







Item 4. Wildlife Corridors – Informational



Slide 1

#### Wildlife Movement Barriers in California

- Maintaining habitat connectivity is critical to conserving California's biodiversity and ecosystem resilience
- Threats to habitat connectivity and wildlife movement
  - Habitat loss and fragmentation from development
  - Barriers created by linear infrastructure, such as roads, highways, dams, canals, and railroads
- Impacts on wildlife
  - Mortality affecting population demographics
  - Impaired gene flow
  - Climate change resilience



Mule deer illuminated by vehicle headlights in the moment before a vehicle-wildlife collision on U.S. 395 in Lassen County

Photo: Pathways for Wildlife

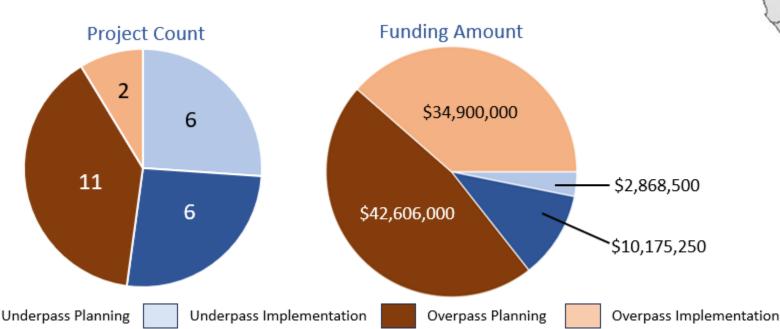


Slide 2

#### **WCB Funded Wildlife Corridor Projects**

#### 25 projects totaling \$90,549,750

- Proposition 84: 1 project for \$650,000
- Proposition 68: 11 Projects totaling \$10,205,500
- General Fund: 13 Projects totaling \$79,694,250







Slide 3

#### **CDFW Wildlife Movement Barrier Priority List**

#### 2022 Top Priority Barriers



Region(s)	County(ies)	Segment Name	WCB Funding
1	Humboldt	Hwy 101 near Stone Lagoon and Big Lagoon	Feasibility study February 2021
1	Siskiyou	Hwy 97 near Grass Lake	Overpass final designs August 2021
1,2	Lassen	Hwy 395 near Janesville	Overpass "shovel ready" planning August 2023
1,2	Lassen	395 Hwy 395 near Doyle	Overpass "shovel ready" planning August 2023
3	Santa Cruz	Highway 17 Los Gatos to Scotts Valley	Underpass "shovel ready" planning February 2021
3	Santa Clara	Hwy 101 Old Monterey/Hwy 129	Two overpass "shovel ready" planning projects near CDFW barrier proposed for November 2023
3,4	Santa Clara/ Merced	Hwy 152 Pacheco Pass/San Luis Reservoir	Overpass "shovel ready" planning February 2022; underpass enhancement implementation in February 2021 and May 2022
4	Kern	SR-58 Tehachapi Grade	
5,6	San Diego/ Riverside	I-15 in Rainbow Canyon area near Temecula	Overpass final designs August 2021; underpass enhancement planning May 2020
5,6	Imperial	I-8 near San Diego/Imperial County border	Overpass "shovel ready" planning August 2023
6	Mono	Hwy 395 near Mammoth Lakes	Overpass "shovel ready" planning November 2022
6	San Bernardino	I-15 and Brightline Railway near Soda Mtn	



Slide 4



Mountain Lion



Peninsular Bighorn Sheep

#### **Focal Species**

#### **Sensitive Species**

- Mountain lion
- Peninsular bighorn sheep
- California newt
- Santa Cruz long toed salamander
- Numerous secondary species

#### Ungulate herds

- Tule elk in Humbolt and Colusa counties
- Mule deer in the Eastern Sierras



Tule Elk



Mule Deer



Slide 5

#### **Underpass Enhancement**

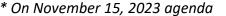


**Liberty Canyon Road Underpass** 



Agua Dulce Creek Culvert







Pacheco Creek Under State Route 152



State Route 91 Kinked Culvert



Slide 6

#### **Overpass Construction**



U.S. 101 in San Benito County



Monterrey Road in Santa Clara County

Туре	Project Name	Approved	Fund	Amount	
Planning	Stone Lagoon Wildlife Connectivity	Feb-21	P68	\$230,000	
	Rainbow Canyon Wildlife Crossing	Aug-21	P68	\$1,331,000	
	State Route 97 Wildlife Migratory Corridor	Aug-21	P68	\$584,000	
	Pacheco Pass Wildlife Overcrossing	Feb-22	GF	\$3,125,000	
	Mammoth 395 Wildlife Crossing	Nov-22	GF	\$3,170,000	
	Newhall Pass I-5 Wildlife Crossing Design	Nov-22	GF	\$4,724,000	
	State Route 97 Wildlife Migratory Corridor Augmentation	May-23	GF	\$560,000	
	I-8 Peninsular Bighorn Sheep Crossing	Aug-23	GF	\$5,808,000	
	Restoring Connectivity for East Bay Ranges	Aug-23	GF	\$7,094,000	
	United States Highway 395 Wildlife Overpass	Aug-23	GF	\$5,375,000	
	Coyote Valley Wildlife Connectivity*		GF	\$5,000,000	
	San Benito County US-101 Wildlife Crossing*		GF	\$5,605,000	
Implementation	Wallis Annenberg Wildlife Crossing	Aug-20	P68	\$5,000,000	
	Wallis Annenberg Wildlife Crossing Augmentation	Aug-21	GF	\$20,000,000	
	Cortina Ridge <u>Sawato Kamitlitarro</u> Wildlife Crossing	Aug-23	GF	\$9,900,000	
	Total				



Liberty Canyon Wildlife Overpass



Cortina Ridge Sawato Kamitlitarro Wildlife Crossing

<sup>\*</sup> On November 15, 2023 agenda



Slide 7



WCB wildlife corridor projects in Santa Clara and San Benito counties



WCB wildlife corridor projects in Southern California



## **Wildlife Conservation Board Proposed Projects** November 15, 2023 Fee Title (9) Conservation Easement (2) Restoration/Enhancement (13) Public Access (1) Conservation Planning/Study (11) Transfer (1) **Total Projects: 37**

## Wildlife Conservation Board Meeting November 15, 2023 Project Map



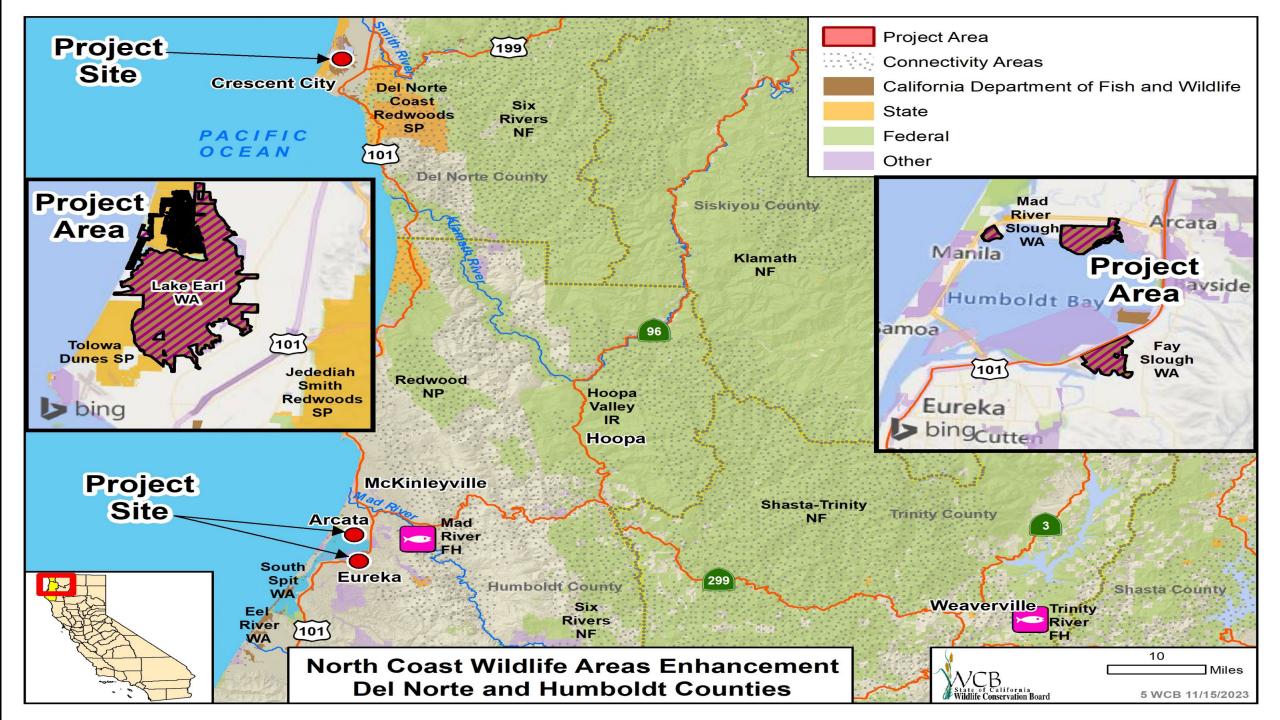


#### **Consent Items 5-31**



## Item 5. Recovery of Funds

Fund Name	Amount
General Fund	\$91,343.34
Habitat Conservation Fund	\$89,707.45
Greenhouse Gas Reduction Fund	\$11,227.07
California Clean Water, Clean Air, Safe Neighborhood Parks, and Coastal Protection Fund	\$13,181.52
	φ13,161.32
Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Fund of 2006	\$60,825.27
Water Quality, Supply, and Infrastructure Improvement Fund of 2014	\$909,759.39
The California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor	
Access For All Act of 2018	\$606,960.65
Total Recoveries for All Funds	\$1,783,004.69



# North Coast Wildlife Areas Enhancement

Slide 1

Project Locations

### **Project Locations**





#### North Coast Wildlife Areas Enhancement Slide 2

Left: Fay Slough WA with wetland unit covered in blackberry and invasive grasses.

Right: Fay Slough WA showing levee cut with no mechanism to manage tidal water flow.

## North Coast Wildlife Areas Enhancement

Slide 3

Left: Mad River Slough WA showing invasive grasses and overgrown tule/cattail growth.

Right: Mad River Slough WA showing water flowing through open cut in levee.







## North Coast Wildlife Areas Enhancement

Slide 4

Left: Barn at Mad River Slough that will be surveyed for historical significance and repair or demolition.

Right: Example of structure at Mad River Slough to be demolished.





## North Coast Wildlife Areas Enhancement

Slide 5

Left: Lake Earl WA showing wooden water control structure in need of replacement.

Right: Lake Earl WA culvert falling apart.





## North Coast Wildlife Areas Enhancement

Slide 6

Left: Lake Earl WA Pebble Beach Access with missing handrails and eroding stair supports.

Right: Lake Earl WA at Pebble Beach Access.

## Online Water Availability Tool - Augmentation WCB Multiple Counties





## Online Water Availability Tool - Augmentation

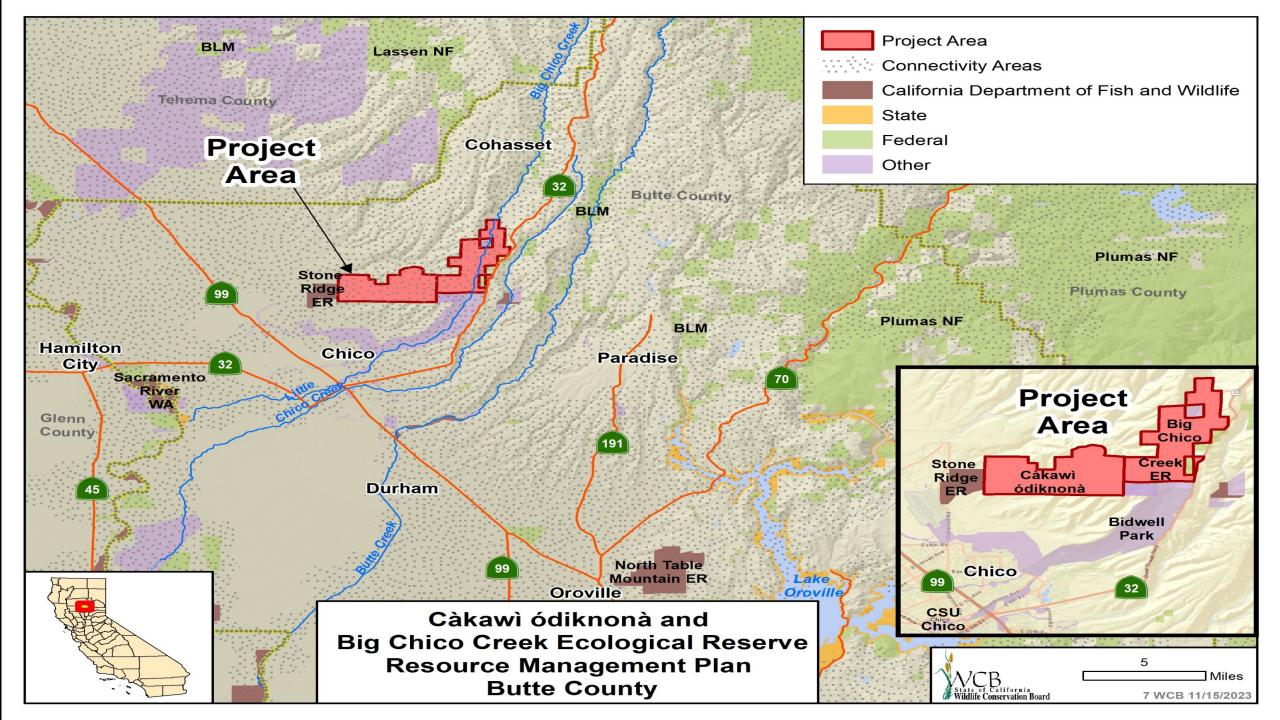
Slide 1

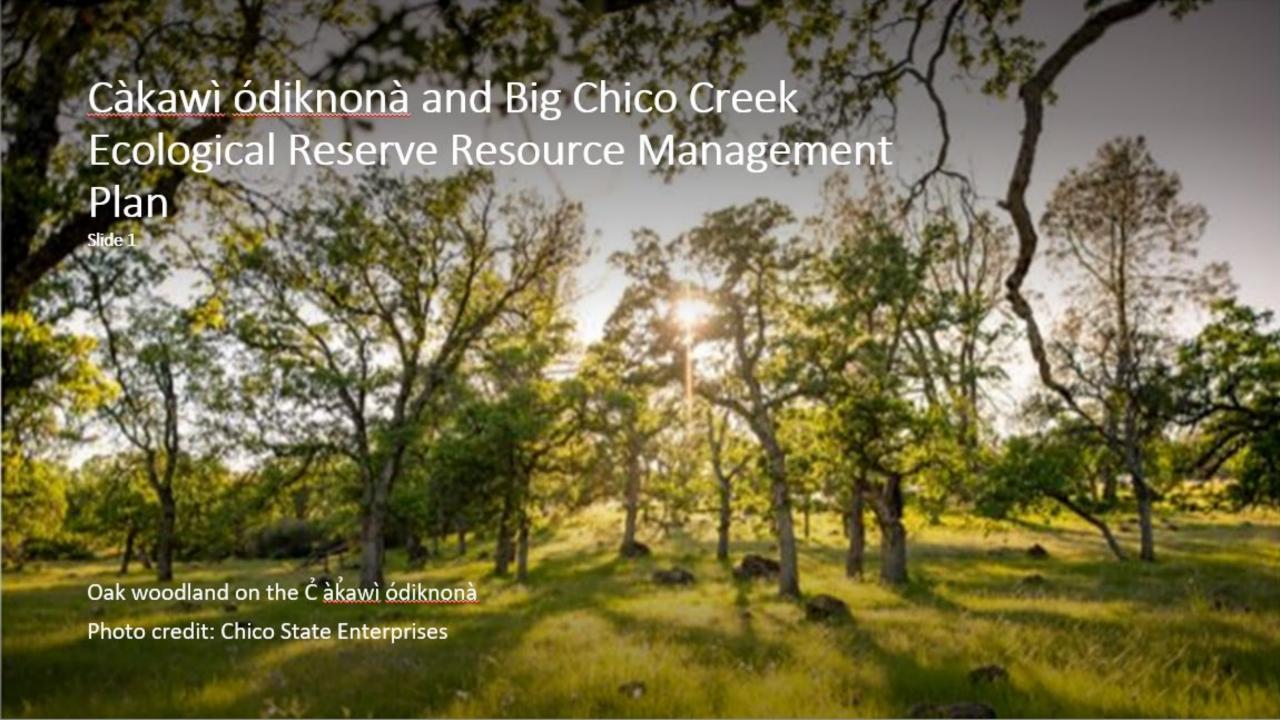
 Major rivers to be covered with the Online Water Availability Tool



# Online Water Availability Tool - Augmentation Slide 2

Example of how the online tool user interface.

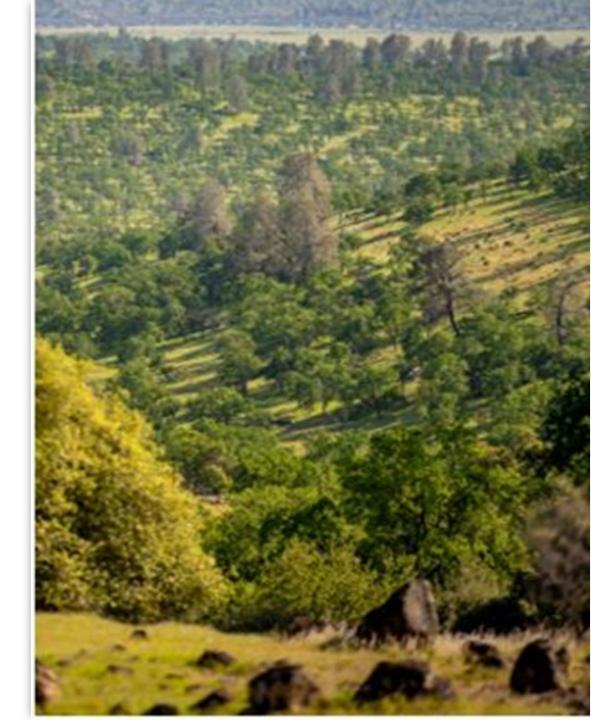






## Càkawì ódiknonà and Big Chico Creek Ecological Reserve Resource Management Plan

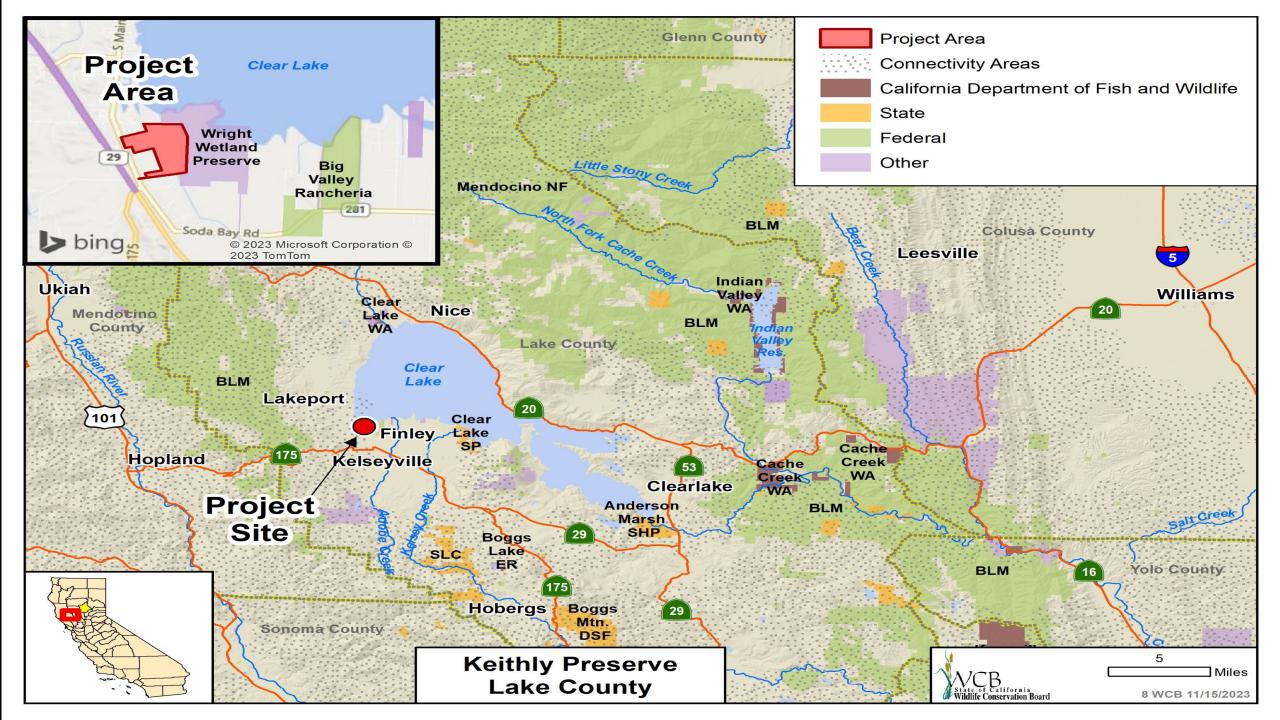
- Oak woodland canyon on CSE preserve
- Photo Credit: Chico State Enterprises





## Càkawì ódiknonà and Big Chico Creek Ecological Reserve Resource Management Plan

- Grassland and canyon view from CSE preserve
- Photo credit: Chico State Enterprises



## Keithly Wetland Preserve

Slide 1



## Keithly Wetland Preserve

Slide 2

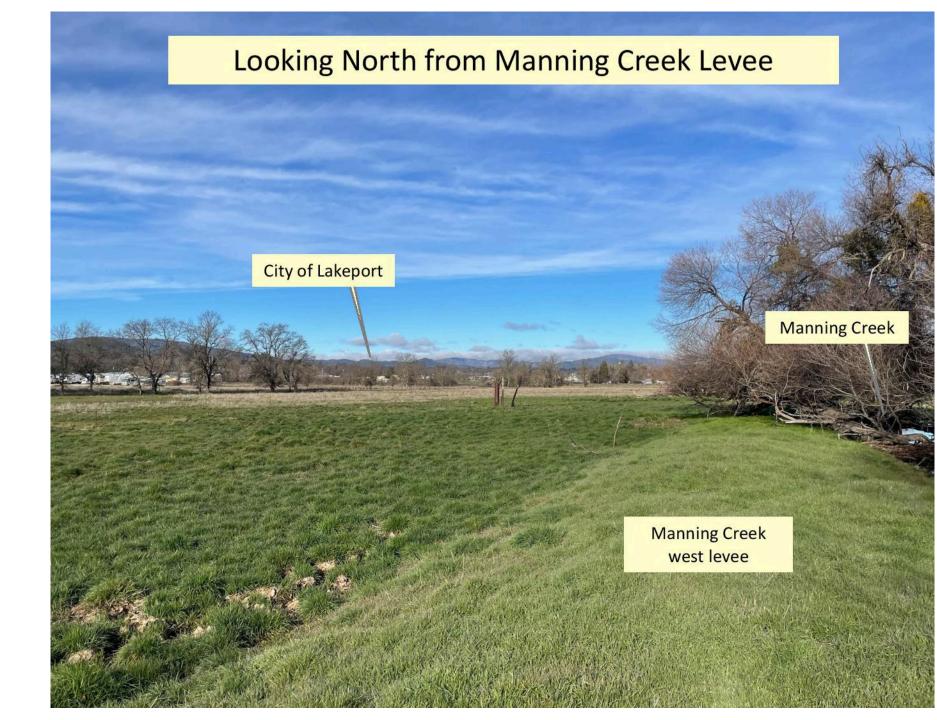


Keithly Wetland Preserve Slide 3

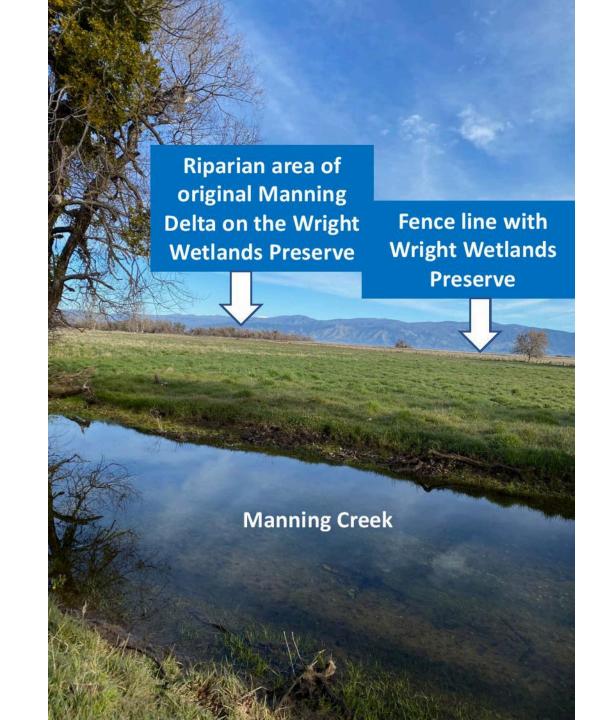


## Keithly Wetland Preserve

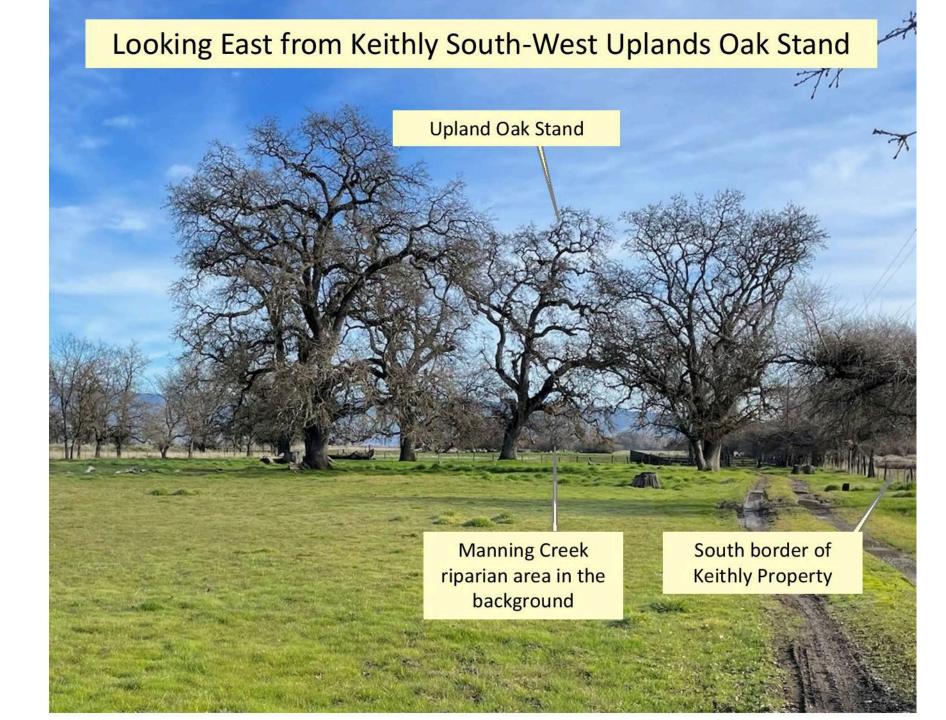
Slide 4



Keithly Wetland Preserve Slide 5

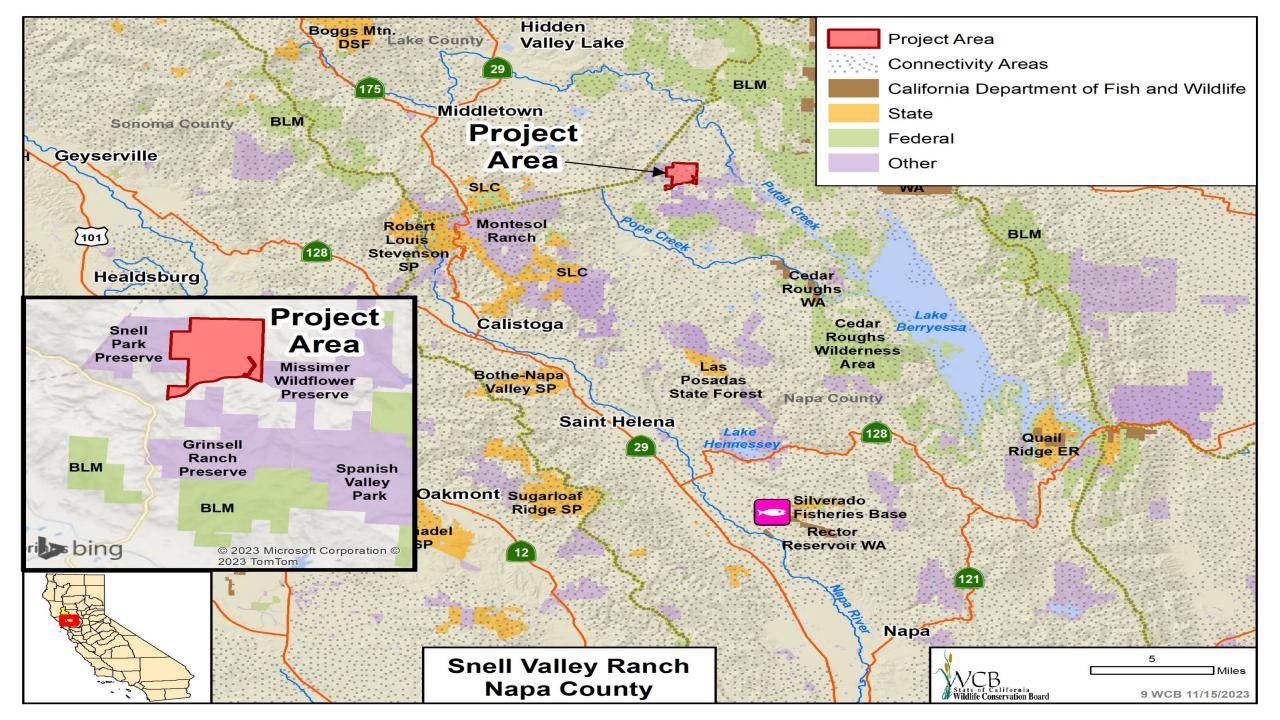


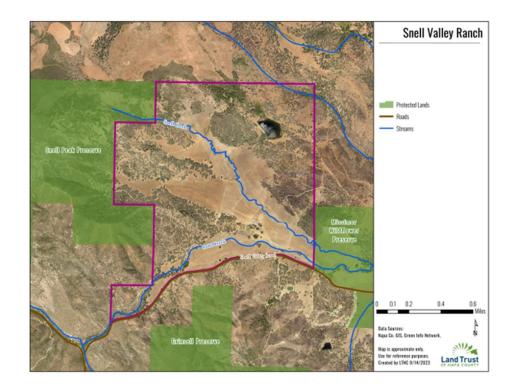
Keithly Wetland Preserve Slide 6

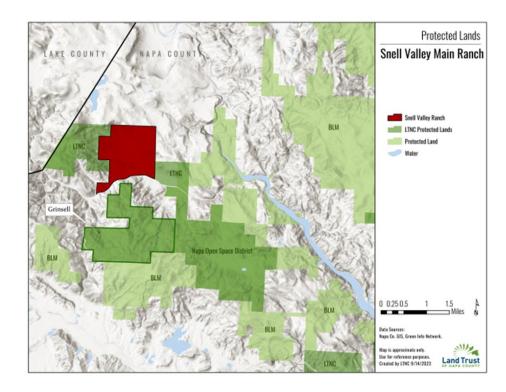


Keithly Wetland Preserve Slide 7





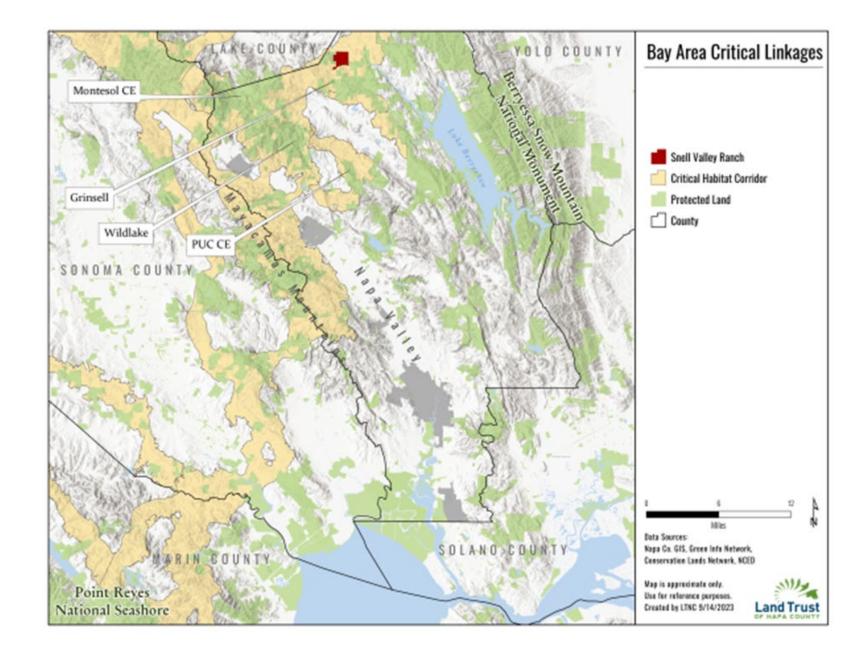




#### Snell Valley Ranch

#### Snell Valley Ranch

Slide 2



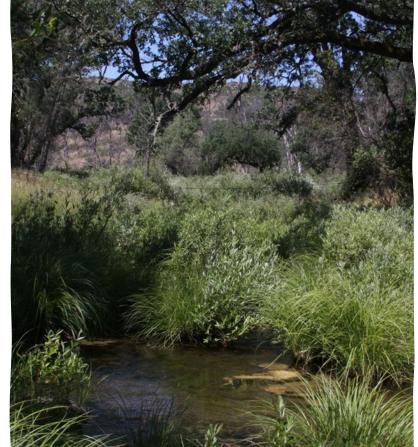
#### Snell Valley Ranch

Slide 3

• View from the northern hills of Snell Valley Ranch, looking south across the meadows. The hills in the background are the Grinsell property, protected with the help of WCB in 2020.









Snell Valley Ranch

Slide 4

Left: Blue Oak woodland in the northern hills of Snell Valley Ranch

Center: Riparian habitat along Butts Creek

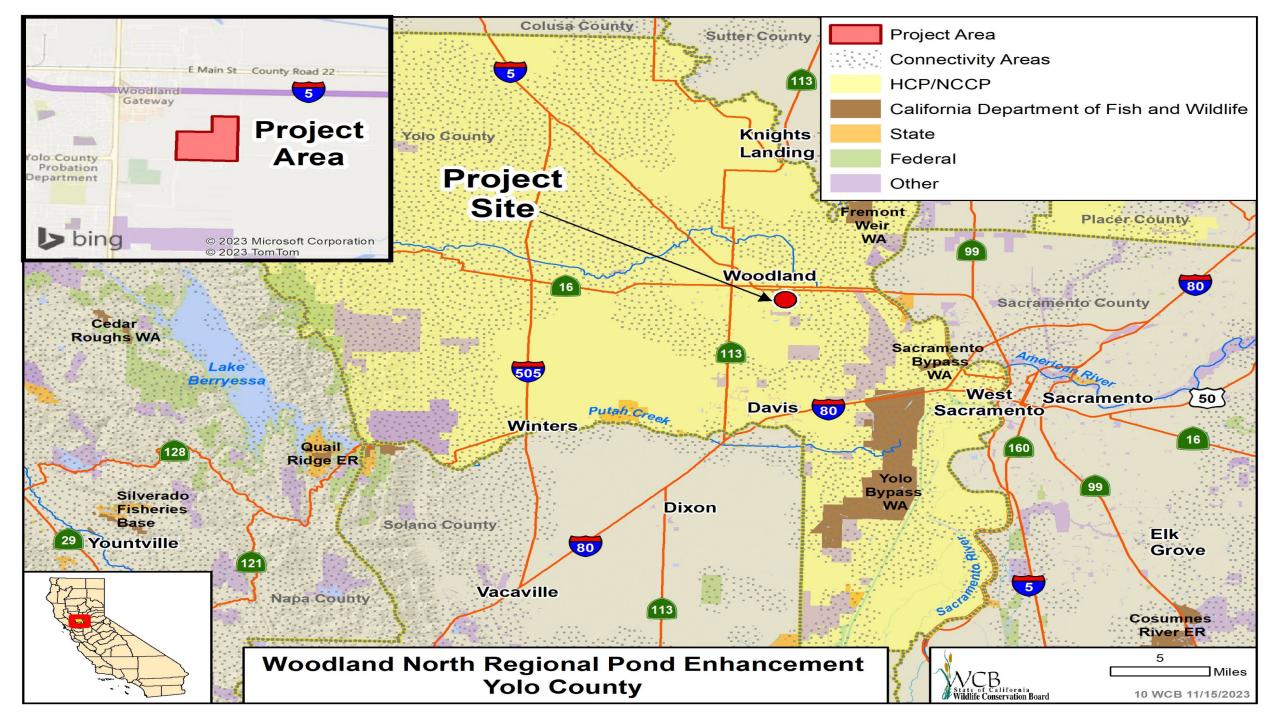
Right: Wildflowers in open meadows at Snell Valley Ranch

# Snell Valley Ranch

Slide 5

Ground disturbance on property abutting Snell Valley Ranch on the north.





#### Woodland North Regional Pond Enhancement

Slide 1

Weedy bank with North Regional Pond on left



#### Woodland North Regional Pond Enhancement

Slide 2

Steep weedy bank south of Clean Water Agency





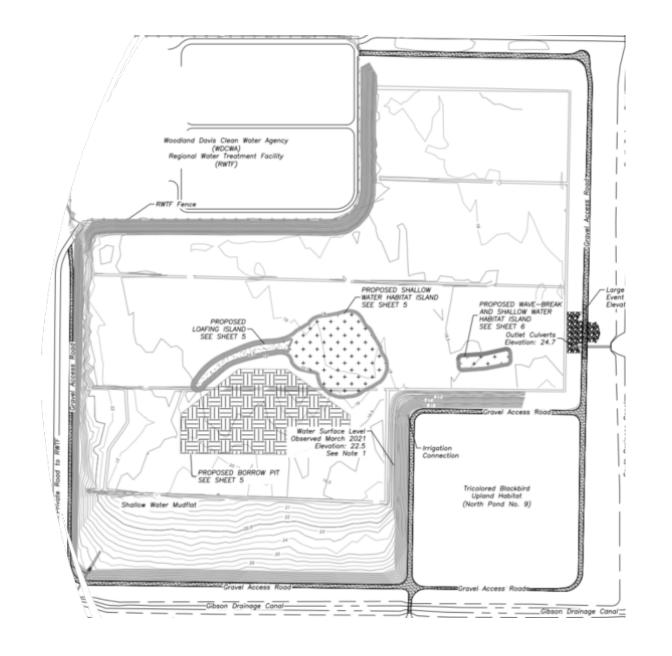
Woodland North Regional Pond Enhancement Slide 3

Erosion on north bank (left) and southeast corner (right)

#### Woodland North Regional Pond Enhancement

Slide 4

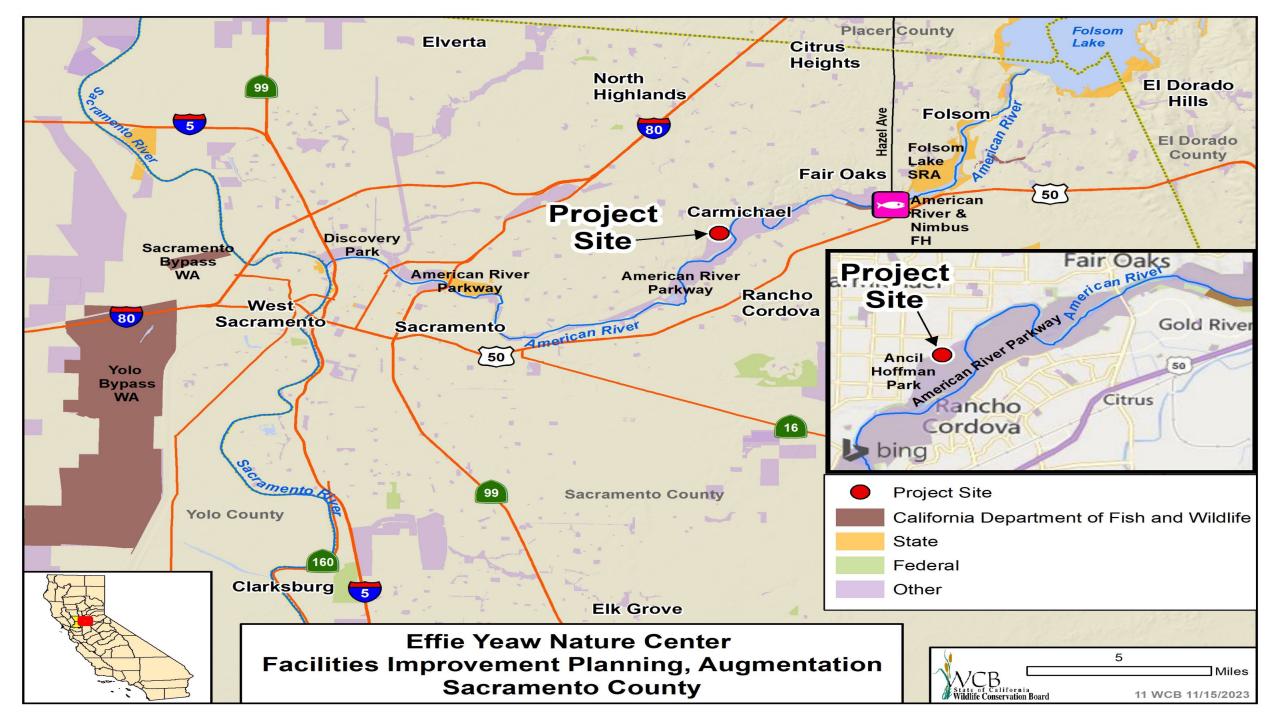
Diagram of project improvements with tricolored blackbird habitat in bottom left





Woodland North Regional Pond Enhancement Slide 5

Tricolored blackbird





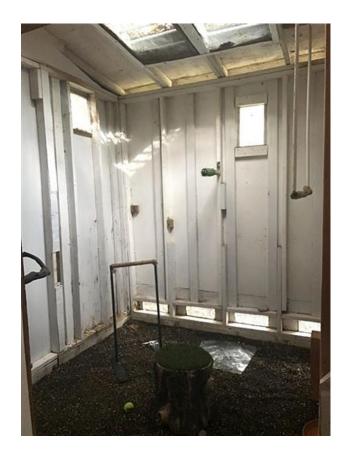
Effie Yeaw Nature Center Facilities Improvement Planning Augmentation Slide 1

• Effie Yeaw Nature Center Museum building (right) and Assembly Building (left).



Effie Yeaw Nature Center Facilities Improvement Planning Augmentation

- Left: Proposed accessible path area between Museum and Assembly buildings leading to proposed new outdoor classroom and aviary.
- Right: Existing outdoor classroom. Location of proposed new aviary and show and tell platform between new aviary and new outdoor classroom.

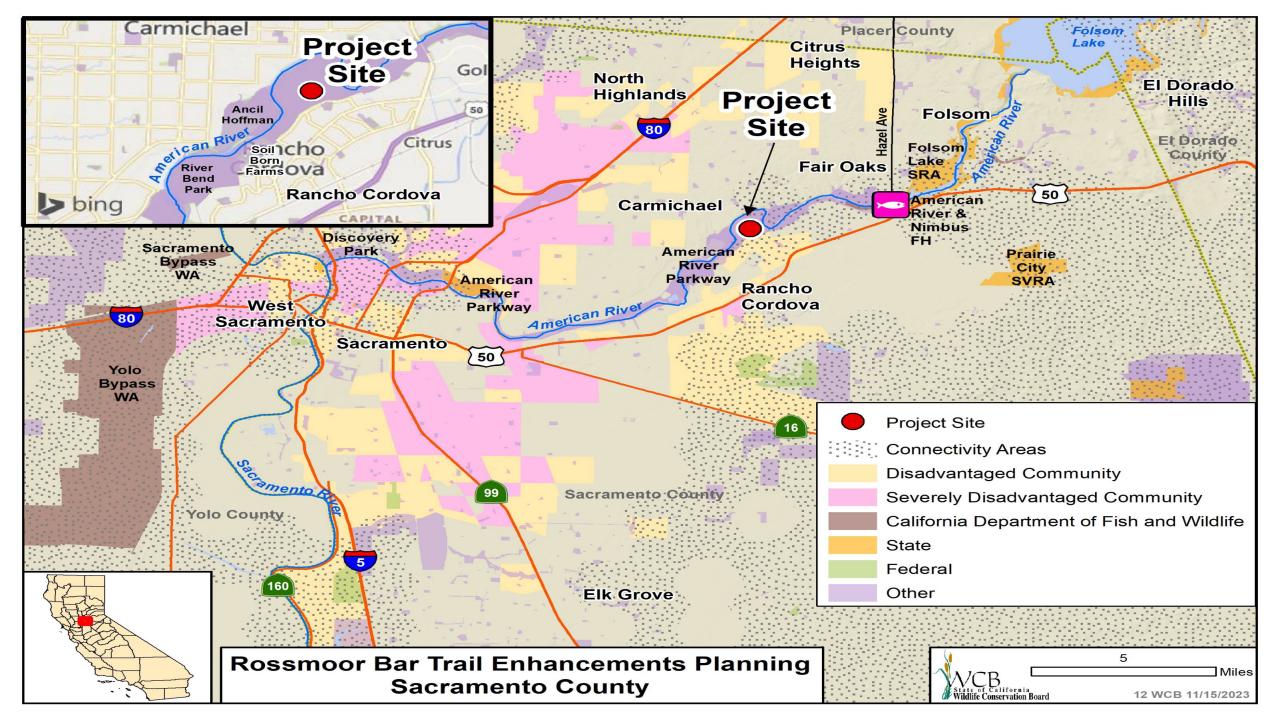






Left: 1 of 4 bird living spaces inside the mew facility. Right: Existing mew, a pen for birds (the area to the

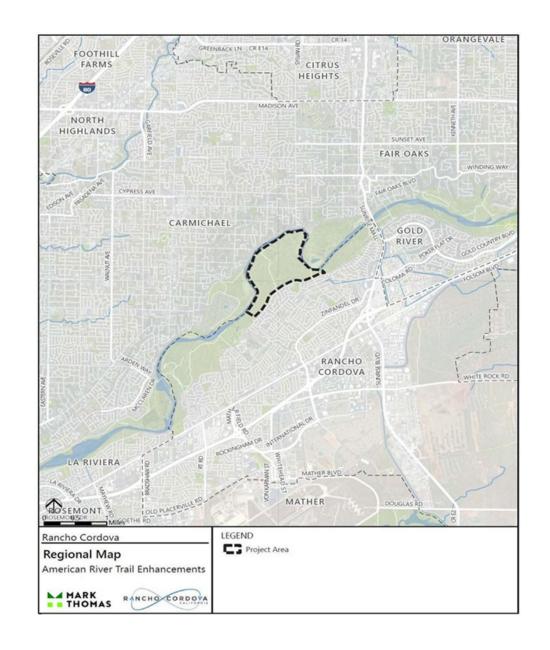
right of the white door).



#### Rossmoor Bar Enhancements Planning

Slide 1

**Location Map** 

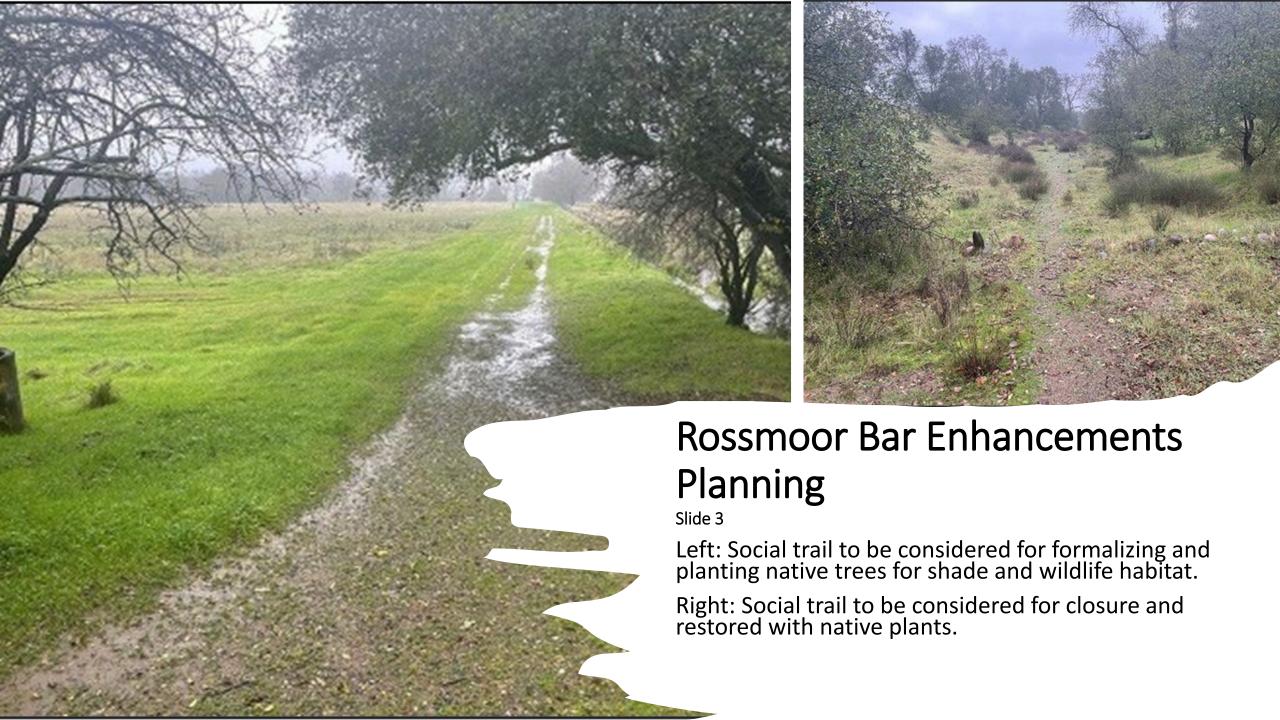


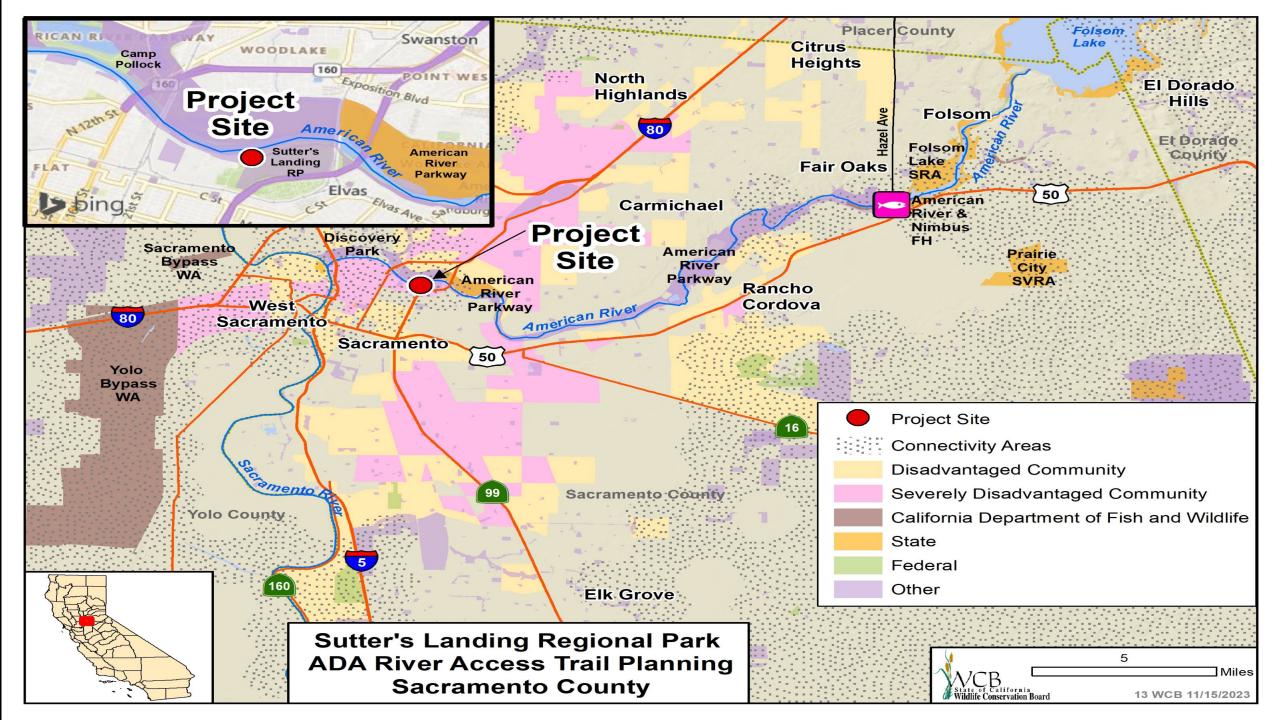
#### Rossmoor Bar Enhancements Planning

Slide 2

Poorly drained trail at trailhead off main entrance road.

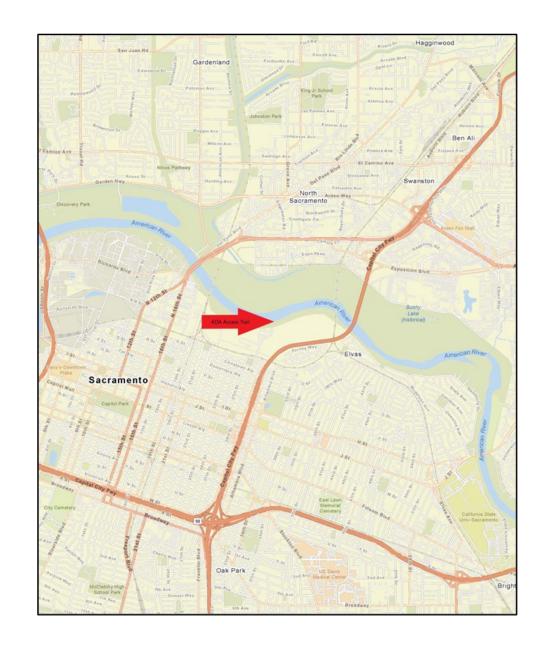


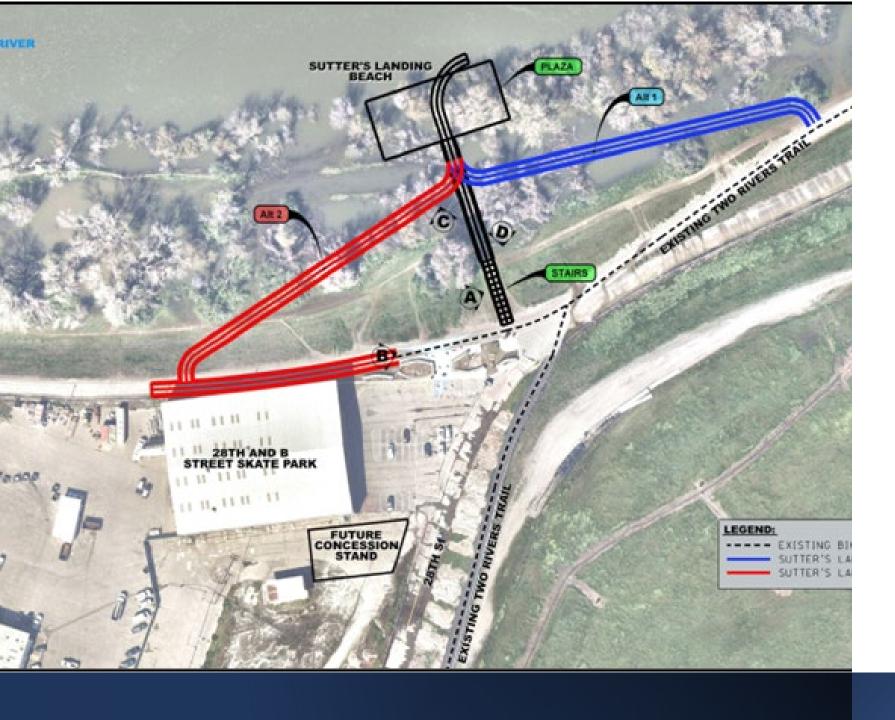




#### Sutter's Landing Regional Park ADA River Access Trail Planning Slide 1

Project map





Sutter's Landing Regional Park ADA River Access Trail Planning Slide 2

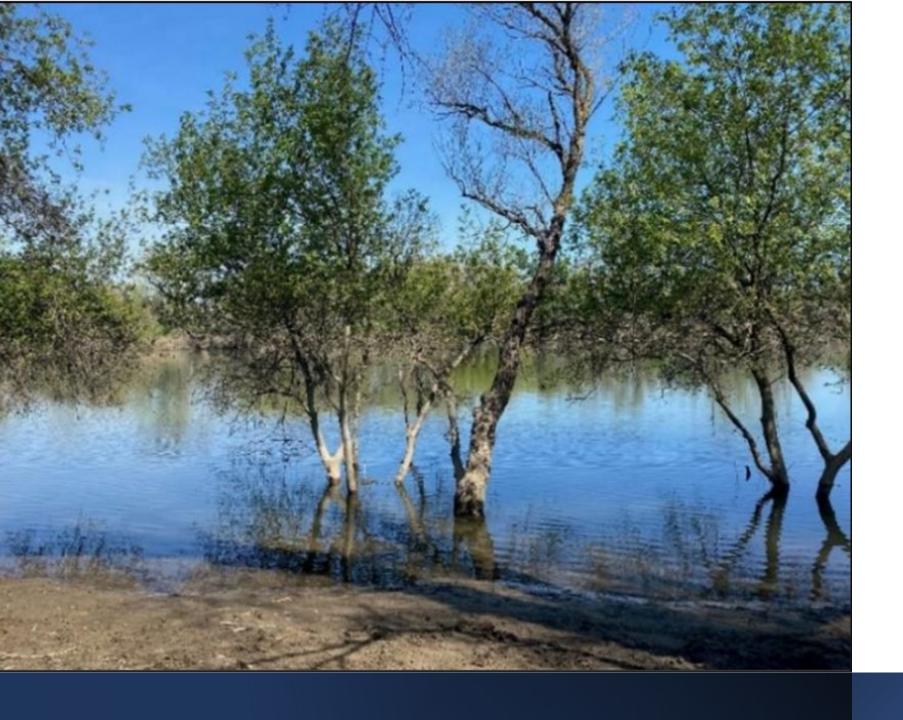
Conceptual alignments for an ADA-compliant river access trail and boat launch/plaza that will support a separately funded, new concession stand that will provide non-motorized water craft rentals.

#### Sutter's Landing Regional Park ADA River Access Trail Planning

Slide 3

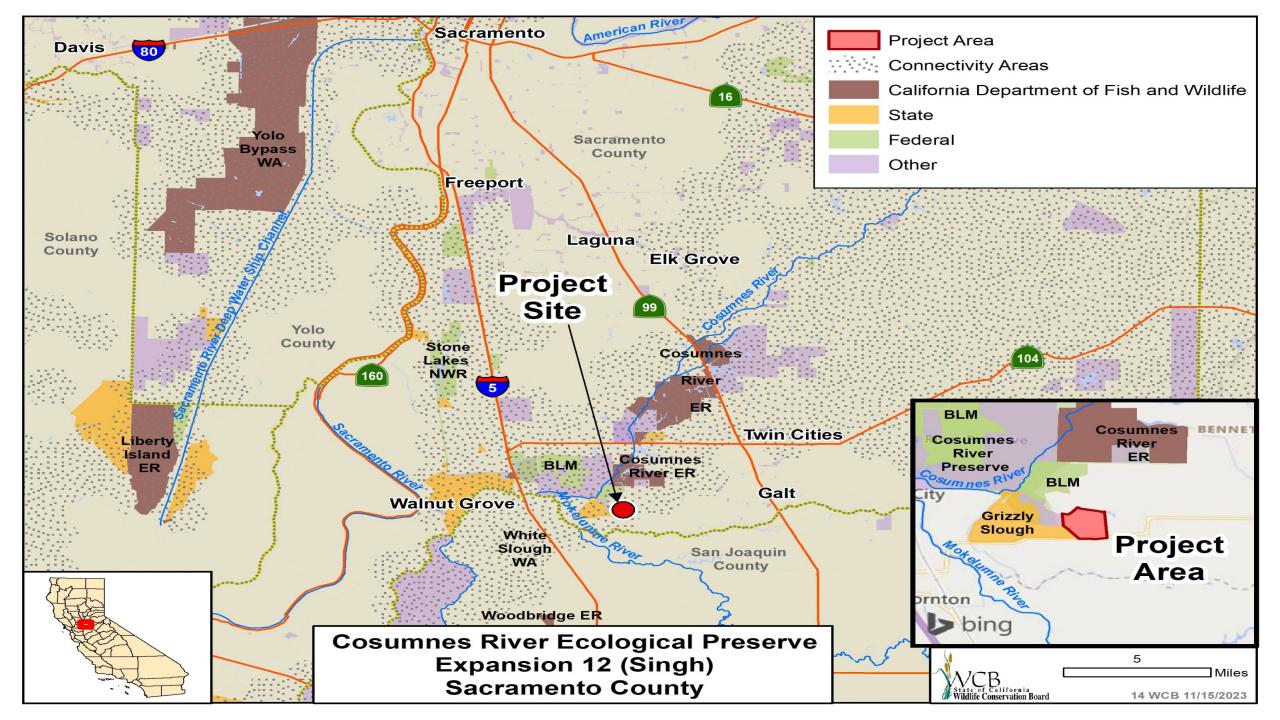
Riparian woodland habitat within project area on the riverside of the federal levee.





Sutter's Landing Regional Park ADA River Access Trail Planning Slide 4

• Riparian trees at river's edge within project area.





Cosumnes River Ecological Preserve, Expansion 12 (Singh)

Slide 1

• Left: Bear Slough

• Right: Facing north toward Bear Slough



Cosumnes River Ecological Preserve, Expansion 12 (Singh)

Slide 2

• Left: Bear Slough

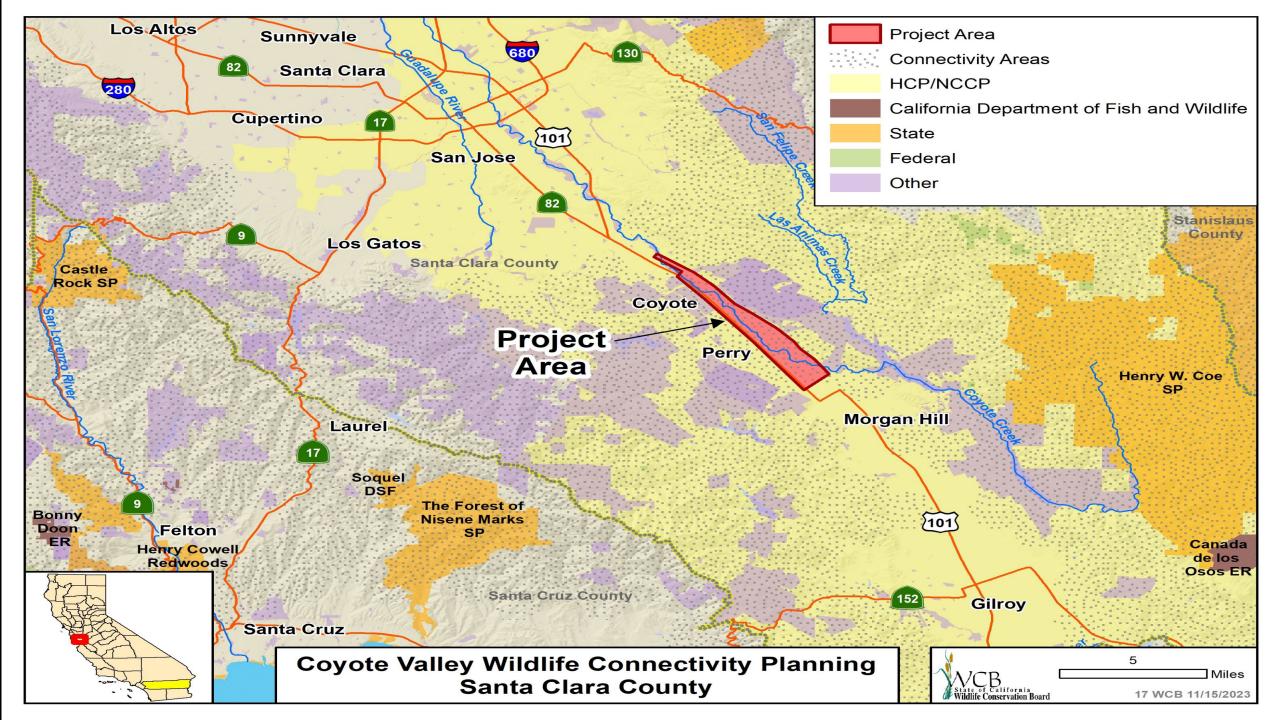
• Right: Facing west toward oak woodland / riparian area

## Bolinas Lagoon South End Adaptation and Resilience Planning, Augmentation

Withdrawn from consideration at this time.

# Malech Ranch Conservation Easement

Withdrawn from consideration at this time.



#### 18. Coyote Valley Wildlife Connectivity Planning Slide 1

Santa Clara County between the City of San Jose and the City of Morgan Hill

Wildlife movement "Triple Barrier"

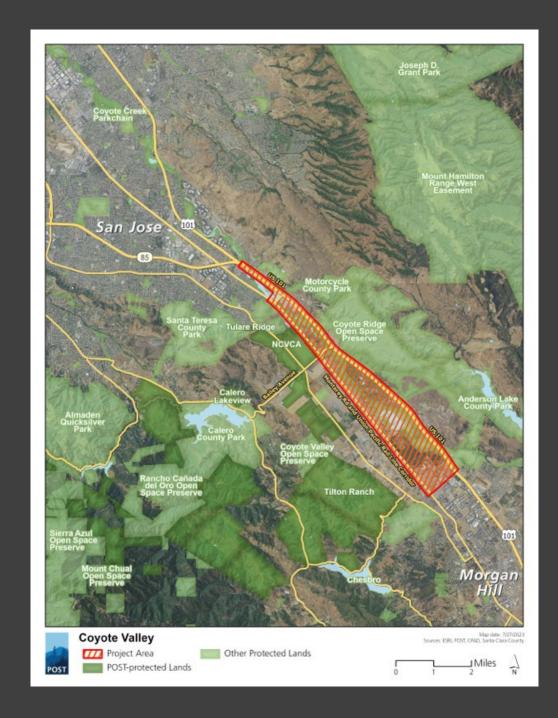
- US 101,
- Monterey Rd, and the
- Union Pacific Rail Line.

San Francisco Bay Region's last remaining large, undeveloped valley floors

Connects 1.13 million acres of core wildlife habitat across the

- Santa Cruz Mountains to the west and the
- Diablo Range to the east.

CDFW's 2022 Wildlife movement Barriers Priority list



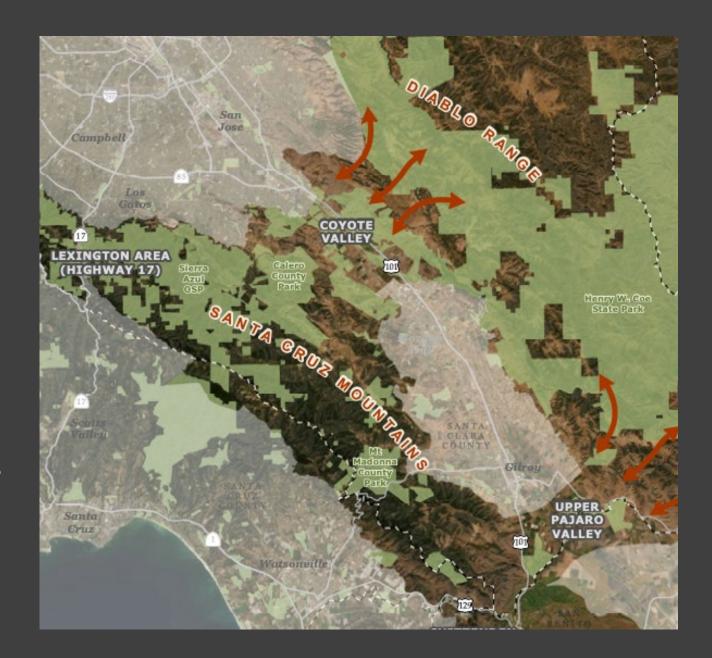
### 18. Coyote Valley Wildlife Connectivity Planning Slide 2

#### **Protected lands**

- Coyote Creek Parkway
- North- and Mid-Coyote Valley Conservation Areas
- Santa Teresa County Park
- Calero County Park
- Mayyan Oyaakma-Coyote Ridge Open Space Preserve
- Protected private lands and ranches

#### Past WCB investments:

- \$10M to the Santa Clara Valley Open Space
   Authority to purchase the property now known as
   Spreckels Hill
- \$4M to the Santa Clara Valley Habitat Agency to purchase Tilton Ranch
- \$14M to create the newly renamed Mayyan Ooyakma Coyote Ridge Open Space Preserve.



#### 18. Coyote Valley Wildlife Connectivity Planning Slide 3



Bobcat hit at Monterey Rd median



Juvenile puma killed by a vehicle immediately to the west of Monterey Rd.

### 18. Coyote Valley Wildlife Connectivity Planning Slide 4

#### Project objectives

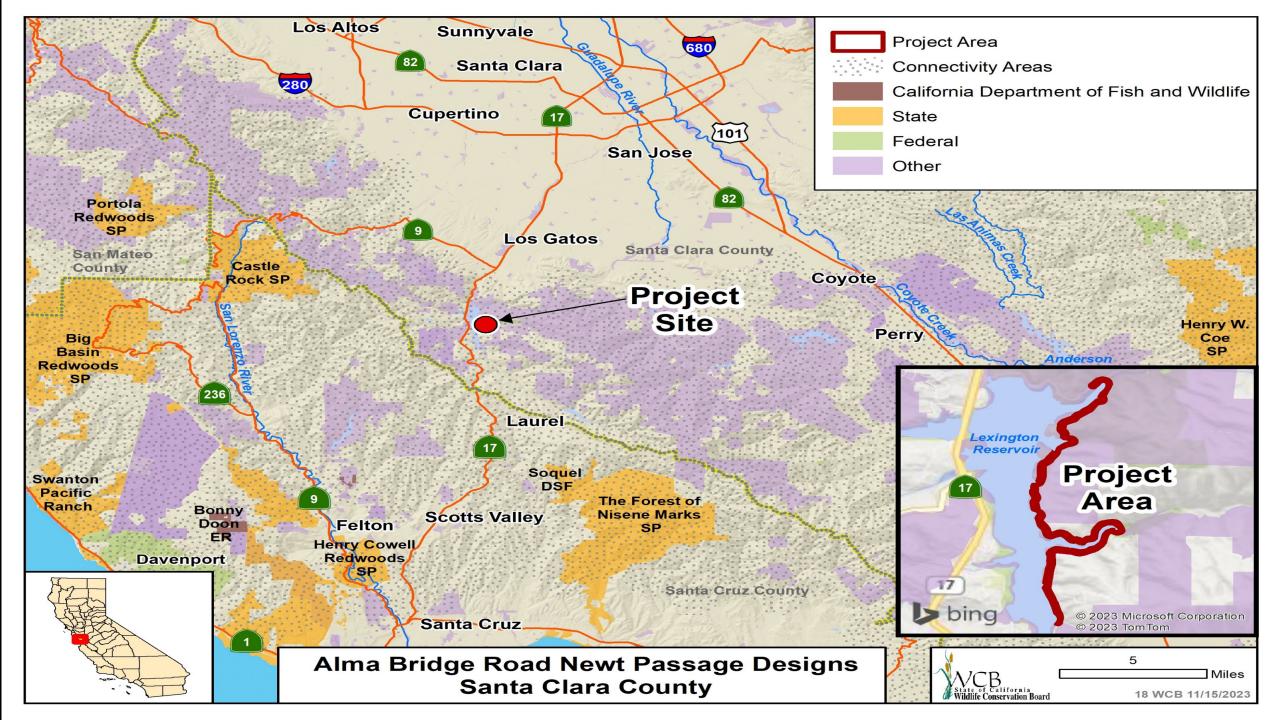
- Reduced wildlife-vehicle collisions,
- Improved genetic viability for mountain lion subpopulations
- Climate change adaptation
- Connection of the existing network of protected lands.

#### **Project elements**

- Identifying wildlife permeability enhancements across the triple barrier
- Advancing planning, design, and environmental review for wildlife crossing structures
- 65% design
- CEQA and NEPA.



Bobcat hit along US 101



19. Alma Bridge Road Newt Passage Designs
Slide 1

#### The California newt

California Species of Special Concern

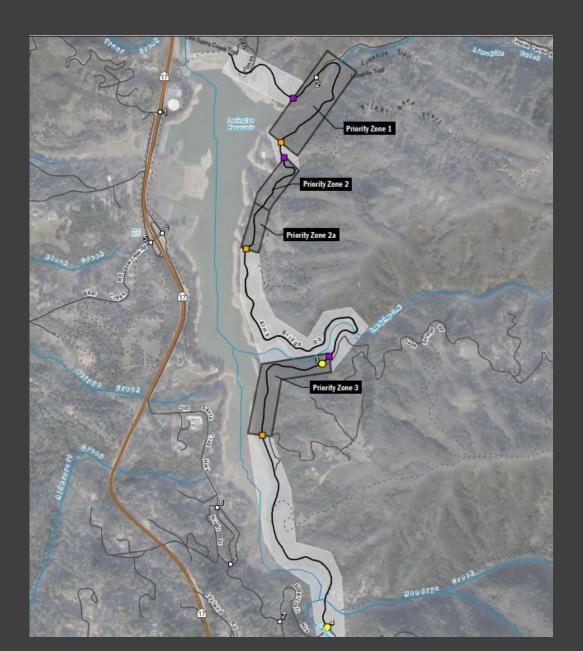
Lives in coastal mountain ranges from central Mendocino County, south to northern San Diego County

Relatively inactive in subterranean refuges most of the year

- First rains of the season initiate migration to aquatic breeding localities
- Once at the breeding sites, adults may remain in or near these ponds and streams for several weeks.



19. Alma Bridge Road Newt Passage Designs
Slide 2



#### Alma Bridge Road (ABR)

Parallels the northern and eastern shores of Lexington Reservoir.

Road is two-lanes wide and is owned and maintained by Santa Clara County.

ABR provides access for property owners and residents in the Lexington Hills and Soda Springs neighborhoods and recreational users visiting Lexington Reservoir County Park, St. Joseph's Hill Open Space Preserve, and Sierra Azul Open Space Preserve in Santa Clara County.

Creates a barrier for migrating newts

### 19. Alma Bridge Road Newt Passage Designs Slide 3

#### Lexington Reservoir in Santa Clara County

- Perennial source of water
- Adjacent to protected open space that provides ideal terrestrial habitat for the newts
- Juxtaposition of the terrestrial and aquatic habitats creates excellent conditions for newt reproduction.

#### Newt population study at ABR

- 14,000 adult California newts that attempted to cross the road during the 2020-21 rainy season
- Almost 40% were killed by vehicle collisions.

Other surveys conducted since 2017 have shown similar results meaning 5,000 to 7,000 adults are annually killed as they try to cross ABR.

Possible local extirpation of California newts in approximately 57 years.



California Newt Attempting to Cross Alma Bridge Road

19. Alma Bridge Road Newt Passage Designs
Slide 4

A 2022 feasibility study evaluated potential improvements to connectivity for newts migrating to and from Lexington Reservoir.

- Bridge
- Elevated roadway segments with repeating purpose-built passage structures
- Micro passages and associated fencing

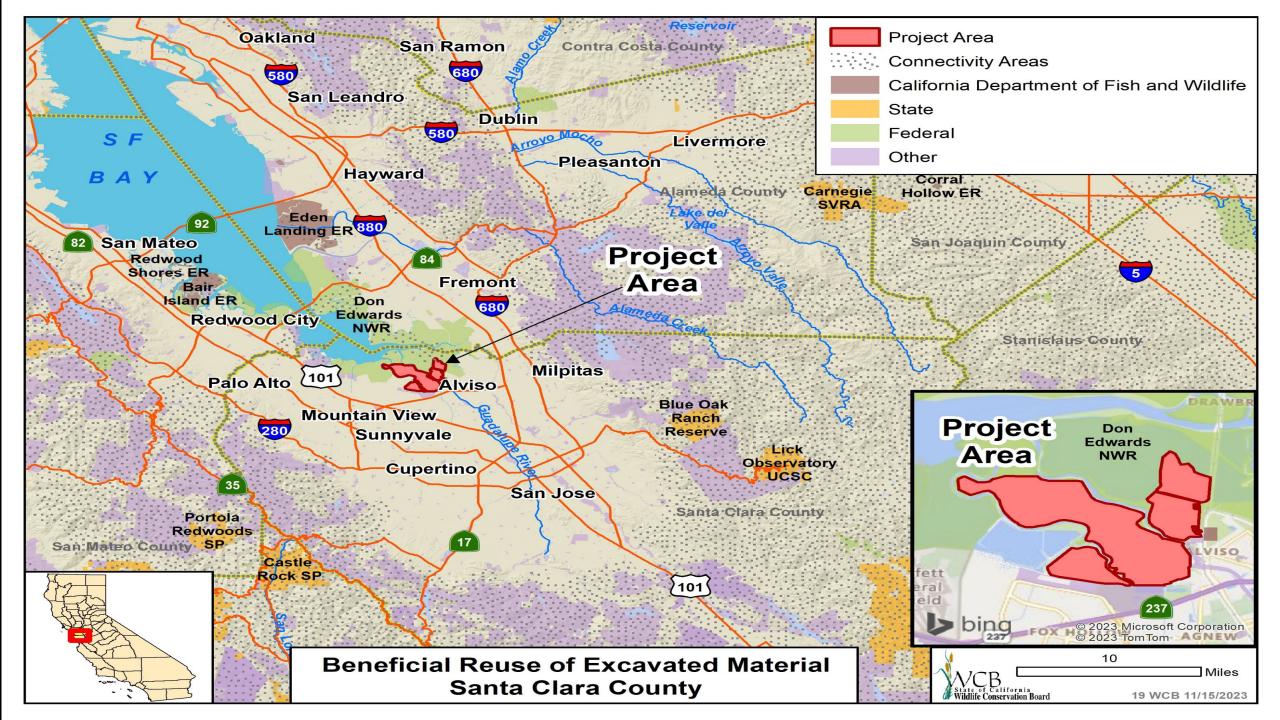
#### Project elements

- Environmental assessments
- Designs and construction plans for the selected alternatives
- CEQA review
- Permits

Estimated to result in a 56 to 84% increase in newt population size

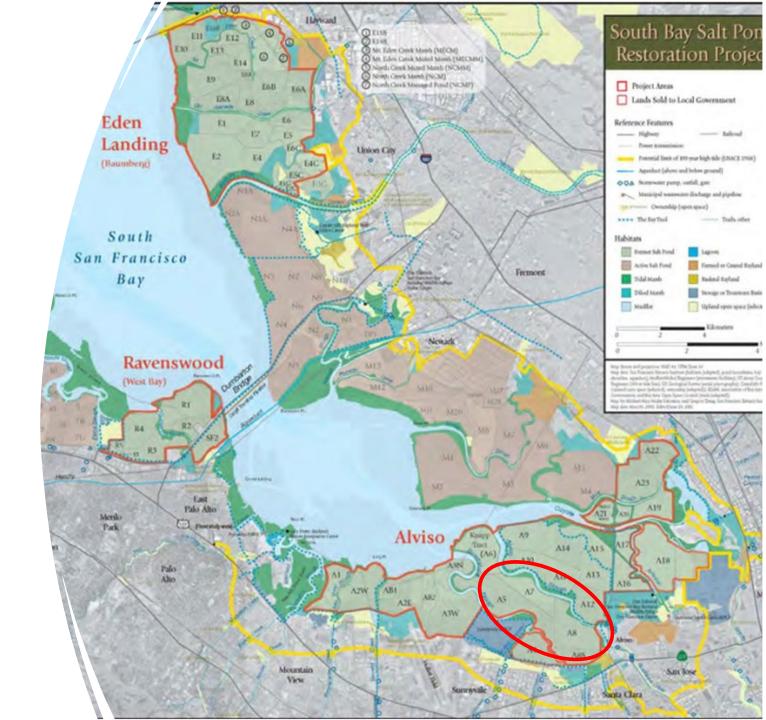


Lexington Reservoir



# Beneficial Re-use of Excavated Material

Slide 1



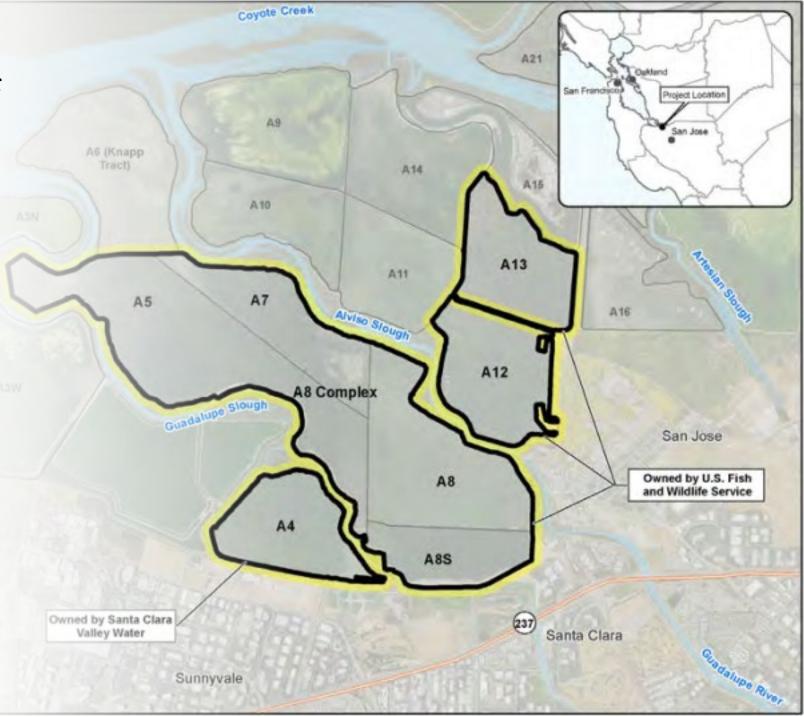
# Beneficial Re-use of Excavated Material

Slide 2

Purpose: Complete the analysis, planning and permitting needed to place up to 3.5 million cubic yards of excavated material from construction of the Santa Clara Valley Transportation Authority (VTA) BART Silicon Valley Phase II (BSVII) Project.

#### Estimated treatment acre:

2,500 acres



### Beneficial Re-use of Excavated Material -Objectives

Slide 3

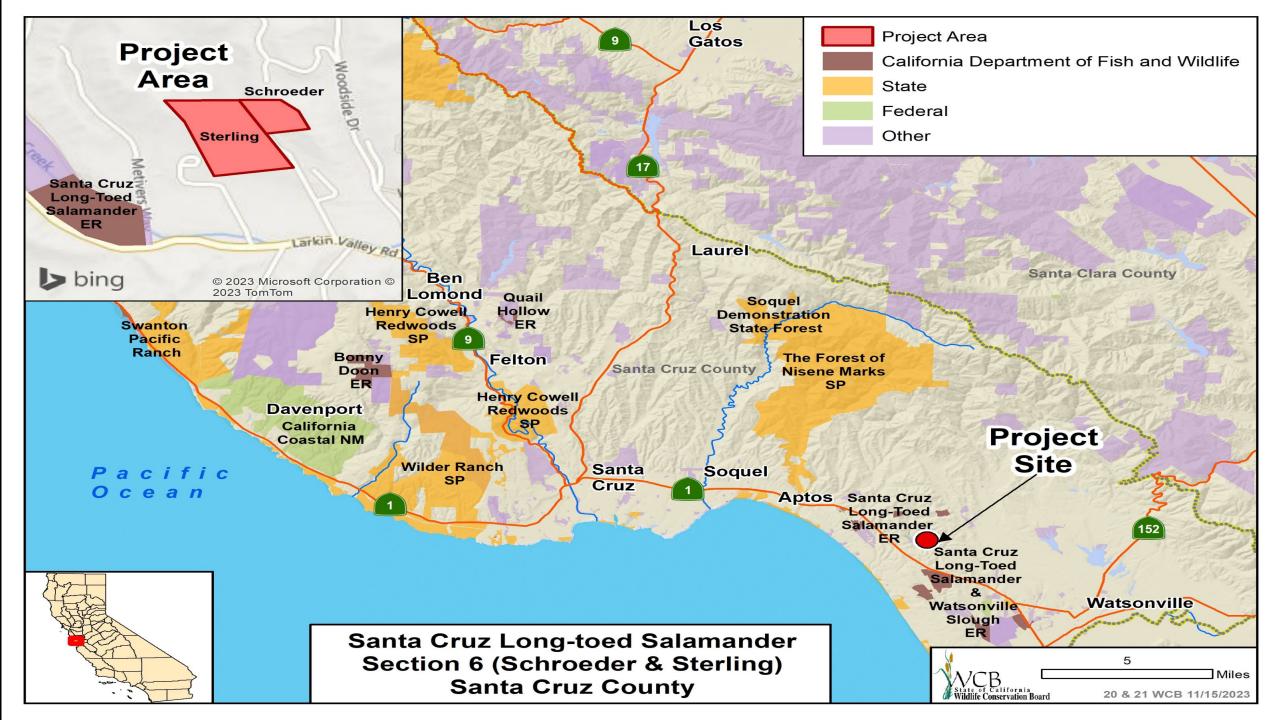
- Design and plan for pond bottom fill
- Evaluate fill material per contaminant criteria limits of the Quality Assurance Project Plan
- Finalize environmental clearance and permitting support following soil evaluation



Beneficial Re-use of Excavated Material Slide 4

Existing conditions:









Santa Cruz Long-toed Salamander Section 6 (Schroeder)

- Left: Northeast corner of property facing northwest with thick chapparal understory upland and dispersal habitat.
- Right: Northwest portion of property facing north. Wet meadow and mixed hardwood forest upland habitat.
- Photo Credits: Land Trust of Santa Cruz County





Santa Cruz Long-toed Salamander Section 6 (Schroeder)

Left: Northwest portion of property facing southeast. Small area of degraded habitat through repeated mowing. The area can benefit from passive restoration, accumulation of leaf litter and large woody debris.

Right: Center of property facing east into thick groundcover of the understory of a mixed hardwood forest. High-Quality upland habitat in thick understory.

Photo Credits: Land Trust of Santa Cruz County



Santa Cruz Long-toed Salamander Section 6 (Sterling)

Slide 1

Left: Center of property facing approximately north. Santa Cruz long-toed salamander dispersal and upland habitat in oak woodland at the high point of the property. In need of passive restoration, leaf litter and large woody debris.

Right: Center of property facing approximately northwest. High Quality dispersal and upland habitat in mixed hardwood forest.

Photo Credits: Land Trust of Santa Cruz County



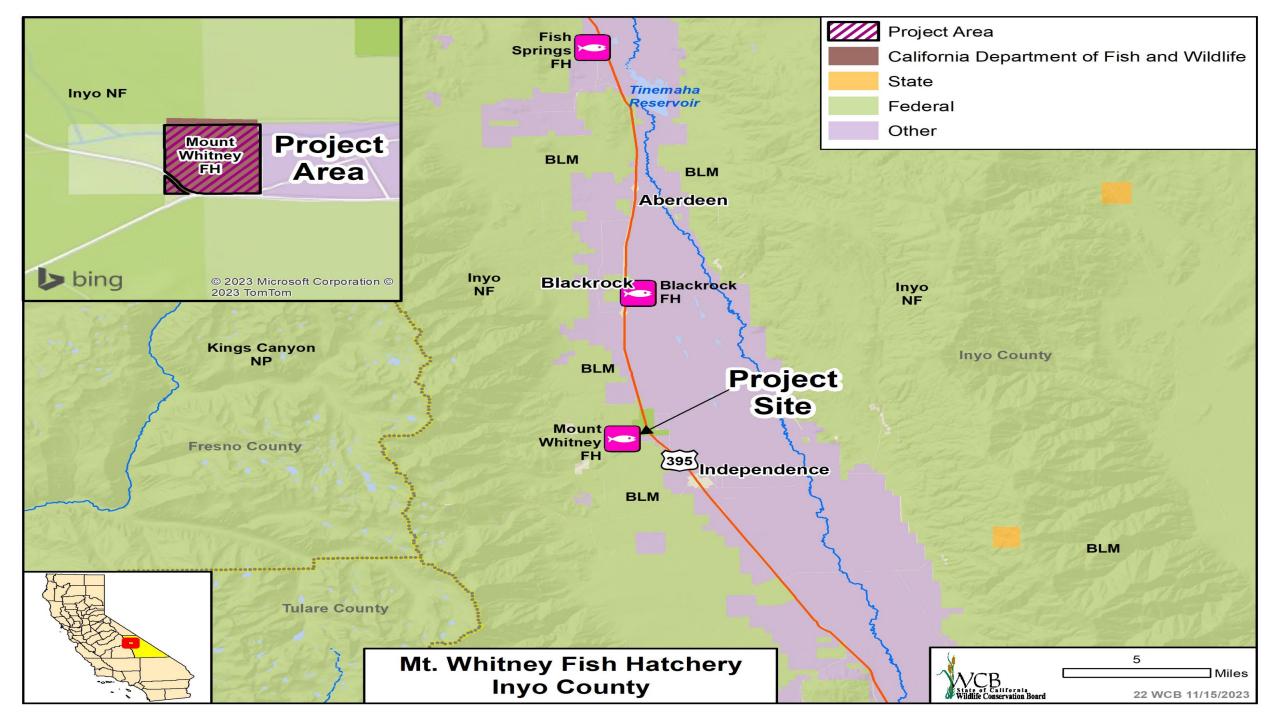


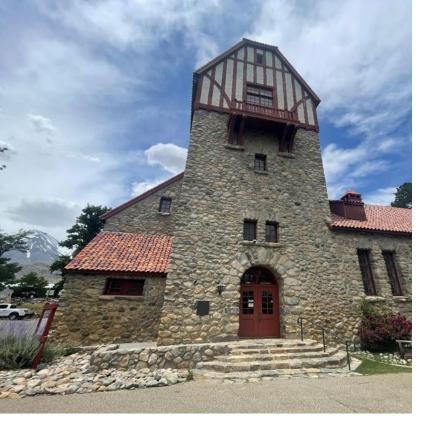
Santa Cruz Long-toed
Salamander Section 6 (Sterling)
Slide 2

Left: Southeastern portion of property facing southeast. Historically levelled building area and degraded habitat. Area can be passively restored to high-quality dispersal habitat.

Right: Southeastern portion of property facing west. Undeveloped trail leading from levelled building area into high-quality upland and dispersal habitat in mixed hardwood forest.

Photo Credits: Land Trust of Santa Cruz County









### Mount Whitney Fish Hatchery Slide 1





Fish raceway

## Mount Whitney Fish Hatchery

Slide 3

Interior museum gift shop







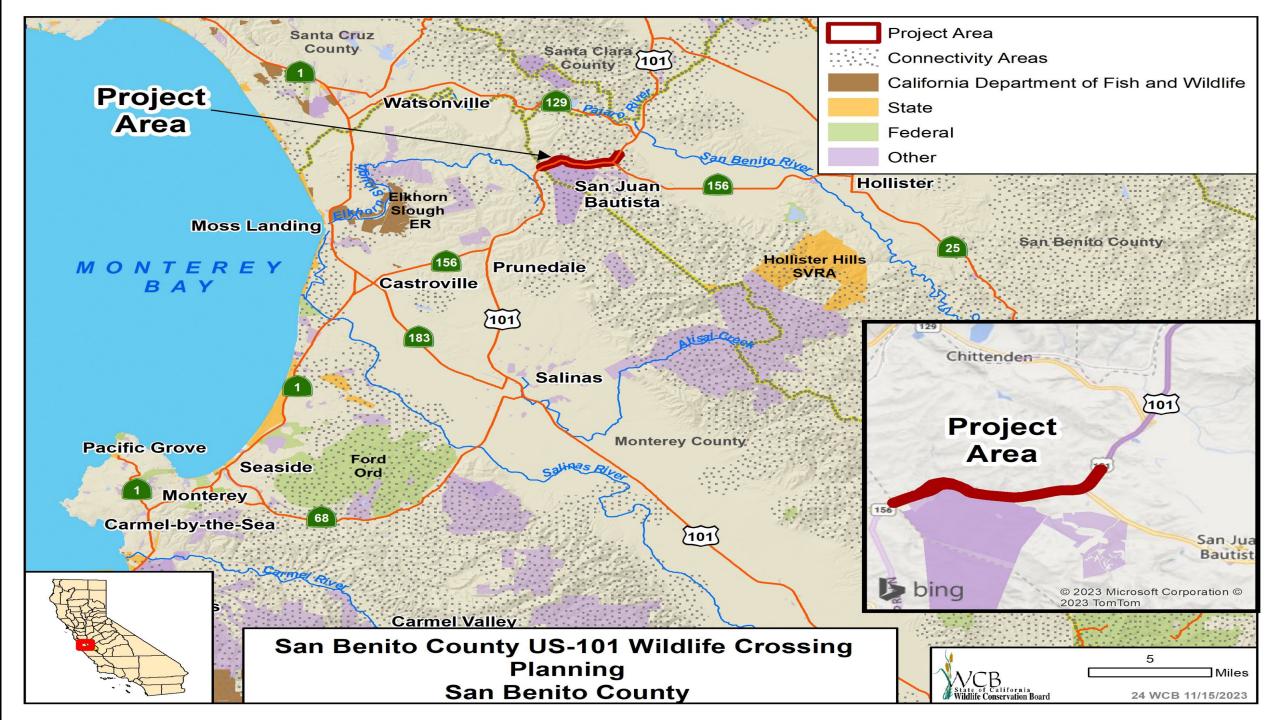
### Mount Whitney Fish Hatchery

Slide 4

Hatchery facilities after 2008 mudslide and flood

# Carrizo Plains Ecological Reserve, Expansion 7 (Yang)

Withdrawn for consideration at this time



### 25. San Benito County US-101 Wildlife Crossing Planning Slide 1

#### US 101 in San Benito County

- Santa Cruz Mountains to the north
- Gabilan Range to the south

#### **Focal Species**

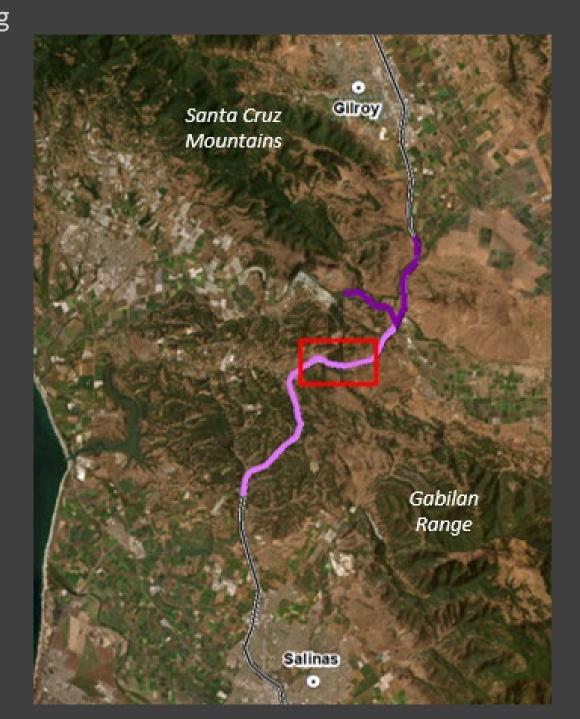
- Mountain lion
- Black-tailed deer
- American badger
- Bobcat

#### U.S. Highway 101 (US-101) in the Aromas Hills

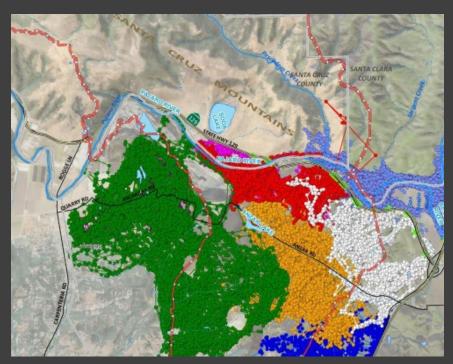
- CDFW 2022 Priority Barrier List
- 3 County RCISs
- Santa Cruz Mountains Linkages Conceptual Area Protection
   Plan
- Conservation Lands Network Bay Area Critical Linkages Study
- UC Davis Regional Wildlife Corridor and Habitat Connectivity Analyses
- The Nature Conservancy Omniscape Landscape Connectivity Report

#### WCB Acquisitions/Easements

- Gabilan Ranch
- Rocks Ranch
- Star Creek Ranch

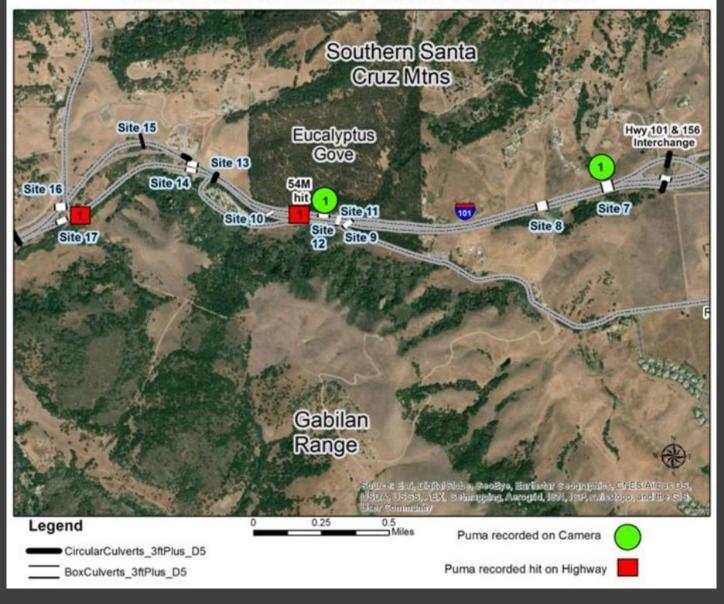


#### 25. San Benito County US-101 Wildlife Crossing Planning Slide 2



Collared bobcat ranges

#### Documented Puma Locations along Highway 101: Camera Data & Wildlife-Vehicle Collision Data



### 25. San Benito County US-101 Wildlife Crossing Planning Slide 3

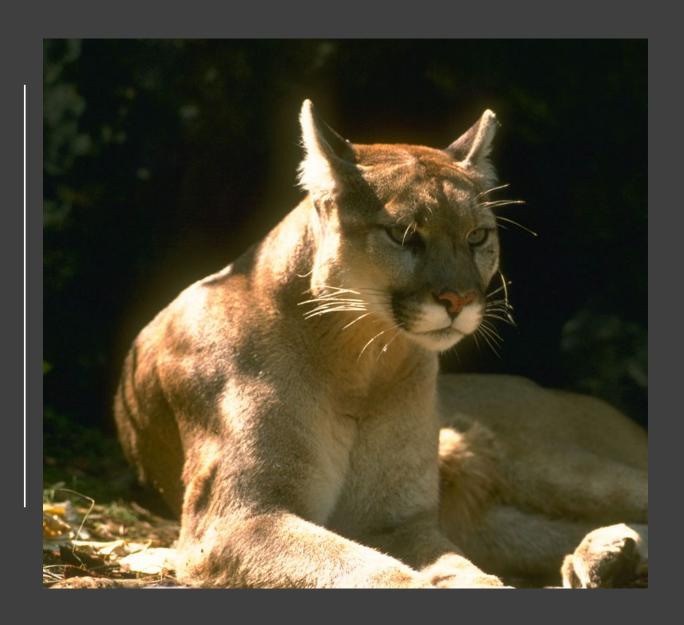


U.S. 101 Viewed From Rocks Ranch

25. San Benito County US-101 Wildlife Crossing Planning

#### **Project Elements**

- Coordinate with stakeholders
- Collect existing available data on wildlife use of existing structures
- Identify potential overpass/underpass locations
  - Conduct constructability analysis to determine wildlife overpass possibilities and constraints
- Caltrans Documentation for at least one overcrossing
  - Project Study Report/Project Development Study (PSR/PDS)
  - Preliminary Environmental Analysis Report (PEAR)
  - Project Approval/Environment Document (PA/ED).
- 35% design plans
- CEQA-compliant Initial Study/Mitigated Negative Declaration (IS/MND) and NEPA-compliant Categorical Exclusion (CatEx)
- Caltrans-required Design-Level Engineering Technical Reports
- 65% design plans
- 95% Designs





## **Desert View** Conservation Area Trails

Slide 1



# Desert View Conservation Area Trails Slide 2

### Project Need

- Trespassing
- Poaching
- Sensitive Species
- Disadvantaged Community









### Desert View Conservation Area Trails

Slide 3

### Project Goals

- Protect sensitive species & habitat
- Educate visitors
- Provide outdoor access to disadvantaged community



### Desert View Conservation Area Trails

Slide 4

### Solution

- Erect cable/boulder barriers
- Install interpretive & wayfinding signage
- Install wildlife viewing areas
- Manicure trails

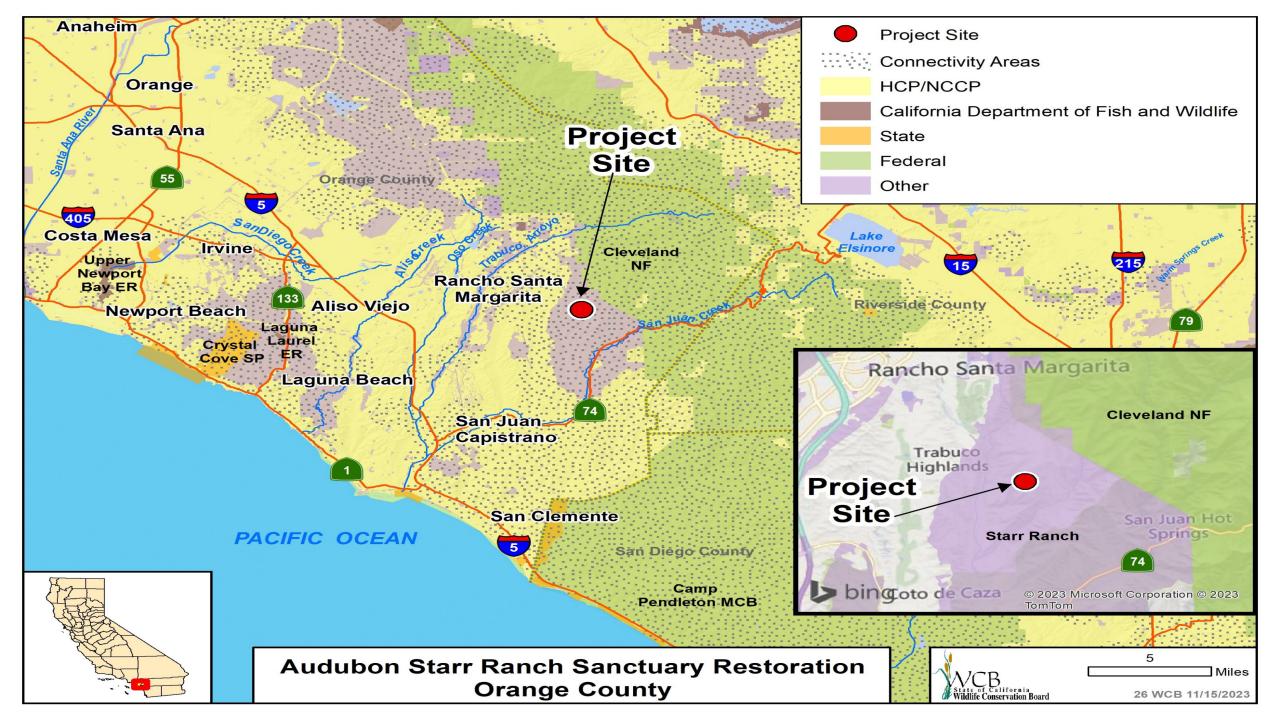


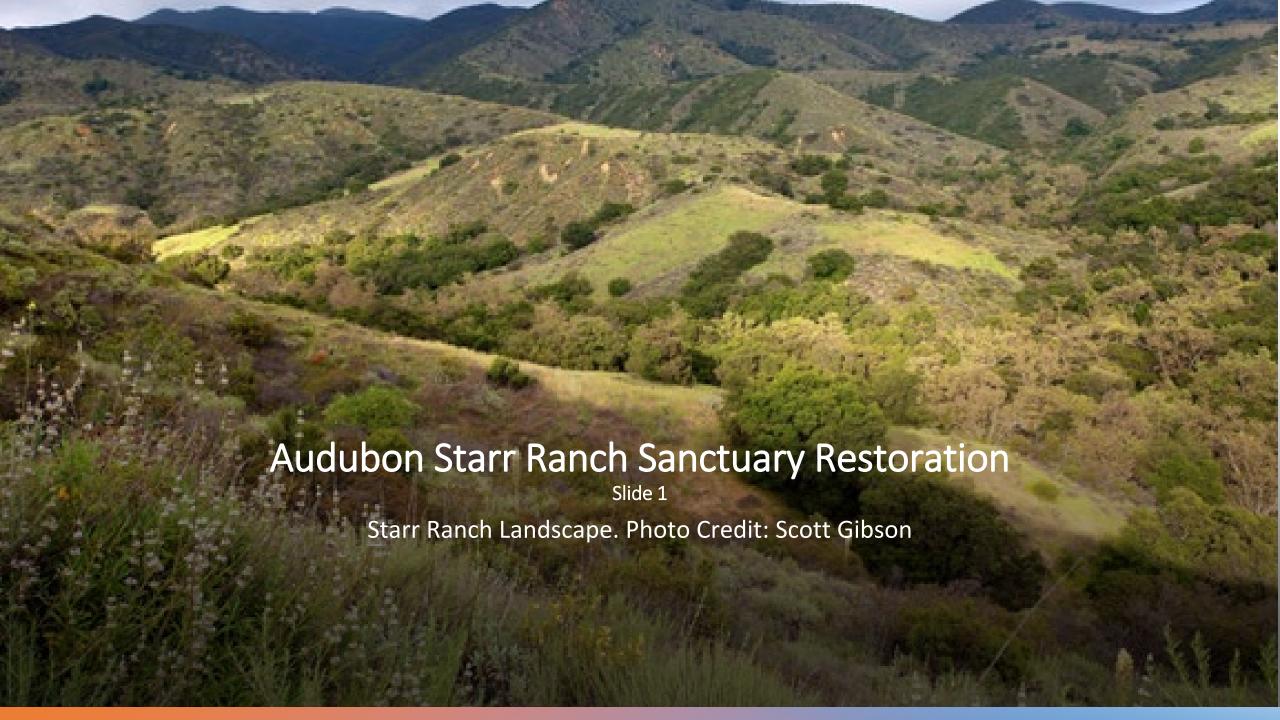
### Desert View Conservation Area Trails

#### Outcomes

- 2 Discovery shade structures
  - 1 overlook vista
- Educational Signage:
  - Indigenous culture, native plants, wildlife, geology
- Picnic benches, tables and shelters
- 1,000 linear feet barrier
- 16,000 linear feet trail manicuring







Audubon Starr Ranch Sanctuary Restoration

 Project area showing habitat to be restored and monitored.









### Audubon Starr Ranch Sanctuary Restoration

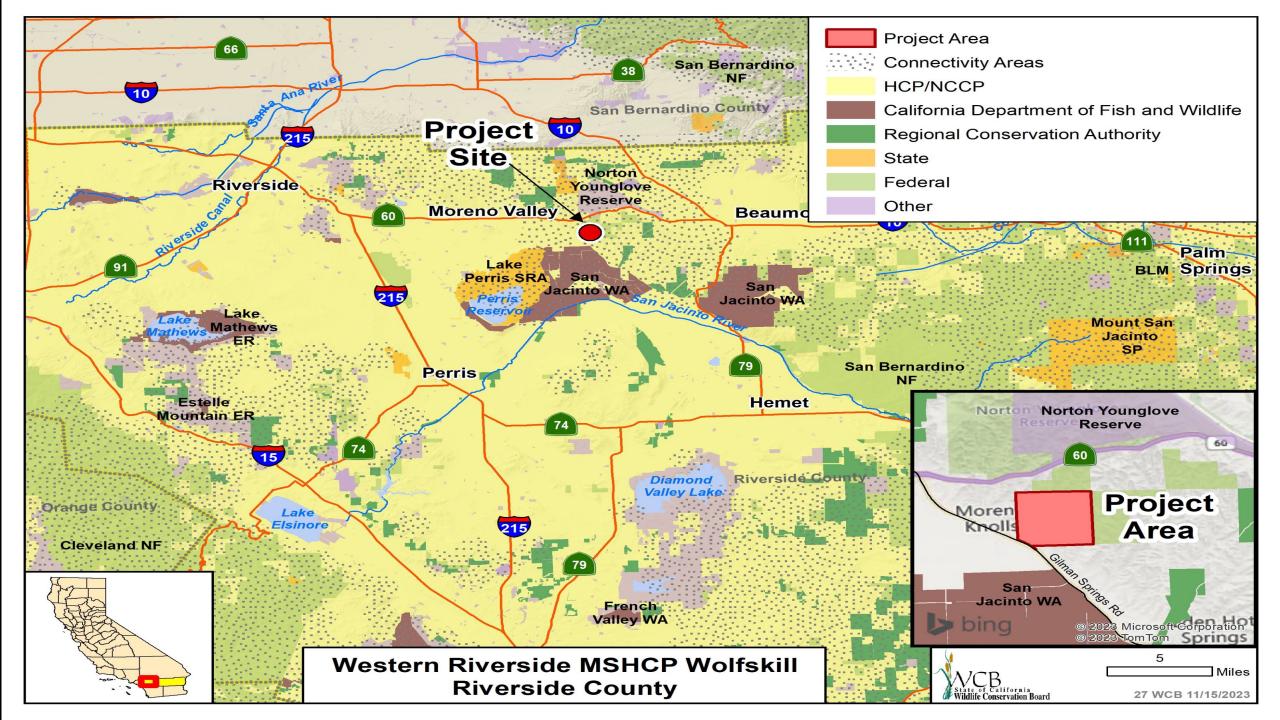
- Left: Cactus scrub site restoration strips
- Center: First coastal sage scrub site restoration strips.
- Right: Second coastal sage scrub site restoration strips.







- Left: First needlegrass site restoration strips.
- Right: Second needlegrass site restoration strips.





# Western Riverside MSHCP Wolfskill

Slide 1

View atop the Wolfskill Property facing west with Mystic Lake, part of the nearby CDFW San Jacinto Wildlife Area, seen in the upper left in the background.

Photo by Western Riverside County Regional Conservation Authority





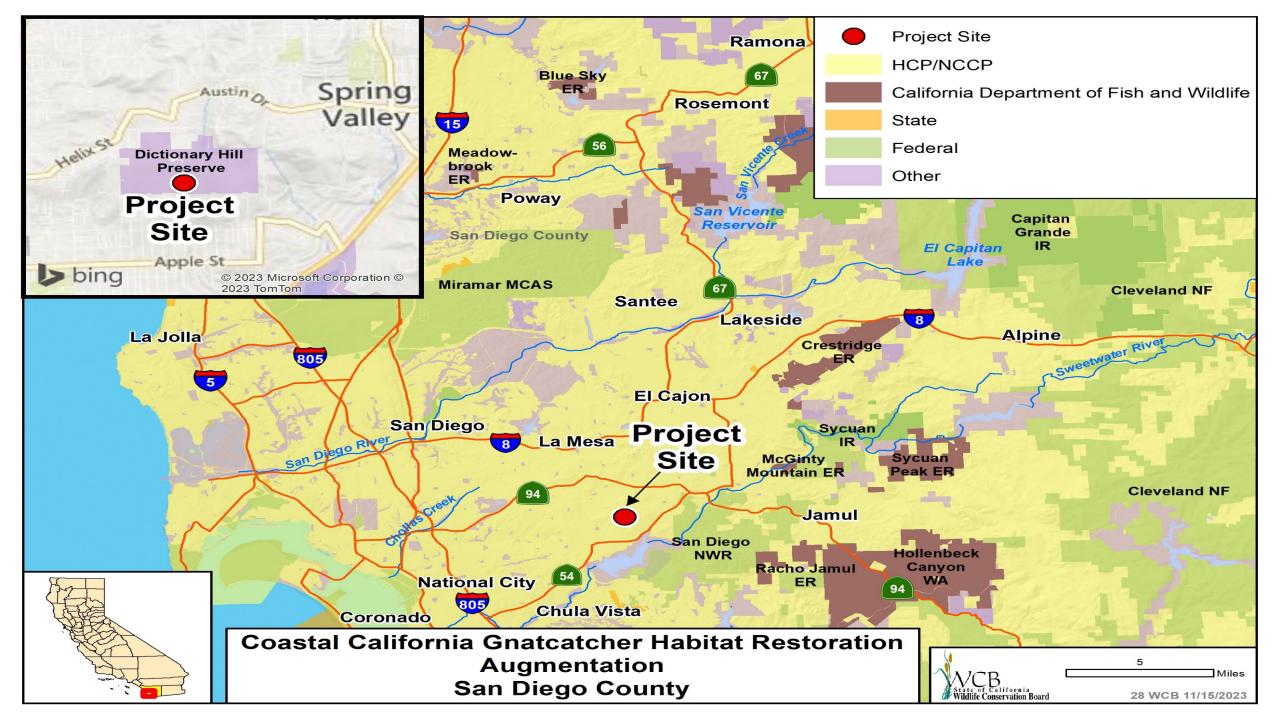
# Western Riverside MSHCP Wolfskill

Slide 2

Left: Coastal sage scrub habitat on the hillsides.

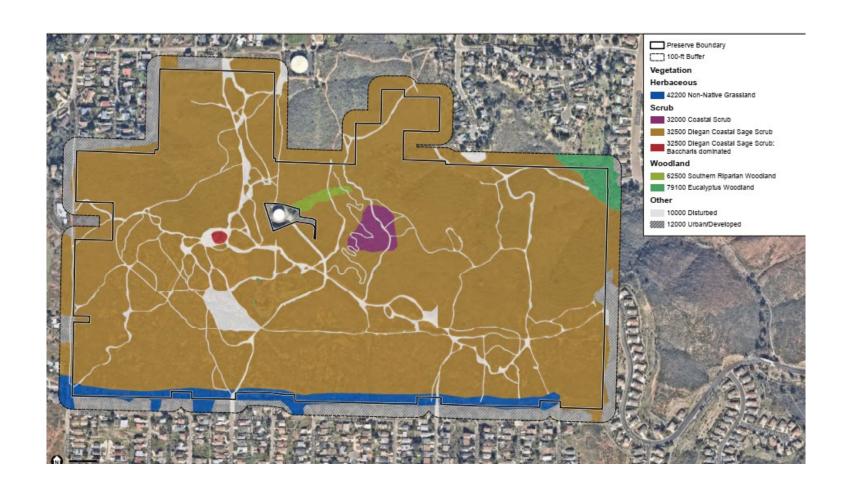
Right: View atop the Wolfskill Property facing east. Mt. San Bernardino and Mt. San Gorgonio are in the far distance.

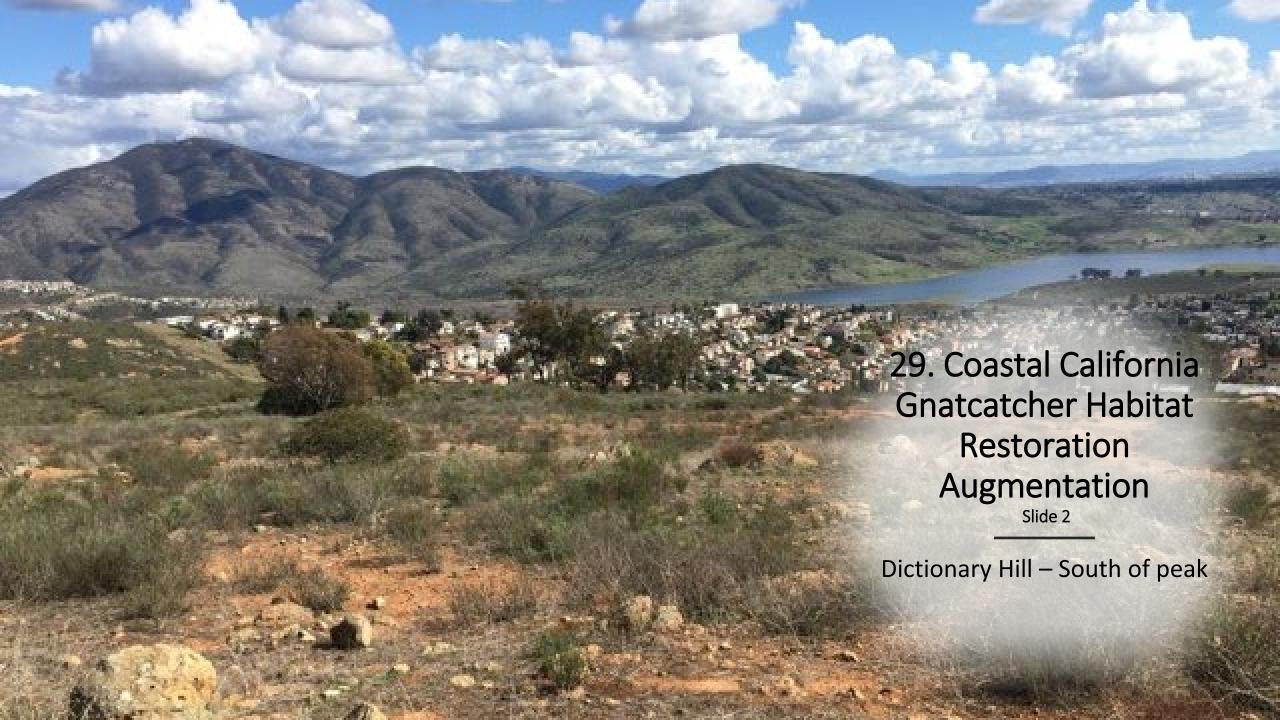
Photos by Western Riverside County Regional Conservation Authority



**Project Site** 

29. Coastal
California
Gnatcatcher
Habitat
Restoration
Augmentation
Slide 1







29. Coastal California Gnatcatcher Habitat Restoration Augmentation

Left: Middle north slope

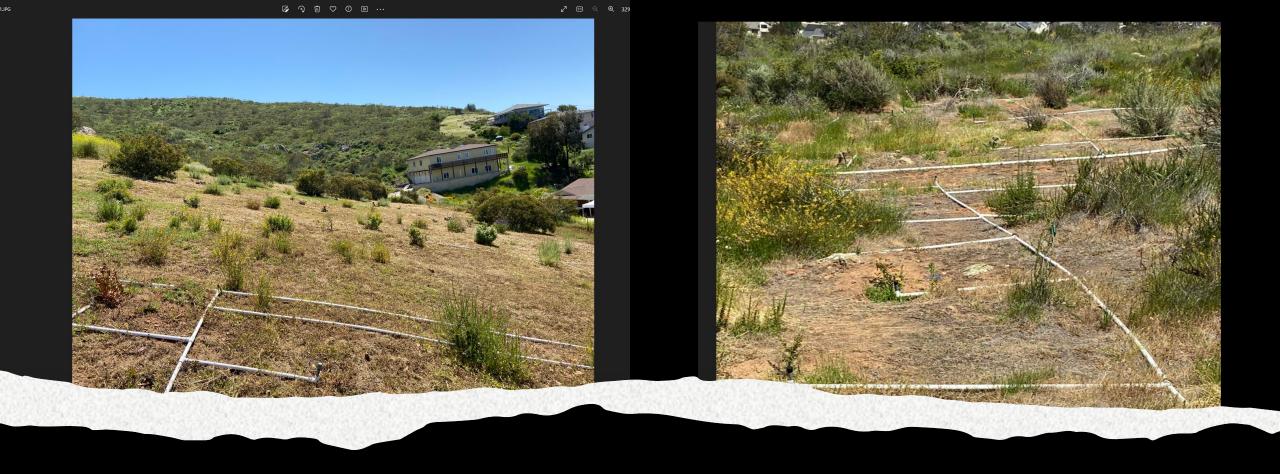
Right: Dictionary Hill – South of peak





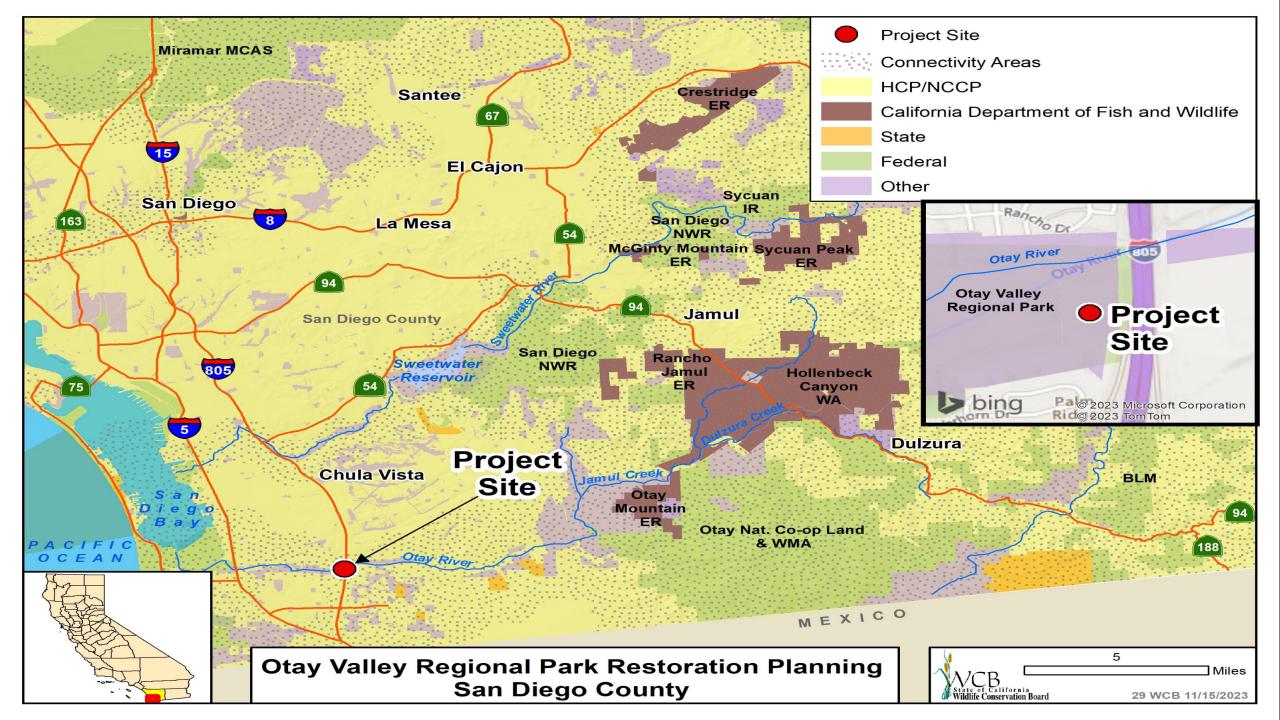
29. Coastal California Gnatcatcher Habitat Restoration Augmentation Slide 4

Near the north water tower



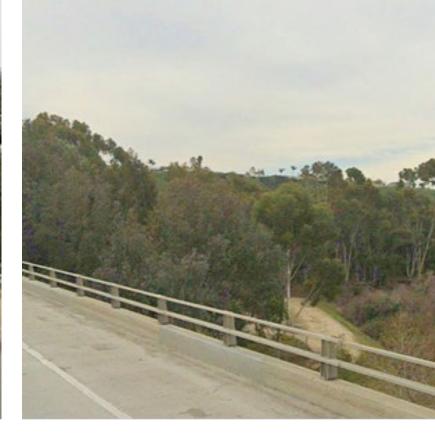
29. Coastal California Gnatcatcher Habitat Restoration Augmentation

Excess irrigation capacity









#### Otay Valley Regional Park Restoration Planning

Slide 1

- Left: Eucalyptus Grove/proposed project site from the Greg Cox Bike Path.
- Center: Eucalyptus Grove/proposed project site from I-805 off ramp.
- Right: Eucalyptus Grove/proposed project site from I-805 South.

#### Otay Valley Regional Park Restoration Planning Slide 2

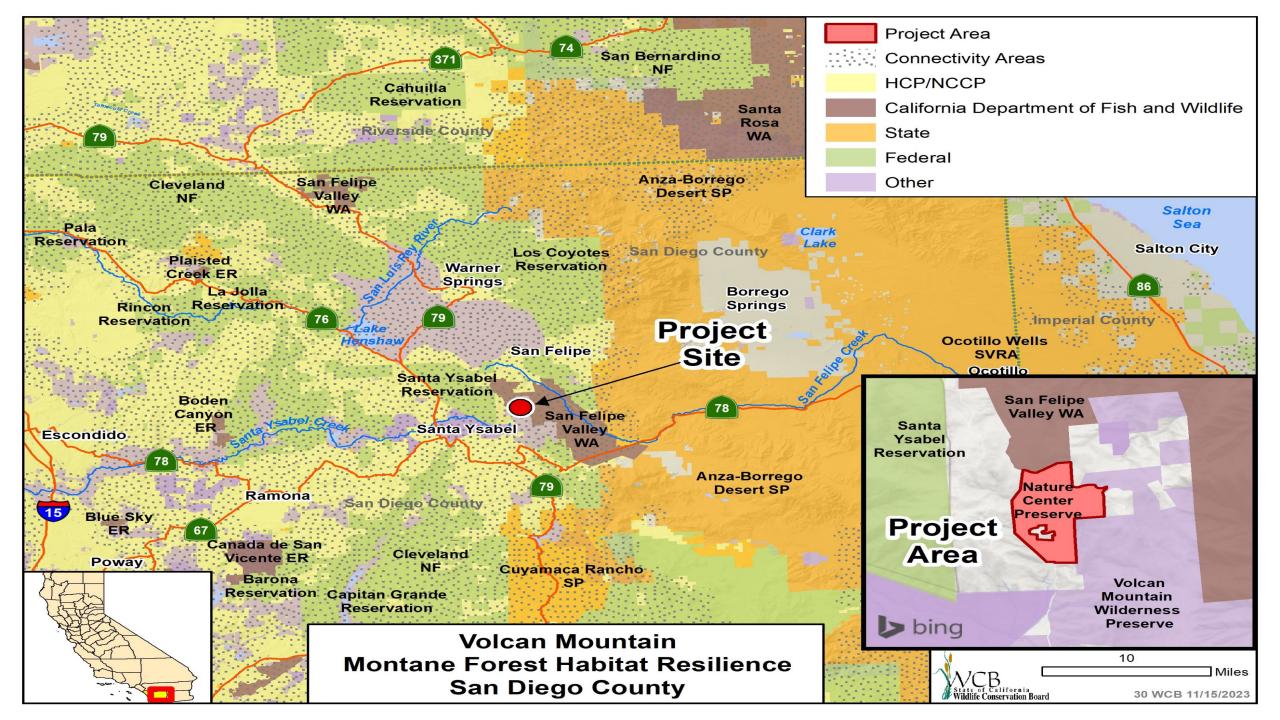
• Aerial view of the Eucalyptus Grove/proposed project site.







# Otay Valley Regional Park Restoration Planning Slide 3



### Volcan Mountain Montane Forest Habitat Resilience

Slide 1

Trail through montane meadow with encroaching vegetation.



### Volcan Mountain Montane Forest Habitat Resilience

Slide 2

Montane meadow with decadent shrub encroachment and dense conifer stands on periphery.





#### Volcan Mountain Montane Forest Habitat Resilience

Slide 3

View from mid elevation area on preserve looking down the canyon, with mature conifers and substantial shrub layer.





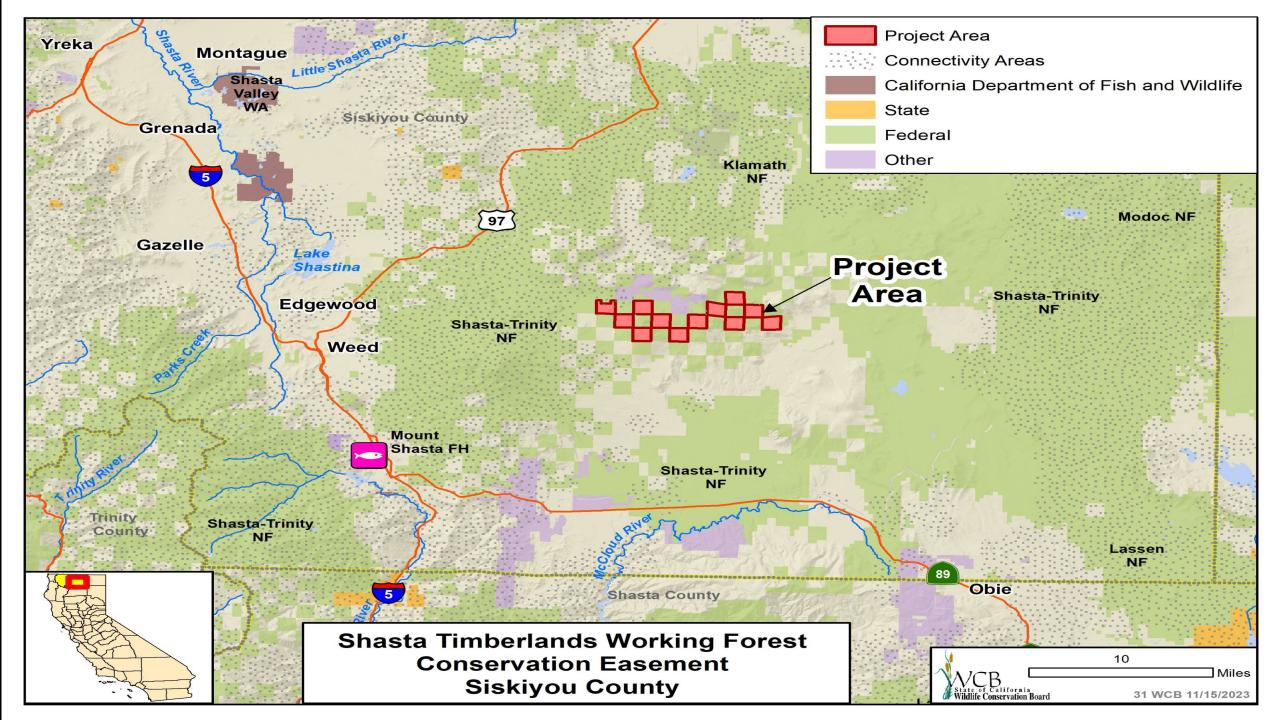


Consent Items 5-31, excluding items 16, 17, & 24 Motion





**Presented Items 32-46** 







# Shasta Timberlands Working Forest Conservation Easement Slide 2

• At the crest of the Klamath and Sacramento Basins, looking northeast from Hemlock Ridge into Antelope Creek watershed. A mix of subalpine conifer, red fir, white fir, and Sierra mixed conifer forest with Hemlock Lake (a mountain tarn) in the foreground



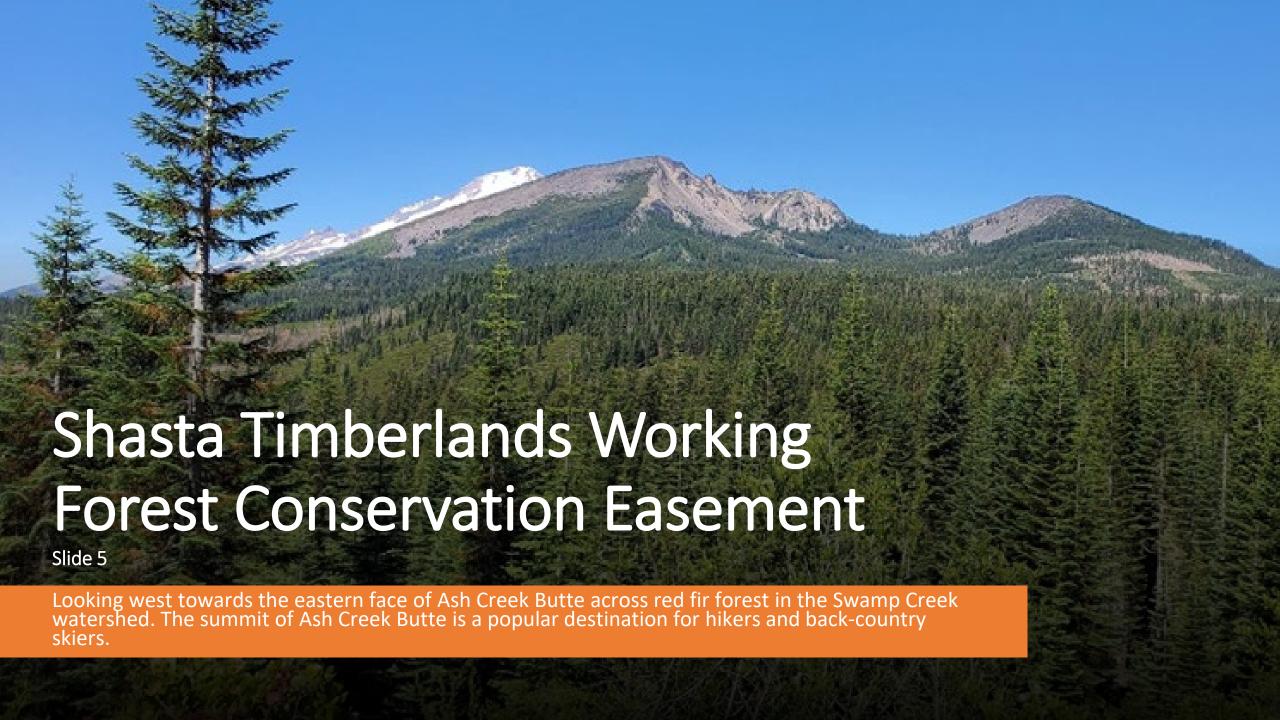


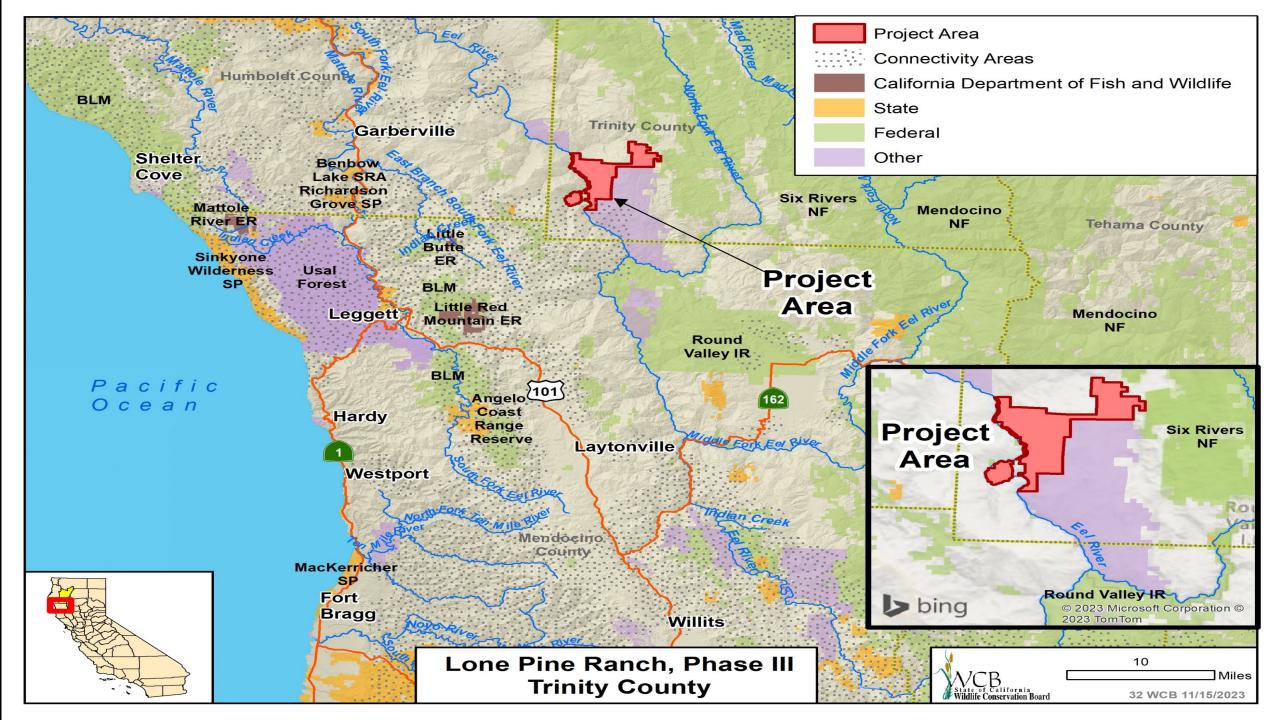
### Shasta Timberlands Working Forest Conservation Easement

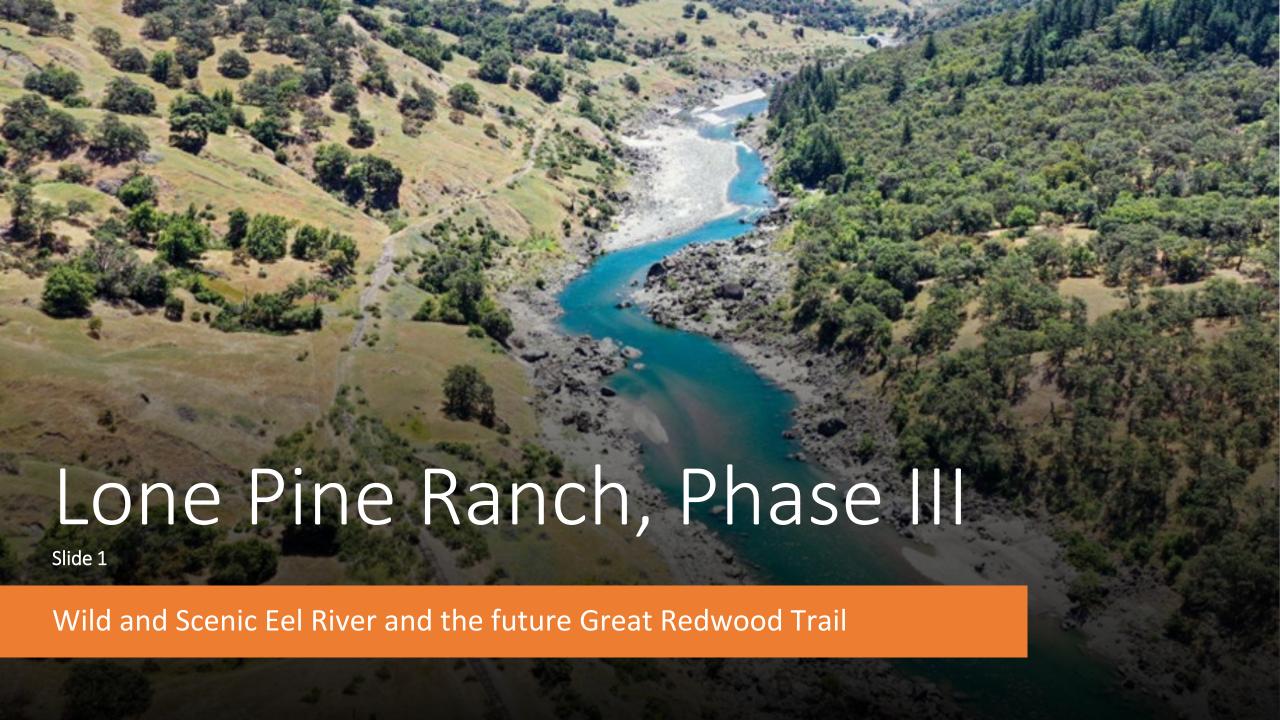
Left: Trout Creek Headwaters Special Habitat Management Zone

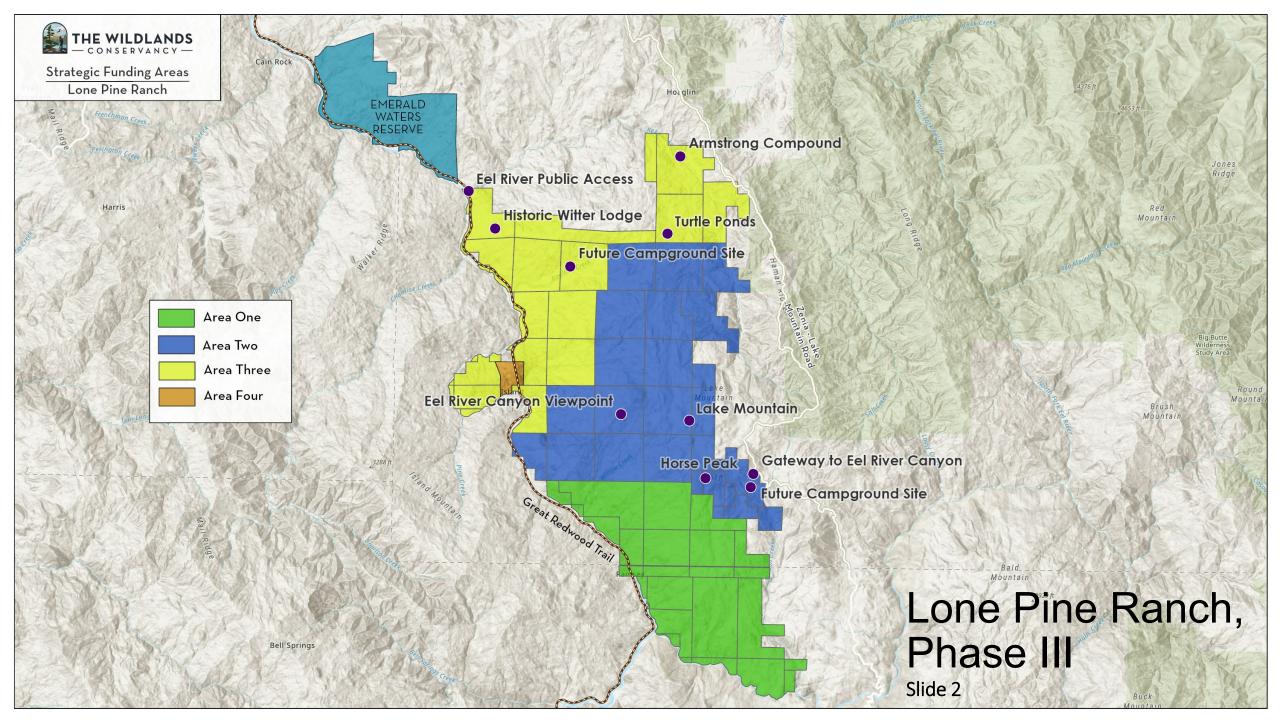
Right: Table Rock Meadow Special Habitat Management Zone















Slide 2

Left: Oak woodlands and grassland habitat dominate throughout Area 3

Right: Mixed conifer forest throughout the higher elevations on the east side of Area 3





Slide 3

Left: Multiple creeks throughout Area 3 sustain multiple aquatic species including salmonids, newts, salamanders, and amphibians. Photo of newt in Kekawaka Creek.

Right: Area 3 will protect vital habitat and wildlife corridors utilized by multiple species including resident Roosevelt Elk herds that migrate through the area.



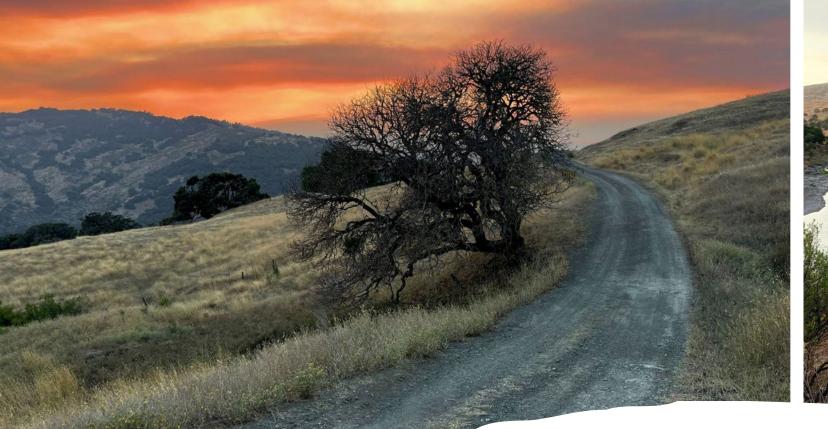




Slide 5

Left: Winter snowfall provides much needed water supply for the Eel River watershed.

Right: Autumn scenery boasts a mosaic of red, orange, green and yellow colors, a captivating scene.





Slide 6

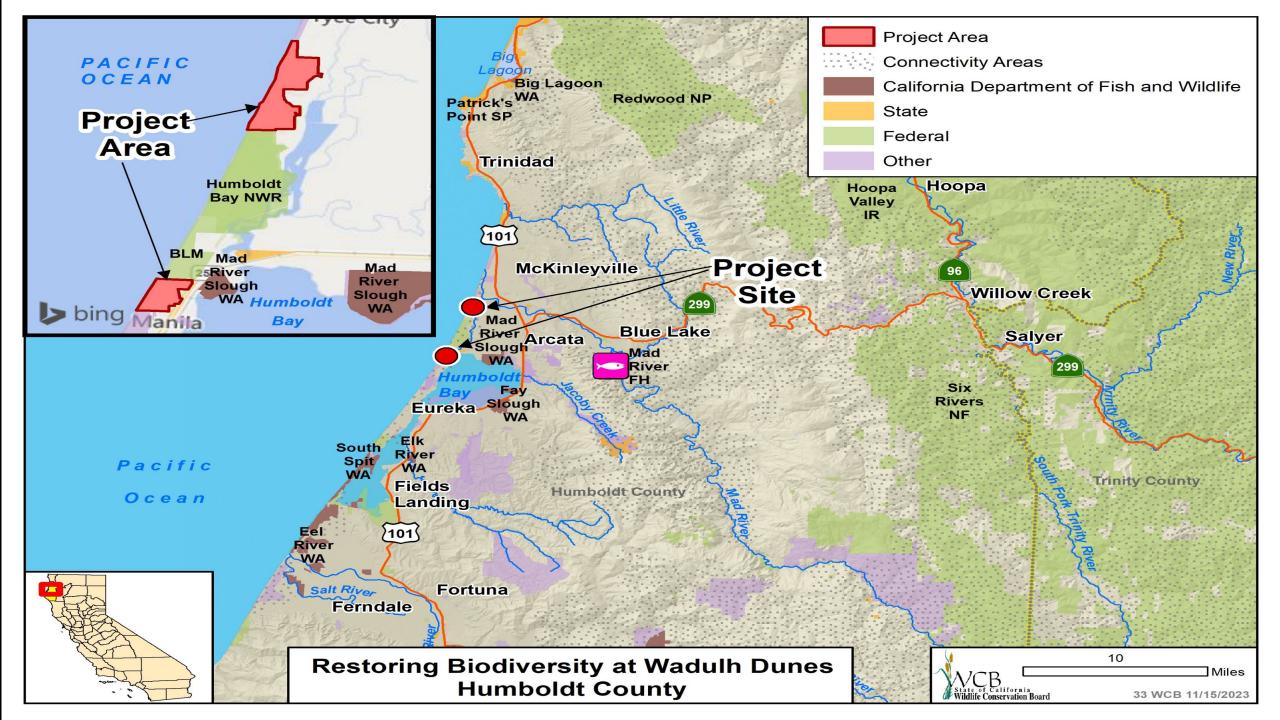
Top Left: A series of roads transverse Area 3 providing ready-to-go hiking trails for public use.

Top Right: The future 320-mile Great Redwood Trail will pass through Area 3 of the ranch using the defunct Northwestern Pacific Railroad Corridor.

Bottom: Lone Pine Ranch Area 3 will be open to the public free of charge for hiking, camping, wildlife viewing, and much more.



Historic Dean Witter Lodge on Area 3 will serve as a hub for regional conservation initiatives.



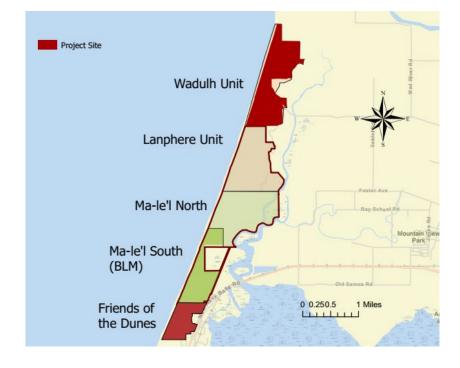
# Restoring Biodiversity at Wadulh Dunes

Slide 1

**Purpose:** Restore 350 acres of coastal dunes at the Wadulh Unit of Humboldt Bay National Wildlife Refuge and the Humboldt Coastal Nature Center, at the end of a previously restored stretch of dunes, resulting in a contiguous reach of 6.5 miles of restored dunes.







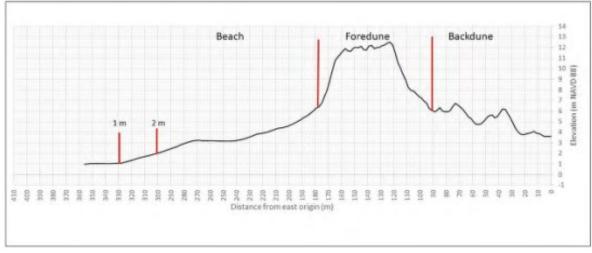
## Restoring Biodiversity at Wadulh Dunes

Slide 2

#### Existing conditions:



- Monoculture of European beachgrass
- Overstabilized foredune and backdune
- Reduced or blocked sediment transfer between beach, foredune, and backdune, inhibiting native plant diversity



# Legend Wadulh Unit Treatment Plant DM Elymus Manual plant Elymus Manual burn Elymus Manual plant DM Manual plant Trees Herbicide plant DM Herbicide plant Elymus Heavy Equip plant DM

# Restoring Biodiversity at Wadulh Dunes

Slide 3

## **Objectives**

- Restore 32 acres of foredune currently invaded by European beachgrass to a mix of dune mat and native dunegrass.
- Restore 311 acres of backdune area currently invaded by European beachgrass and yellow bush lupine (also iceplant, annual grasses and pampas grass) to dune mat.
- Convert 21 acres of backdune currently invaded by yellow bush lupine to dune forest.
- Restore dynamic dune processes.

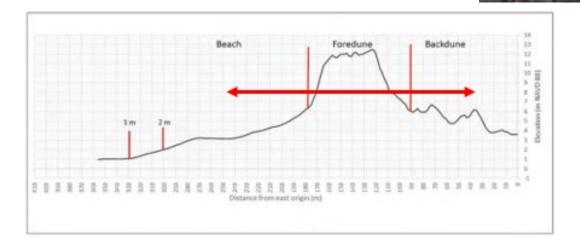
## Restoring Biodiversity at Wadulh Dunes

Targeted conditions:

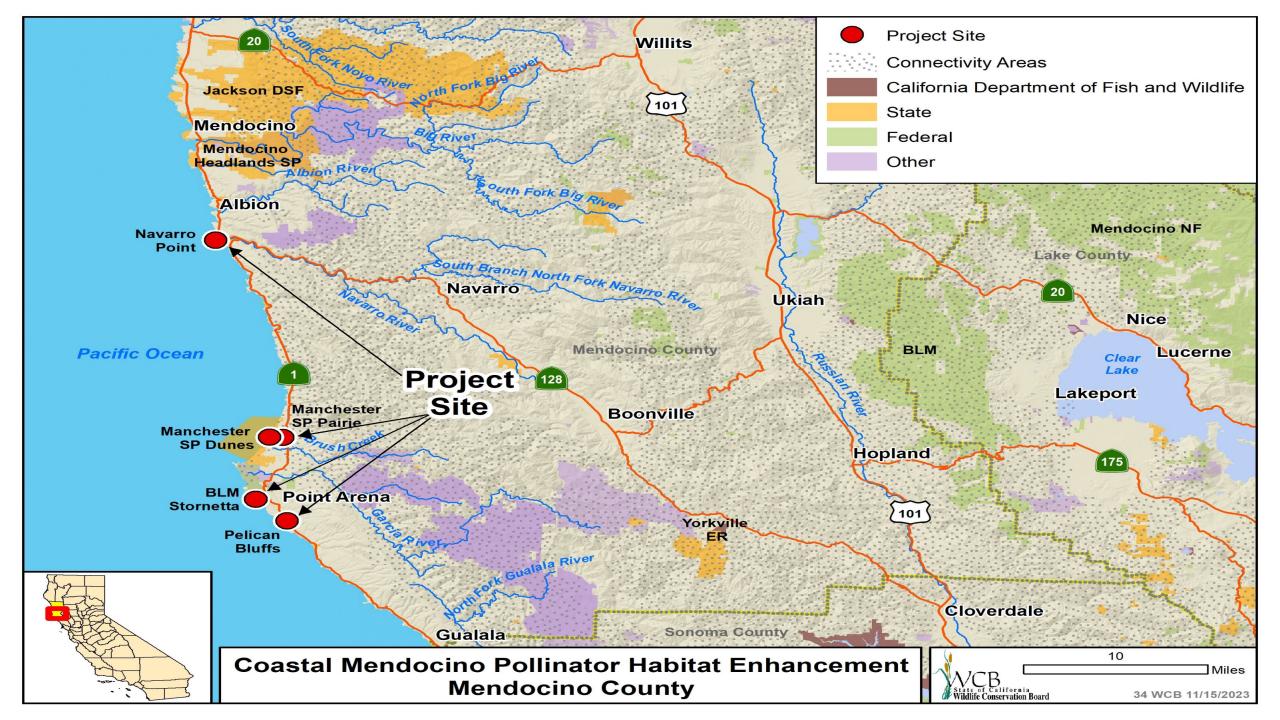


Slide 4

- Diverse dune mat community of native plants, supported by dynamic sediment transfer between beach, foredune and backdune.
- Foredunes will increase in volume and facilitate migration with sea level rise through the transport of sediments to the backdune.
- Dune mat vegetation diversity supporting special status species such as the endangered Menzie's wallflower (inset).

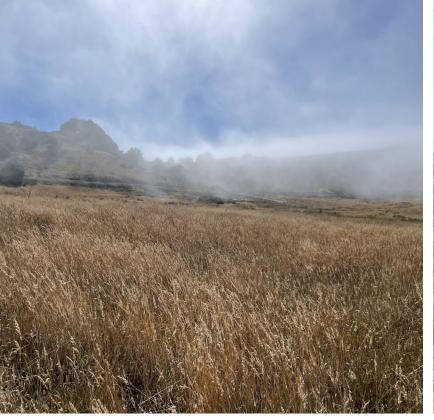






- Recover the federally endangered Behren's silverspot butterfly.
- Population decline is due to habitat loss and fragmentation.









Slide 2

#### **Existing Conditions**

- Overgrown with invasive grasses and forbs.
- Minimal to no early blue violets and nectar species present.



Photo Credit: Mendocino Land Trust

Photo Credit: State Parks

Slide 3

#### **Project Solutions**

- Restore 53.4 acres of native coastal prairie and dune with a focus of planting highly dense patches of early blue violets.
- Remove 47 acres of European beachgrass from dunes.

#### **Outcomes**

- High quality pollinator habitat
- Improved habitat connectivity









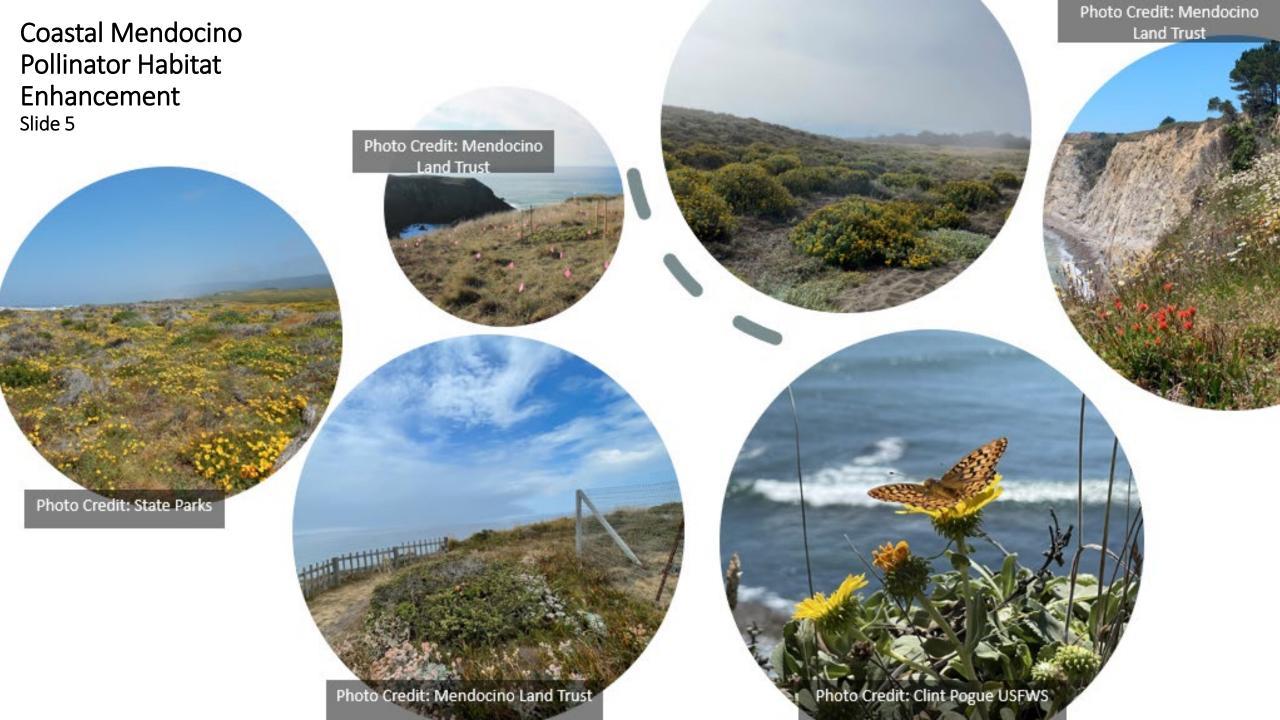


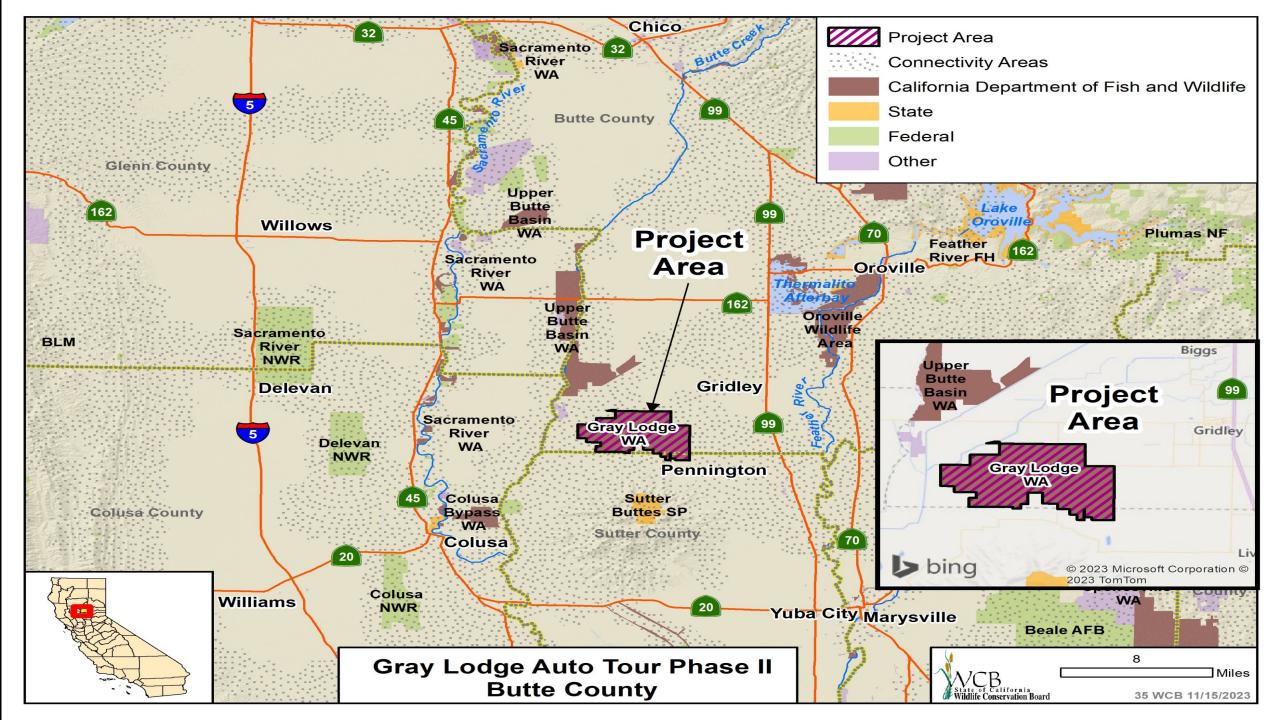
#### **Project Solutions**

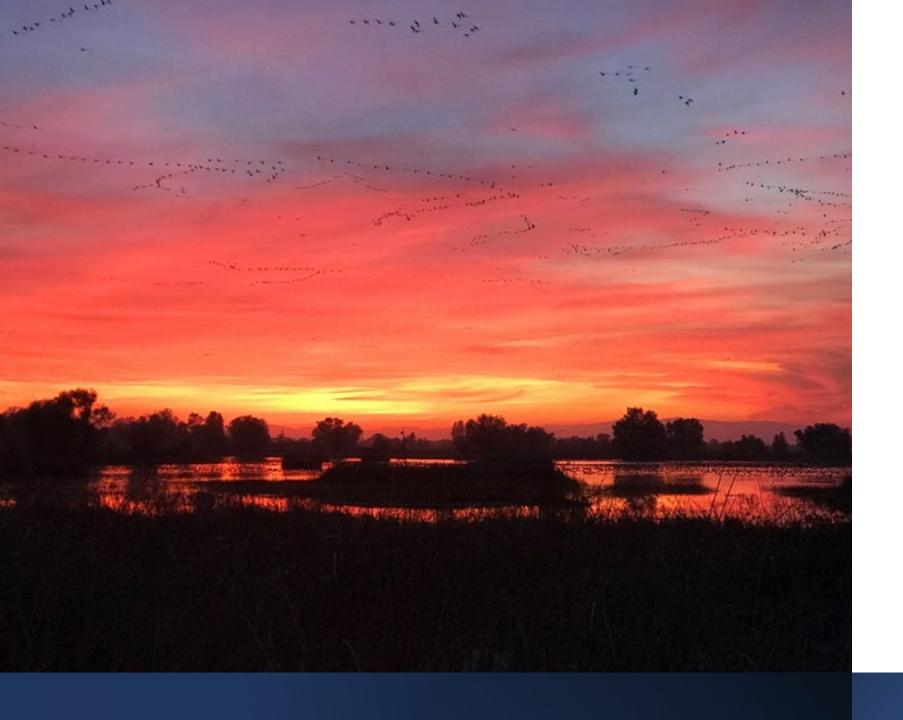
- Captive rear and release program for Behren's silverspot butterfly.
- Annual monitoring for Behren's silverspot butterfly and other native pollinators.

#### **Outcomes**

- Increased BSB population
- Monitoring data that will inform conservation strategies







• Gray Lodge Wildlife Area, photo taken from Auto Tour Route during flyout.



Slide 2

• Managed wetland on the Auto Tour Route.



Slide 3

• Map of Auto Tour Route and project area.



• Wetland unit to be enhanced by grading and swale/island construction.



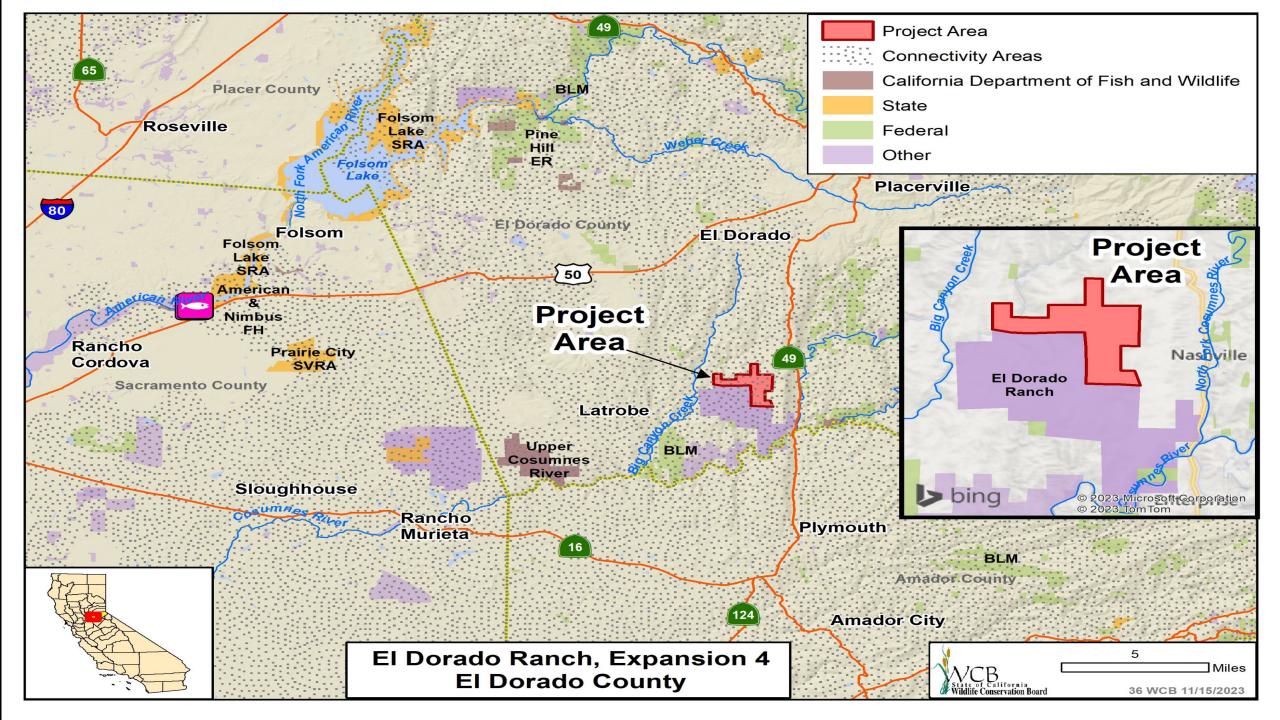
Slide 5

- Left: Water conveyance canal to be cleaned, and water control structures replaced.
- Right: Main drain water control structure to be replaced to improve drainage.

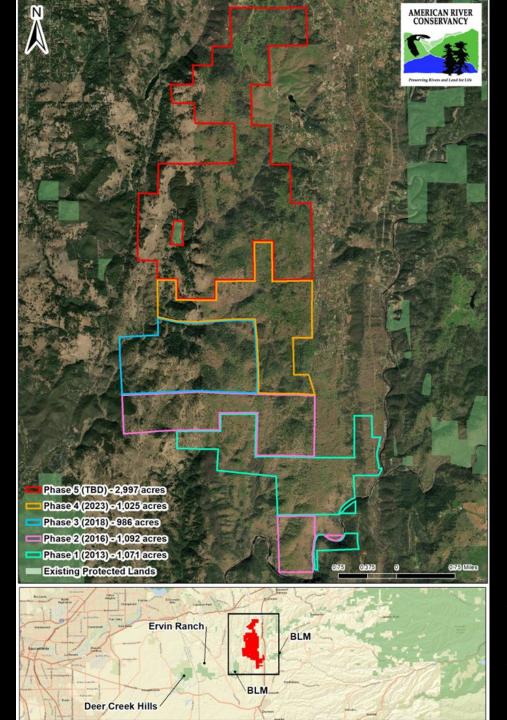


Slide 6

• Levee side slopes will be regraded and turnouts constructed.



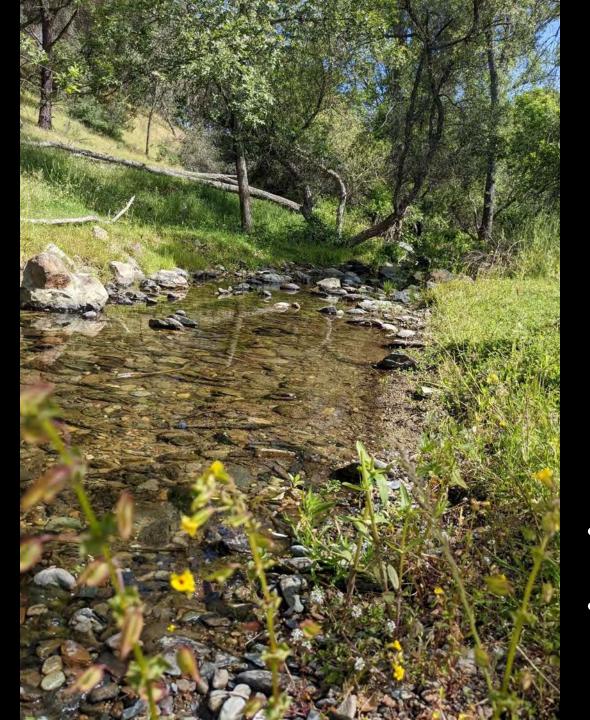
### El Dorado Ranch, Expansion 4 Slide 1



- El Dorado Ranch Acquisition Phases
- Map credit: American River Conservancy

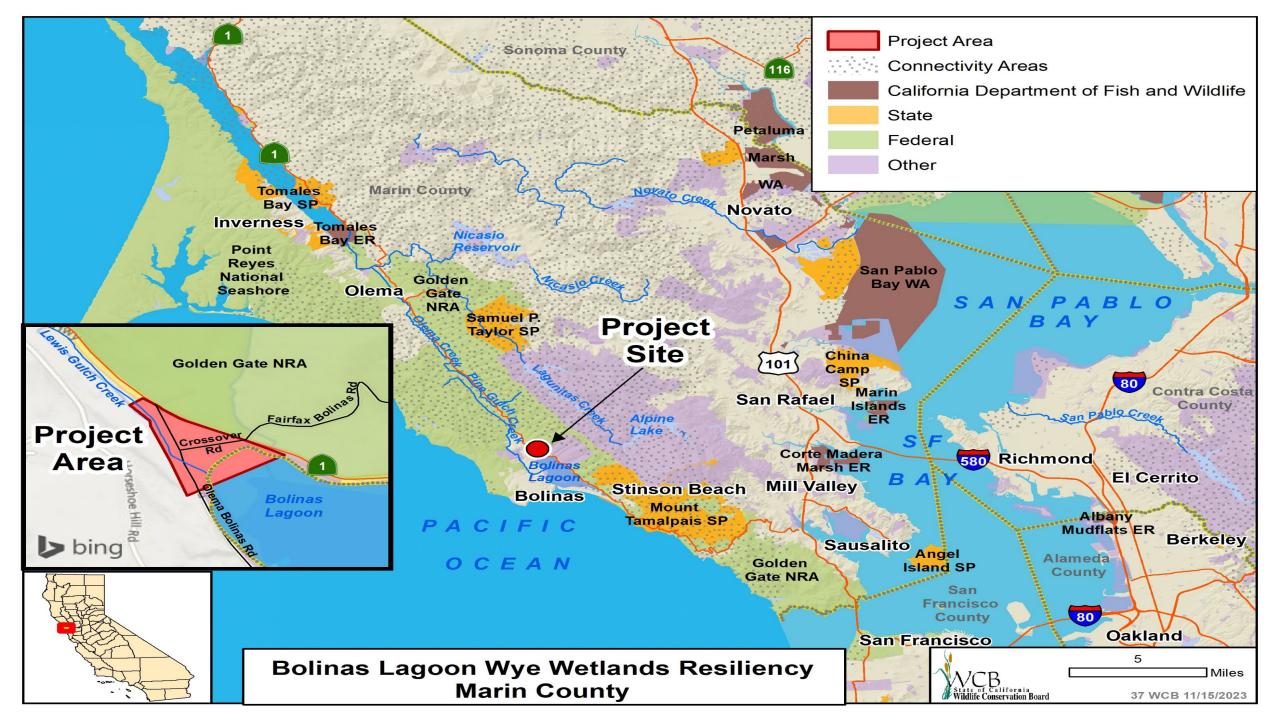


# El Dorado Ranch, Expansion 4



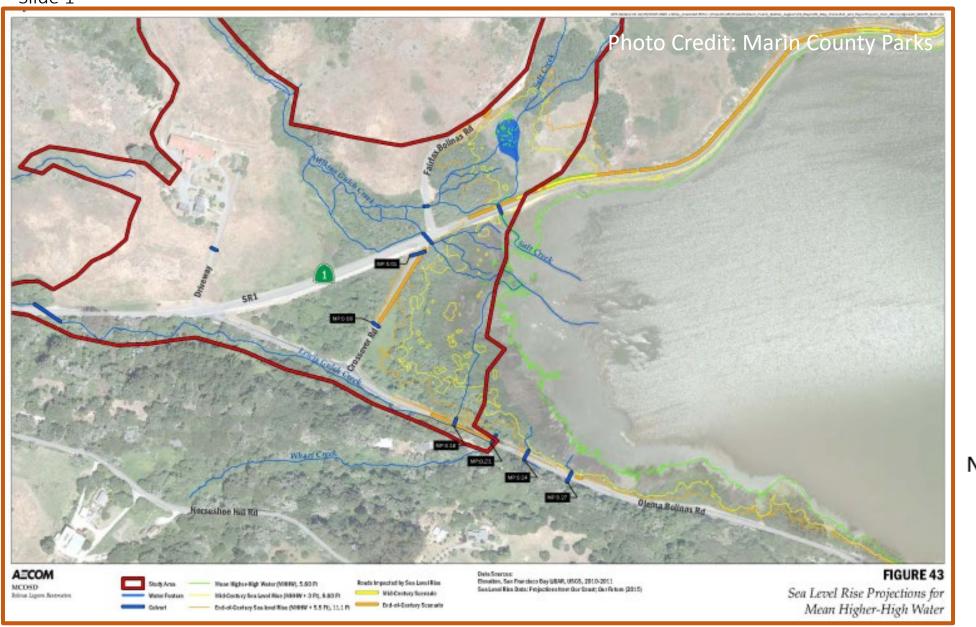
- Slate Creek, tributary to Cosumnes River
- Photo credit: American River Conservancy





## Bolinas Lagoon Wye Wetlands Resiliency

Slide 1



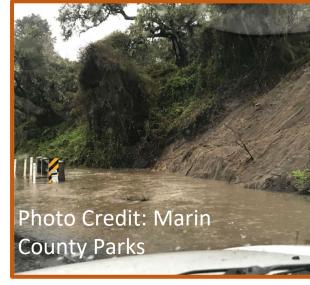


# Bolinas Lagoon Wye Wetlands Resiliency

#### **Project Need**

- Historical Land Use:
  - Roads
  - Undersized culverts
  - Channelization
- Expected by End-of-Century:
  - 5.5 feet SLR
- Invasive Weeds:
  - Cape Ivy
  - Himalayan Blackberry
  - Periwinkle















# Bolinas Lagoon Wye Wetlands Resiliency

### Project Goals

- Improve function and resiliency
- Provide habitat for wildlife:
  - California Red-Legged Frogs
  - California Giant Salamanders
  - California Black Rail
  - Tidewater Gobies
  - Central Coast Steelhead
  - Coho Salmon
- Adapt to and avoid flood inundation
- Restore Lewis Gulch Creek to Alluvial Floodplain
- Enhance Vegetation

Bolinas Lagoon Wye Wetlands Resiliency

Slide 4

#### Solution

- Remove crossover road
  - Replant with natives
- Raise Olema-Bolinas Road out of flood zone
- Extensive mechanical invasive plant removal
  - 9 acres total
- Replant 3.3 acres
- Redirect Lewis Gulch Creek through restored site
- Create Floodplain
- Monitor progress and results



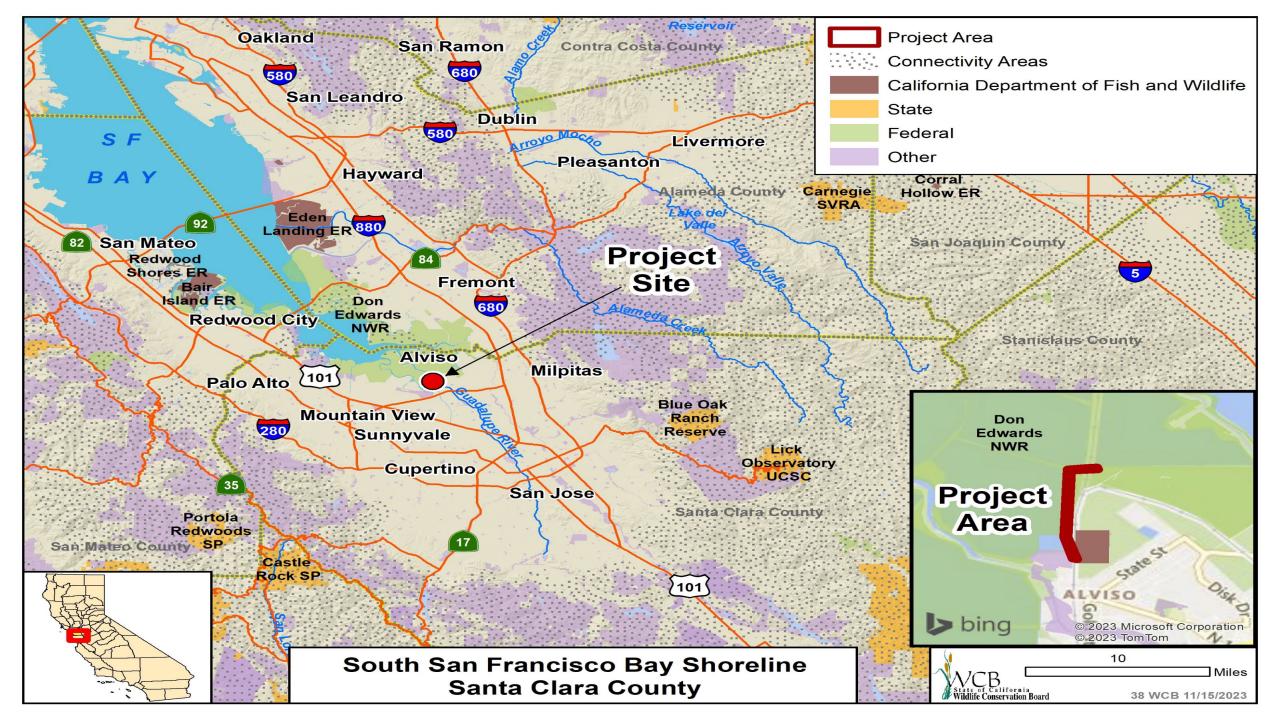
# Bolinas Lagoon Wye Wetlands Resiliency Slide 5

#### **Project Outcomes**

- 1 Bridge
- 1,375 linear feet realigned/restored creek
- 35 large woody debris
- 1,246 trees planted

- Invasive species cover ≤15%
- Native Species Cover ≥85%
- Functional Floodplain

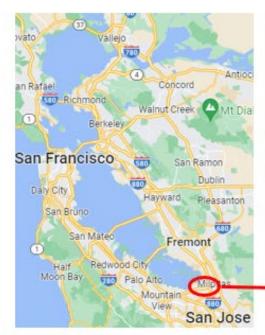




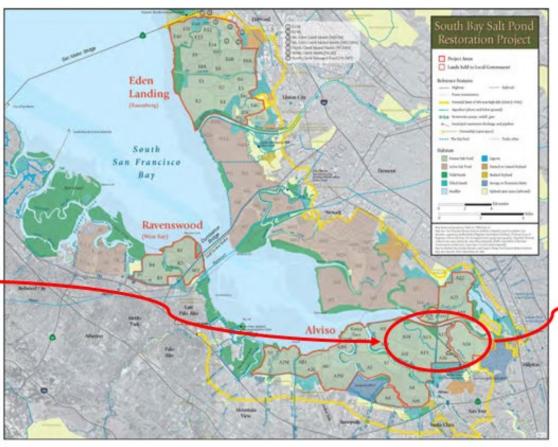
## South San Francisco Bay Shoreline

Slide 1

#### **Project Location and Context:**



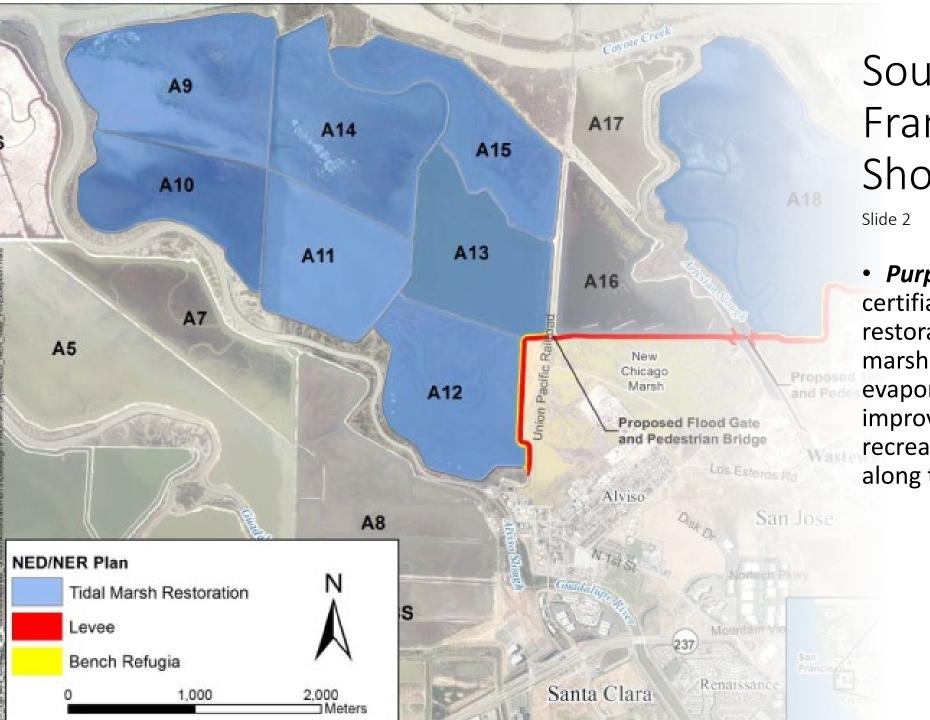
S.F. Bay Area



South Bay Salt Pond Restoration Project Area



Alviso Pond Complex



## South San Francisco Bay Shoreline

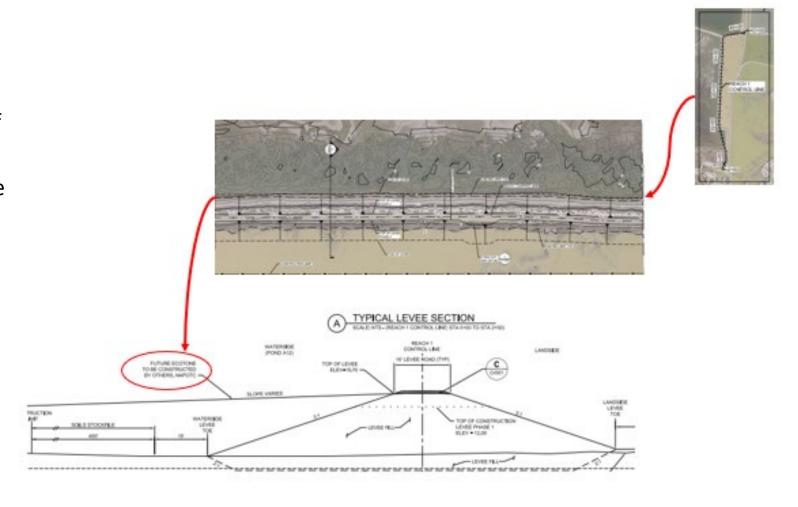
• *Purpose*: Build a 4-mile, FEMA certifiable levee, to allow for restoration of 2,900 acres of tidal marsh at eight former salt evaporation ponds, while improving opportunities for recreational and public access along the south bay shoreline.

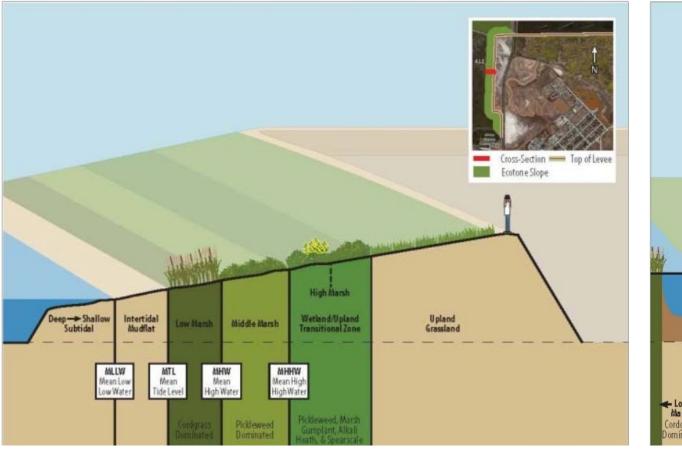
## San Francisco Bay Shoreline

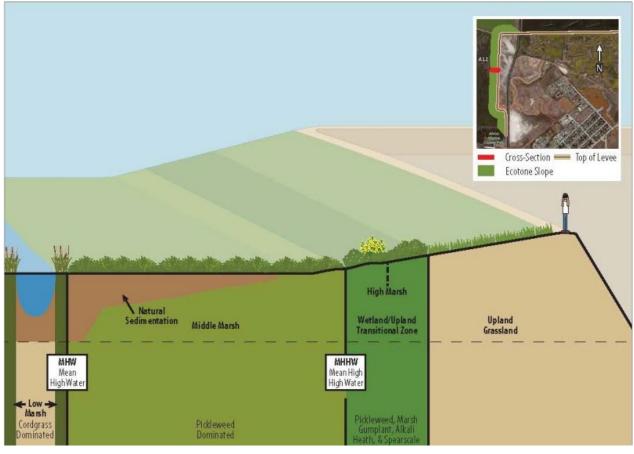
Slide 3

#### Levee features:

- Flood protection to allow for breaching of salt pond berms to facilitate restoration of 2,900 acres of tidal wetlands
- Ecotone levee: Tidal marsh habitats will be able to move upland as sea level rises
- Provide refugia for salt marsh-dependent species such as the federally and statelisted California Ridgway's rail and salt marsh harvest mouse during storms, high tides, and SLR

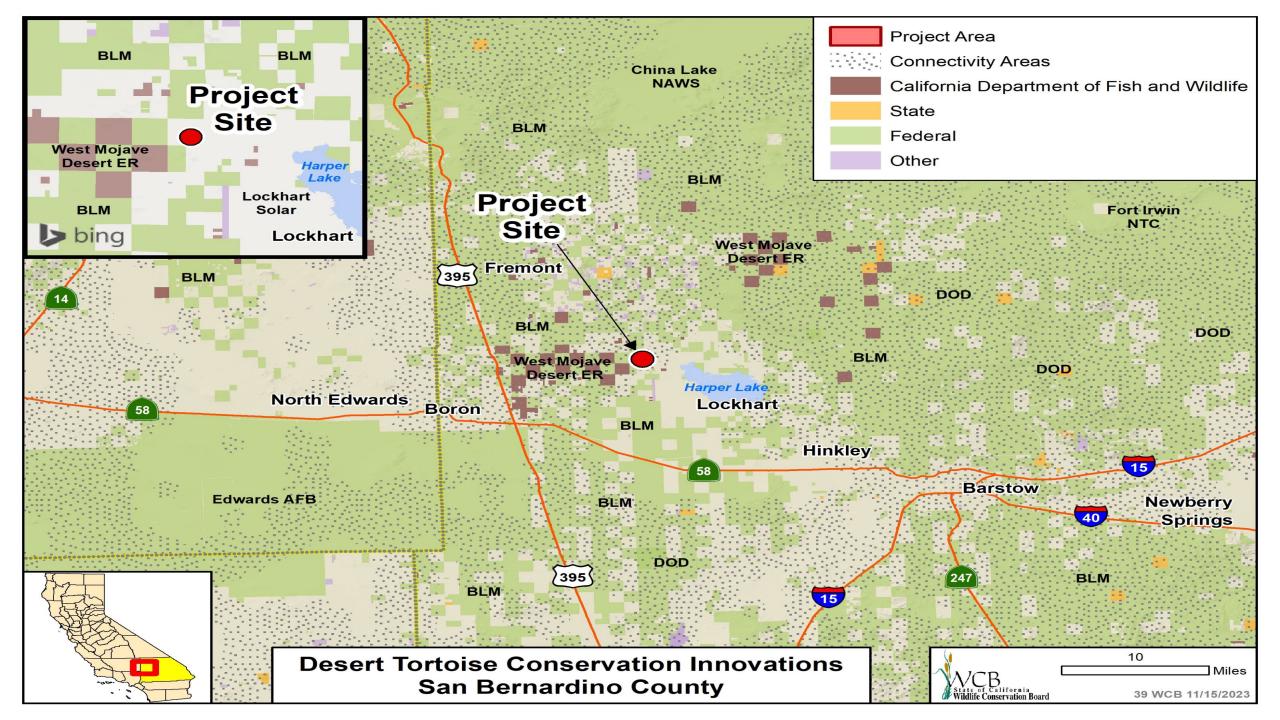






## San Francisco Bay Shoreline

Slide 4





# Desert Tortoise Conservation Innovations Slide 1

**Desert Tortoise** 

Desert Tortoise Conservation Innovations
Slide 2

### Why Are We Here?

- Desert tortoise populations decreasing despite protecting habitat
- Raven predation is decimating juvenile tortoises
- We need to think outside the normal conservation toolbox



# Desert Tortoise Conservation Innovations

Slide 3

If we do nothing....



# Desert Tortoise Conservation Innovations

Slide 4

### Enter New Technology

- Techno-tort<sup>™</sup> 3-D juvenile tortoise replicas
- Lasers







# Desert Tortoise Conservation Innovations

Slide 5

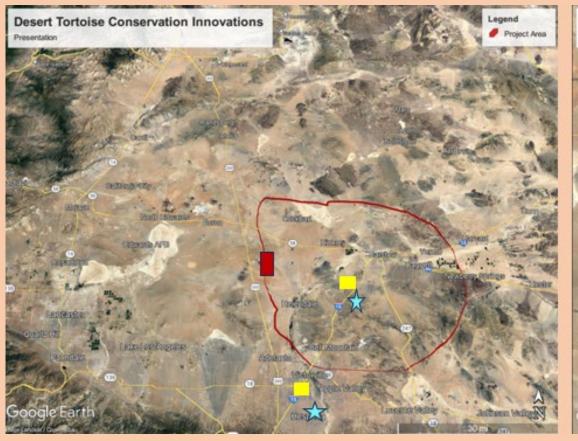
#### Goals of the Study

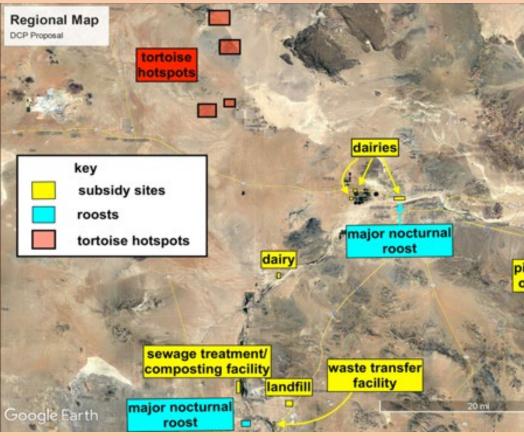
- Study the effectiveness of a range of techniques to reduce predation by common ravens
  - Egg oiling
  - 3-D Techno-tort™
  - Remote operated lasers
- Habitat enhancements in known hotspot areas
  - Seed with high quality tortoise food plants with a rainfall collector
  - Install terra cotta plates to act as an artificial drinking site.
- Understanding hotspots
  - Use of LoRa tracking system (long range transmitters) to track approximately 20 tortoises at each of the 6 study sites (2 hotspots, 2 cold spots, 2 controls) to determine movement, immigration, and emigration. Will also provide info on immediate responses to artificial drinking sites and vegetation augmentation.



## **Desert Tortoise Conservation Innovations**Slide 6

#### Study Location





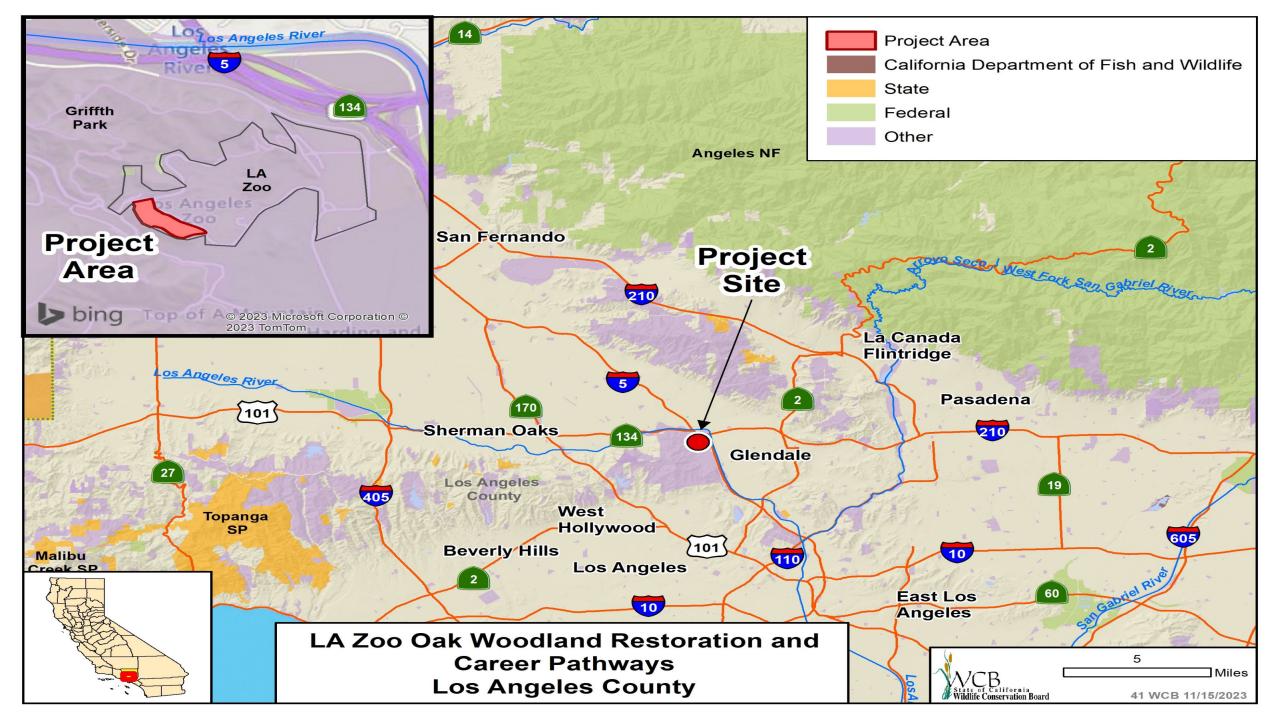


#### Desert Tortoise Conservation Innovations Slide 7

Questions?

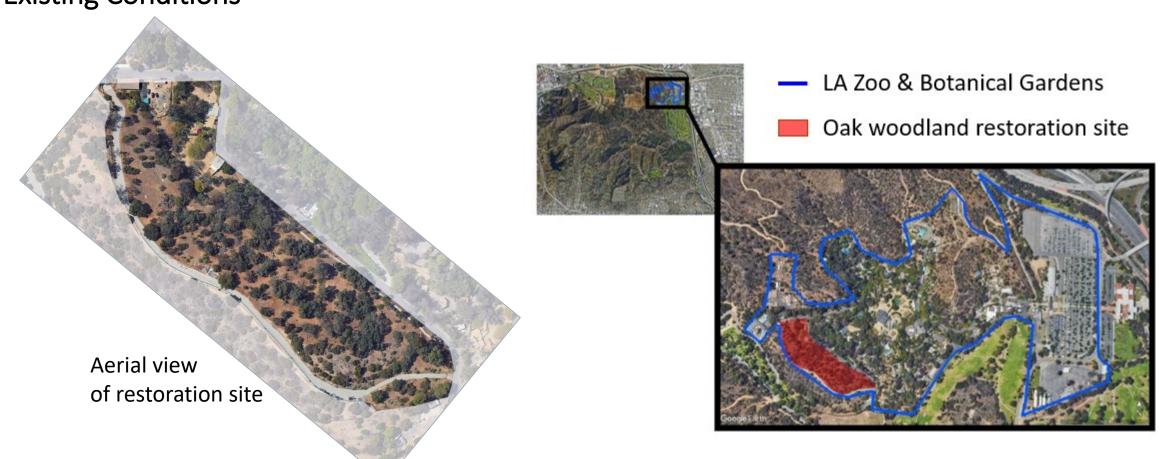
# Ballona Wetlands Restoration Planning

Withdrawn from consideration at this time.

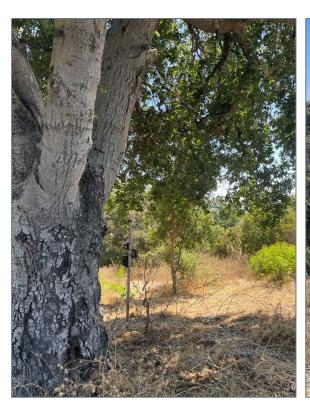


Slide 1





Slide 2







 Habitat degradation in remnant oak woodland has led to decreased ecosystem function & associated biodiversity reduction.

Slide 3

#### **Project Activities**

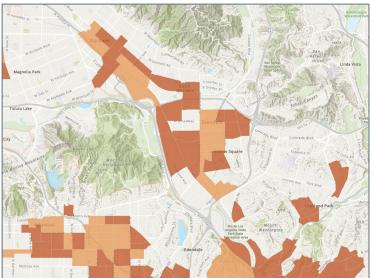


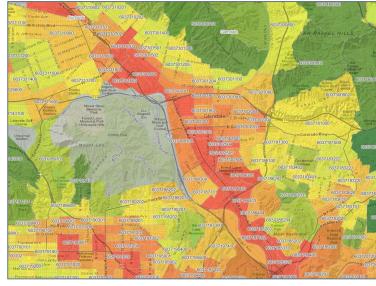


• Outward Bound Adventures and the LA Zoo will restore a 6-acre patch of disturbed habitat as a research site to inform oak management in the face of climate change.

- Research & restoration implementation will be undertaken by participants in a multi-year workforce development program.
- Workforce development program will provide income, mentorship, and pathways to careers in conservation to communities of color that have been significantly underrepresented or excluded from the environmental sector.





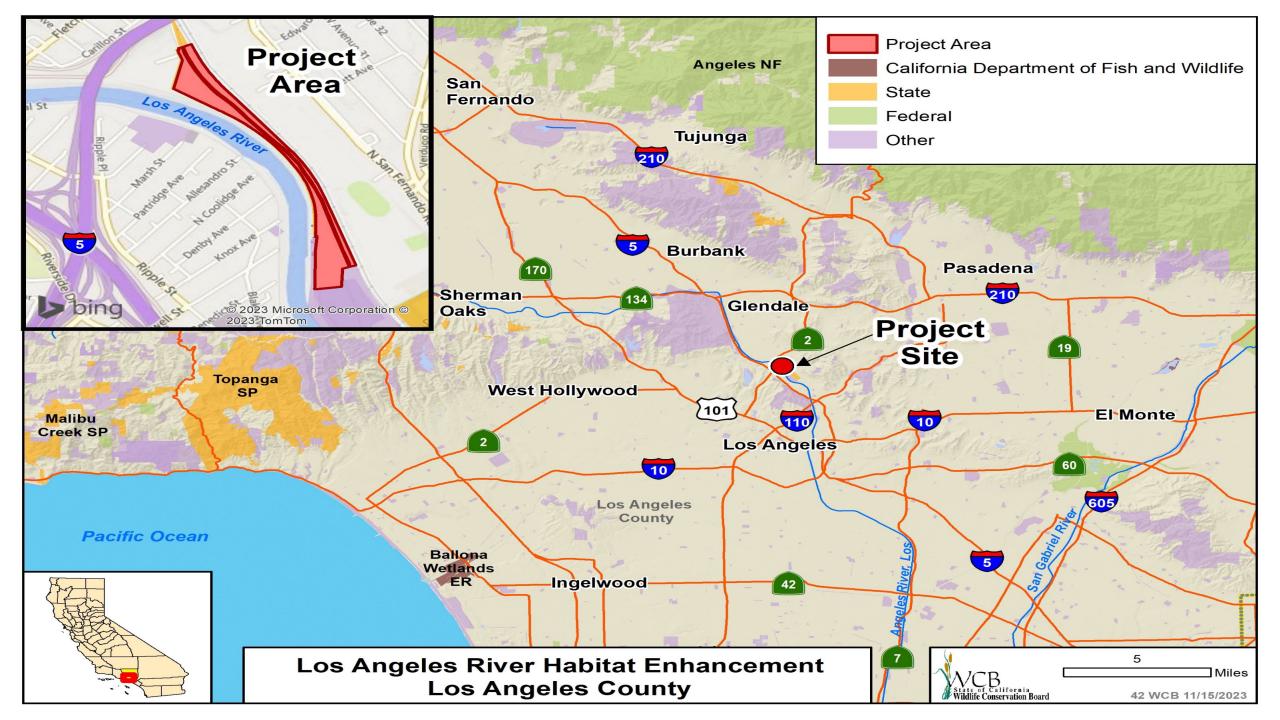


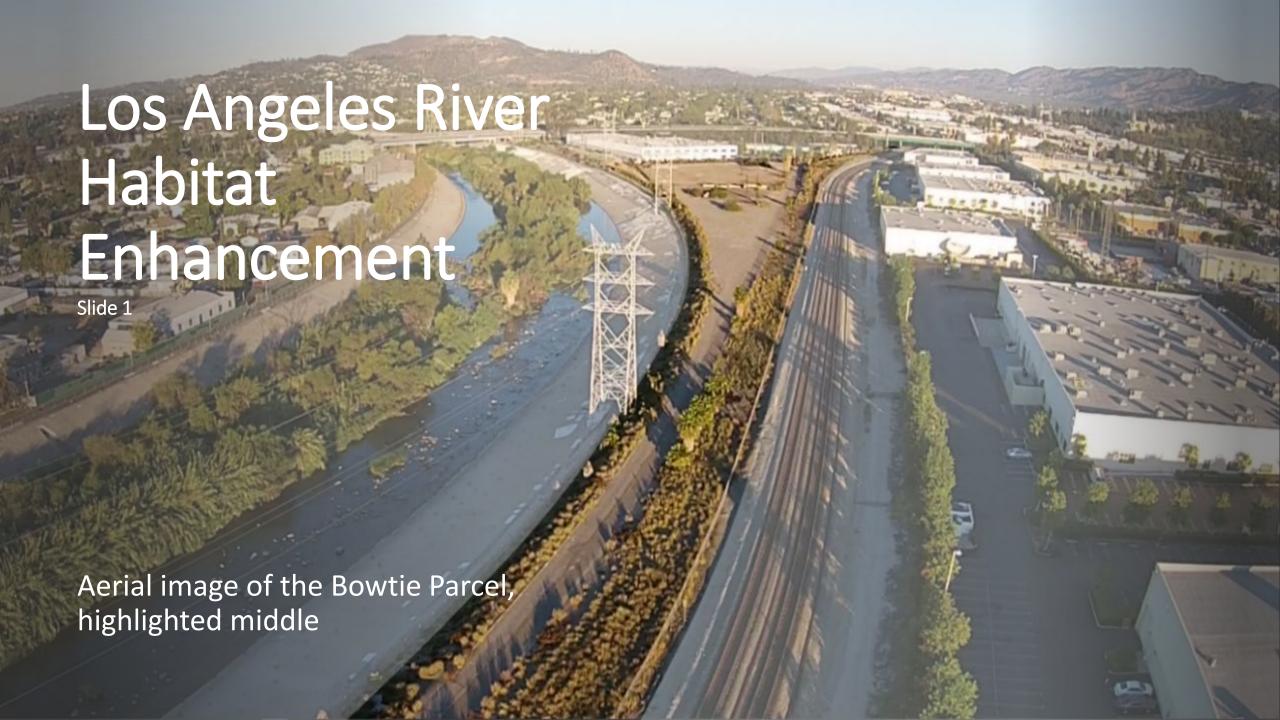
#### **Project Outcomes**

- 6 acres of restored oak woodland.
- Scientist-led and community-driven research effort will employ over 80 youth and adults from disadvantaged communities.
- All research data and findings will be made publicly available online & via outreach events.









# Los Angeles River Habitat Enhancement

Slide 2

Project as part of the 100-Acre Partnership effort





Los Angeles River Habitat Enhancement Slide 3

Left: Looking south from the site entry

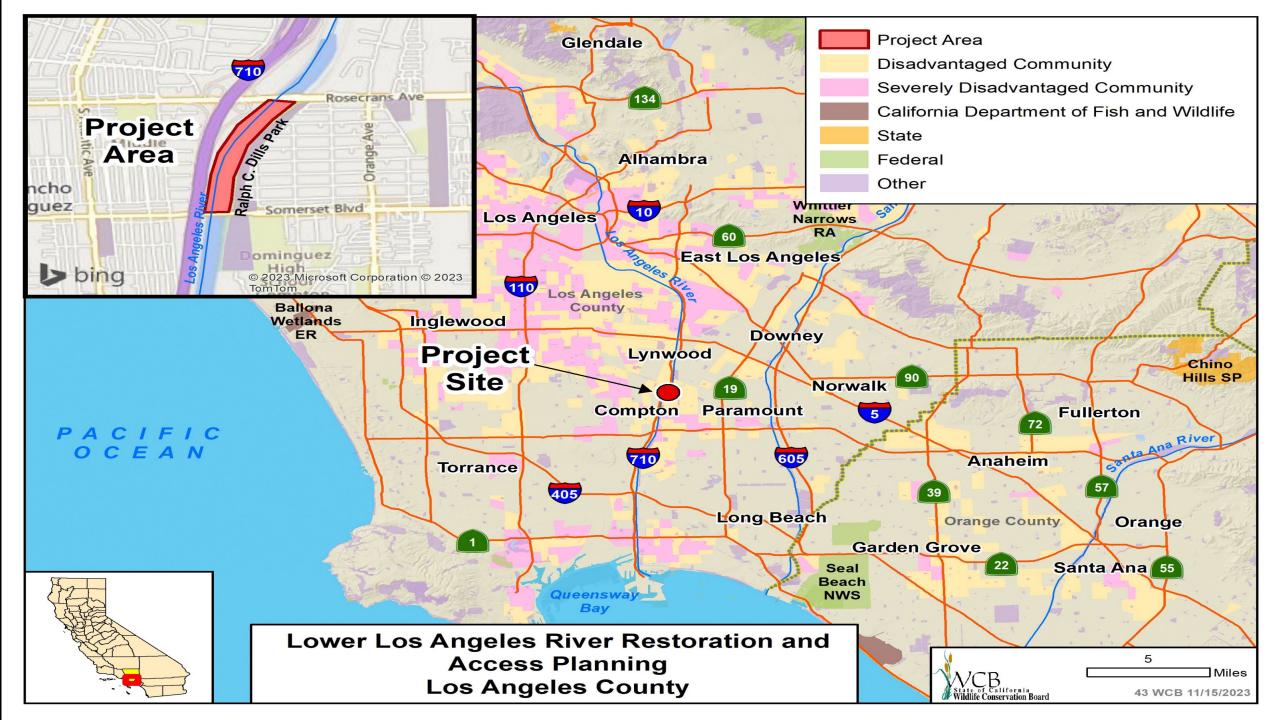
Right: Looking northwest from project boundary

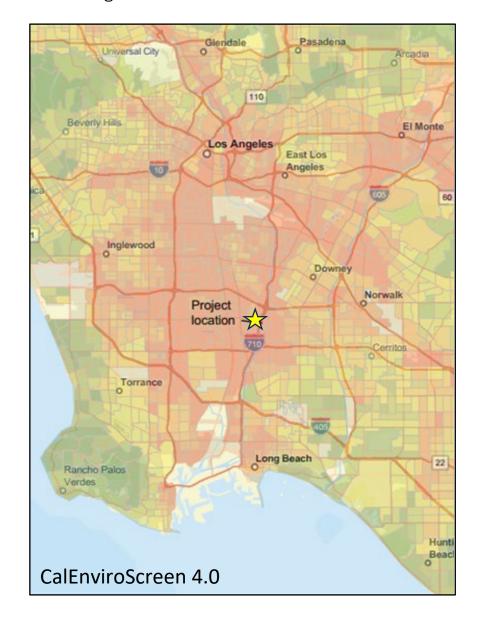


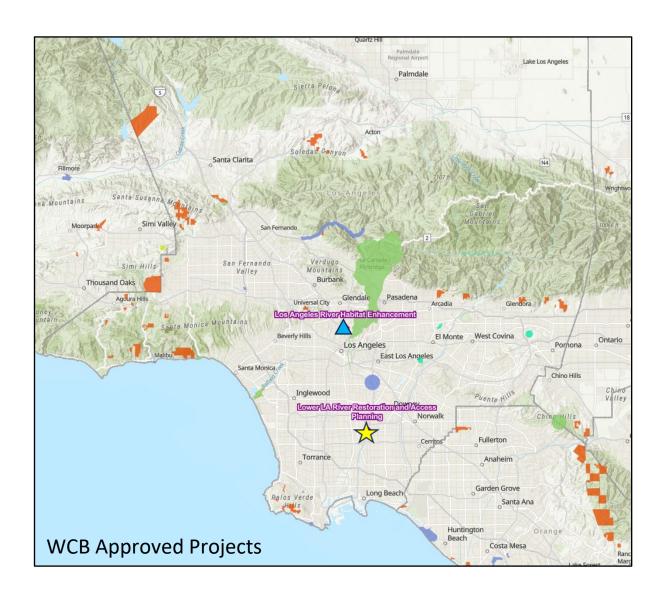
### Los Angeles River Habitat Enhancement

Slide 4

Storm drain that runs underneath the site at the discharge point into the LA River





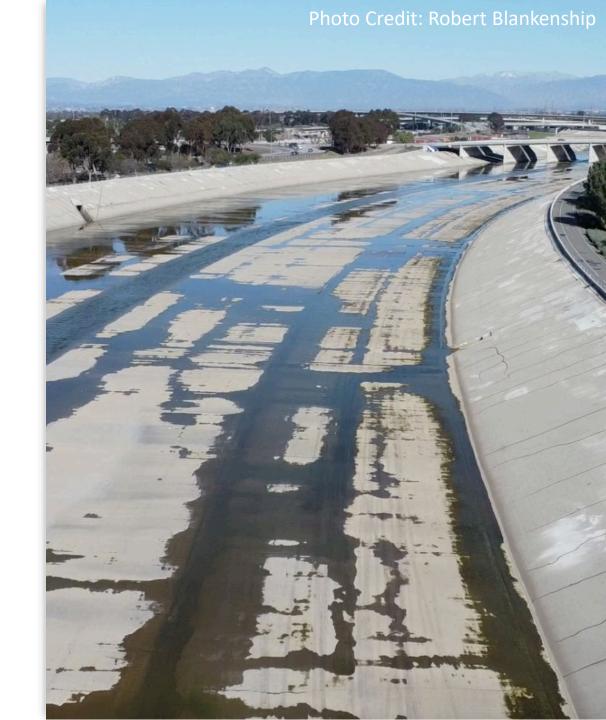


#### **PROJECT GOALS**

- Make the efforts of AB 530 a reality
- Advance the Lower LA River Revitalization Plan by:

#### **Designing a Community-led Project that:**

- Creates fish and wildlife habitat
- Increases public access to nature
- Reduces climate change impacts
- Fosters youth engagement and education
- Maintains government support
- Produces a shovel ready project



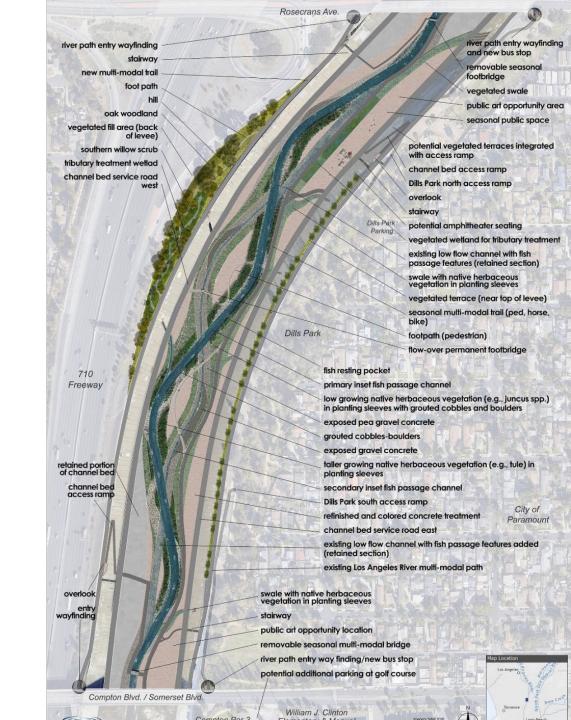
#### **PROJECT OBJECTIVES**

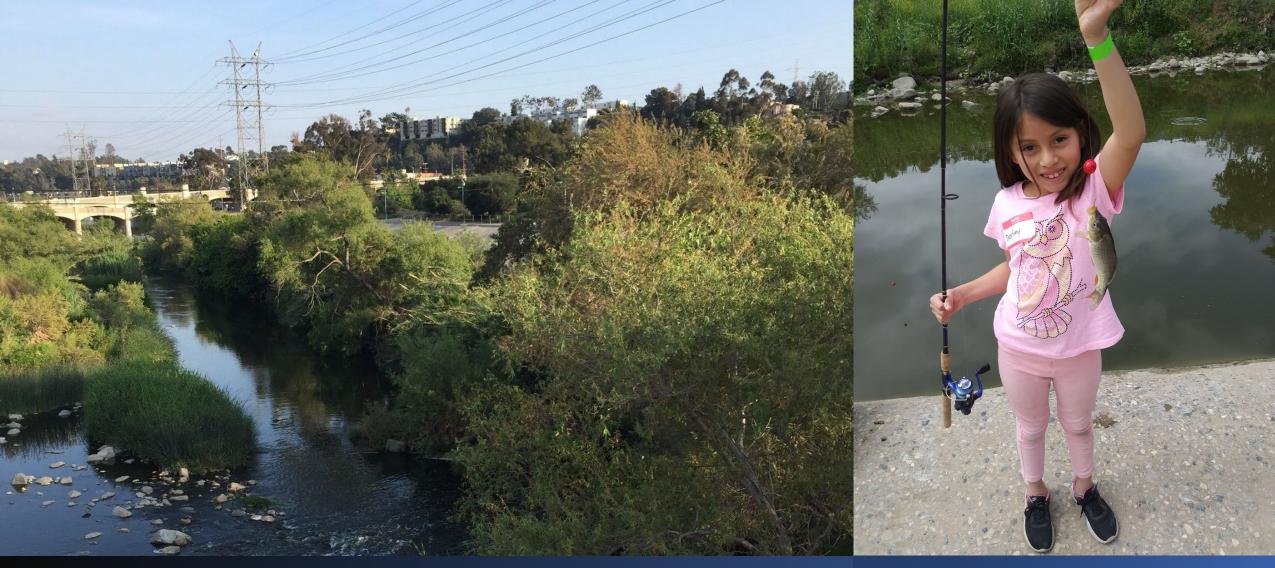
- Implement meaningful community engagement
  - Interviews, community meetings, workshops with residents
  - 3-year Mentorship Program with Odyssey STEM Program
  - Long Beach Conservation Corps
- Design flood-safe fish and wildlife habitat using local, state, and federal guidance.
  - Tributary treatment wetland
  - Vegetated swales with herbs and forbs
  - Microhabitat for fish resting pockets, passage channels
  - Oak woodlands and vegetative fill on back of levees
- Design flood-safe and accessible public access amenities that are community-inspired.
  - Access ramps
  - Overlooks
  - River trail entries and wayfinding
  - Interpretive panels and art opportunities
- Initiate early design review and consultation with agencies.



#### **PROJECT OUTCOMES**

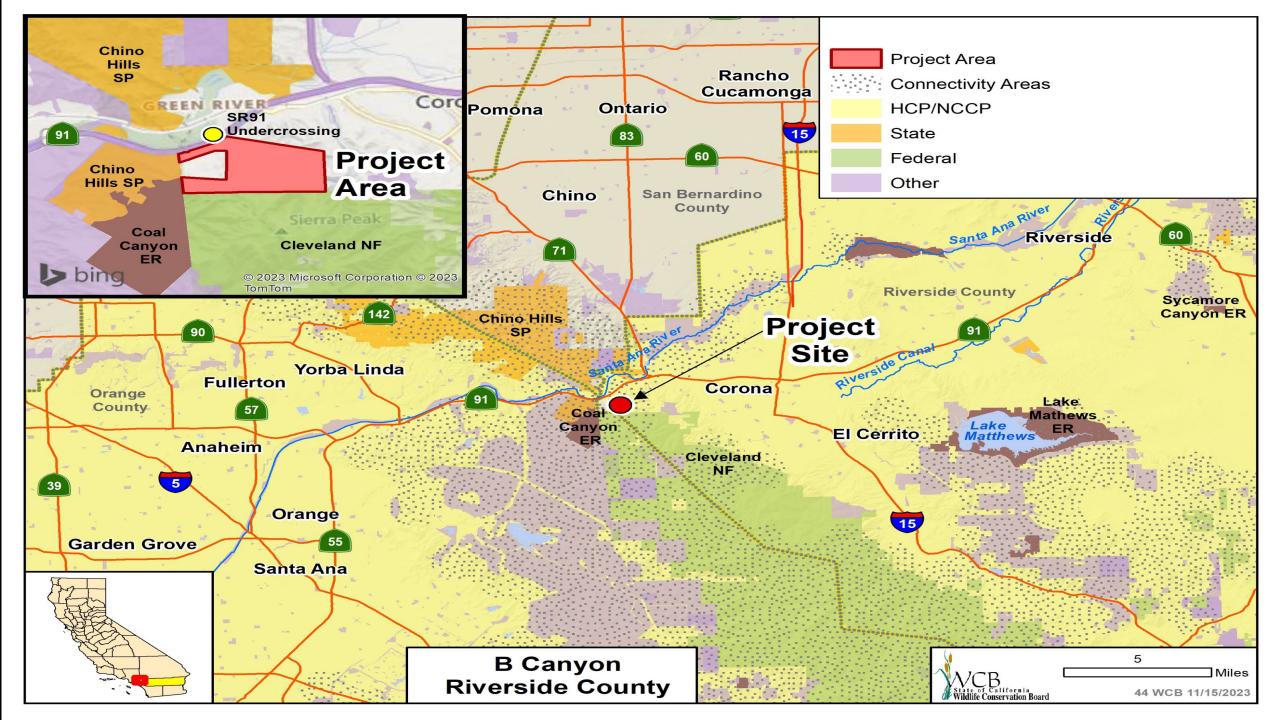
- Shovel ready project with 65% design plans
- "No surprises" permitting process for construction phase
- Model/template for nature-based solutions within urban setting
- Advances local plans for improving the lower LA River
- Develops climate resilience and environmental justice strategies for underserved communities.
- Direct benefits to SDACs via inclusion, engagement, and education.

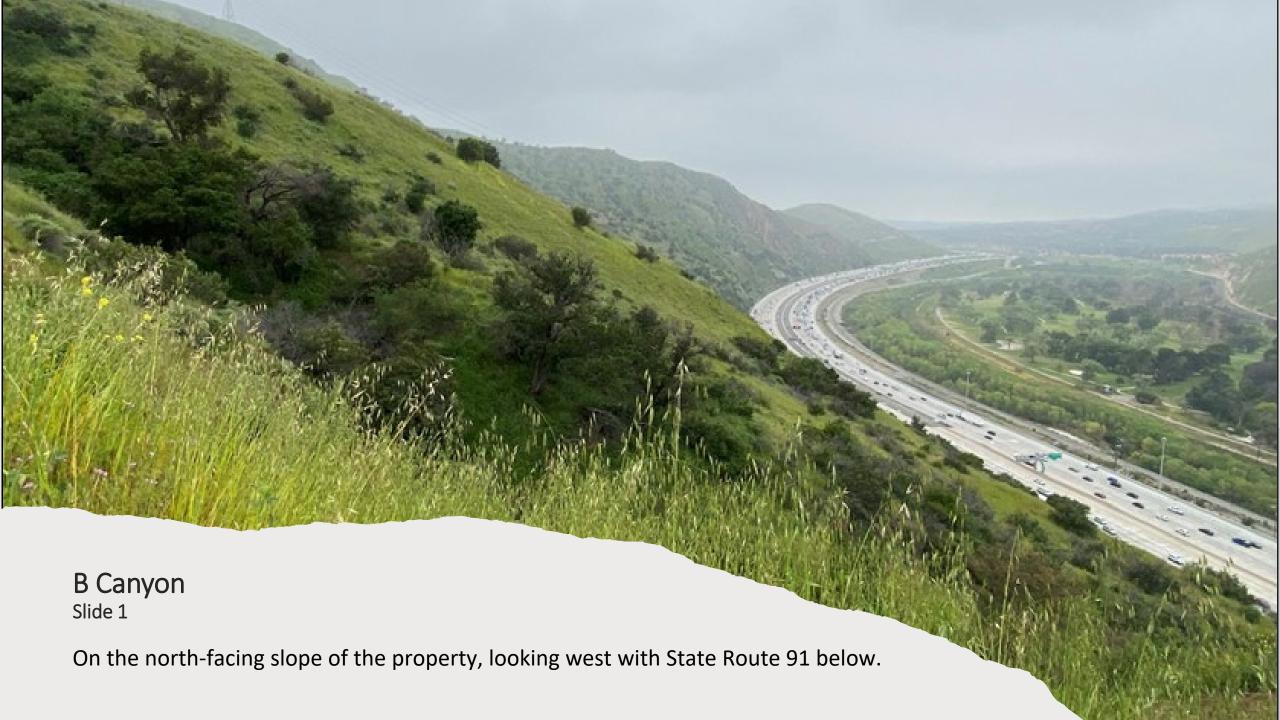


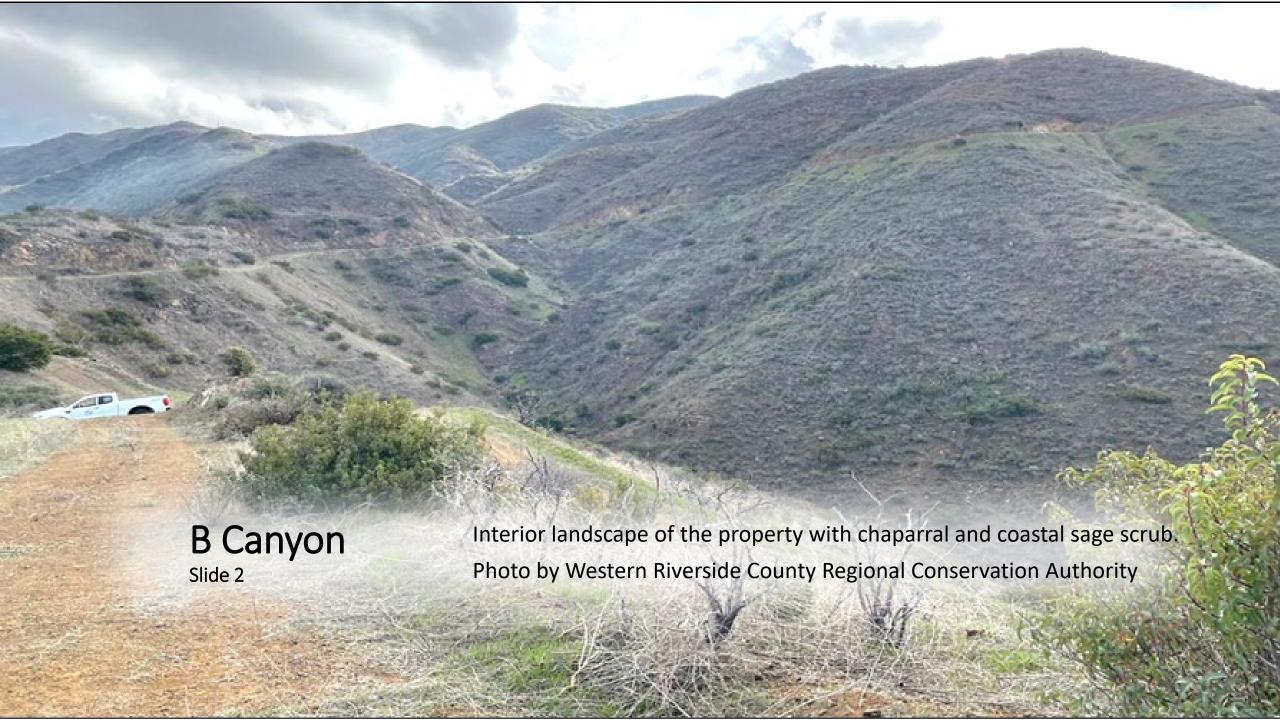


Lower Los Angeles River Restoration and Access Planning
Slide 5

Photos Credit: Robert Blankenship









# **B** Canyon

Slide 3

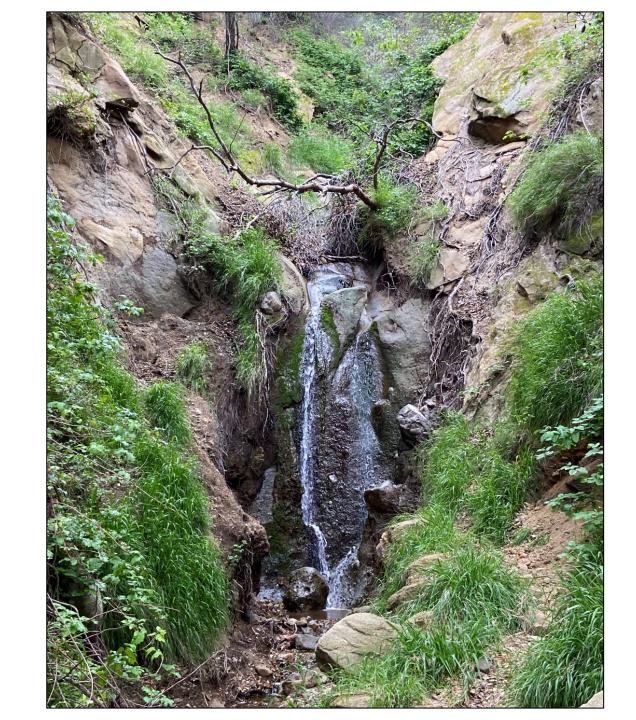
Left: Radio-collared mountain lion M317, which has been confirmed through radio-tracking as using the B Canyon Property. Photo by Juan Gonzalez, University of California, Davis - Wildlife Health Center

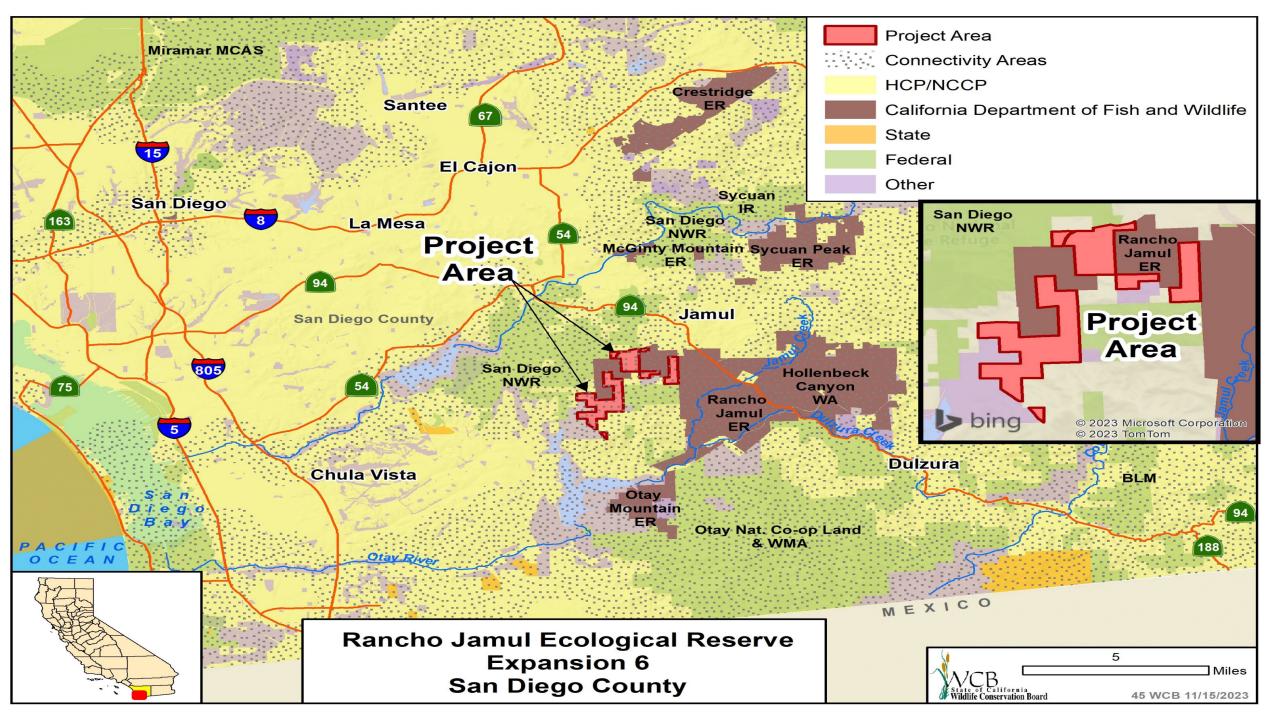
Right: Radio-collared mountain lion M317 photographed using the B Canyon/State Route 91 undercrossing. Photo by Devin Adsit-Morris, USGS Western Ecological Research Center

# B Canyon

Slide 4

Waterfall on the property.









# Rancho Jamul Ecological Reserve, Expansion 6

Spring rains brighten the landscape providing habitat benefits for wildlife.

Rancho Jamul Ecological Reserve, Expansion 6



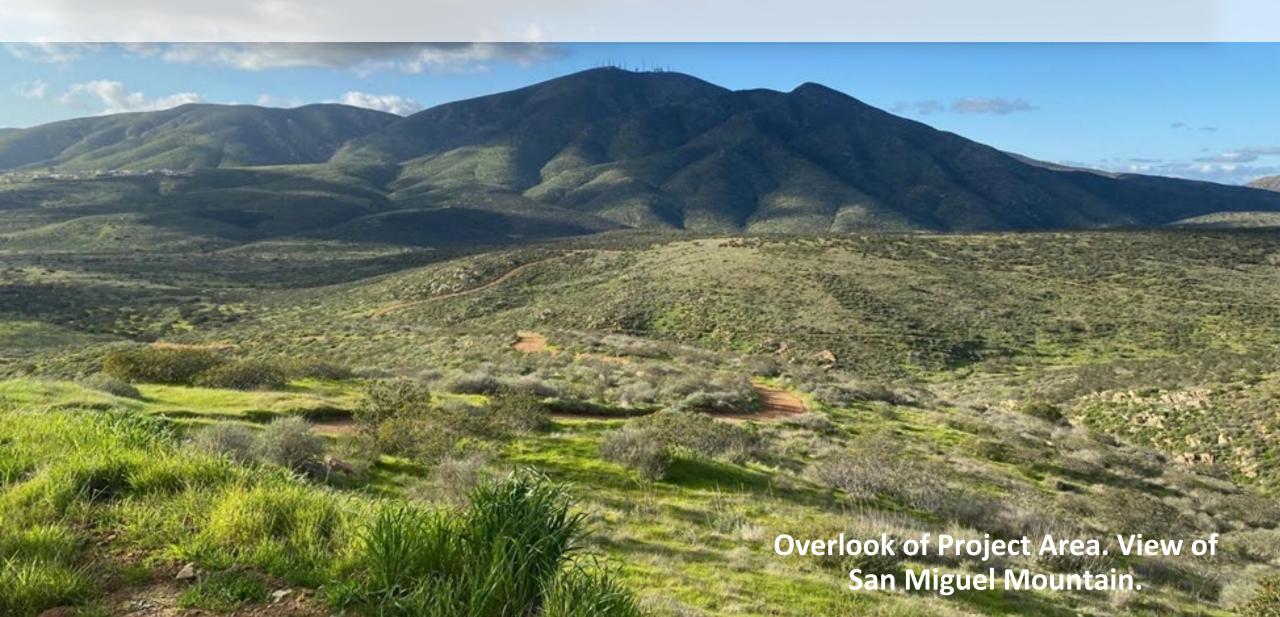


Optimal habitat for endangered Quino checkerspot butterfly.





# Rancho Jamul Ecological Reserve, Expansion 6 Slide 5







**Executive Director's Report** 

### 2023 Year in Review Preview

- 126 Projects funded in 2023
- WCB Contributed \$500M in funding
- Leveraged ~\$300M
- 77,162 acres protected
- 41,350 acres restored or enhanced

### WCB worked with 34 new entities in 2023

#### New grantees include:

- 40 Acre Conservation League
- American Bird Conservancy
- Descanso Gardens Foundation
- Klamath River Renewal Corporation
- Laguna Ocean Foundation
- Mid Klamath Watershed Council
- Mohave Ground Squirrel Conservation Council
- Native American Land Conservancy
- San Diego Habitat Conservancy
- Santa Clara Valley Transportation
   Authority

- Tongva Taraxat Paxaavxa Conservancy
- University of California, Merced
- Volcan Mountain Foundation
- Nevada County Office of Emergency Services
- Oswit Land Trust
- Outward Bound Adventures Inc.
- Resource Conservation District Greater San Diego
- San Luis Rey Band of Mission Indians Foundation
- Sutter Buttes Regional Land Trust



Executive Session (Not Open to the Public)



Stay Safe and Healthy, Enjoy the Rest of Your Day!

Adjourn