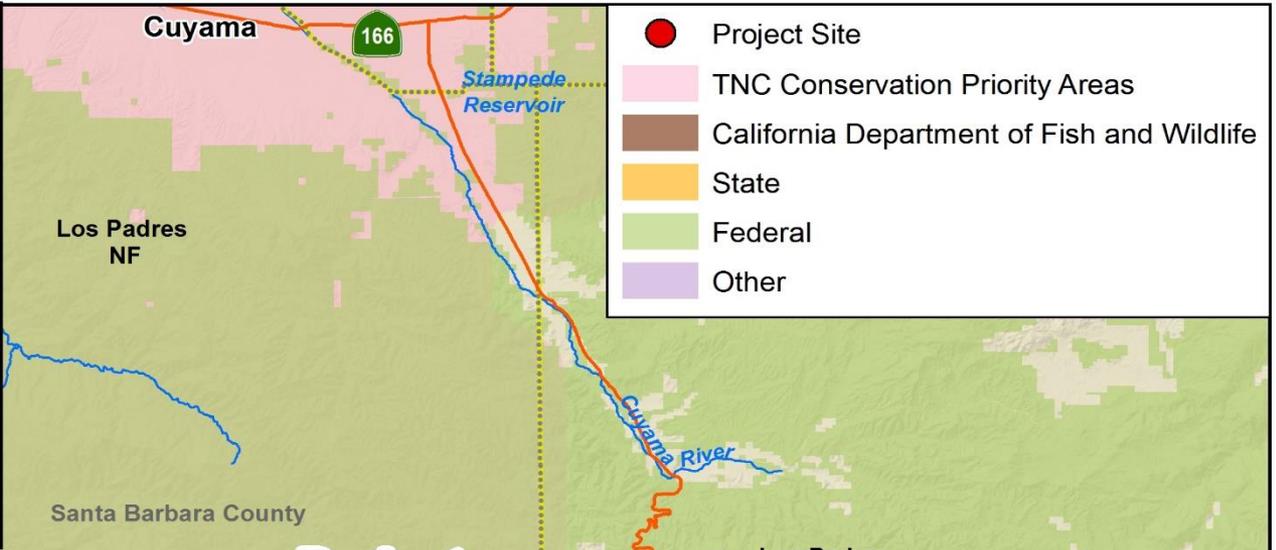


Joshua Tree

# #20. San Bernardino County Regional Conservation Investment Strategy



Upper Santa Ana River



- Project Site
- TNC Conservation Priority Areas
- California Department of Fish and Wildlife
- State
- Federal
- Other



**Carpinteria Salt Marsh  
Infrastructure Improvement Project Augmentation  
Santa Barbara County**

8 Miles


  
 WCB  
 State of California  
 Wildlife Conservation Board

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# #21. Carpinteria Salt Marsh Infrastructure Project Augmentation



Aerial photograph of the Estero Road extension looking northward into the Reserve

# #21. Carpinteria Salt Marsh Infrastructure Project Augmentation



Photograph taken in 2017 of the existing culvert running underneath the Estero Road extension

# #21. Carpinteria Salt Marsh Infrastructure Project Augmentation



Photograph taken  
in September  
2019 showing  
Estero Road  
culvert impacted  
by sediment

# #21. Carpinteria Salt Marsh Infrastructure Project Augmentation

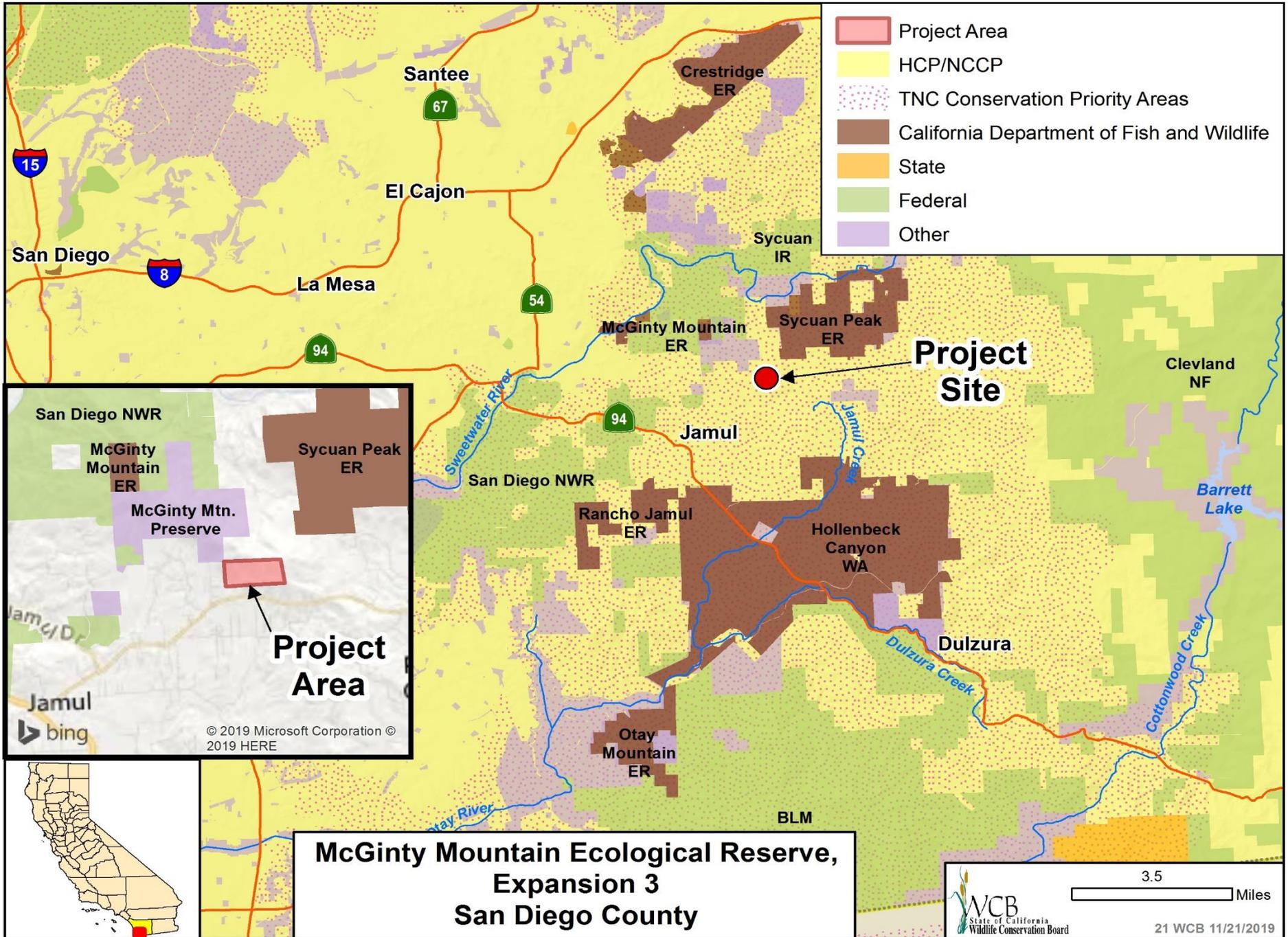


Photograph of  
Estero Road  
culvert  
impacted by  
sediment and  
woody debris

# #21. Carpinteria Salt Marsh Infrastructure Project Augmentation



Photograph of an informational sign installed in the adjacent Carpinteria Salt Marsh Nature Park



**McGinty Mountain Ecological Reserve,  
Expansion 3  
San Diego County**

# #22. McGinty Mountain Ecological Reserve, Expansion 3



Looking west across the property to the San Diego Bay

# #22. McGinty Mountain Ecological Reserve, Expansion 3

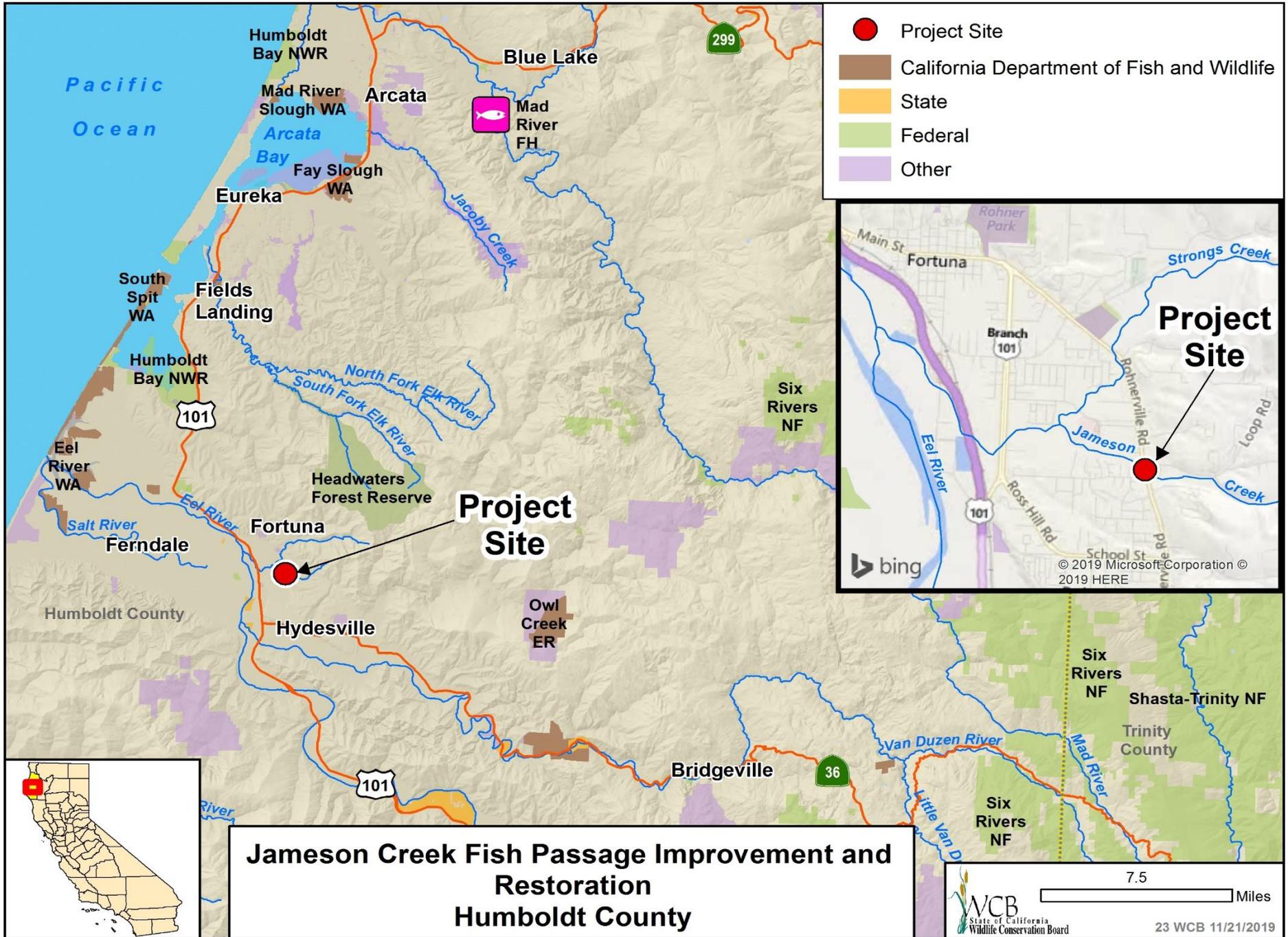


Looking northeast from the interior of the property

# #23. Central Valley Monarch Butterfly Habitat Enhancement



This item has been withdrawn from consideration at this time.



**Jameson Creek Fish Passage Improvement and Restoration  
Humboldt County**

# #24. Jameson Creek Fish Passage Improvement and Restoration



Coho Salmon in Eel River  
Watershed listed as threatened  
under State and Federal  
Endangered Species Acts

Coho salmon and other salmonids  
remain in main stem of the Eel  
River

Substantial decline in tributaries

Barrier removal identified as a  
primary recommendation in CDFW  
Coho Recovery Plan



Eel River

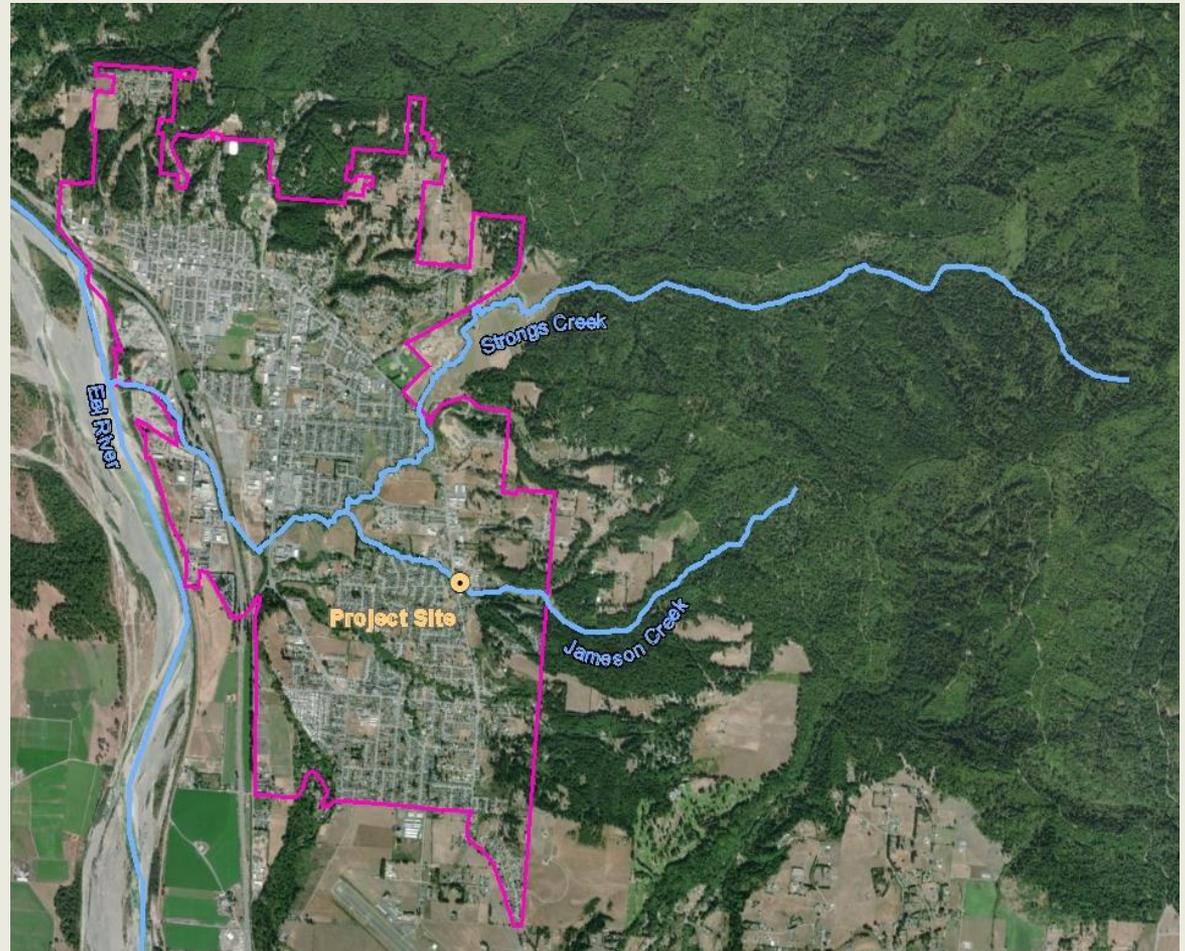
# #24. Jameson Creek Fish Passage Improvement and Restoration



2010 CDFW survey found Strongs Creek watershed to be only tributary to the middle Eel River with suitable summer water temperatures for salmonids

2017 CDFW Fisheries Restoration Grant Program (FRGP) grant to modify a culvert on Strongs Creek

Lower Eel River salmonid access to Jameson creek stops at Rohnerville Road crossing



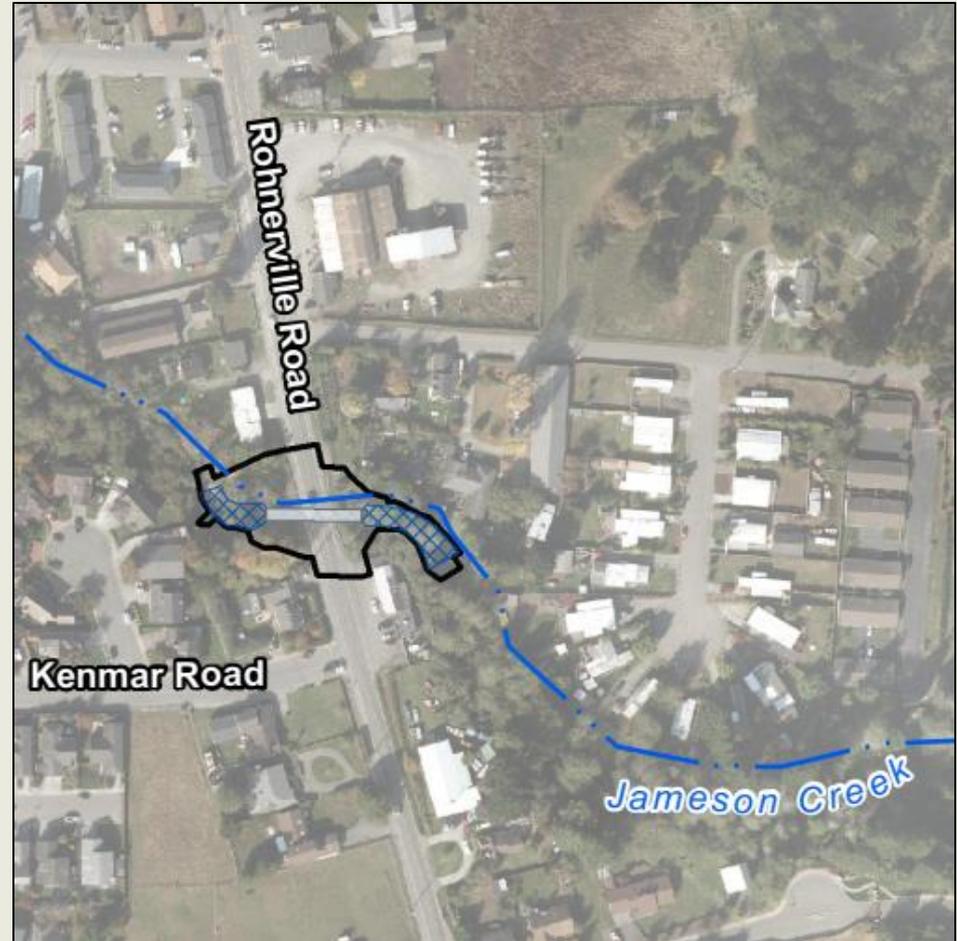
# #24. Jameson Creek Fish Passage Improvement and Restoration



Upstream of Rohnerville Road Crossing

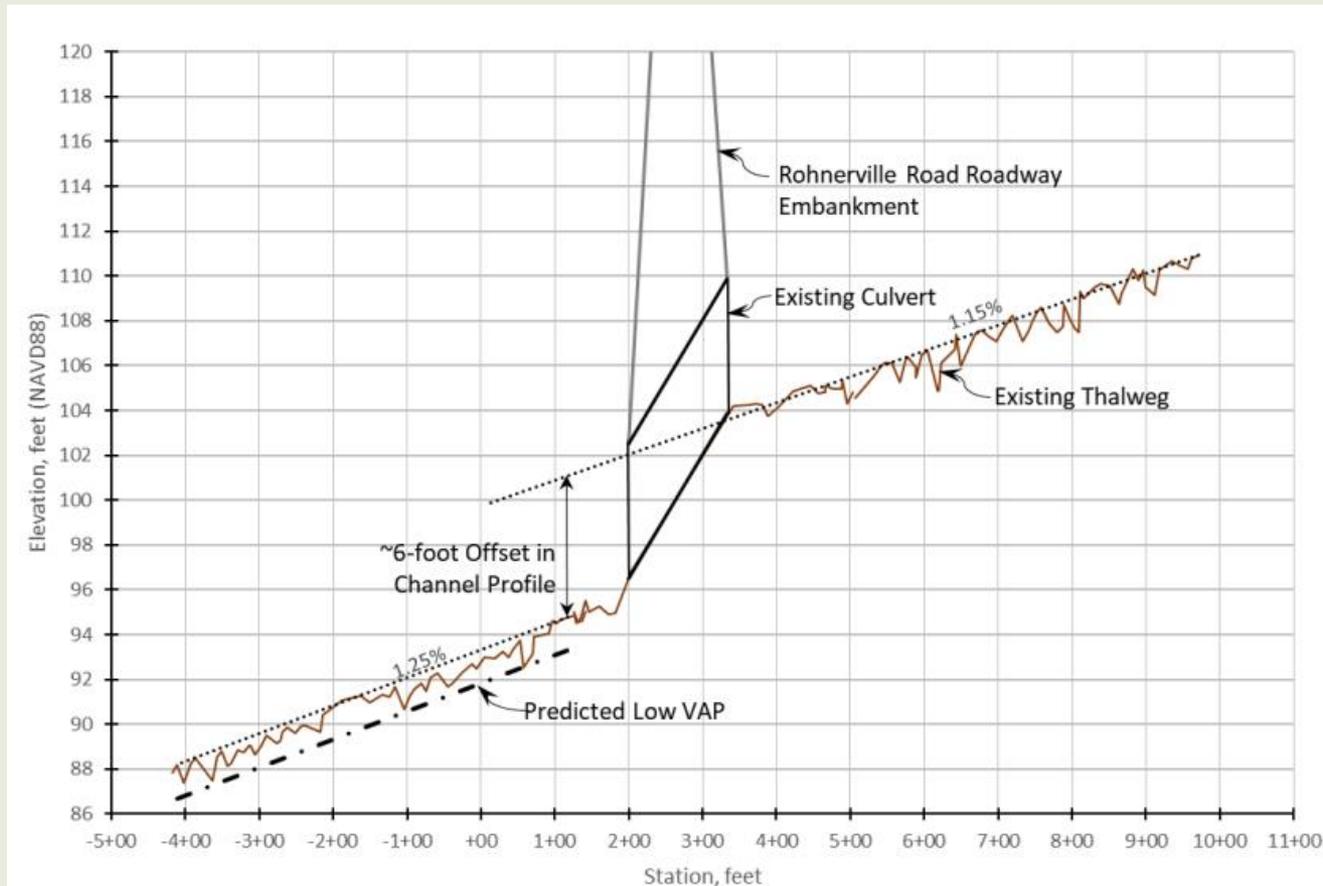


Downstream of Rohnerville Road Crossing



Rohnerville Road Crossing

# #24. Jameson Creek Fish Passage Improvement and Restoration



Jameson Creek Slope at Rohnerville Road Crossing

# #24. Jameson Creek Fish Passage Improvement and Restoration



Photo 1: Upstream inlet of culvert

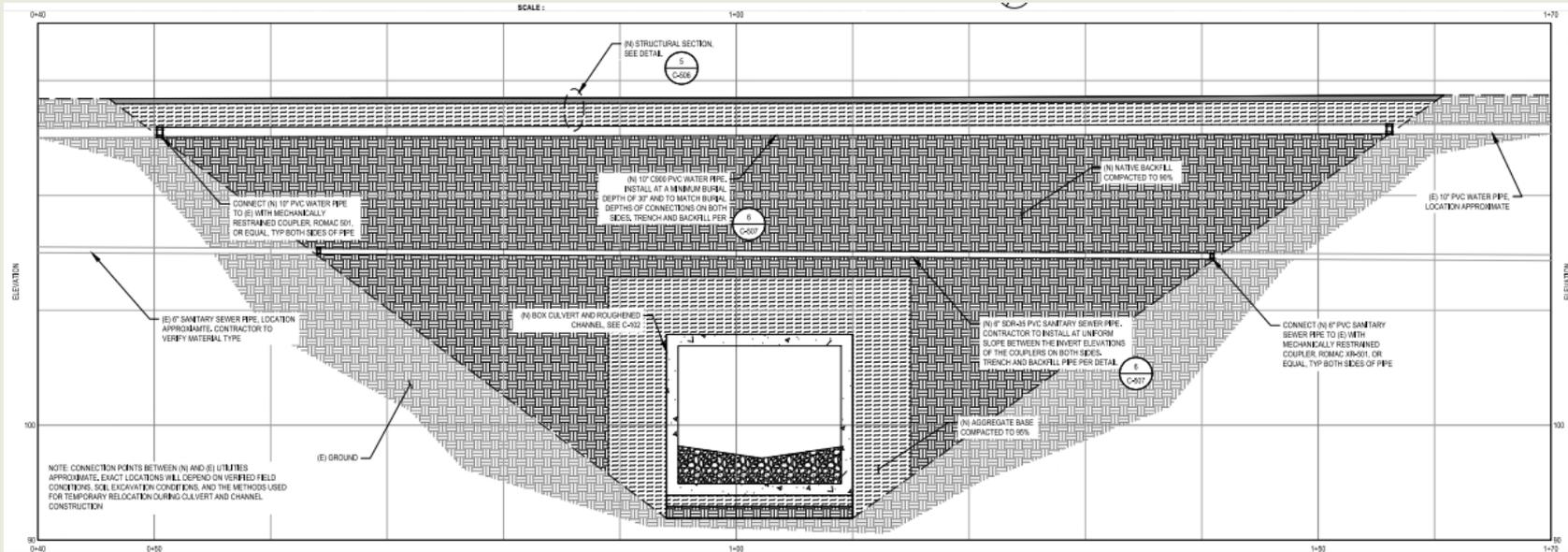


Photo 2: Interior of culvert showing damage to corrugated metal pipe



Photo 3: Downstream outlet of culvert

# #24. Jameson Creek Fish Passage Improvement and Restoration



- Reinforced concrete box (RCB) culvert, approximately 12'H x 14'W
- The RCB will be set approximately 3' below the stream bed and filled with streambed material to provide a natural stream bottom
- “Chute and pools” design to meet depth, velocity and turbulence criteria

# #24. Jameson Creek Fish Passage Improvement and Restoration

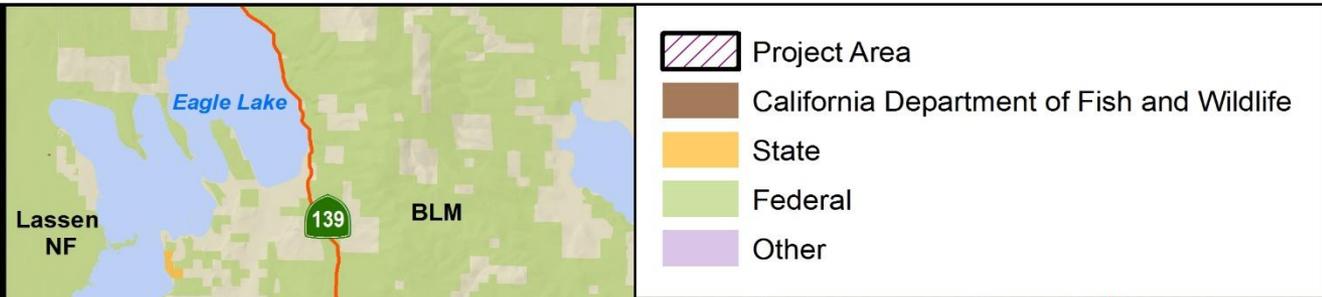


2017 CDFW Fisheries Restoration Grant Program (FRGP) grant to modify culvert on Strongs Creek

Project design funded by FRGP, was completed and approved by CDFW and NOAA in March 2019.

CDFW Prop.1 program is providing \$1.7m for Rohnerville Road crossing project





**Willow Creek Wildlife Area  
Meadow Enhancement  
Lassen County**



# #25. Willow Creek Wildlife Area Meadow Enhancement



Irrigation capabilities for the Willow Creek floodplain and meadow will be improved by the project.

# #25. Willow Creek Wildlife Area Meadow Enhancement



State-threatened greater sandhill cranes nest in the Willow Creek floodplain meadow and associated wetlands.

# #25. Willow Creek Wildlife Area Meadow Enhancement



Emergent wetland at Willow Creek Wildlife Area.

# #25. Willow Creek Wildlife Area Meadow Enhancement



Dilapidated infrastructure at Willow Creek WA

# #25. Willow Creek Wildlife Area Meadow Enhancement



Old corrugated metal half-round risers will be replaced with new cast concrete weirs

# #25. Willow Creek Wildlife Area Meadow Enhancement

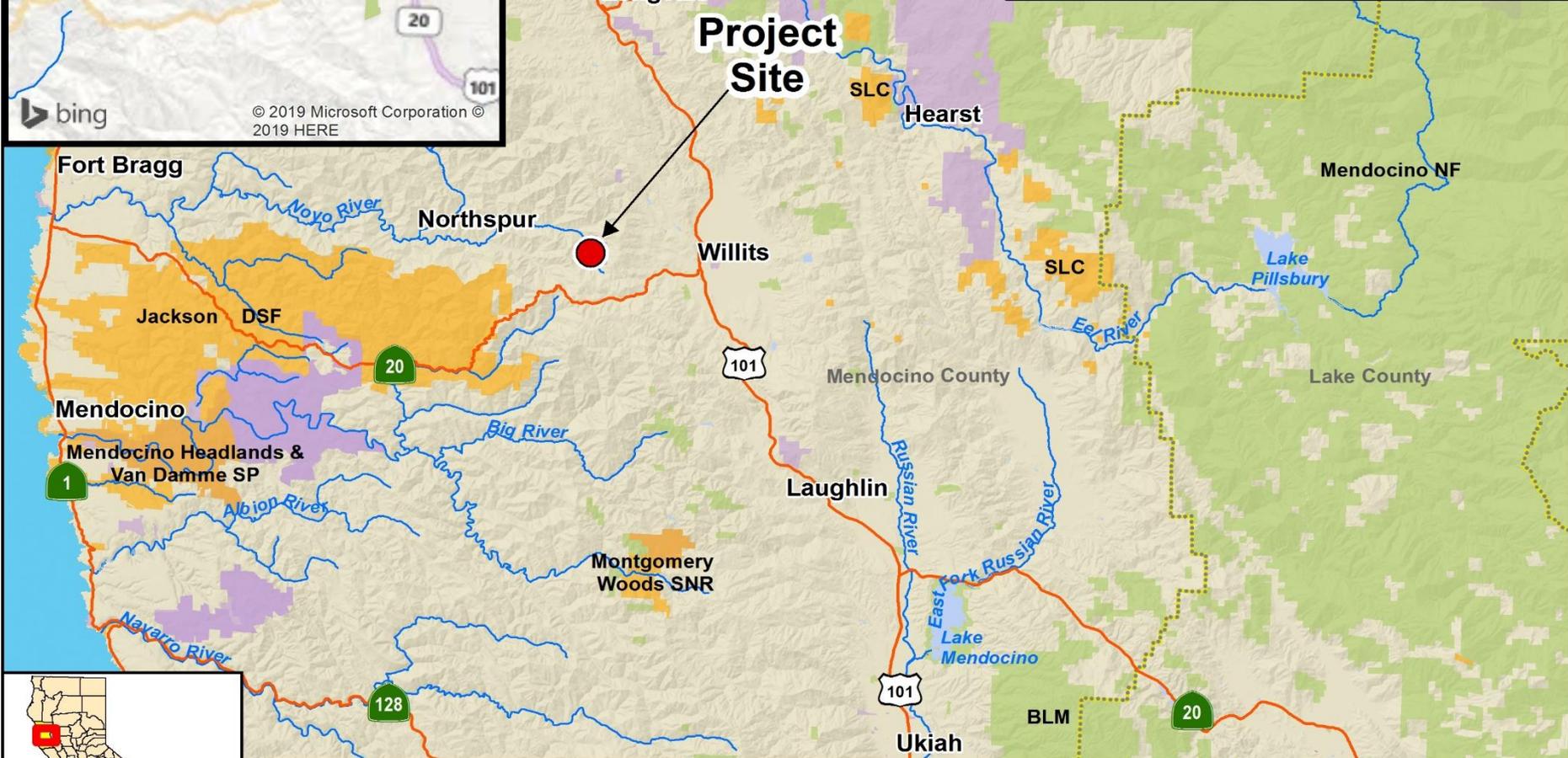
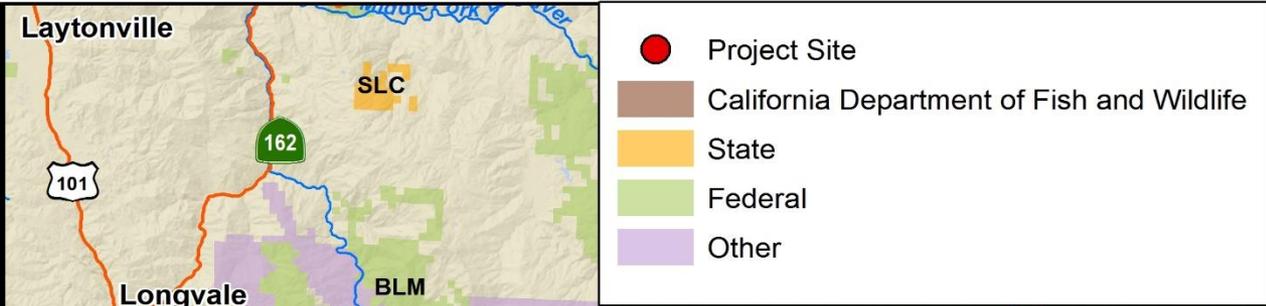
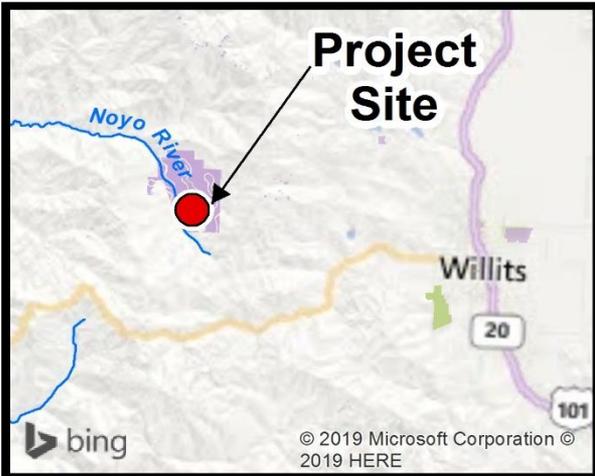


Failing corrugated metal pipe culverts, set at incorrect elevations will be replaced with HDPE pipe

# #25. Willow Creek Wildlife Area Meadow Enhancement



Willow Creek  
Wildlife Area  
looking west



**Upper Noyo River Fish Passage Improvement and Sediment Reduction Mendocino County**

8.5 Miles

WCB  
State of California  
Wildlife Conservation Board

25 WCB 11/21/2019

# #26. Upper Noyo River Fish Passage Improvement and Sediment Reduction

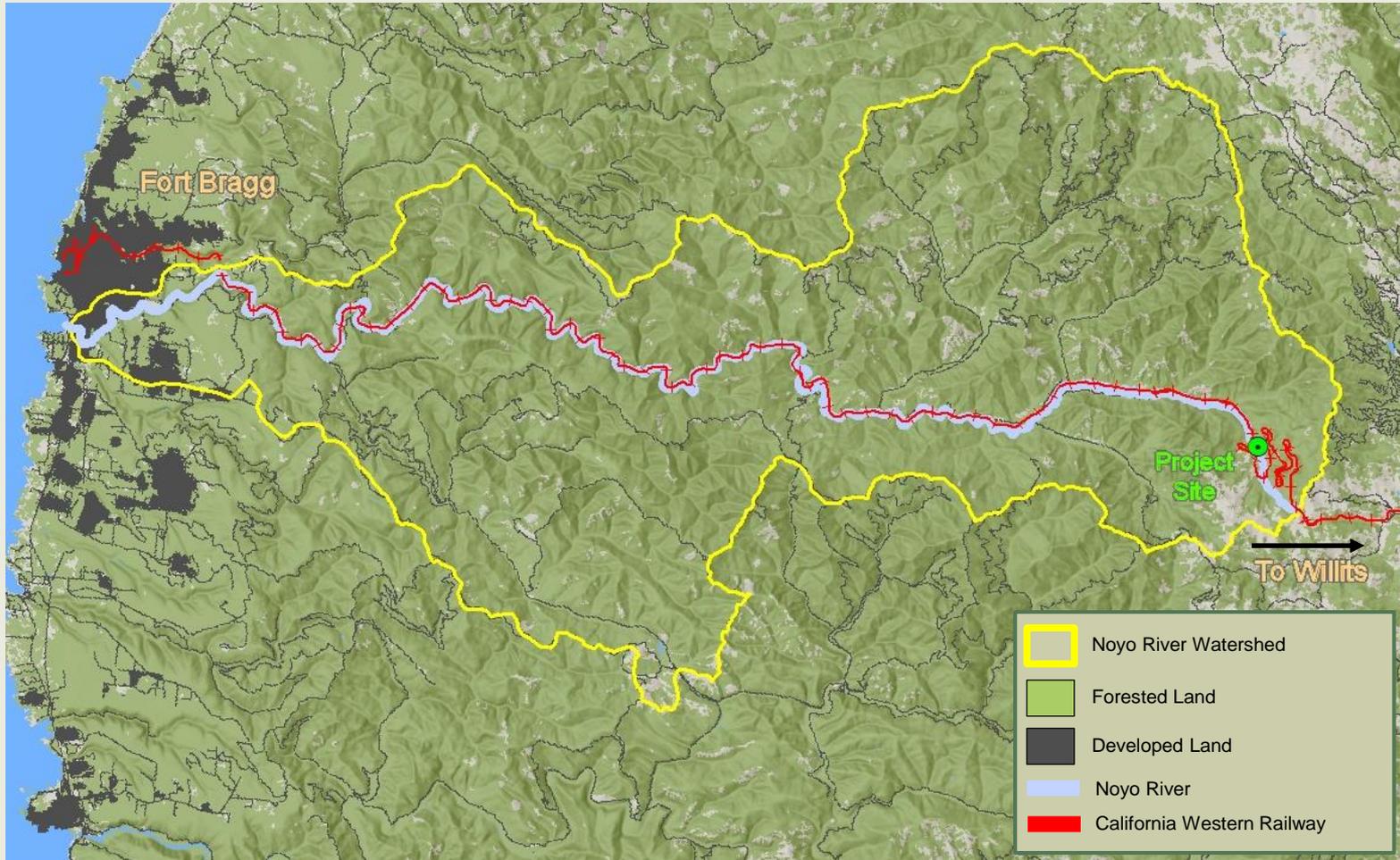


## California Western Railway (CWR)

- Built as a logging railroad in 1885
- Commonly referred to as the “Skunk Train”, it is now operated as a heritage passenger railroad.
- Runs approximately 40 miles from Fort Bragg to Willits
  - 33 miles along the Noyo River
- Originally required 113 bridges and trestles as it crossed back and forth over the Noyo river channel.
- That number has been reduced to approximately 30 river crossings.



# #26. Upper Noyo River Fish Passage Improvement and Sediment Reduction



Project Location

# #26. Upper Noyo River Fish Passage Improvement and Sediment Reduction



- Three species of ESA listed salmonids:
  - Central California Coast Coho Salmon (Endangered)
  - Northern California Steelhead Trout (Threatened)
  - California Coastal Chinook (Threatened)
- The National Marine Fisheries Service (NMFS) Coastal Multispecies Plan considers restoring passage at barriers associated with the California Western Railroad a high priority task
- The project site was identified in a CDFW funded 2013 Fish Passage Assessment as inhibiting fish passage.



# #26. Upper Noyo River Fish Passage Improvement and Sediment Reduction



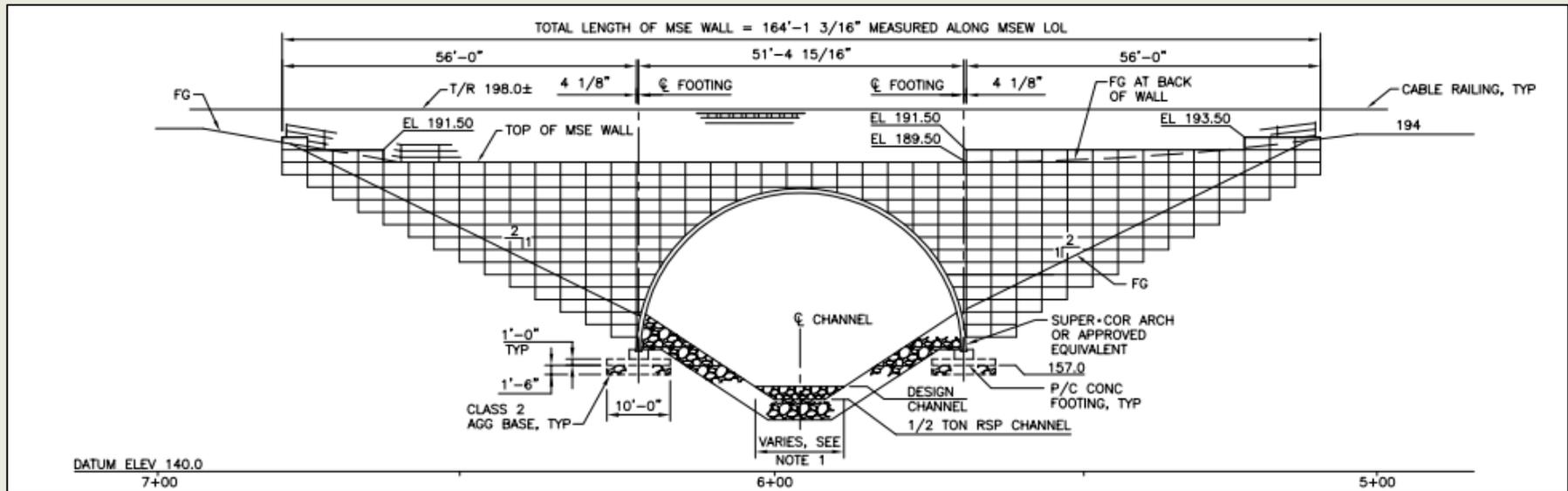
Culvert Outlet

# #26. Upper Noyo River Fish Passage Improvement and Sediment Reduction



Erosion Issues

# #26. Upper Noyo River Fish Passage Improvement and Sediment Reduction



- In 2010, Trout Unlimited (TU) received CDFW grant to conduct fish passage assessment of the entire railway
- In 2015, TU received CDFW grant to develop fully-implementable designs
- In 2017, CDFW Senior Hydraulic Engineer approved designs
- Culvert will be replaced by a 50-foot diameter arch
- All CDFW and NMFS criteria for fish passage will be met
- Will be able to convey a 100-yr flood event with associated sediment and large wood.

# #26. Upper Noyo River Fish Passage Improvement and Sediment Reduction



Coastal tailed frog

Restore access to 1.15 miles of steelhead and salmon habitat and reduce in-stream sediment.

- Central California Coast Coho Salmon
- North Coast Steelhead Trout
- California Coastal Chinook



California giant salamander

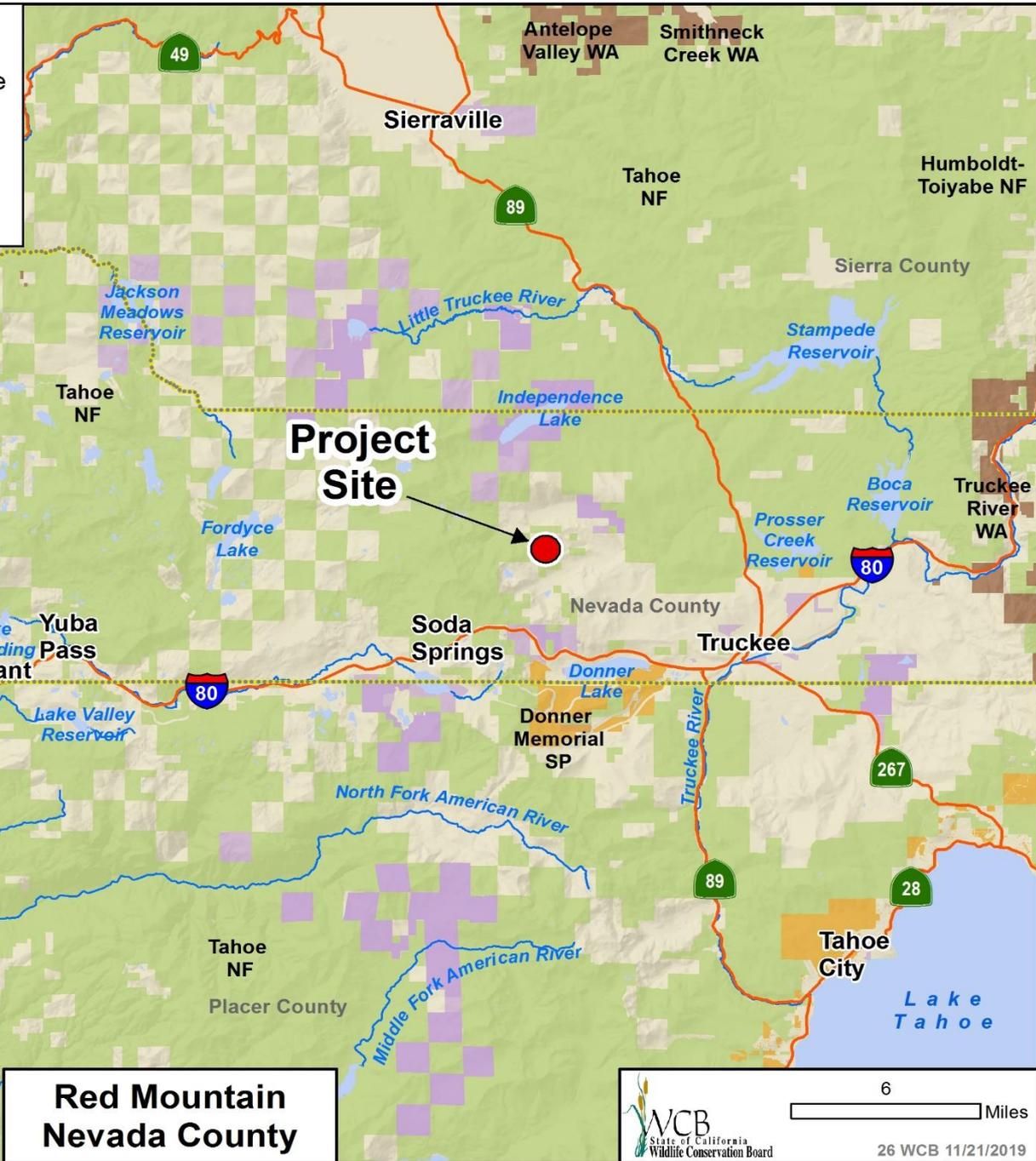
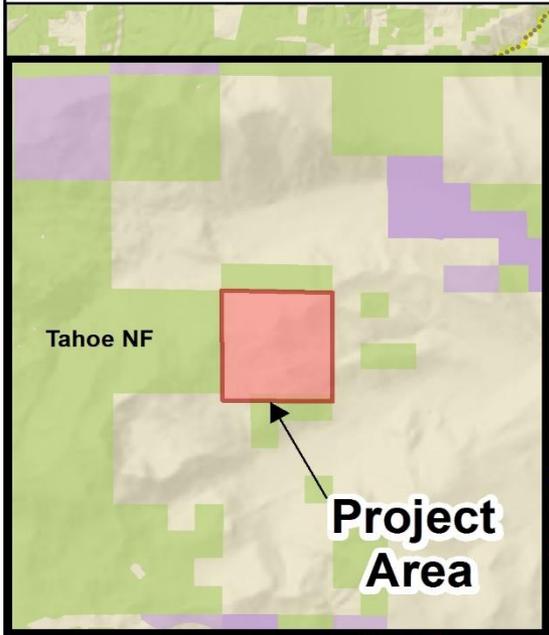


Red-bellied newt



Foothill yellow-legged frog

- Project Area
- California Department of Fish and Wildlife
- State
- Federal
- Other



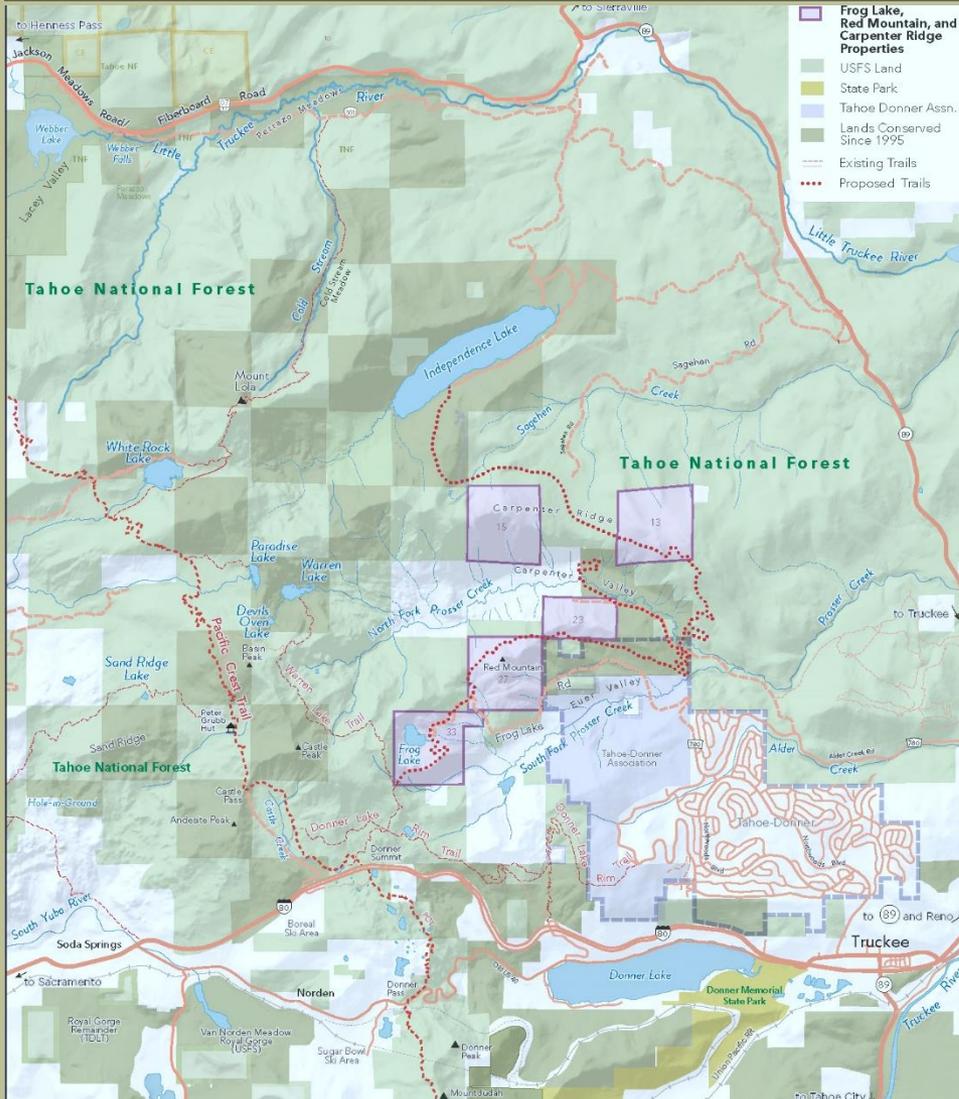
**Red Mountain  
Nevada County**

6 Miles

WCB  
State of California  
Wildlife Conservation Board

26 WCB 11/21/2019

# #27. Red Mountain



The Campaign to Conserve Frog Lake, Red Mountain, and Carpenter Ridge

# #27. Red Mountain



The summit of Red Mountain rises above the high-elevation mixed coniferous forests of the Northern Sierra.

# #27. Red Mountain



The Property's red summit appears in the lower right corner of this photograph with the upper reaches of the magnificent Carpenter Valley beyond.

# #27. Red Mountain



A little more than half of the Red Mountain Property contributes to the Euer Valley watershed.

# #27. Red Mountain



Red Mountain contains a variety of habitat types that would contribute to a broad matrix of connected, protected land.

# #27. Red Mountain



Sunset at Red Mountain.

# Forest Conservation Program (2019 solicitation)



California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access for All Act of 2018 (**Proposition 68**)

“...protection, restoration, and improvement of **upper watershed lands** in the **Sierra Nevada** and **Cascade Mountains**, including forest lands, meadows, wetlands, chaparral, and riparian habitat, in order to protect and improve water supply and water quality, improve forest health, reduce wildfire danger, mitigate the effects of wildfires on water quality and supply, increase flood protection, or to protect or restore riparian or aquatic resources.”

# Forest Conservation Program (2019 solicitation)



- Proposition 68
- Sierra Nevada and Cascade ecoregions
- \$60 million for upper watershed
- $\leq$  \$30 million for 2019 solicitation



# Forest Conservation Program (2019 solicitation)



- Selection Process
  - Pre-Applications
  - Full Proposals
  - Selection Committee
- Solicitation Priorities
  - Meadows and streams
  - Post-fire recovery
  - Aspen stands

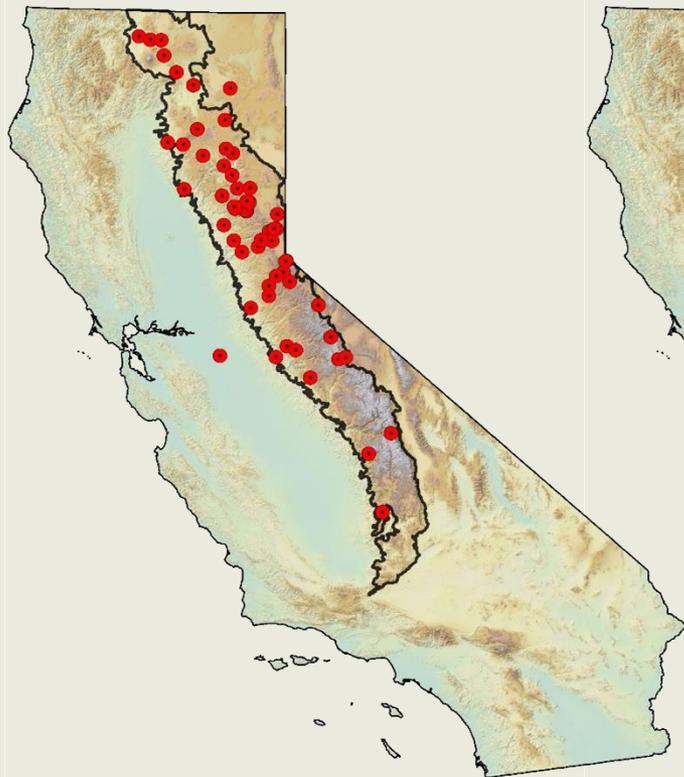


# Forest Conservation Program (2019 solicitation)



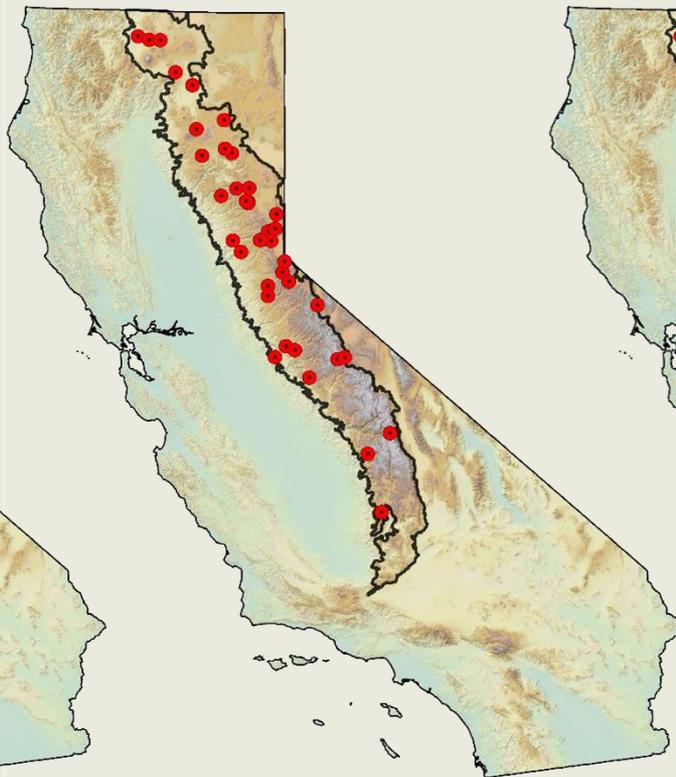
## Pre-Applications

60 proposals  
\$86,765,155



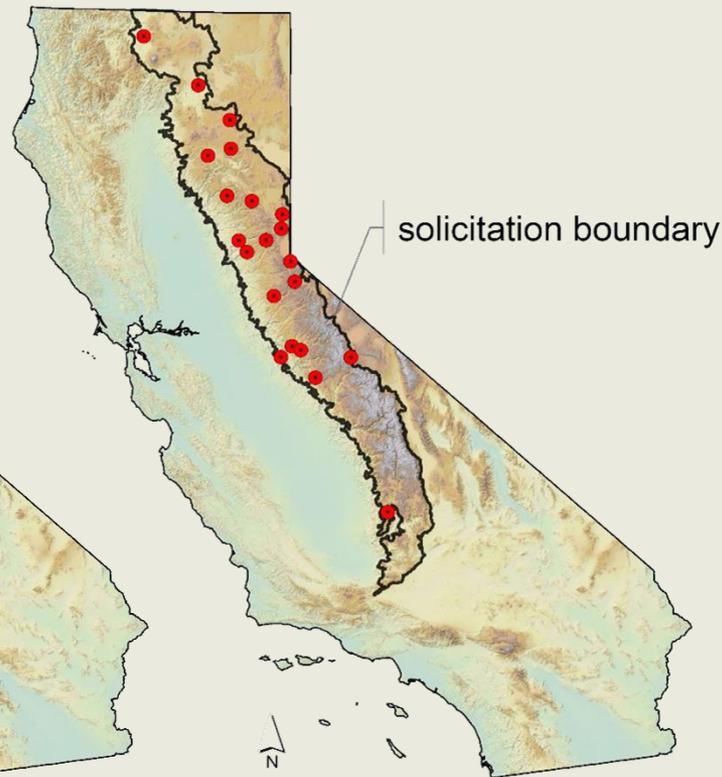
## Full Applications

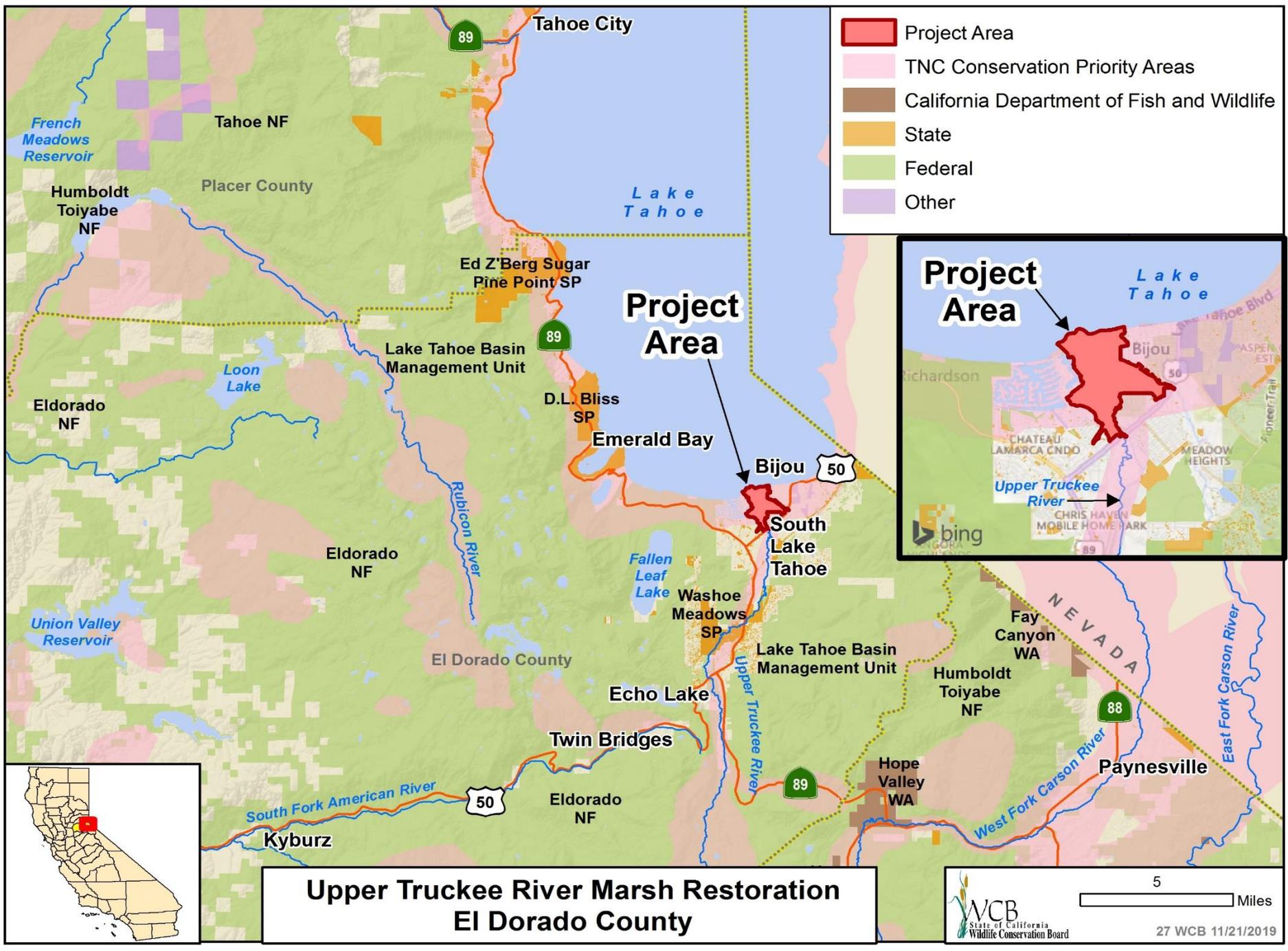
38 proposals  
\$53,770,155



## Selected Proposals

21 proposals  
\$24,366,091





- Project Area
- TNC Conservation Priority Areas
- California Department of Fish and Wildlife
- State
- Federal
- Other

**Project Area**



**Upper Truckee River Marsh Restoration  
El Dorado County**

5 Miles

WCB  
State of California  
Wildlife Conservation Board

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# #28. Upper Truckee River Marsh Restoration



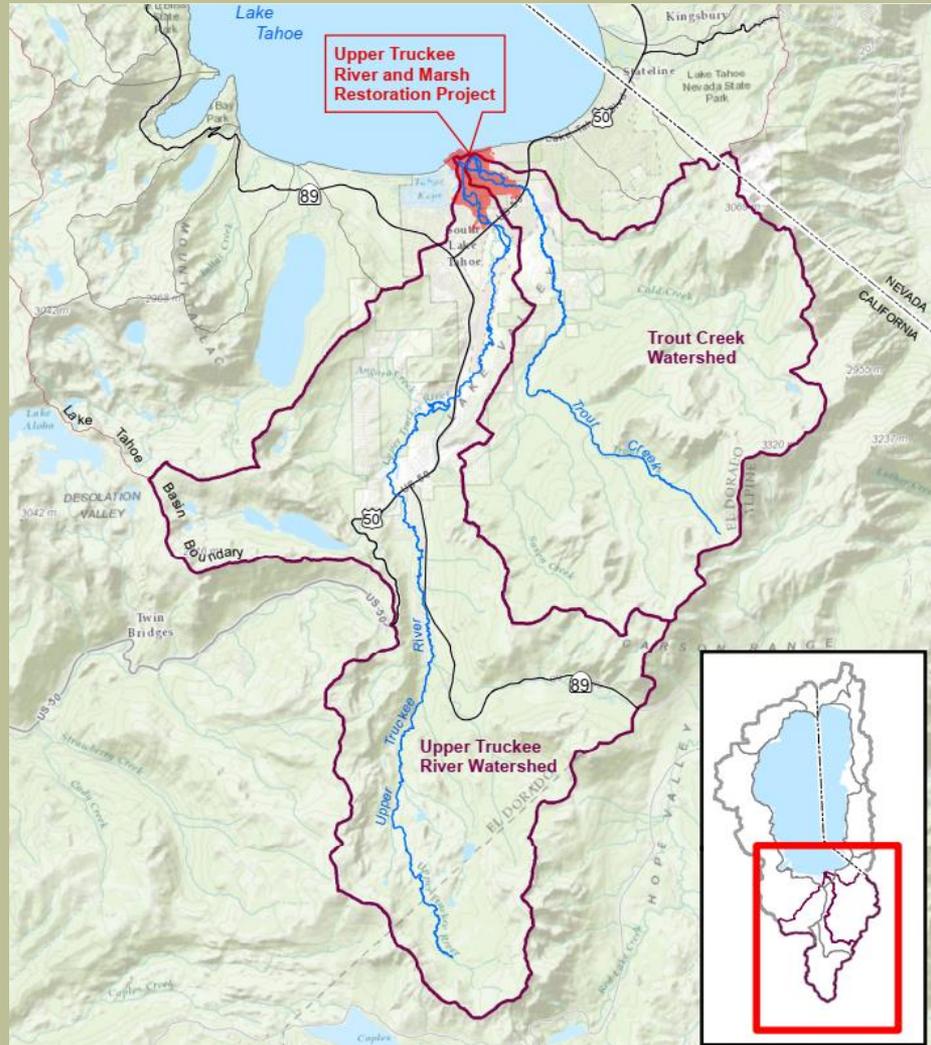
**~1930**



**~1980**

Aerial of the Upper Truckee Marsh in 1930 (left) and of Upper Truckee Marsh and Tahoe Keys in the early 1980's (right)

# #28. Upper Truckee River Marsh Restoration



Upper Truckee River and Trout Creek Watersheds

# #28. Upper Truckee River Marsh Restoration



Tahoe Keys

# #28. Upper Truckee River Marsh Restoration

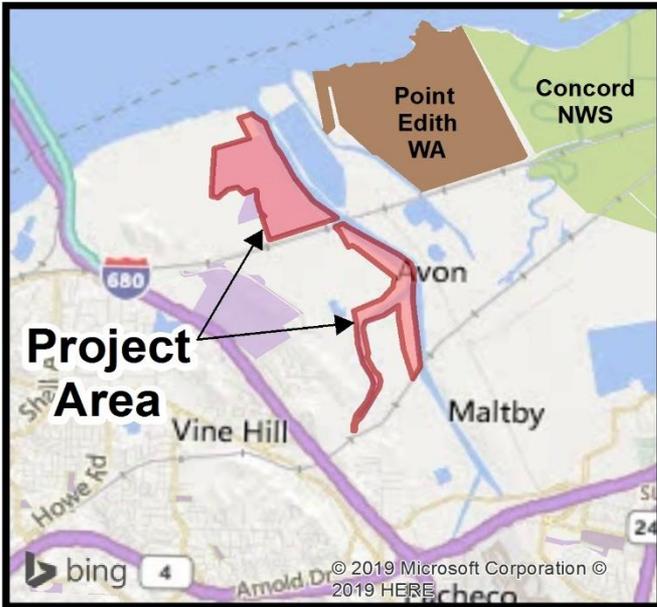


Sailing Lagoon

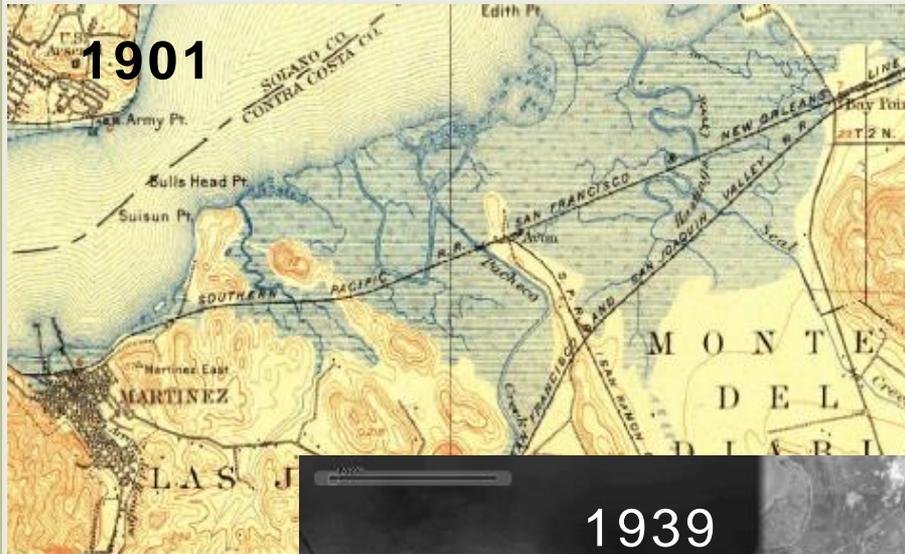
# #28. Upper Truckee River Marsh Restoration



Upper Truckee River Marsh



# #29. Lower Walnut Creek Restoration Project



# #29. Lower Walnut Creek Restoration Project



# #29. Lower Walnut Creek Restoration Project



Main channel, Lower Walnut Creek. Habitat has developed on accreted sediments, but with reduced flood capacity.

# #29. Lower Walnut Creek Restoration Project



## Preliminary steps:

- Return management to local control
- Planning
- Design
- Permitting



# #29. Lower Walnut Creek Restoration Project



**This project:**  
excavation and grading to re-establish tidal connectivity and create new tidal marsh and adjacent upland habitat.

- North reach
- Middle reach (later phase)
- South reach

# #29. Lower Walnut Creek Restoration Project



Northern reach (near mouth of Walnut Ck), facing south, with Mt. Diablo in background.

# #29. Lower Walnut Creek Restoration Project

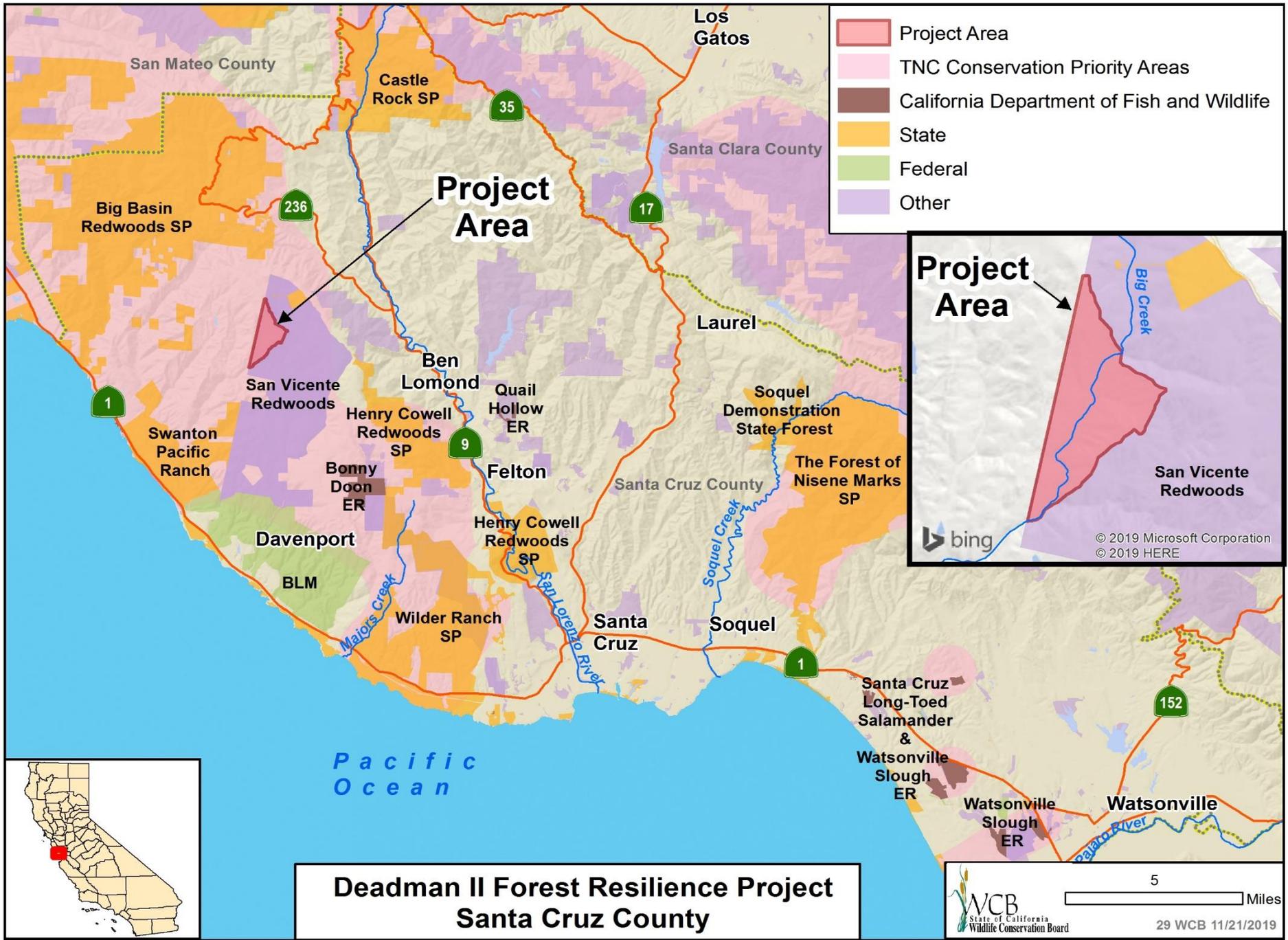


Walnut Creek,  
southern reach,  
facing northeast.

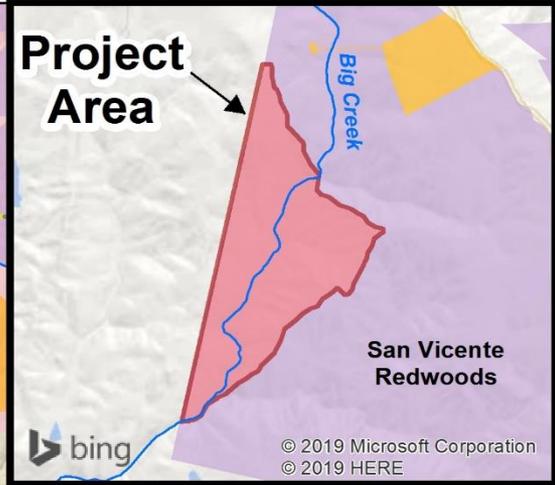
# #29. Lower Walnut Creek Restoration Project



Walnut Creek, southern reach, facing west.



- Project Area
- TNC Conservation Priority Areas
- California Department of Fish and Wildlife
- State
- Federal
- Other



**Deadman II Forest Resilience Project  
Santa Cruz County**

WCB  
State of California  
Wildlife Conservation Board

5 Miles

29 WCB 11/21/2019

# #30. Deadman II Forest Resilience Project



Deadman Gulch Restoration Reserve within San Vicente Redwoods

# #30. Deadman II Forest Resilience Project



Dense  
regrowth  
following  
clear cut

# #30. Deadman II Forest Resilience Project



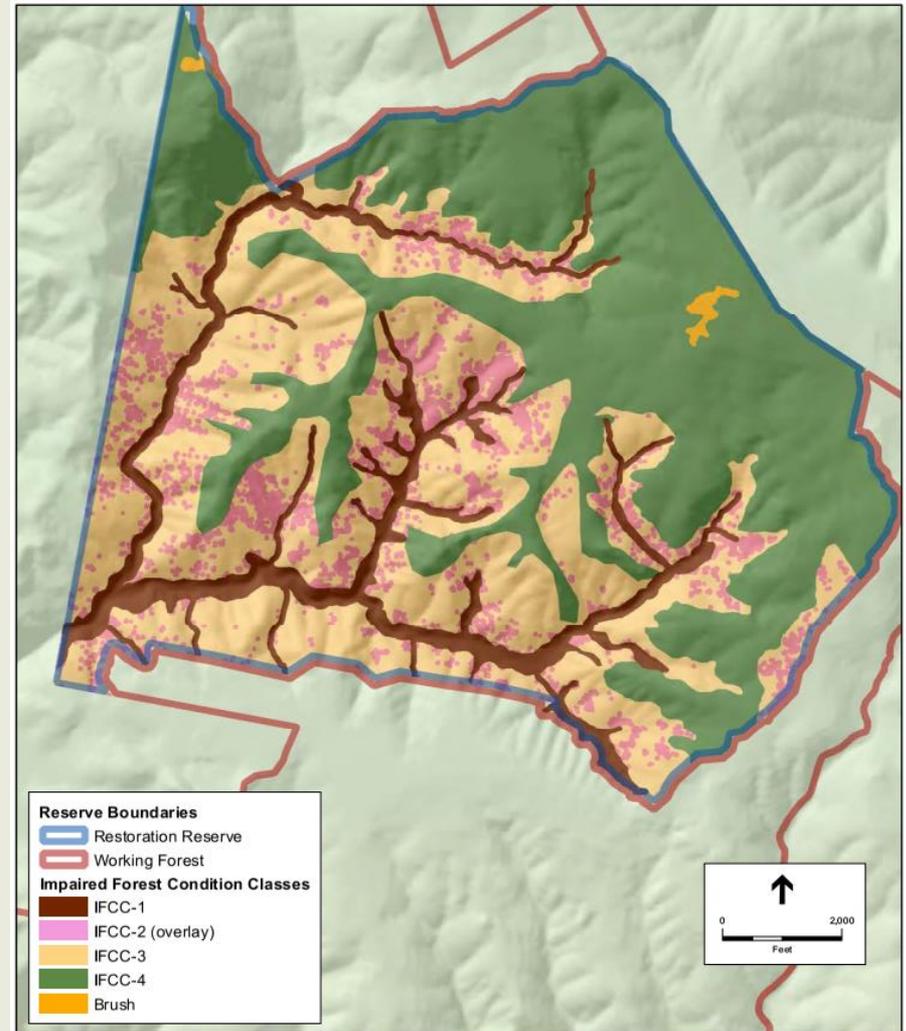
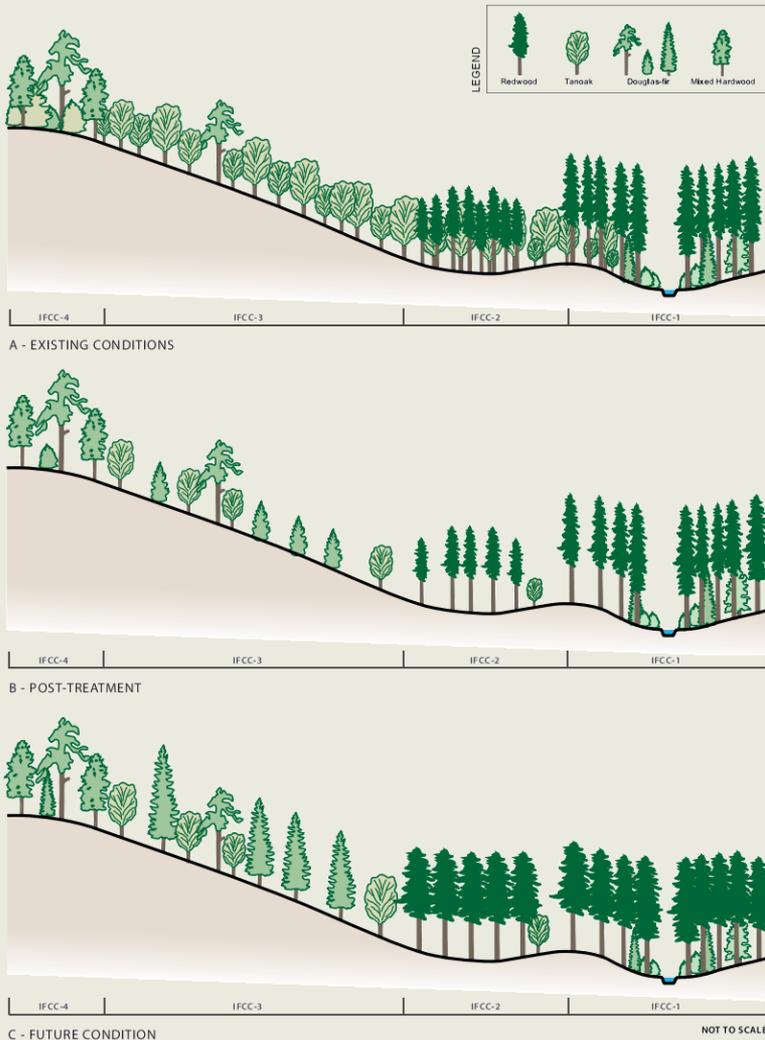
Dense tanoak regrowth competes with conifers

# #30. Deadman II Forest Resilience Project



Selective  
thinning

# #30. Deadman II Forest Resilience Project



 Project Area

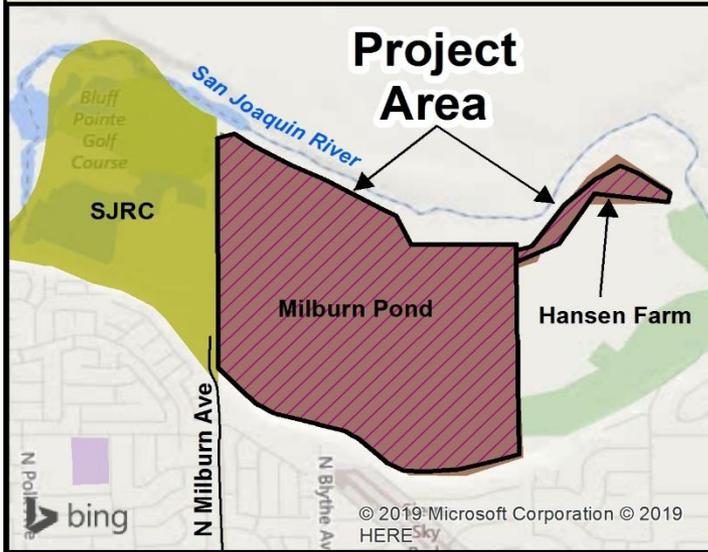
 San Joaquin River Conservancy

 California Department of Fish and Wildlife

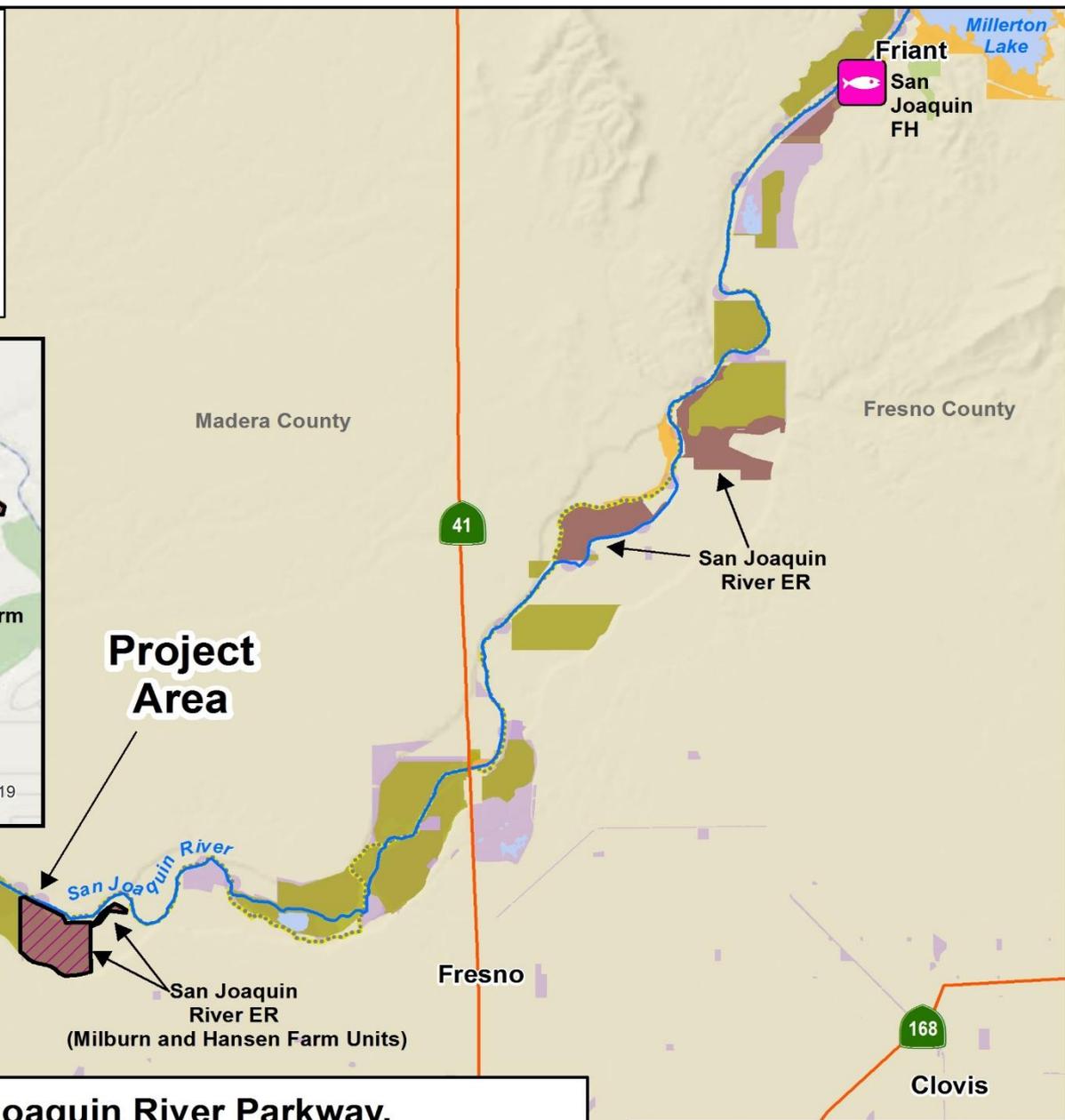
 State

 Federal

 Other



**San Joaquin River Parkway,  
Milburn Pond CEQA and Pond Isolation Design  
Fresno County**



# #31. San Joaquin River Parkway, Milburn Pond CEQA and Pond Isolation Design



View of the Hansen Property from the north side of the river



View of Milburn Pond from the south side of the Ecological Reserve

# #31. San Joaquin River Parkway, Milburn Pond CEQA and Pond Isolation Design



Time sequence illustrating the creation of Milburn Pond

# #31. San Joaquin River Parkway, Milburn Pond CEQA and Pond Isolation Design



Main berm breach between the pond and the river at low flow in 2017.



Downstream connection between the pond and river at high river flows in 2017.

# #31. San Joaquin River Parkway, Milburn Pond CEQA and Pond Isolation Design



Pond berm drilling and substrate sampling in 2017 during preliminary study phase

# #31. San Joaquin River Parkway, Milburn Pond CEQA and Pond Isolation Design



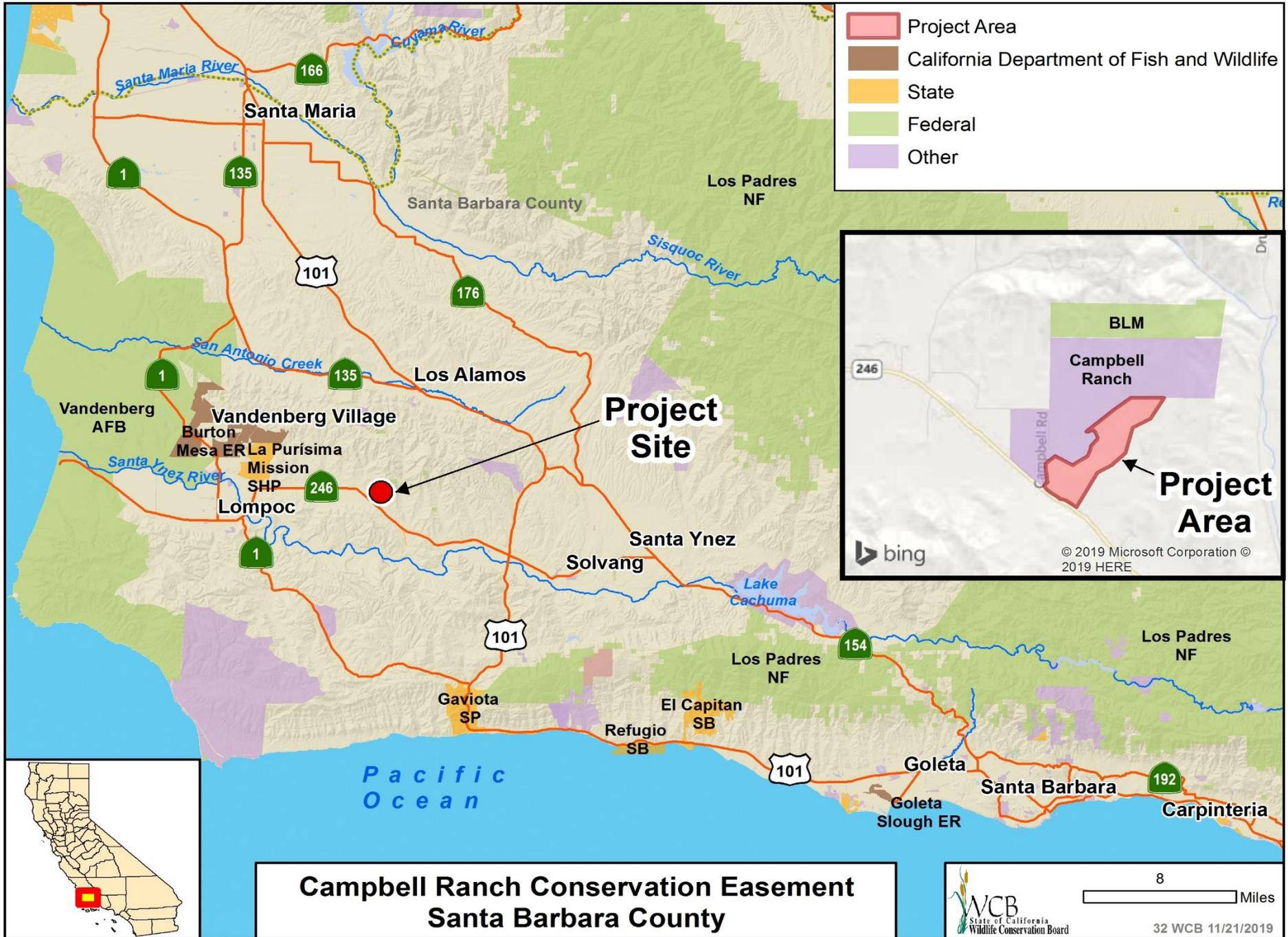
## Project goals:

- Improve river flows
- Restore habitat and a functioning floodplain
- Protect reintroduced salmon
- Address potential future public access improvements at Milburn Pond

# #32. Tricolored Blackbird Wetland Habitat Enhancement



This item has been withdrawn from consideration at this time.



- Project Area
- California Department of Fish and Wildlife
- State
- Federal
- Other

**Project Area**

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## Campbell Ranch Conservation Easement Santa Barbara County

WCB  
State of California  
Wildlife Conservation Board

8 Miles

32 WCB 11/21/2019



# #33. Campbell Ranch Conservation Easement



Typical grasslands and oak woodlands located on the Campbell Ranch

# #33. Campbell Ranch Conservation Easement



The Campbell Ranch looking southwest towards Lompoc

# #33. Campbell Ranch Conservation Easement



Campbell Ranch  
California Tiger  
Salamander  
habitat with known  
populations of  
CTS

# #33. Campbell Ranch Conservation Easement

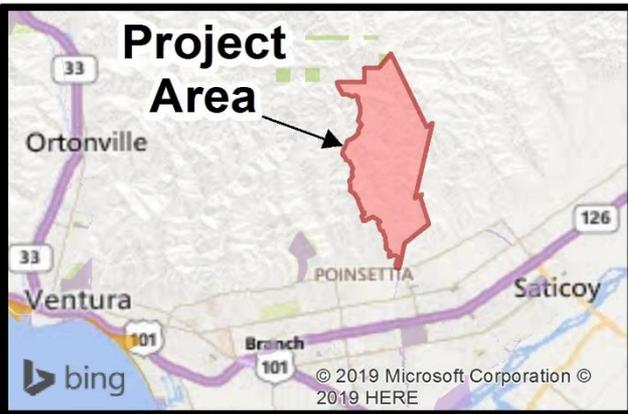


Stock ponds on the property provide CTS habitat

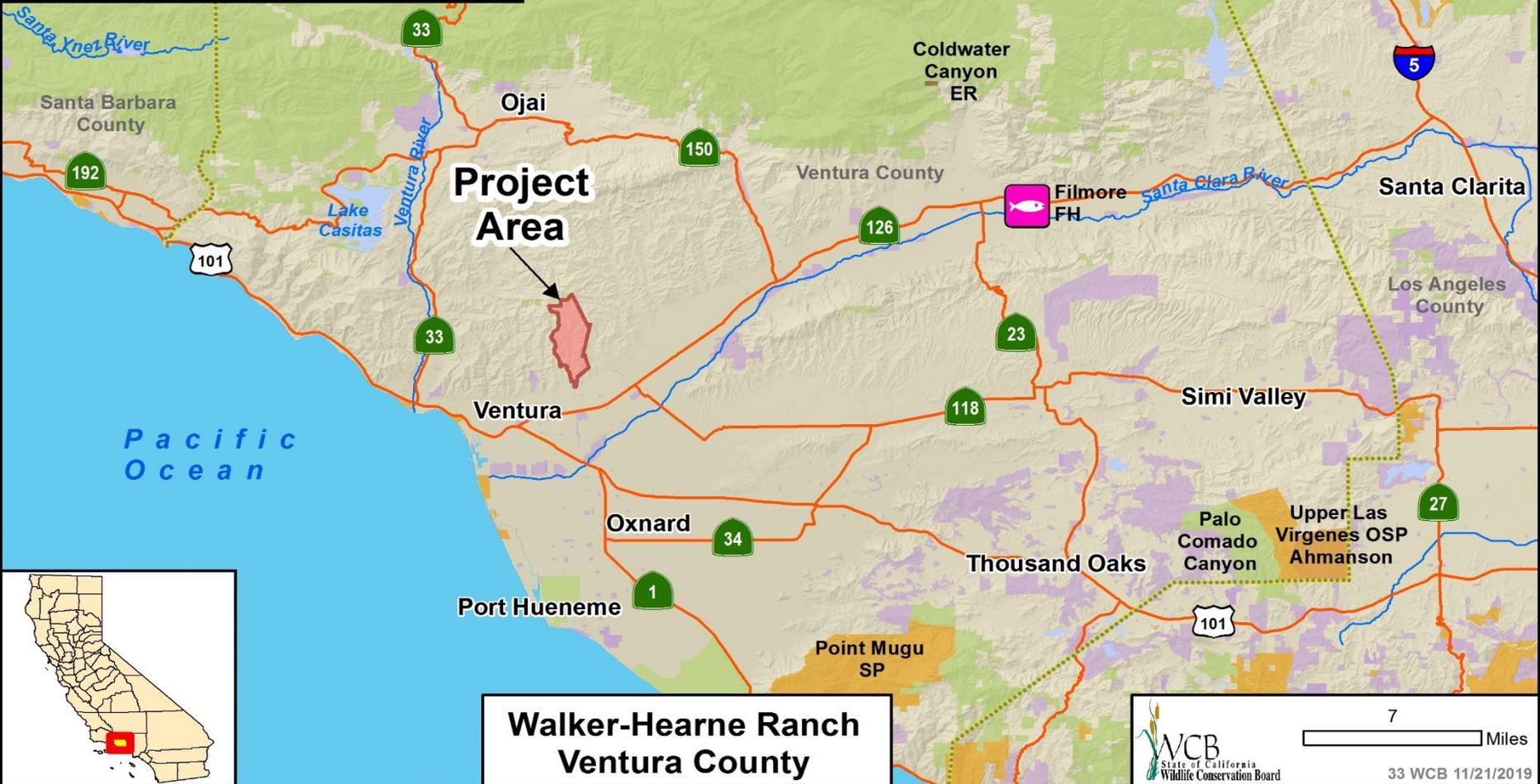
# #33. Campbell Ranch Conservation Easement



Threats to the Campbell Ranch habitat includes conversion to agricultural production, this vineyard is located directly adjacent to the property.



|   |  |
|---|--|
|    | Project Area                               |
|  | California Department of Fish and Wildlife |
|  | State                                      |
|  | Federal                                    |
|  | Other                                      |



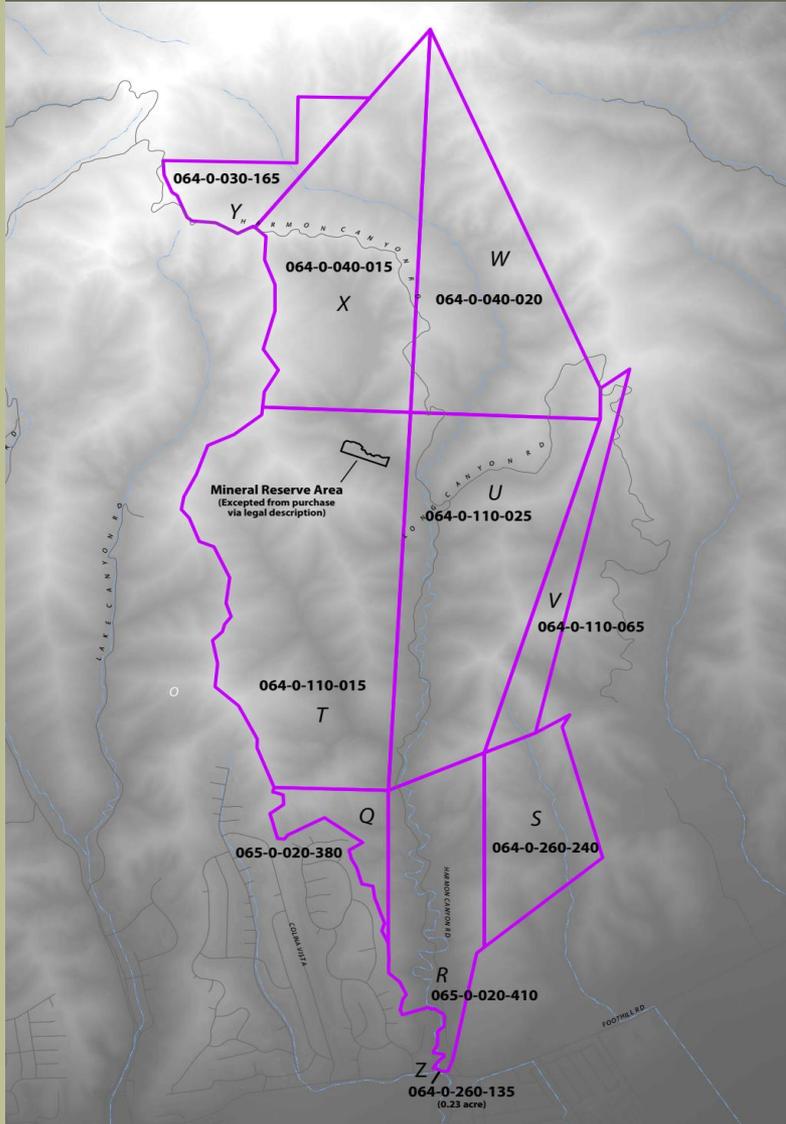
**Walker-Hearne Ranch  
Ventura County**



7 Miles

33 WCB 11/21/2019

# #34. Walker-Hearne Ranch



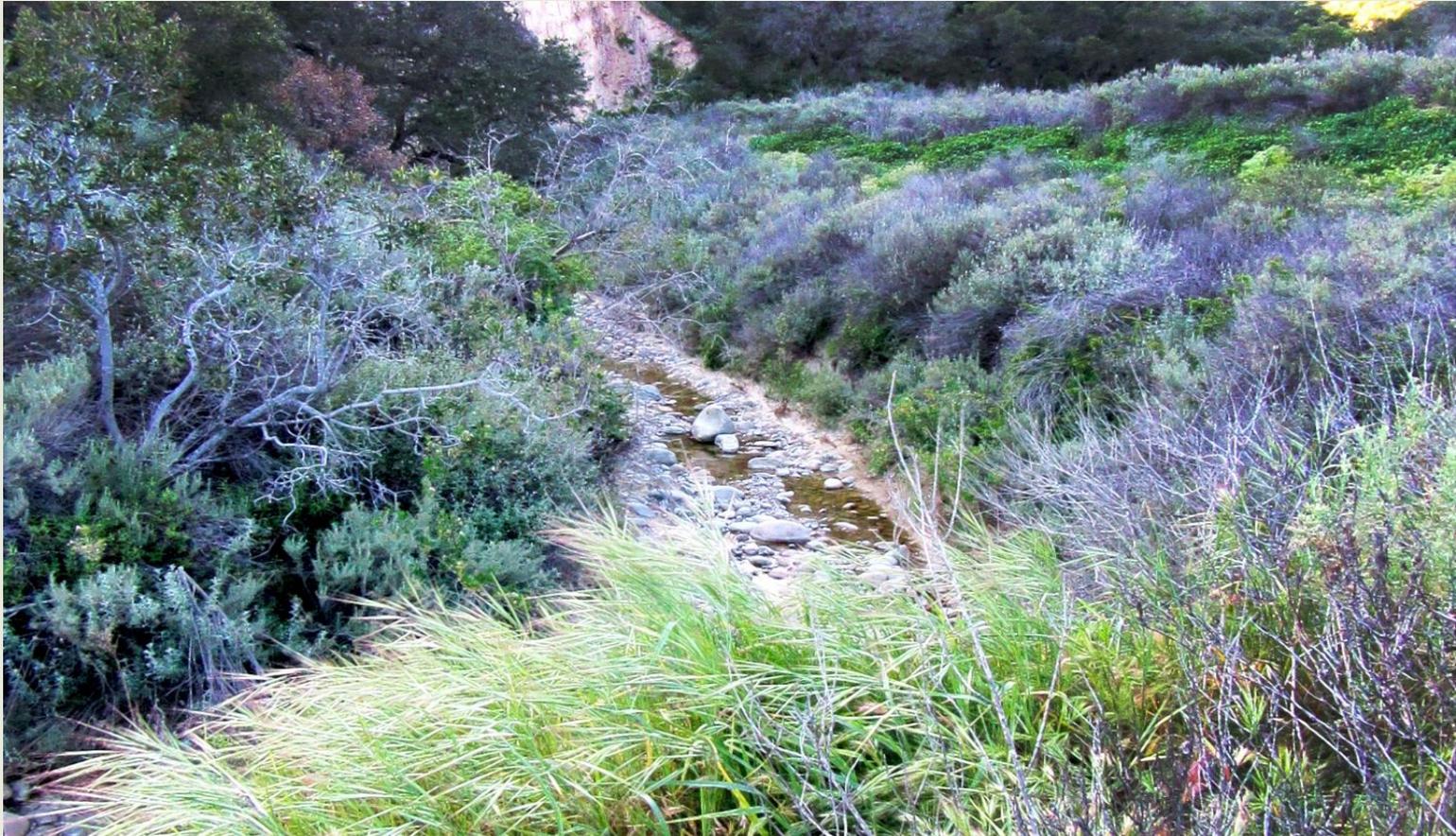
Walker-Hearne Ranch  
Parcels

# #34. Walker-Hearne Ranch



Channel Islands view from east overlook (top left), Harmon Ridge (top right) and Harmon Oak Creek (bottom)

# #34. Walker-Hearne Ranch



Perennial Springs

# #34. Walker-Hearne Ranch



Mountain lion and mule deer  
imprints (top left), bobcat  
(right) and Baja California  
tree frog (bottom right)

# #34. Walker-Hearne Ranch



Existing roads on property

# #34. Walker-Hearne Ranch



Harmon – view from top

# #34. Walker-Hearne Ranch



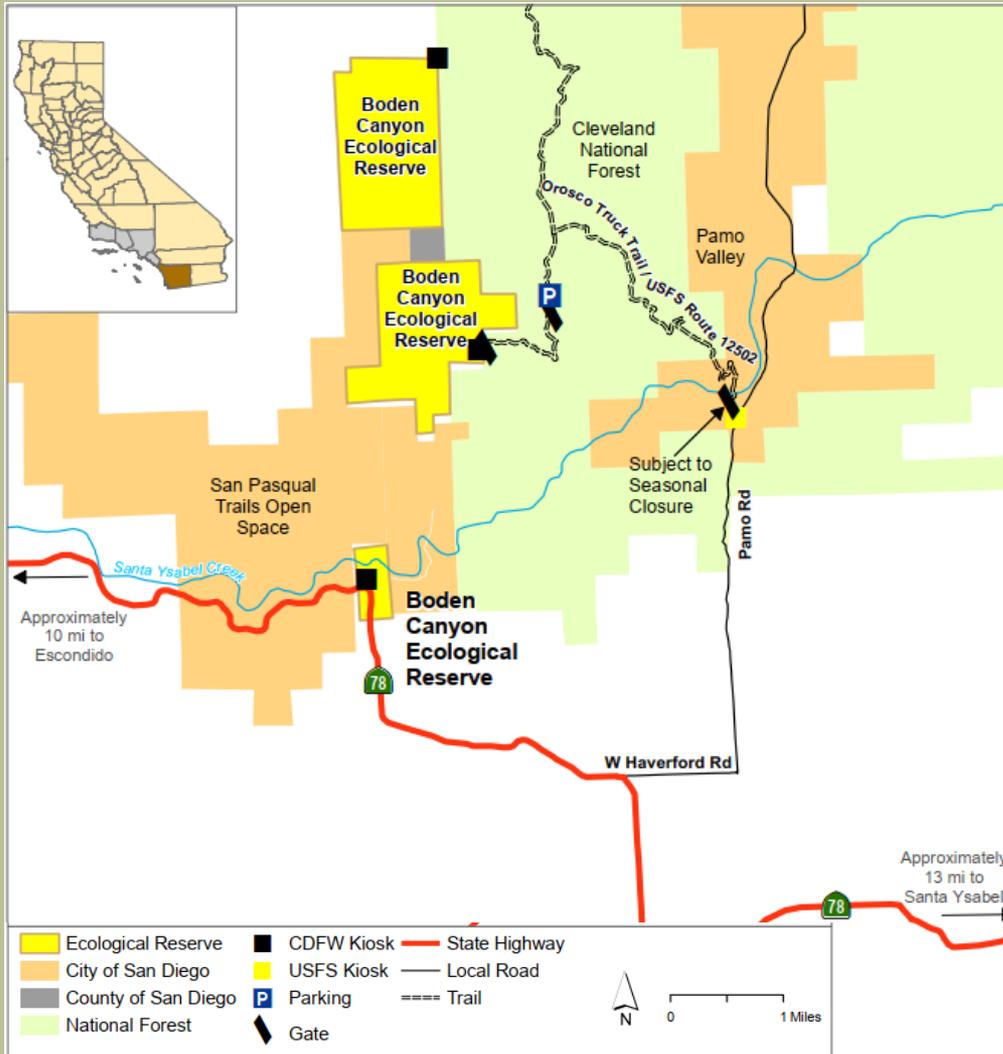
Top ridge of  
Harmon Canyon  
Preserve

# CDFW Land Management Plans, South Coast Region Los Angeles and San Diego Counties



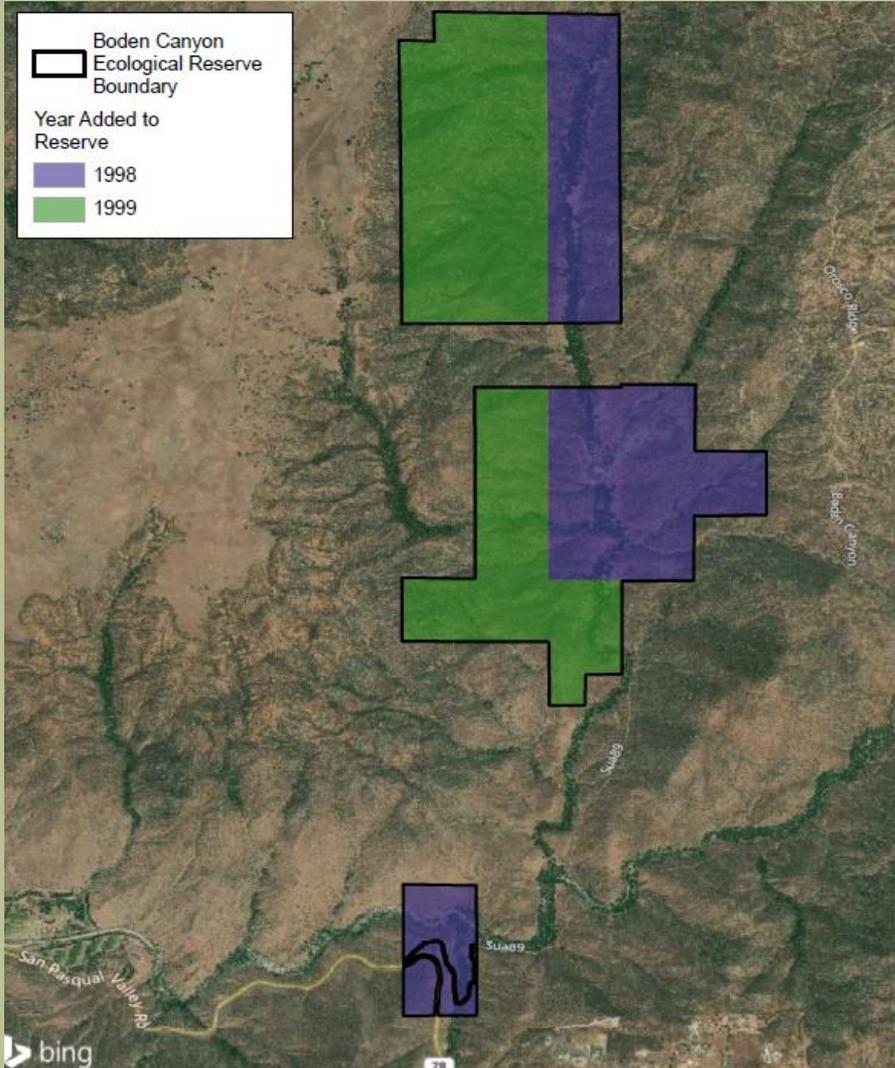
Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment, P Corp.

# #35. CDFW Land Management Plans, South Coast Region



Boden Canyon Ecological Reserve.

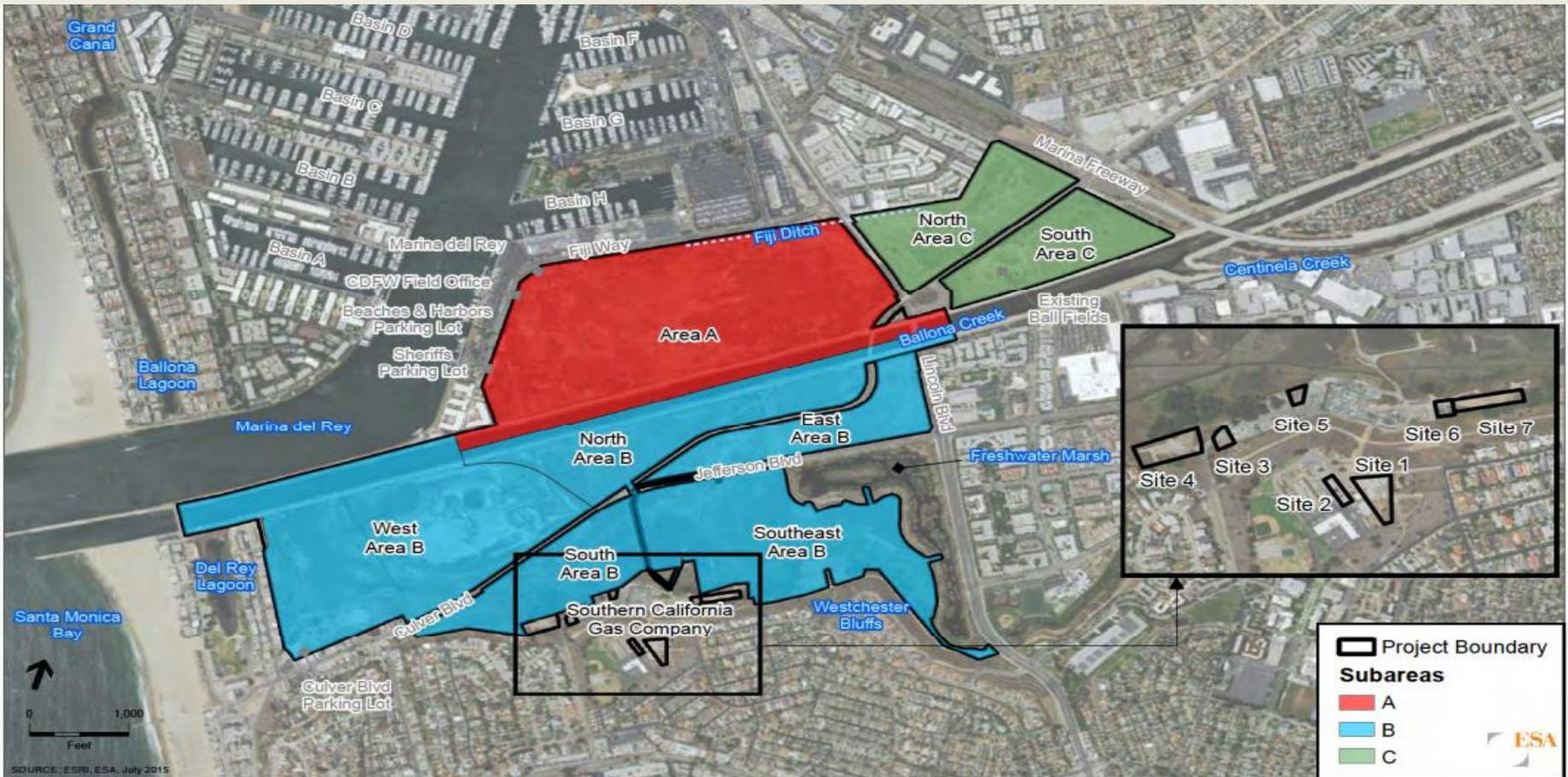
# #35. CDFW Land Management Plans, South Coast Region



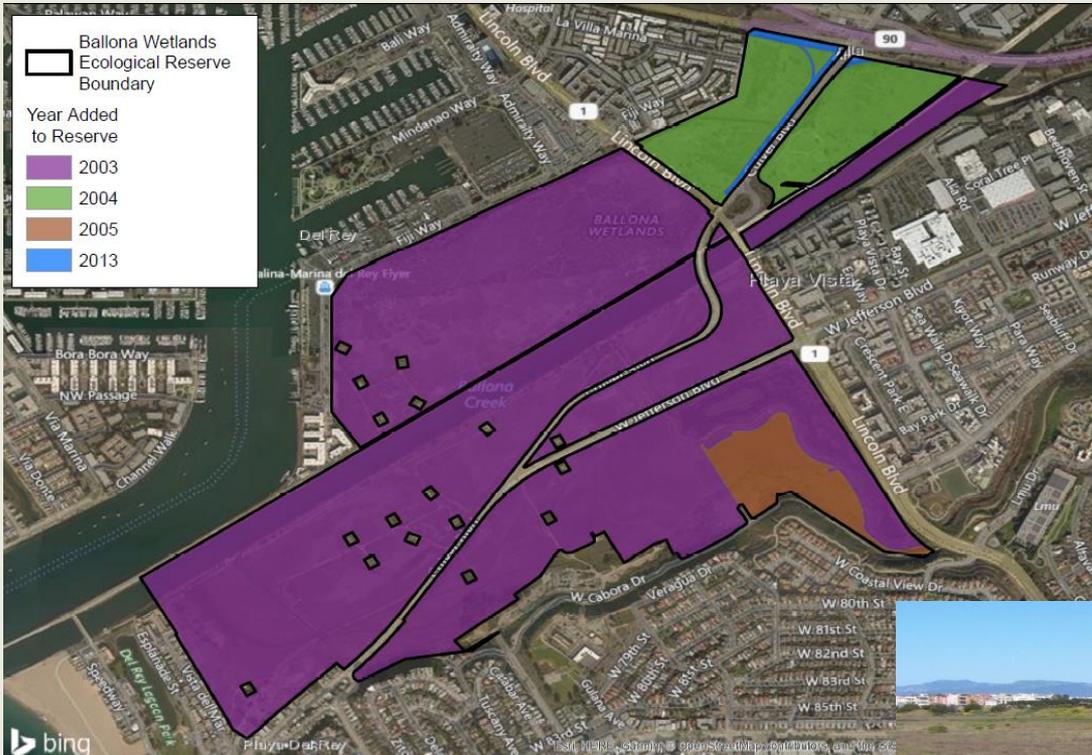
Overview of Property 1, Boden Canyon Ecological Reserve.



# #35. CDFW Land Management Plans, South Coast Region



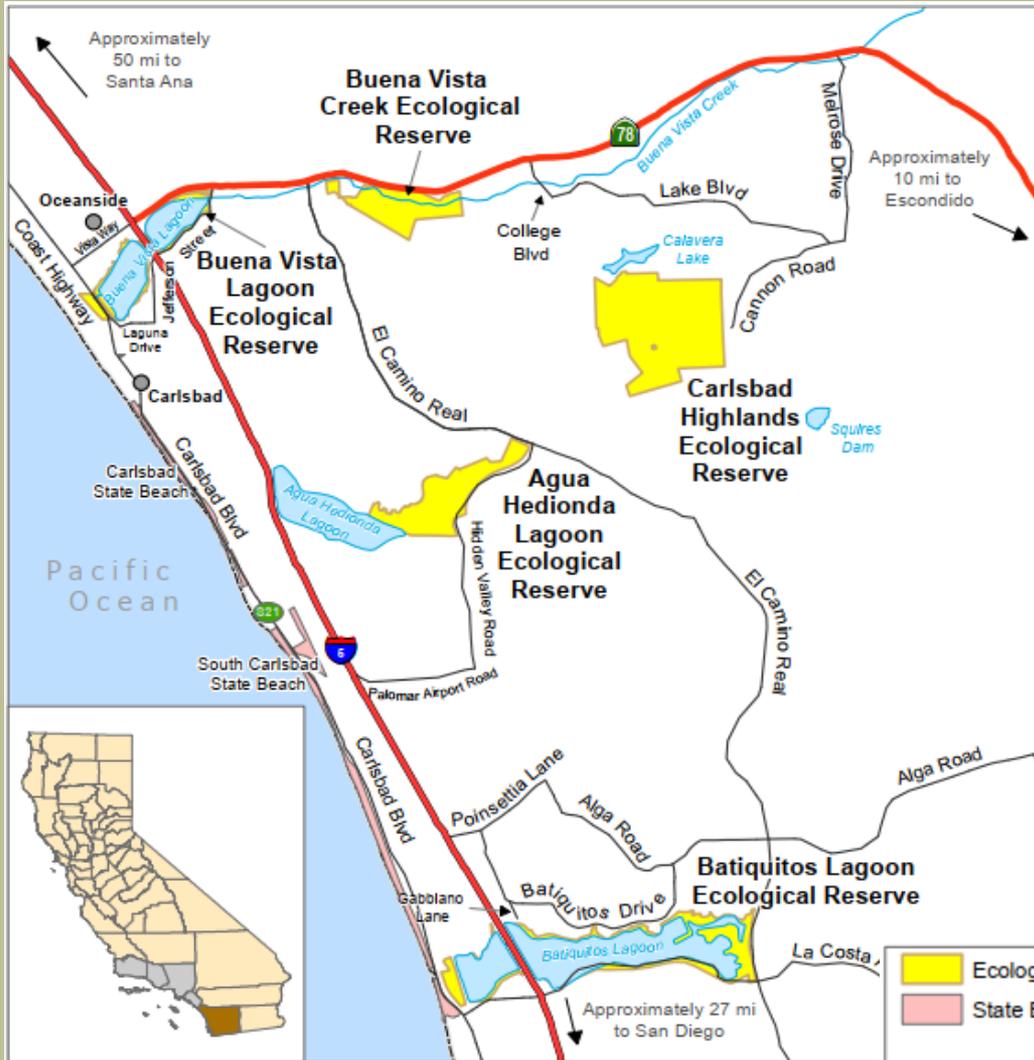
# #35. CDFW Land Management Plans, South Coast Region



Overview of Property 2, Ballona Wetlands Ecological Reserve.

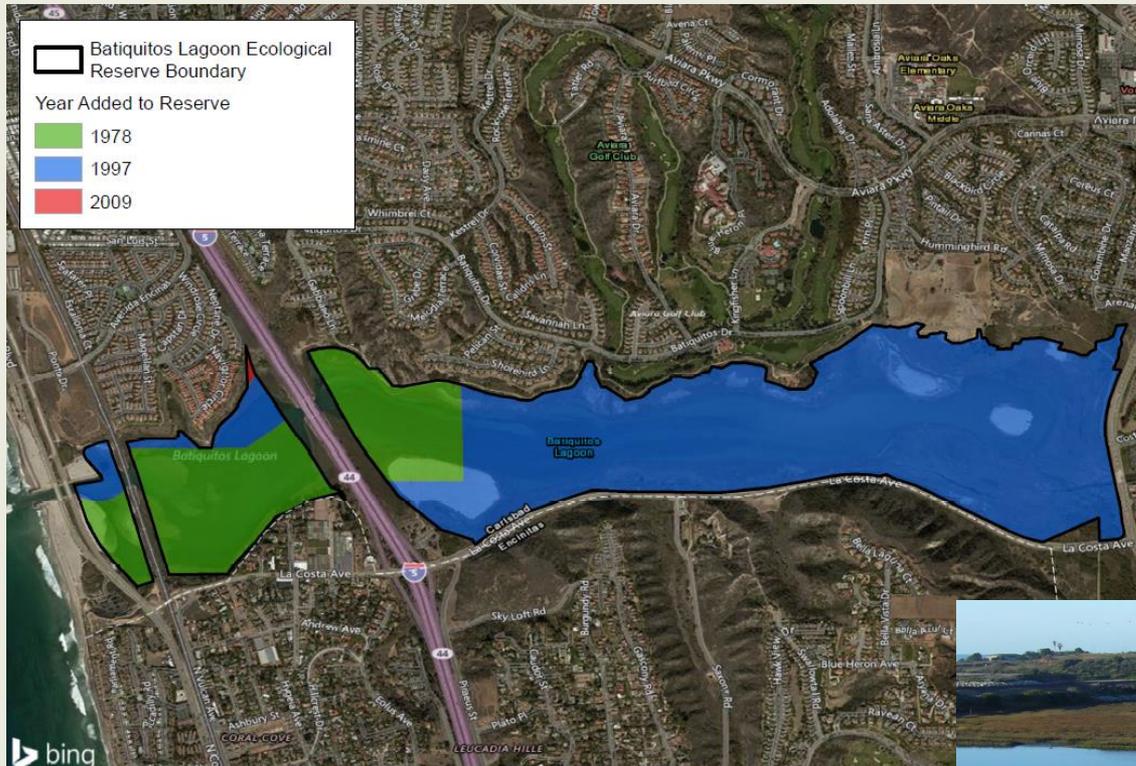


# #35. CDFW Land Management Plans, South Coast Region



Batiquitos Lagoon Ecological Reserve

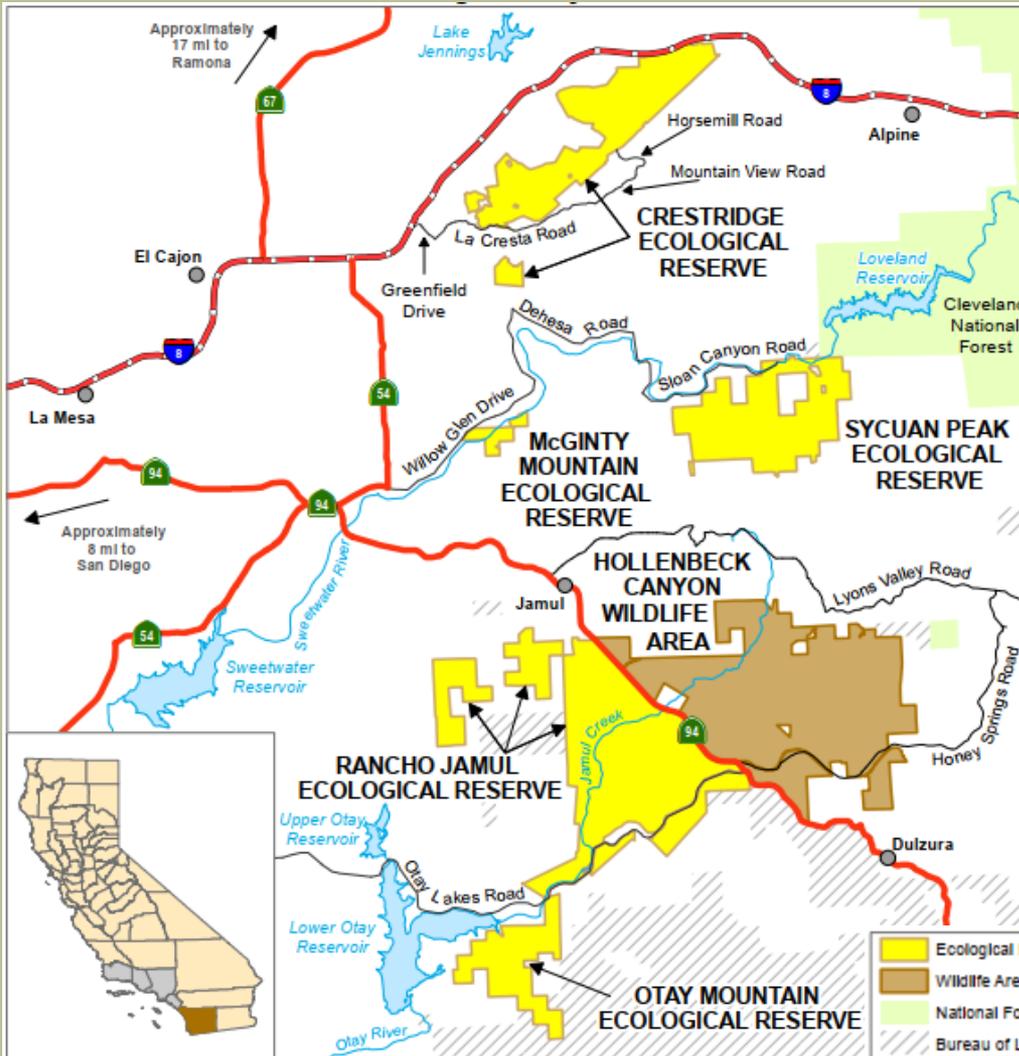
# #35. CDFW Land Management Plans, South Coast Region



Overview of Property 3, Batiquitos Lagoon Ecological Reserve

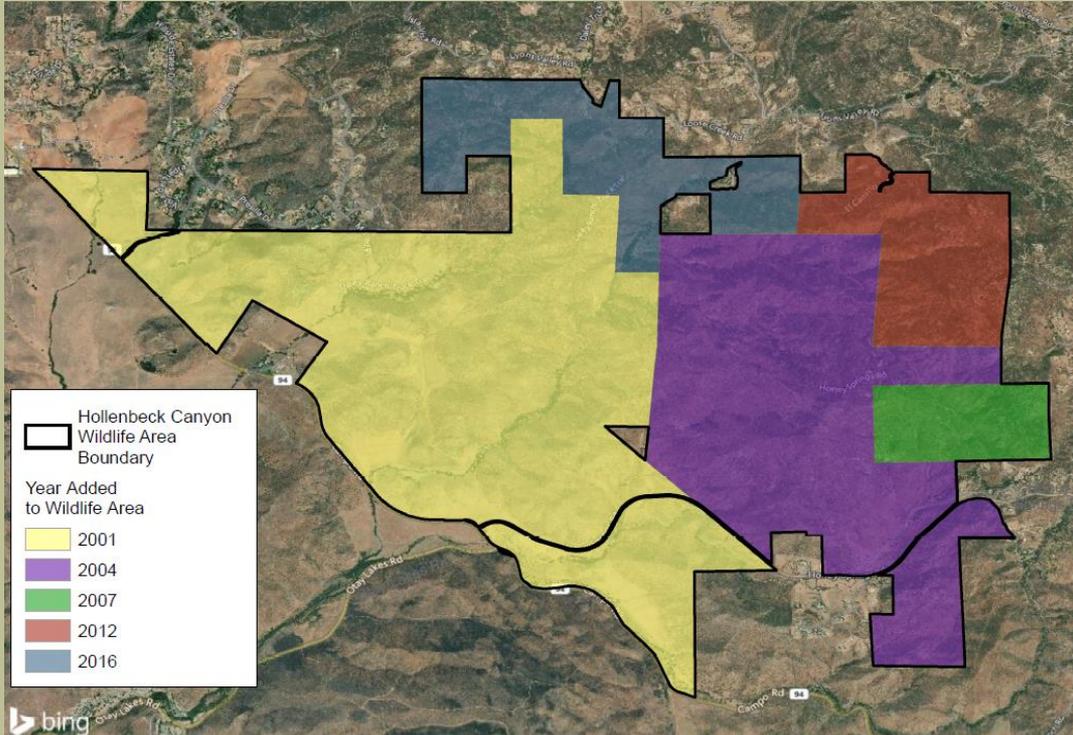


# #35. CDFW Land Management Plans, South Coast Region



Hollenbeck Canyon Wildlife Area

# #35. CDFW Land Management Plans, South Coast Region



Overview of Property 4, Hollenbeck Canyon Wildlife Area.

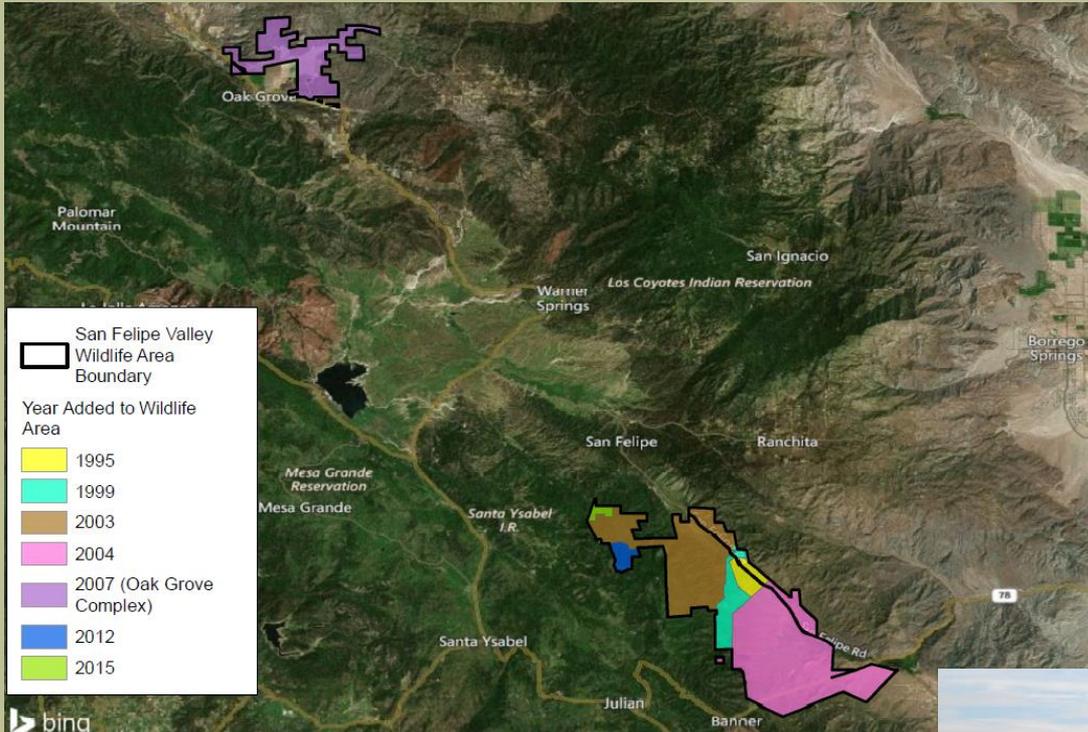


# #35. CDFW Land Management Plans, South Coast Region



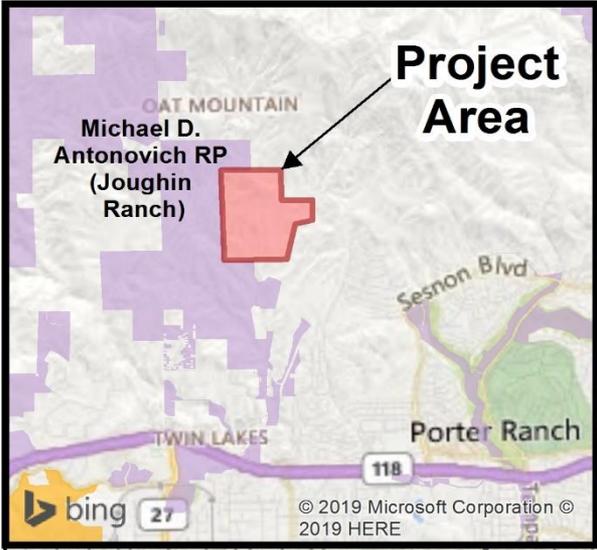
Oak Grove Unit of the San Felipe Valley Wildlife Area Complex.

# #35. CDFW Land Management Plans, South Coast Region

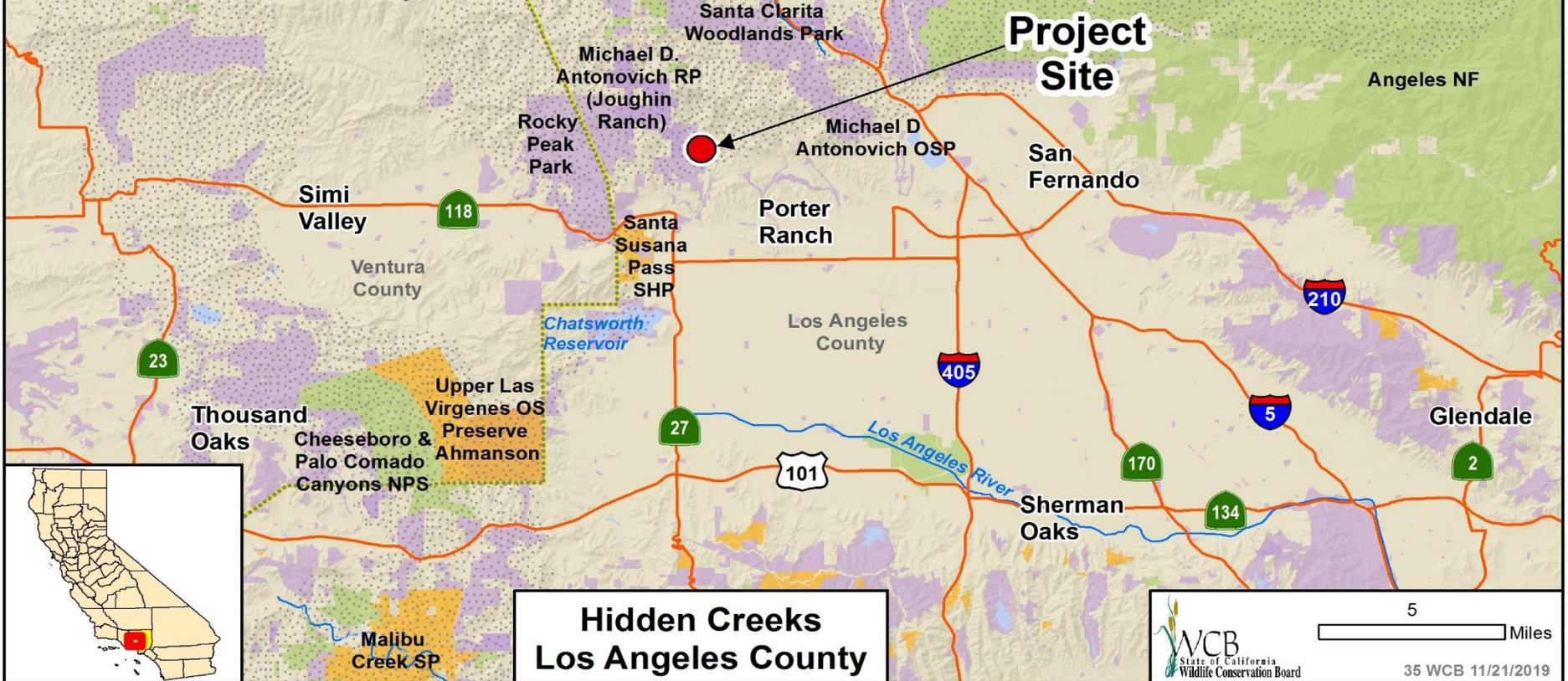


Overview of Property 5, Oak Grove Unit of the San Felipe Valley Wildlife Area Complex.





-  Project Area
-  Connectivity Areas
-  California Department of Fish and Wildlife
-  State
-  Federal
-  Other



**Hidden Creeks  
Los Angeles County**



5 Miles

35 WCB 11/21/2019

# #36. Hidden Creeks



Looking northwest at Santa Susana Mountains

# #36. Hidden Creeks



Eastern boundary of the property

# #36. Hidden Creeks

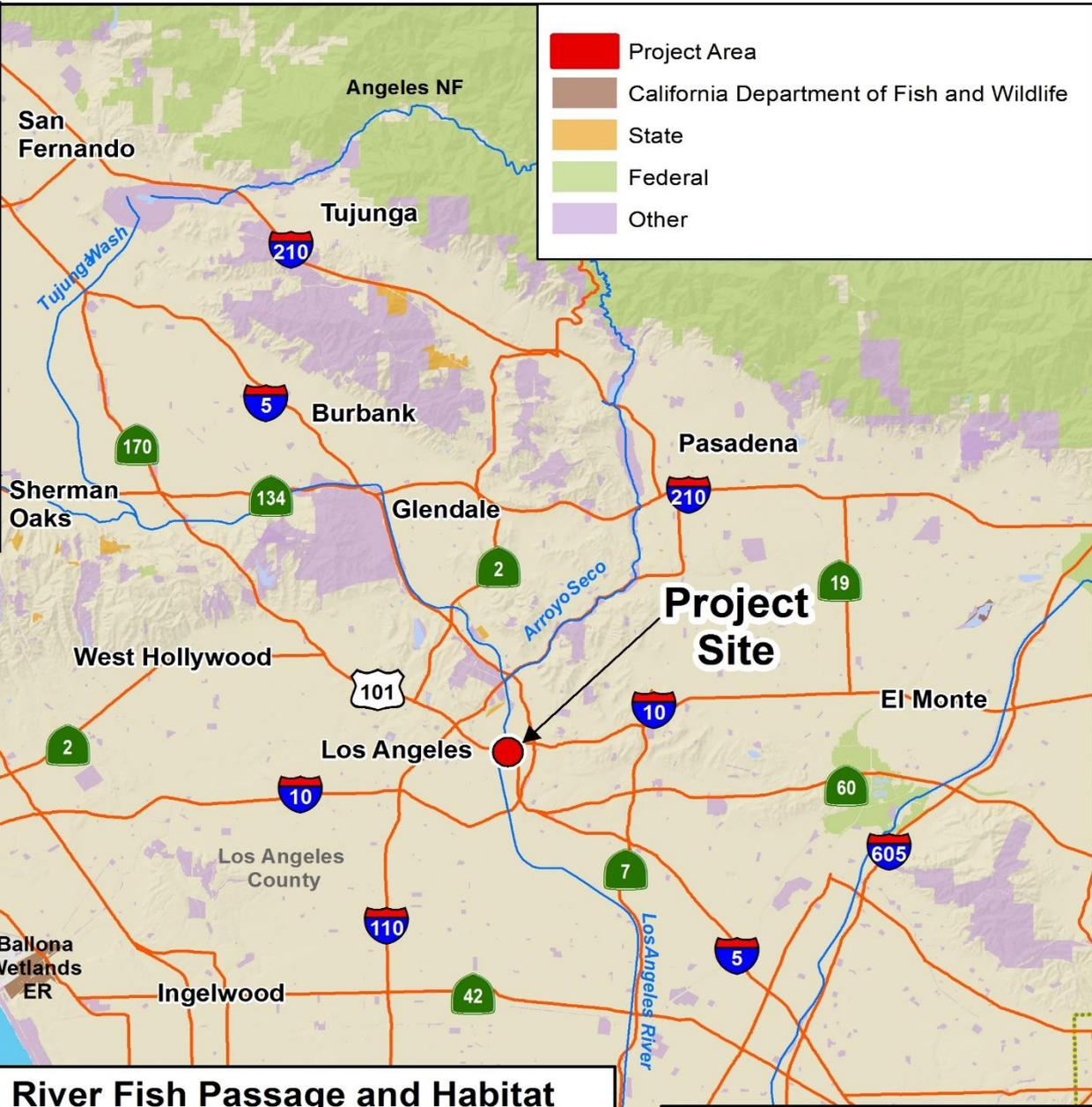
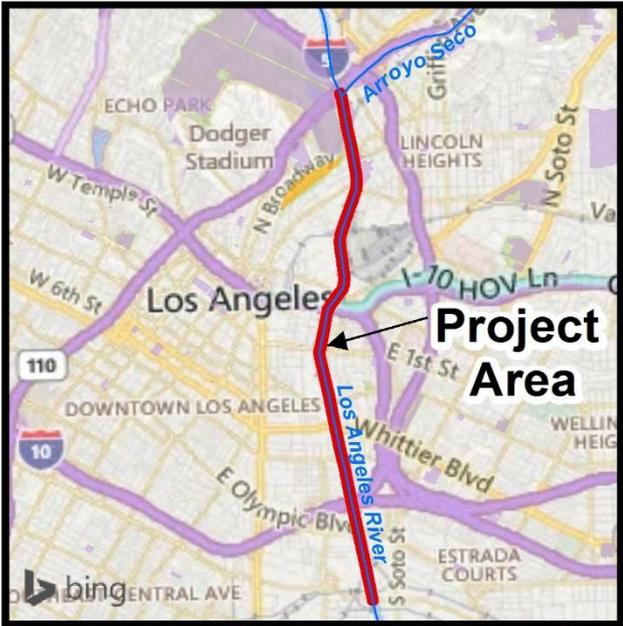


Property will provide great public access to the Santa Susana Mountains

# #36. Hidden Creeks



Looking east from riparian area



- Project Area
- California Department of Fish and Wildlife
- State
- Federal
- Other

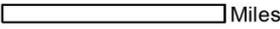


**Los Angeles River Fish Passage and Habitat Structures Design  
Los Angeles County**



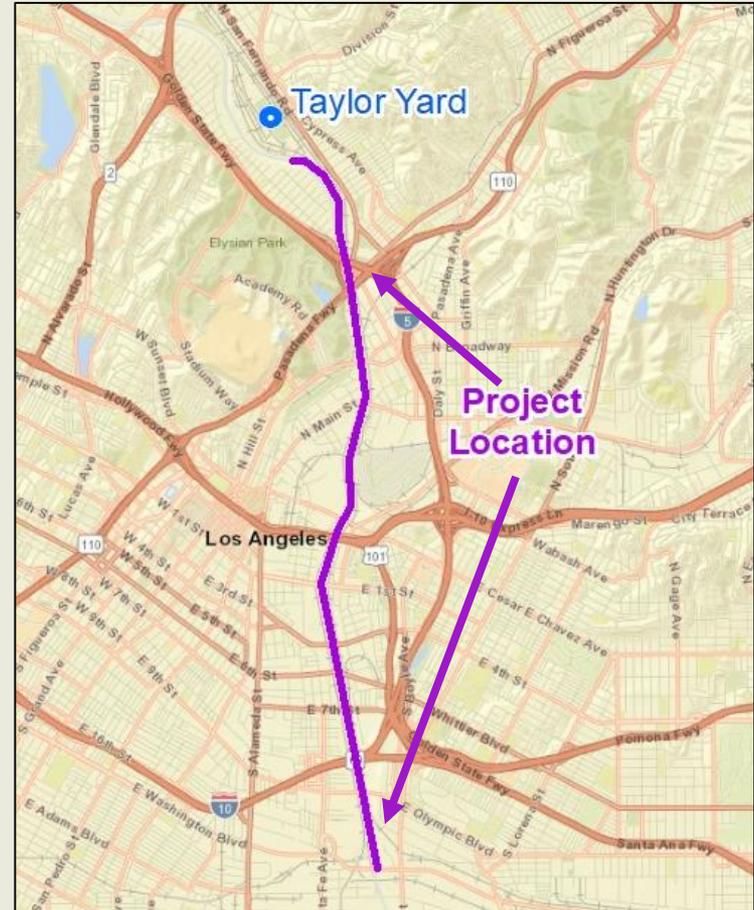
WCB  
State of California  
Wildlife Conservation Board

5 Miles



36 WCB 11/21/2019

# #37. Los Angeles River Fish Passage and Habitat Structures Design



Project Location

# #37. Los Angeles River Fish Passage and Habitat Structures Design



## Southern Steelhead Trout



25-in. steelhead caught in LA River, January 1940

- Historical range spans from San Luis Obispo County to the U.S./Mexico border
- Once abundant in the Los Angeles River
- Population drop is attributable to the dense urbanization that occurred in the south coast region
- The river channelization and installation of transportation and flood control infrastructure created fish passage barriers
- Steelhead are now prevented from reaching spawning and rearing areas.
- Listed as endangered by the National Marine Fisheries Service in 1997.

# #37. Los Angeles River Fish Passage and Habitat Structures Design



- Low to medium flow periods that occur during more than 95% of the year provide no habitat for aquatic species
- Even low flows have a velocity of 5 to 6 ft/s, which is above the cruising speed of southern steelhead trout

# #37. Los Angeles River Fish Passage and Habitat Structures Design



## Project Goals

- Converting a single purpose (runoff conveyance) waterway to a multi-purpose (flood control, habitat, aesthetics, and recreation) feature of the urban landscape
- Enhance access of migratory anadromous southern steelhead trout to upstream spawning and juvenile rearing habitat in key tributaries, such as Arroyo Seco
- Provide better access to perennial reaches and more diverse habitats that can serve as refugia for steelhead trout and other native fishes during stressful events such as drought or floods
- Improve population resilience to climate change by increasing local population size over a wider spatial distribution

# #37. Los Angeles River Fish Passage and Habitat Structures Design



Looking North Along  
the Existing Channel  
Section above 1<sup>st</sup>  
Street in Downtown  
Los Angeles

# #37. Los Angeles River Fish Passage and Habitat Structures Design



Conceptual Design of Channel and Native Plants Within a Restored Riparian Corridor

# #37. Los Angeles River Fish Passage and Habitat Structures Design



- Preliminary design and 60% design levels for passage and habitat structure designs
- Permits:
  - USACE Section 408 permit application,
  - USACE Section 404 permit application,
  - CDFW Streambed Alteration Agreement 1600 permit application
  - RWQCB 401 Water Quality permit application.
- California Environmental Quality Act (CEQA) Initial Study

