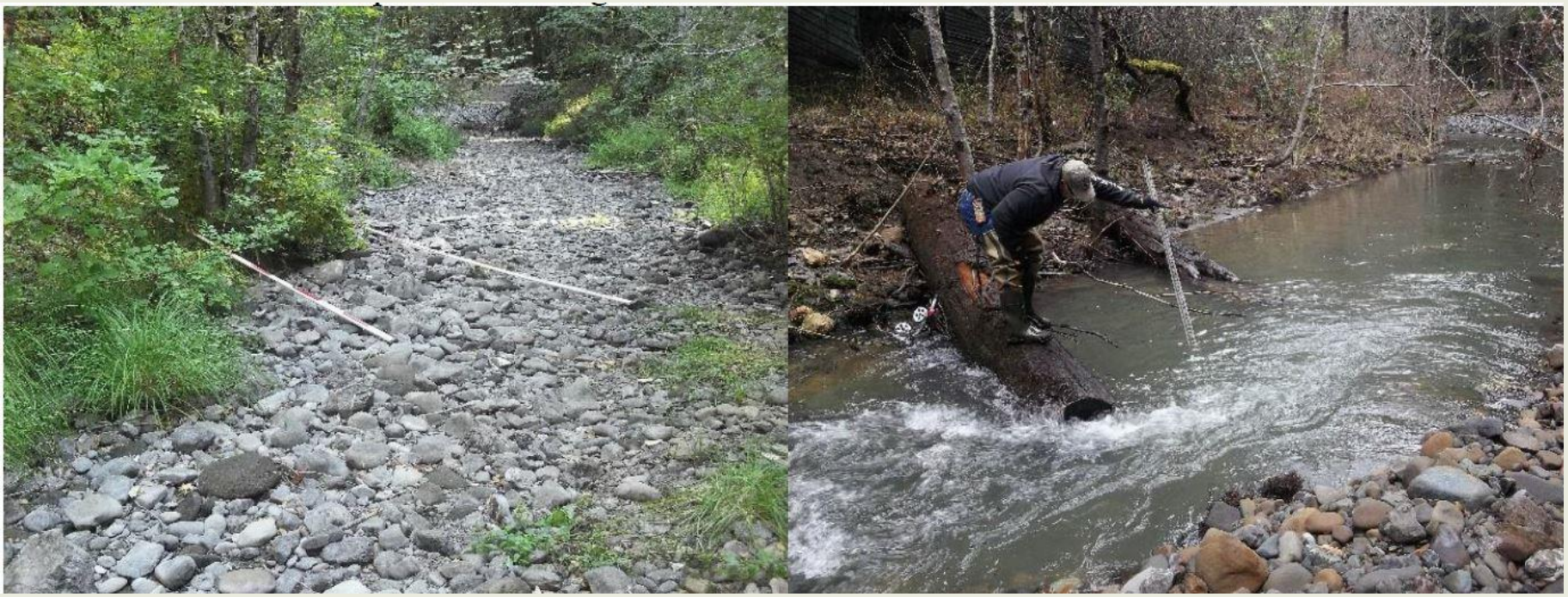

Wildlife Conservation Board Meeting
May 22, 2019, 10:00am
Natural Resources Building,
First Floor Auditorium
1416 9th Street, Sacramento, California 95814

Programmatic Permitting for Aquatic Habitat Restoration Statewide

#7. Programmatic Permitting for Aquatic Habitat Restoration

Site 1 before (left) and after (right) treatment. Stadia rods in pre-treatment photo indicate log placement within the site. Photos were taken from the left bank facing across the channel.

#7. Programmatic Permitting for Aquatic Habitat Restoration



Two sites from a project to enhance spawning of Chinook salmon, Coho salmon, and Steelhead trout in Cahto Creek in the Eel River watershed in Mendocino County completed using the North Coast NMFS Biological Opinion.

#7. Programmatic Permitting for Aquatic Habitat Restoration

Before photos taken on 10/13/16 (A)(B) and After implementation on 01/03/17 (C)(D); Photo point 6 looking downstream (A)(C); Photo point 7 looking upstream (B)(D)

A project to restore and enhance habitat for threatened Central Coast Steelhead in Los Osos Creek in San Luis Obispo County completed using the South Coast NMFS Biological Opinion.

Resilient Estuaries: Aquatic Species Assessment Tool Statewide

#8. Resilient Estuaries: Aquatic Species Assessment Tool

San Mateo Creek estuary

Cal Trout will develop a statewide tool

Evaluate estuarine management actions for changes to

- Water Quality
- Habitat characteristics
- Habitat usage

Photo courtesy of M. Weir

#8. Resilient Estuaries: Aquatic Species Assessment Tool

The tool will evaluate how fish respond to those management actions.

Rainbow trout

Photo courtesy of M. Weir

#8. Resilient Estuaries: Aquatic Species Assessment Tool

Steelhead

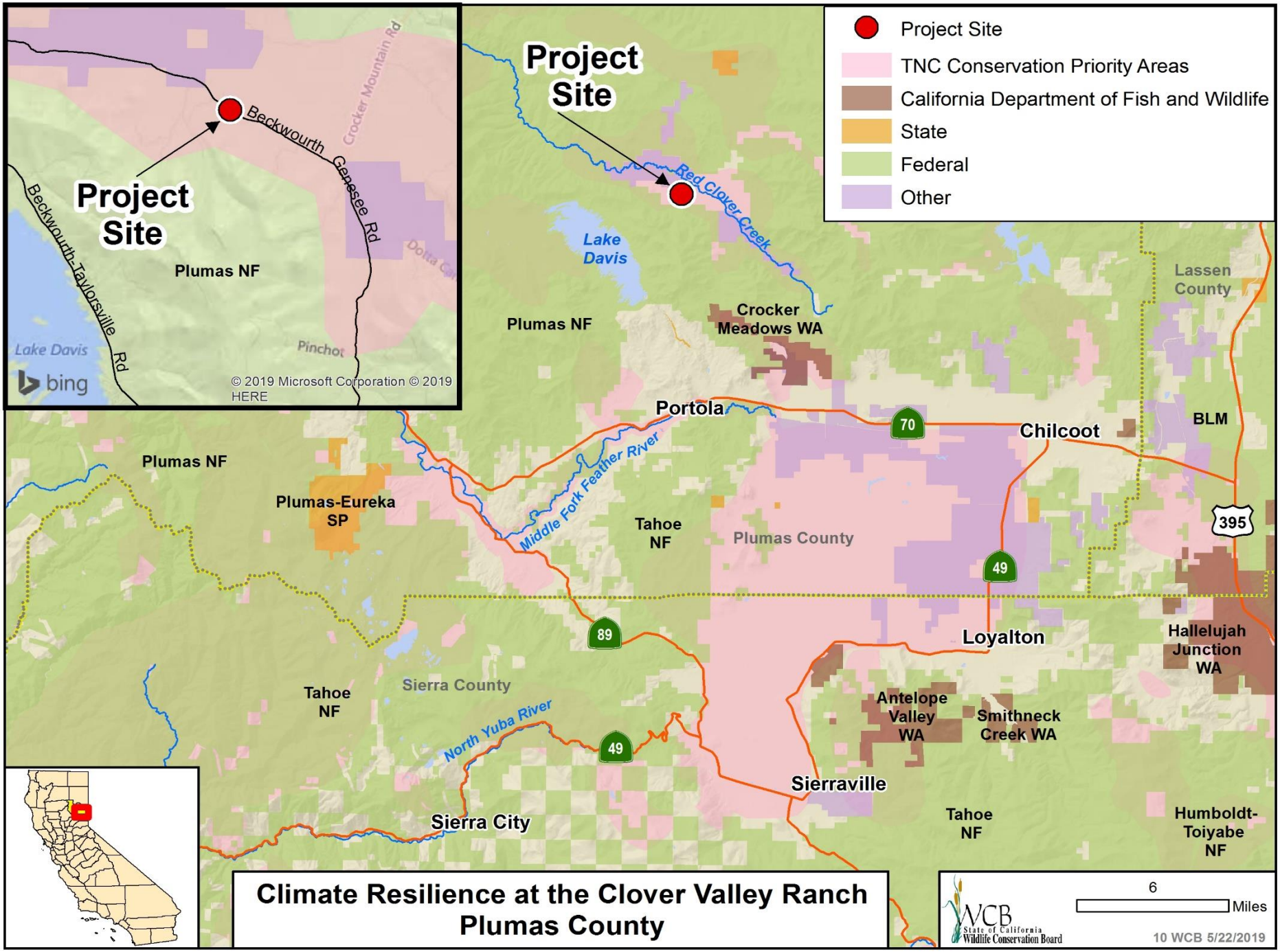
Species included:

- Chinook Salmon
- Steelhead
- Pacific Lamprey
- Tidewater Goby

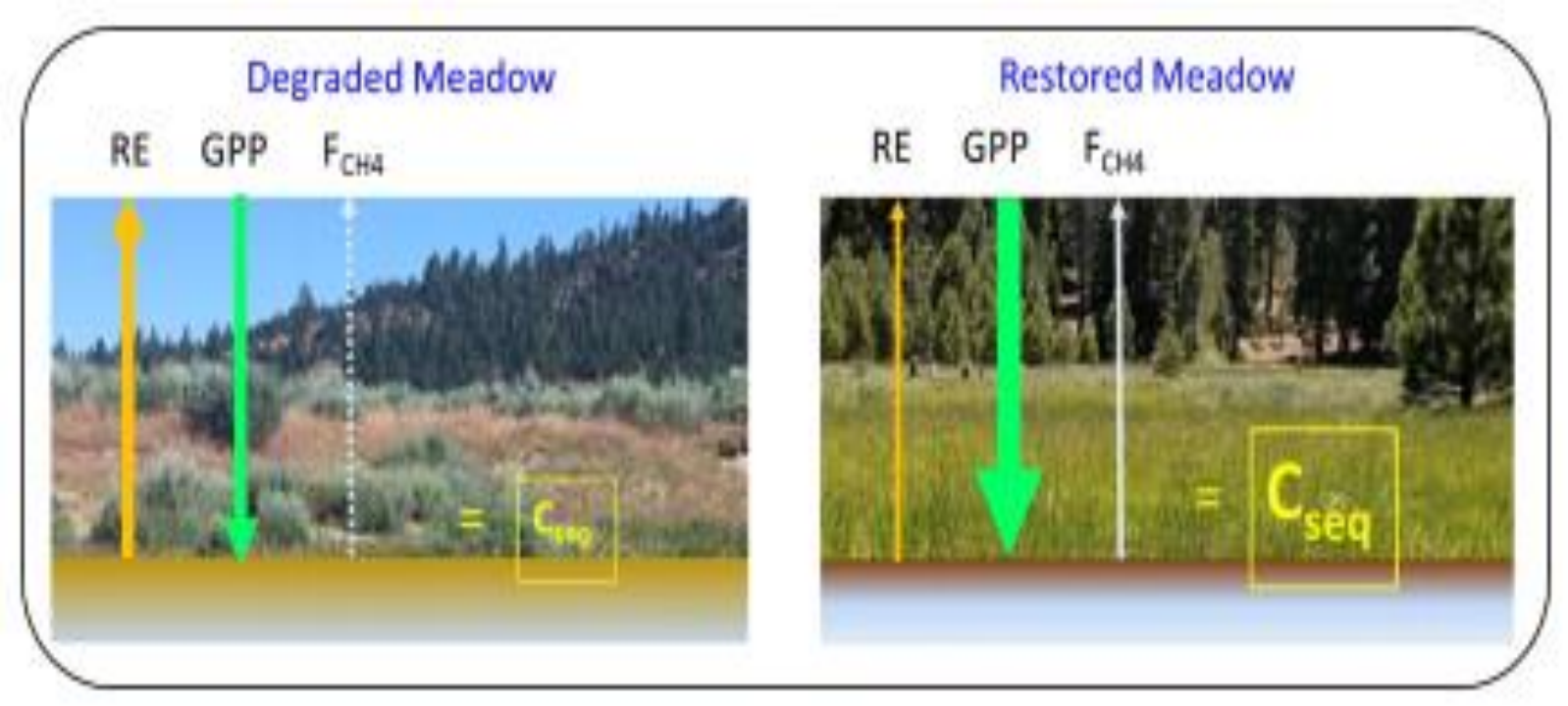
And

Regional species of concern

Photo courtesy of Capelli

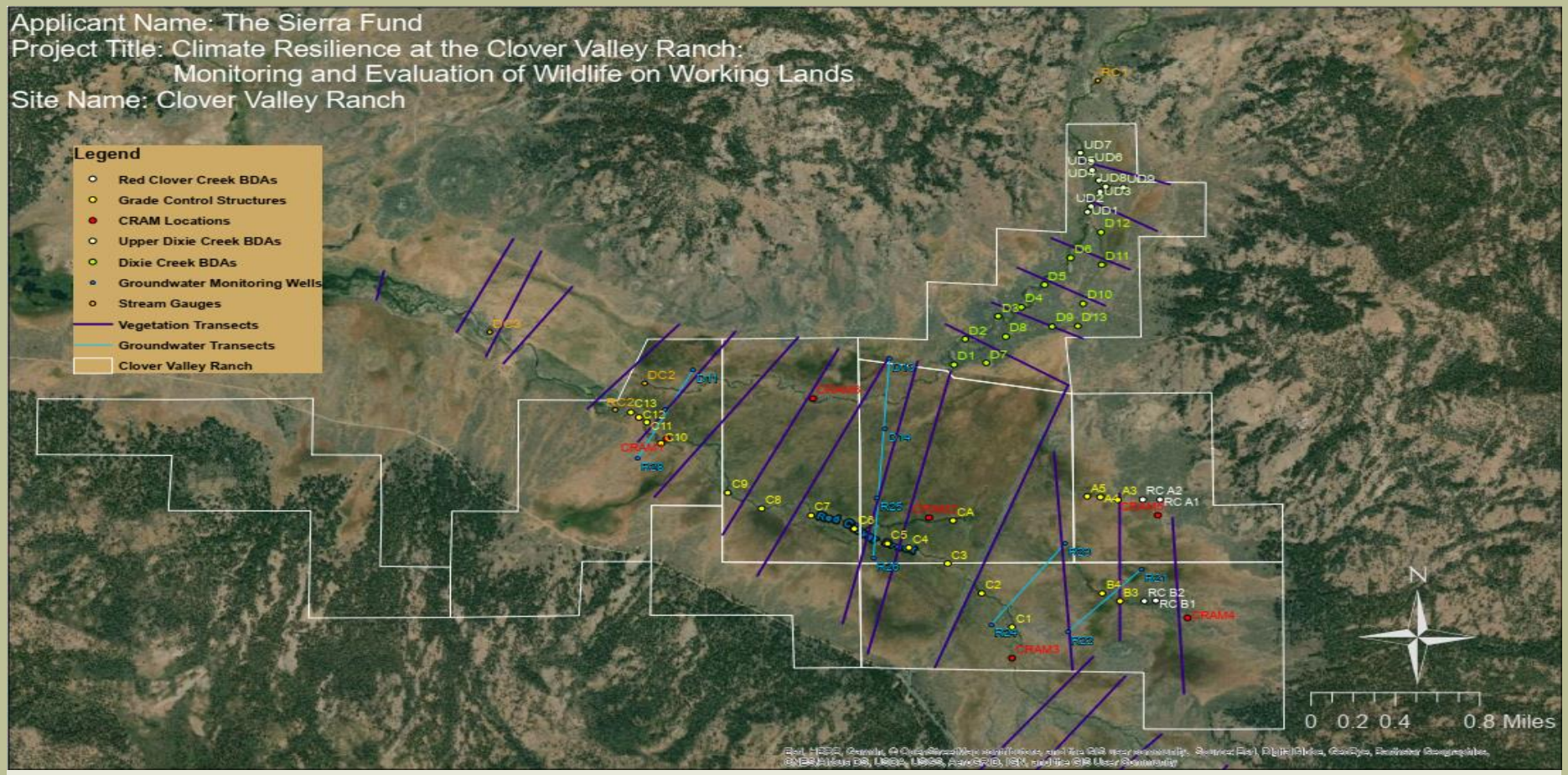

Project Site
TNC Conservation Priority Areas
California Department of Fish and Wildlife
State
Federal
Other
Project Site
Red Clover Creek
Lake Davis
Plumas NF
Crocker Meadows WA
Lassen County
Portola
70
Chilcoot
BLM
Plumas NF
Plumas-Eureka SP
Middle Fork Feather River
Tahoe NF
Plumas County
395
49
89
Loyalton
Hallelujah Junction WA
Sierra County
Tahoe NF
North Yuba River
Antelope Valley WA
Smithneck Creek WA
49
Sierraville
Sierra City
Tahoe NF
Humboldt-Toiyabe NF
Project Site
Beckwourth Genesee Rd
Crocker Mountain Rd
Beckwourth-Taylorsville Rd
Plumas NF
Lake Davis
Pinchot
bing
© 2019 Microsoft Corporation © 2019 HERE
Climate Resilience at the Clover Valley Ranch
Plumas County
WCB State of California Wildlife Conservation Board
6
Miles
10 WCB 5/22/2019

#9. Climate Resilience at the Clover Valley Ranch



GHG Conceptual Model: C_{seq} is the sequestration of carbon in the meadow ecosystem and soil, GPP is gross primary productivity (ecosystem total photosynthesis), RE is the ecosystem respiration of CO2 from plants and soil and F_{CH4} is the efflux of methane from the soil to the atmosphere.

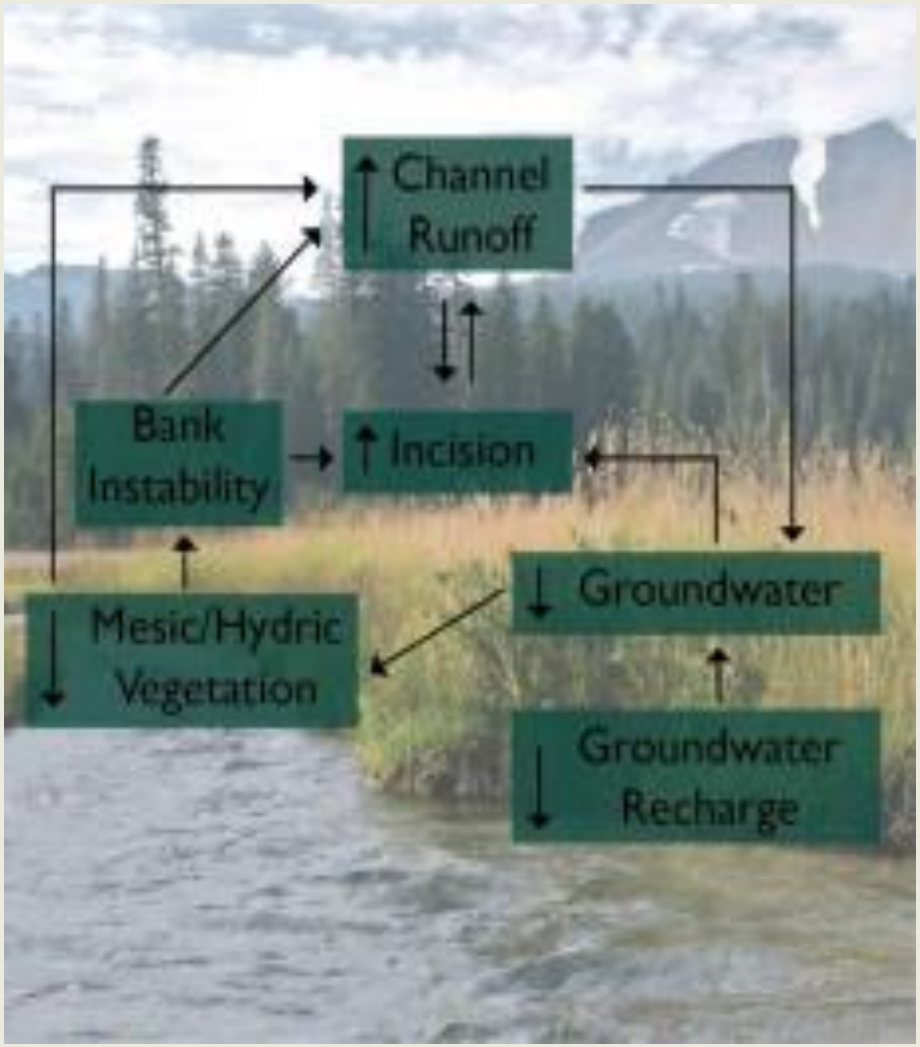
#9. Climate Resilience at the Clover Valley Ranch



#9. Climate Resilience at the Clover Valley Ranch

Downcut Channel: (A) the stream channels have downcut from 3 to 11 feet below elevation of the meadow floodplain. (B) As a result infrequent high flows within the downcut channel resulting in bank erosion and the consequent degration of water quality and habitat. (C) Redoximorphic features are preent in soils along the sxposed stream bank of Red Clover Creek starting at 12 to 18 inches from the ground, indicating the soils have been saturated on the past.

#9. Climate Resilience at the Clover Valley Ranch



Conceptual Model Degraded Meadow: Example of a restored meadow overlain with a diagram of the negative feedback loop of a degraded meadow as presently exists at the Clover Valley Ranch site.

#9. Climate Resilience at the Clover Valley Ranch

Vegetation Assemblage, Valley: The downcutting of the channel system and consequent lowering of the shallow meadow water table has precipitated conversion to a colex dominated by the big sage ecotone with scattered native grasses and forbs and non-native annuals including bulbous bluegrass.

#9. Climate Resilience at the Clover Valley Ranch

Cattle Access to Riparian Corridor: The historic grazing regime at he Clover Valley Ranch site has allowed cattle unrestricted access to much of the stream channel, acceleration erosion, contaminating the water, and altering the natural assemblage of vegetation preferred by wildlife.

#9. Climate Resilience at the Clover Valley Ranch

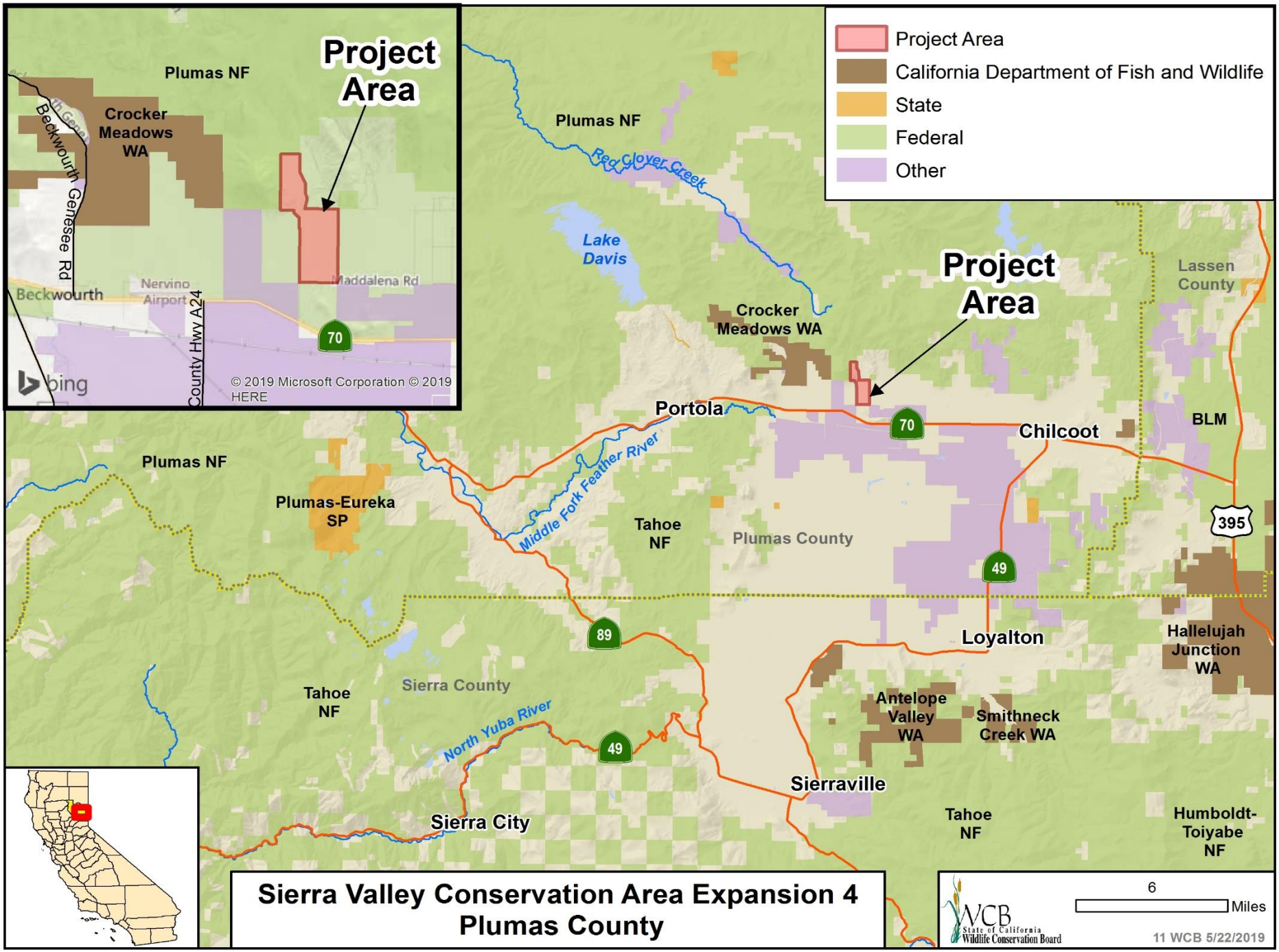
Native Trout Habitat: Native trout are present in the streams of the Clover Valley Ranch site, and annual fish surveys will be used to elevate the outcome of cattle exclusion from the riparian corridor on the fish species diversity and abundance.

#9. Climate Resilience at the Clover Valley Ranch

Remnant Habitat: The Clover Valley Ranch project area supports a typical mid-elevation montane wildlife community that includes mule deer, mountain lion, black bear, coyote, marmots, waterfowl, raptors, squirrels, and birds. Remnant riparian habitat like that pictured exists in few places at the site.

#9. Climate Resilience at the Clover Valley Ranch

Restoring Hydrologic Function: TSF has installed four BDAs at select instream locations between engineered check dam structures on two sub-channels. Additional BDAs will be installed on Dixie Creek in 2019. The combination of these structures will slow the flow of water through the meadow and reconnect the stream to the floodplain, resulting in increased sediment and nutrient deposition, as well as improved habitat for native plant and animal species.


Project Area
California Department of Fish and Wildlife
State
Federal
Other
Project Area
Plumas NF
Crocker Meadows WA
Beckwourth Genesee Rd
Beckwourth
Nervino Airport
Maddalena Rd
County Hwy A24
70
© 2019 Microsoft Corporation © 2019 HERE
Plumas NF
Red Clover Creek
Lake Davis
Project Area
Crocker Meadows WA
Lassen County
Portola
70
Chilcoot
BLM
Plumas NF
Middle Fork Feather River
Plumas-Eureka SP
Tahoe NF
Plumas County
395
49
89
Loyalton
Hallelujah Junction WA
Tahoe NF
Sierra County
North Yuba River
Antelope Valley WA
Smithneck Creek WA
49
Sierraville
Sierra City
Tahoe NF
Humboldt-Toiyabe NF
Sierra Valley Conservation Area Expansion 4
Plumas County
WCB State of California Wildlife Conservation Board
6
Miles
11 WCB 5/22/2019

#10. Sierra Valley Conservation Area, Expansion 4

The “Diamond G” Grashuis Ranch in Sierra Valley is a family-owned cattle and hay ranch, adjacent to federal land on two sides that connects it to the Crocker Meadows Wildlife Area, forming an important corridor for mule deer, black bear, mountain lion, bobcat and other wildlife.

#10. Sierra Valley Conservation Area, Expansion 4

The property's volcanic rock outcrops and cliffs provide important wildlife habitat with a highly diverse breeding and roosting community of rock and cliff nesting bird species. The rock formations also provide den sites for black bear, mountain lion, ringtails, and a variety of other mammal species, as well as well as snakes.

#10. Sierra Valley Conservation Area, Expansion 4

Originally homesteaded in the 1850s, the Diamond G/Grashuis Ranch features several beautifully preserved historic buildings.

#10. Sierra Valley Conservation Area, Expansion 4

Many of the original structures remain, including an old barn, a carriage house, a bunkhouse, a chicken house, and a spring cellar. The ranch is host to 14 special status wildlife species documented to date.

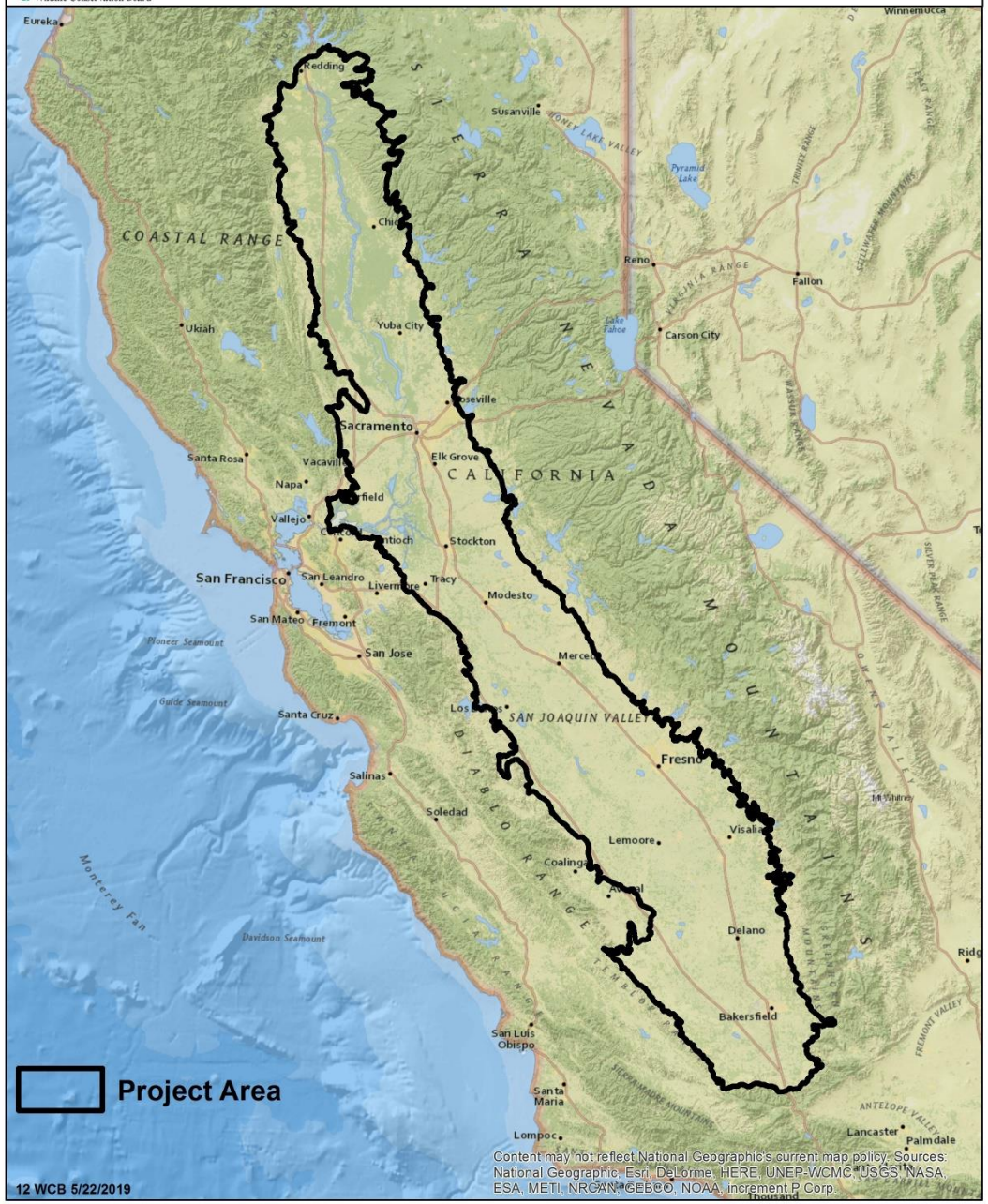
#10. Sierra Valley Conservation Area, Expansion 4

Mike and Kim Grashuis, owners of Diamond G Ranch in Sierra Valley. The Grashuis family is motivated to preserve their hay/ranching agricultural operation on the historic ranch and to preserve the significant wildlife habitat the ranch offers adjacent to Plumas National Forest and BLM lands, and ¾ of a mile from the Crocker Meadows Wildlife Area.

#10. Sierra Valley Conservation Area, Expansion 4

The proposed Grashuis Ranch Conservation Easement will preserve and protect in perpetuity the property's grazing use, and natural lands. It will protect open rangelands and native conditions of the property by limiting conversion to non-agricultural use, to more intensive agriculture, and future subdivision of the land.

Building Climate Resiliency in Central Valley Wetlands
Butte/Merced/Turlare/Kern County



#11. Building Climate Resiliency in Central Valley Wetlands

Wetland fields within the Gray Lodge Wildlife Area.

#11. Building Climate Resiliency in Central Valley Wetlands

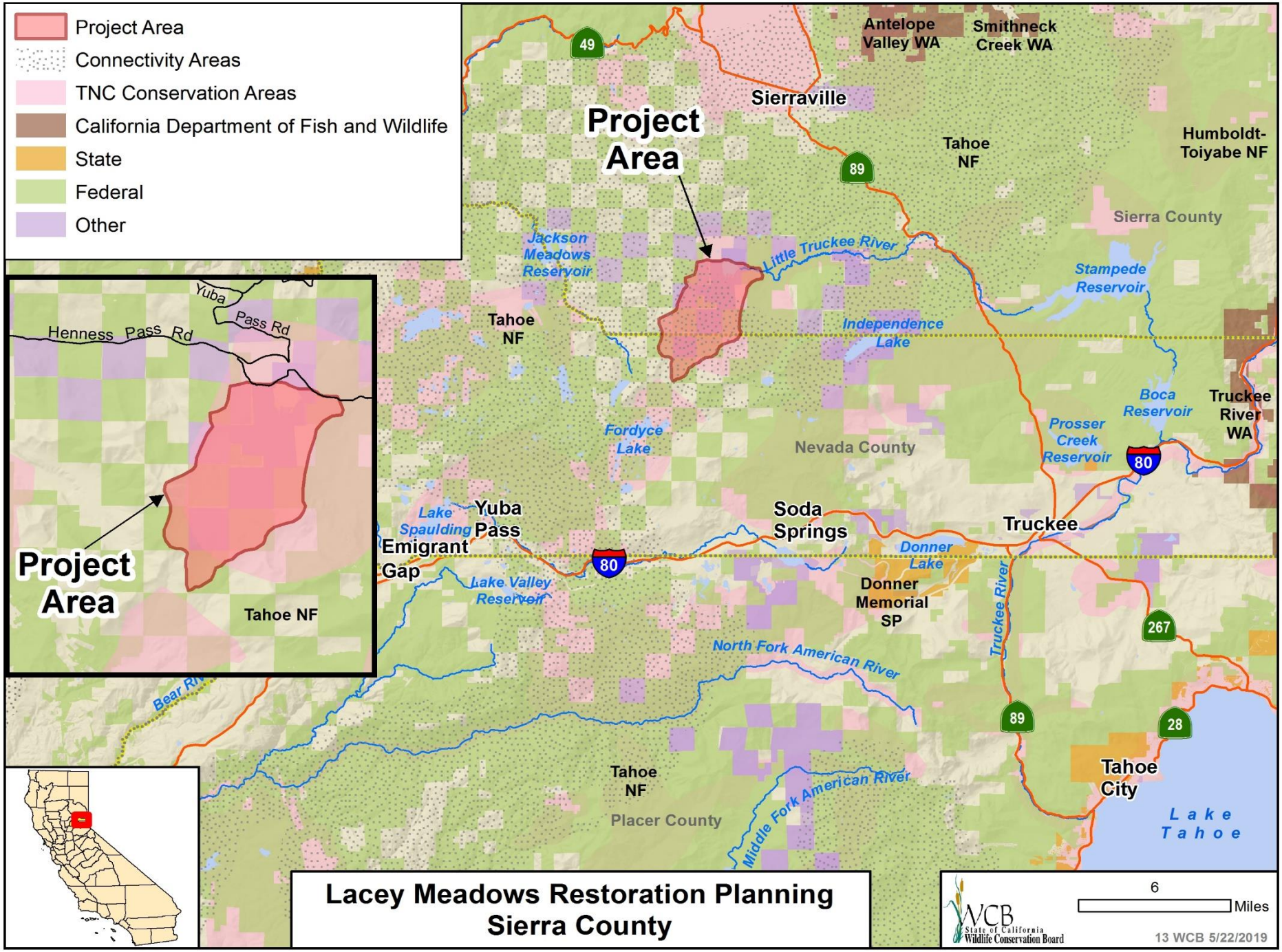
Wetland fields within the Kern National Wildlife Refuge.

#11. Building Climate Resiliency in Central Valley Wetlands

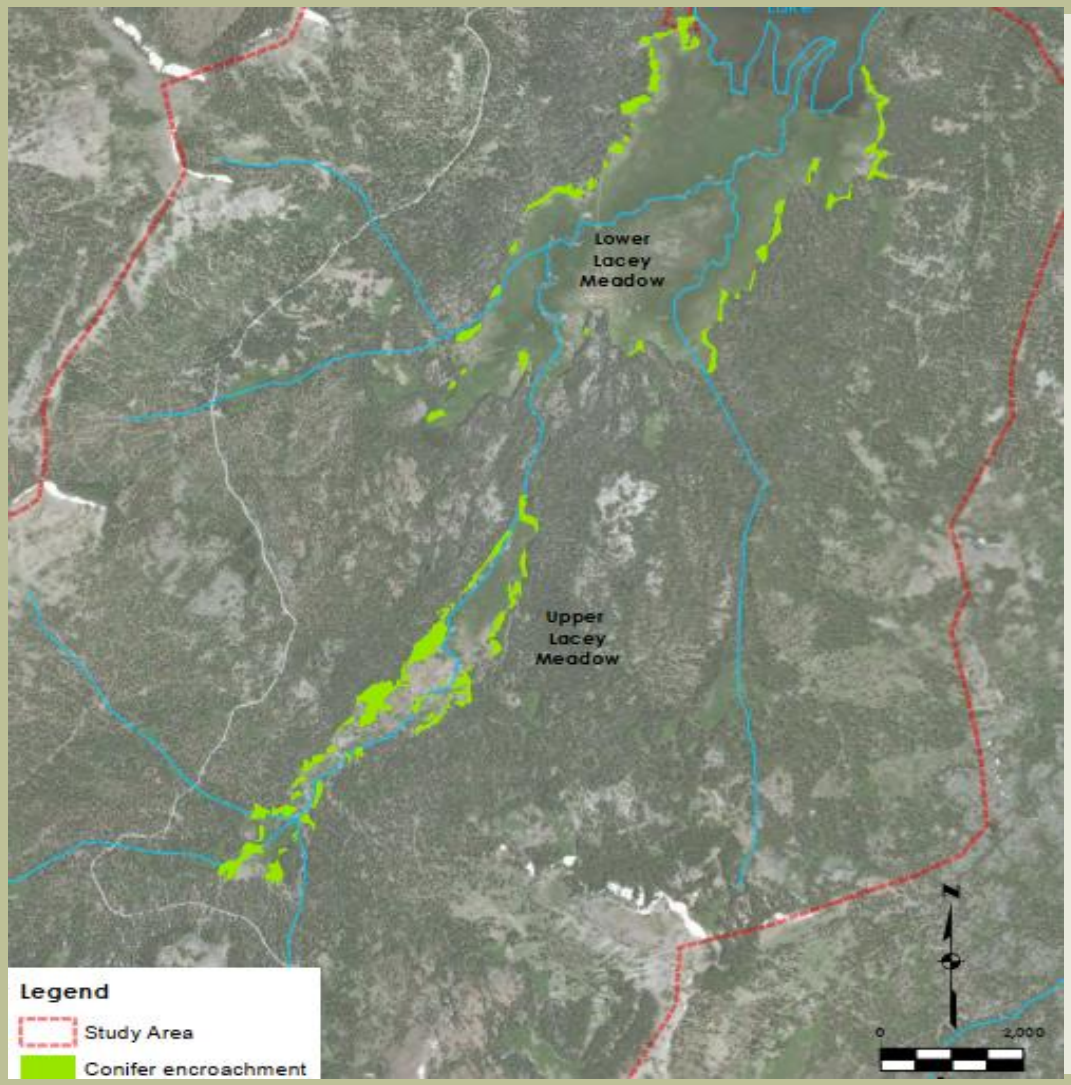
Wetland field showing swale during drawdown, Kern County.

#11. Building Climate Resiliency in Central Valley Wetlands

Wetland field within the North Grasslands Wildlife Area.


Project Area
Connectivity Areas
TNC Conservation Areas
California Department of Fish and Wildlife
State
Federal
Other
Project Area
Antelope Valley WA
Smithneck Creek WA
Sierraville
Tahoe NF
Humboldt-Toiyabe NF
Sierra County
Jackson Meadows Reservoir
Little Truckee River
Stampede Reservoir
Independence Lake
Boca Reservoir
Truckee River WA
Prosser Creek Reservoir
Fordyce Lake
Nevada County
Lake Spaulding
Yuba Pass
Emigrant Gap
Soda Springs
Truckee
Donner Lake
Donner Memorial SP
Lake Valley Reservoir
Truckee River
North Fork American River
Bear Riv
Placer County
Middle Fork American River
Tahoe City
Lake Tahoe
Yuba Pass Rd
Henness Pass Rd
Project Area
Tahoe NF
49
89
80
267
28
6
Miles
WCB State of California Wildlife Conservation Board
13 WCB 5/22/2019
Lacey Meadows Restoration Planning
Sierra County

#12. Lacey Meadows Restoration Planning



Conifer encroachment
Lacey Meadows Study Area

#12. Lacey Meadows Restoration Planning

Incision along Lacey Creek through Lower Lacey meadow, caused by lake level fluctuations and excess sediment delivery from adjacent upland sources.

#12. Lacey Meadows Restoration Planning

Current channel of Lacey Creek in Upper Lacey Meadow showing erosion and floodplain disconnection caused by stream realignment for grazing

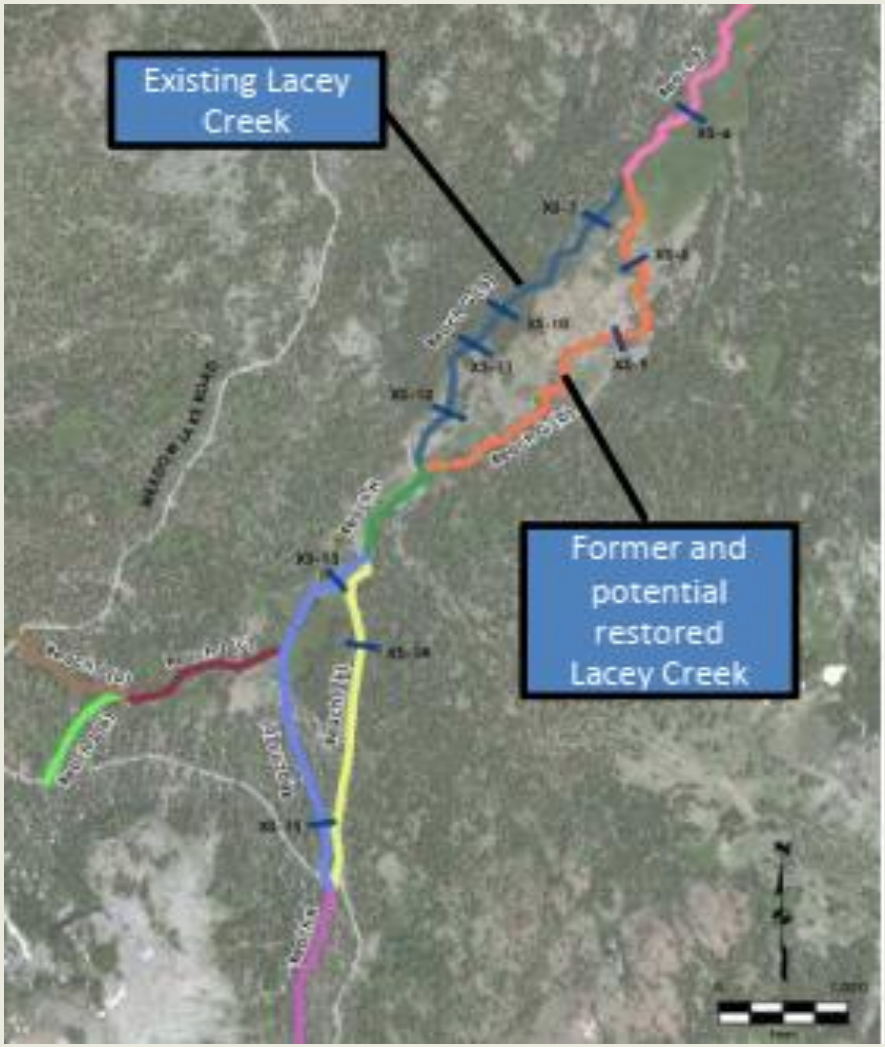
#12. Lacey Meadows Restoration Planning

Gravel push-up dam in the historic channel of Lacey Creek through Upper Lacey Meadow, used to divert the stream into the present day unstable channel.

#12. Lacey Meadows Restoration Planning

Degraded meadow habitat in Upper Lacey Meadow caused by altered hydrology and exacerbated by current grazing practices.

#12. Lacey Meadows Restoration Planning



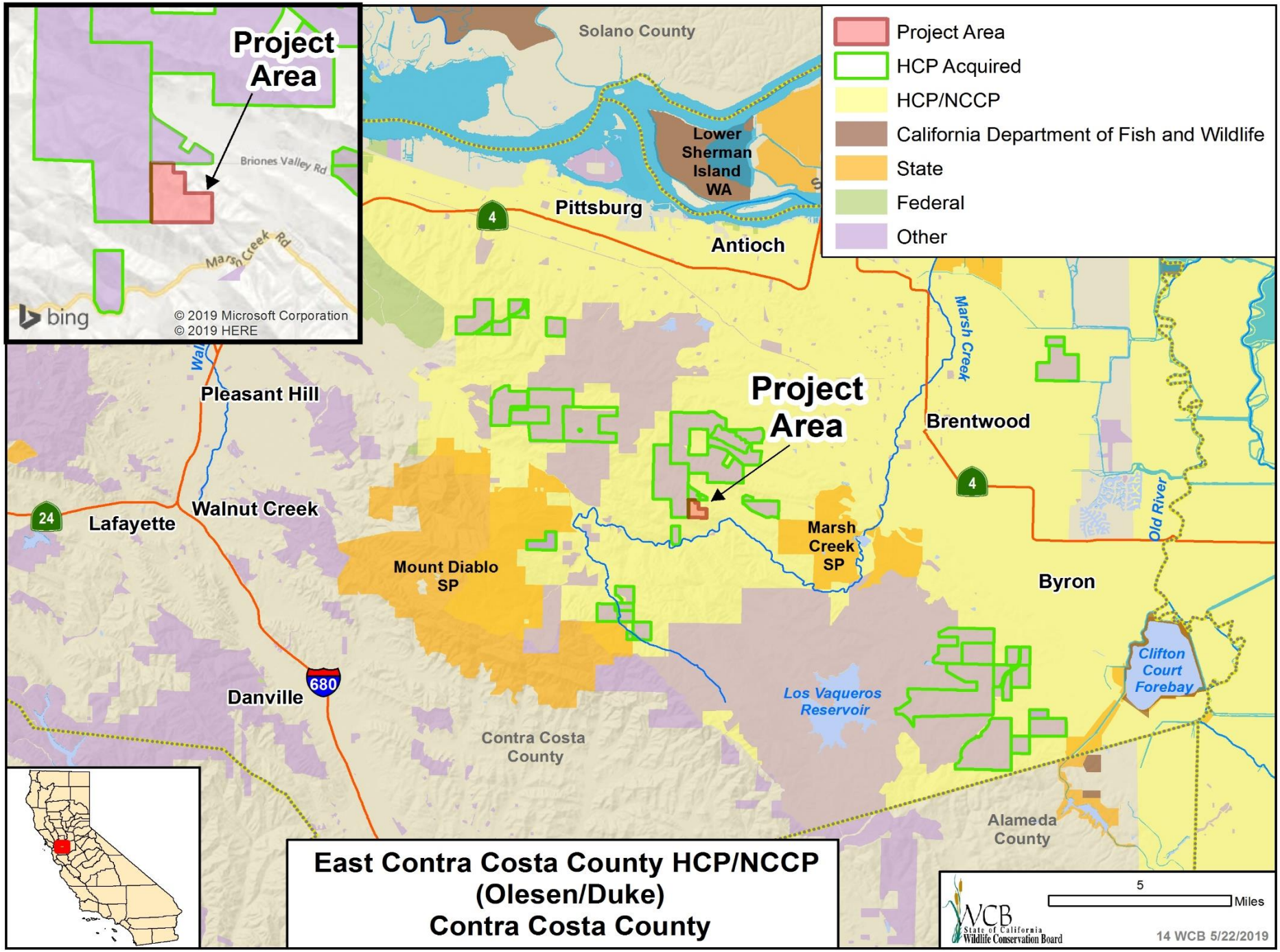
Channel Reach map

#12. Lacey Meadows Restoration Planning

Bank trampling and erosion, Upper Lacey Meadow

#12. Lacey Meadows Restoration Planning

Lacey Creek (Reach C), Lower Lacey Meadow


Project Area
HCP Acquired
HCP/NCCP
California Department of Fish and Wildlife
State
Federal
Other
Project Area
Briones Valley Rd
Marsh Creek Rd
bing
© 2019 Microsoft Corporation
© 2019 HERE
Solano County
Lower Sherman Island WA
Pittsburg
Antioch
Marsh Creek
Brentwood
Old River
Pleasant Hill
Walnut Creek
Lafayette
Mount Diablo SP
Marsh Creek SP
Byron
Clifton Court Forebay
Los Vaqueros Reservoir
Danville
Contra Costa County
Alameda County
4
24
680
5
Miles
WCB State of California Wildlife Conservation Board
14 WCB 5/22/2019
East Contra Costa County HCP/NCCP
(Olesen/Duke)
Contra Costa County

#13. East Contra Costa County HCP/NCCP (Olesen/Duke)

Central portion of the property. Photo taken in April of 2019.

#13. East Contra Costa County HCP/NCCP (Olesen/Duke)

Oak trees located on the north-facing side of the hills.

#13. East Contra Costa County HCP/NCCP (Olesen/Duke)

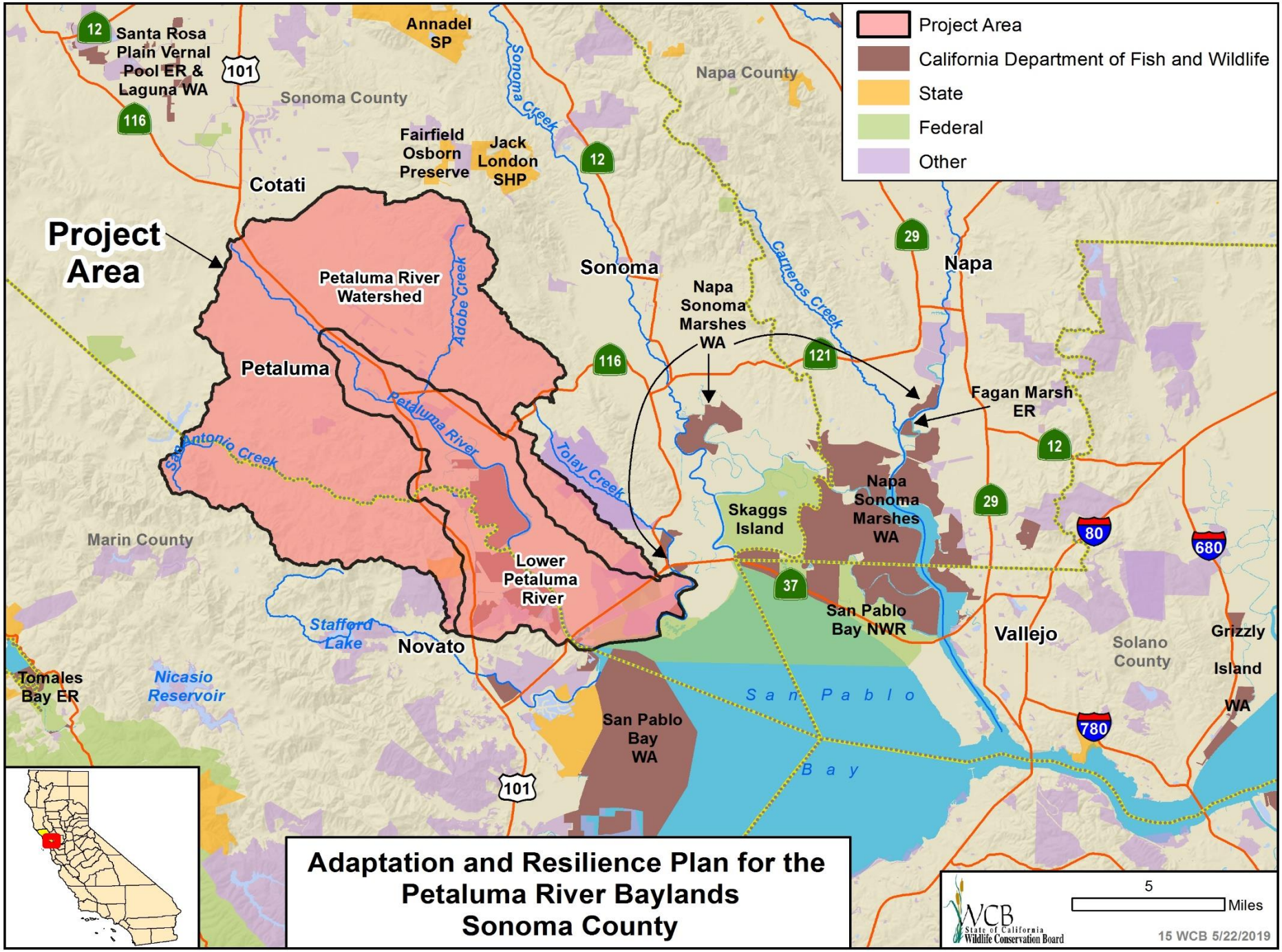
View from one of the highest accessible areas on the property, looking northeast across the property.

#13. East Contra Costa County HCP/NCCP (Olesen/Duke)

View of the property looking in a southern direction.

#13. East Contra Costa County HCP/NCCP (Olesen/Duke)

Looking northeast toward the ridgeline.


Project Area
California Department of Fish and Wildlife
State
Federal
Other
Santa Rosa Plain Vernal Pool ER & Laguna WA
Annadel SP
Sonoma Creek
Napa County
Sonoma County
Fairfield Osborn Preserve
Jack London SHP
Cotati
Project Area
Petaluma River Watershed
Adobe Creek
Sonoma
Carneros Creek
Napa
Napa Sonoma Marshes WA
Petaluma
Petaluma River
San Antonio Creek
Tolay Creek
Fagan Marsh ER
Skaggs Island
Napa Sonoma Marshes WA
Marin County
Lower Petaluma River
San Pablo Bay NWR
Vallejo
Solano County
Grizzly Island WA
Stafford Lake
Novato
Tomales Bay ER
Nicasio Reservoir
San Pablo Bay
San Pablo Bay WA
Adaptation and Resilience Plan for the Petaluma River Baylands
Sonoma County
5
Miles
WCB State of California Wildlife Conservation Board
15 WCB 5/22/2019

#14. Adaptation and Resilience Plan for the Petaluma River Baylands

View southeast from mouth of the Petaluma River

#14. Adaptation and Resilience Plan for the Petaluma River Baylands

View southwest into Marin, Mount Tamalpais in the distance, and Petaluma River in the foreground

#14. Adaptation and Resilience Plan for the Petaluma River Baylands

View southeast across Sonoma Baylands Restoration Project, Petaluma River, and in the foreground, the uplands of Sears Point.

#14. Adaptation and Resilience Plan for the Petaluma River Baylands

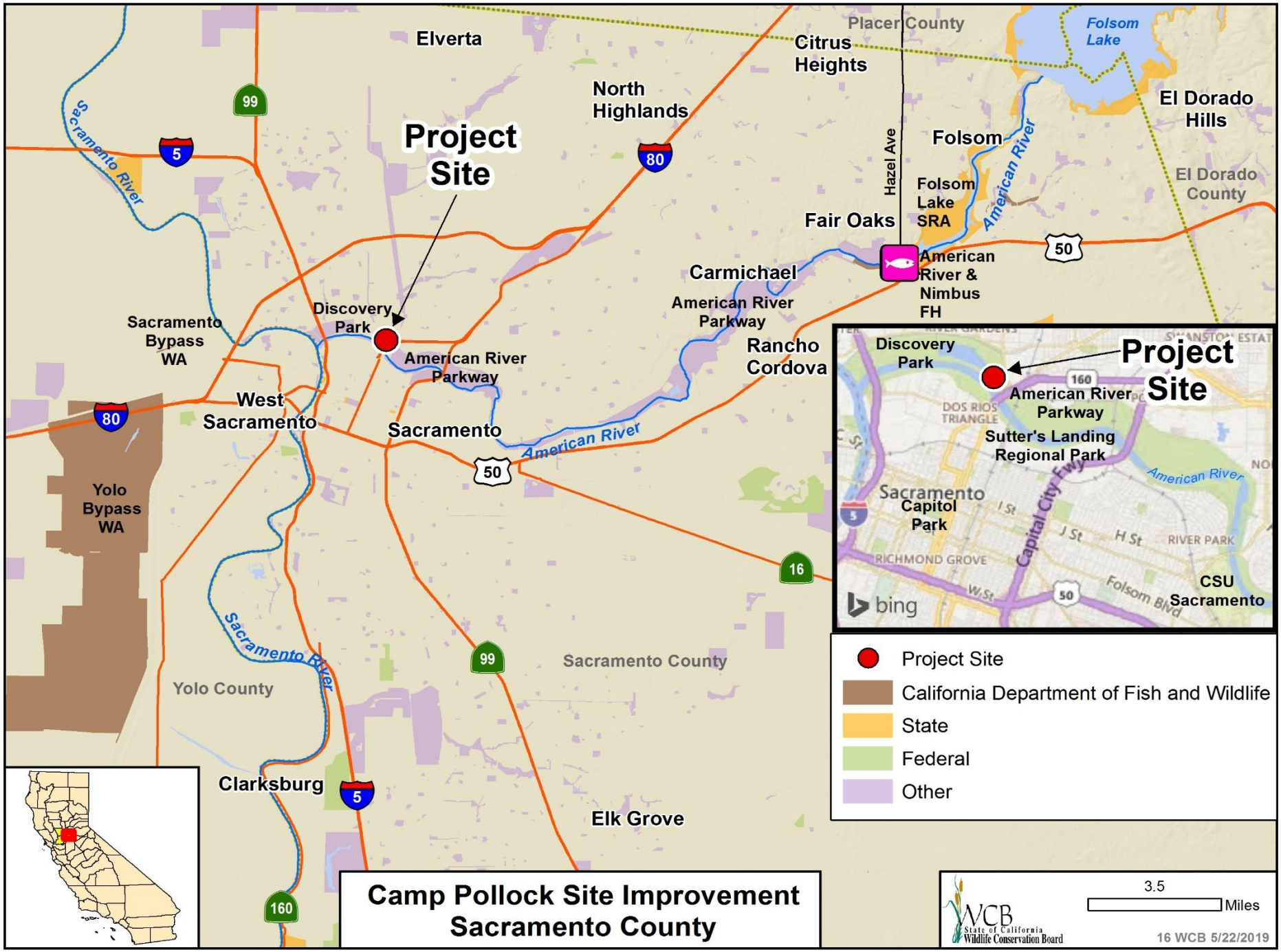
View up the Petaluma River, Port Sonoma, State Highway 37 and the SMART rail line in the foreground.

#14. Adaptation and Resilience Plan for the Petaluma River Baylands

View east across diked historic baylands and along State Highway 37, Petaluma River in the foreground.

#14. Adaptation and Resilience Plan for the Petaluma River Baylands

Restored tidal marsh at Sonoma Baylands Restoration Project.


Elverta
Citrus Heights
Placer County
Folsom Lake
North Highlands
El Dorado Hills
Project Site
Folsom
Hazel Ave
Sacramento River
American River
El Dorado County
Folsom Lake SRA
Fair Oaks
American River & Nimbus FH
Carmichael
American River Parkway
Discovery Park
Sacramento Bypass WA
Rancho Cordova
West Sacramento
Sacramento
Yolo Bypass WA
Yolo County
Sacramento County
Clarksburg
Elk Grove
Project Site
California Department of Fish and Wildlife
State
Federal
Other
Camp Pollock Site Improvement
Sacramento County
3.5
Miles
16 WCB 5/22/2019

#15. Camp Pollock Site Improvement

Entrance to trail complex

#15. Camp Pollock Site Improvement

Location of rain garden at start of trail complex and on the north side of lodge.

#15. Camp Pollock Site Improvement

Location of accessible gathering area behind lodge. Cinder block barbeque will be removed as a decommissioned amenity.

#15. Camp Pollock Site Improvement

Location of gravel parking lot extension (between fence and building).

#15. Camp Pollock Site Improvement

Western side of property and location of accessible trail

#15. Camp Pollock Site Improvement

Northwest corner of property and location of native gardens and accessible trails.

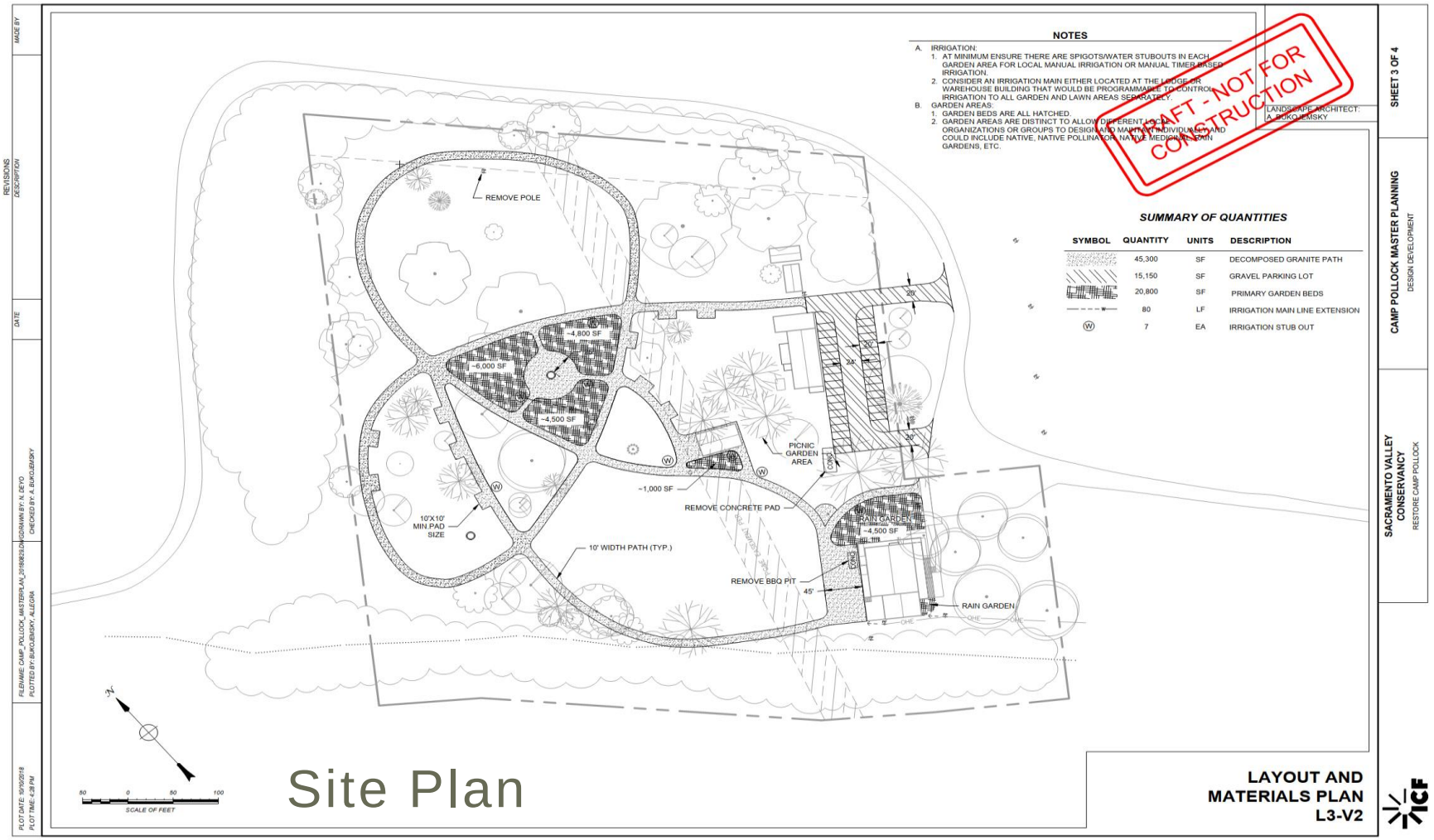
#15. Camp Pollock Site Improvement

Existing River Walk Trail that will be made accessible and tied into trail network

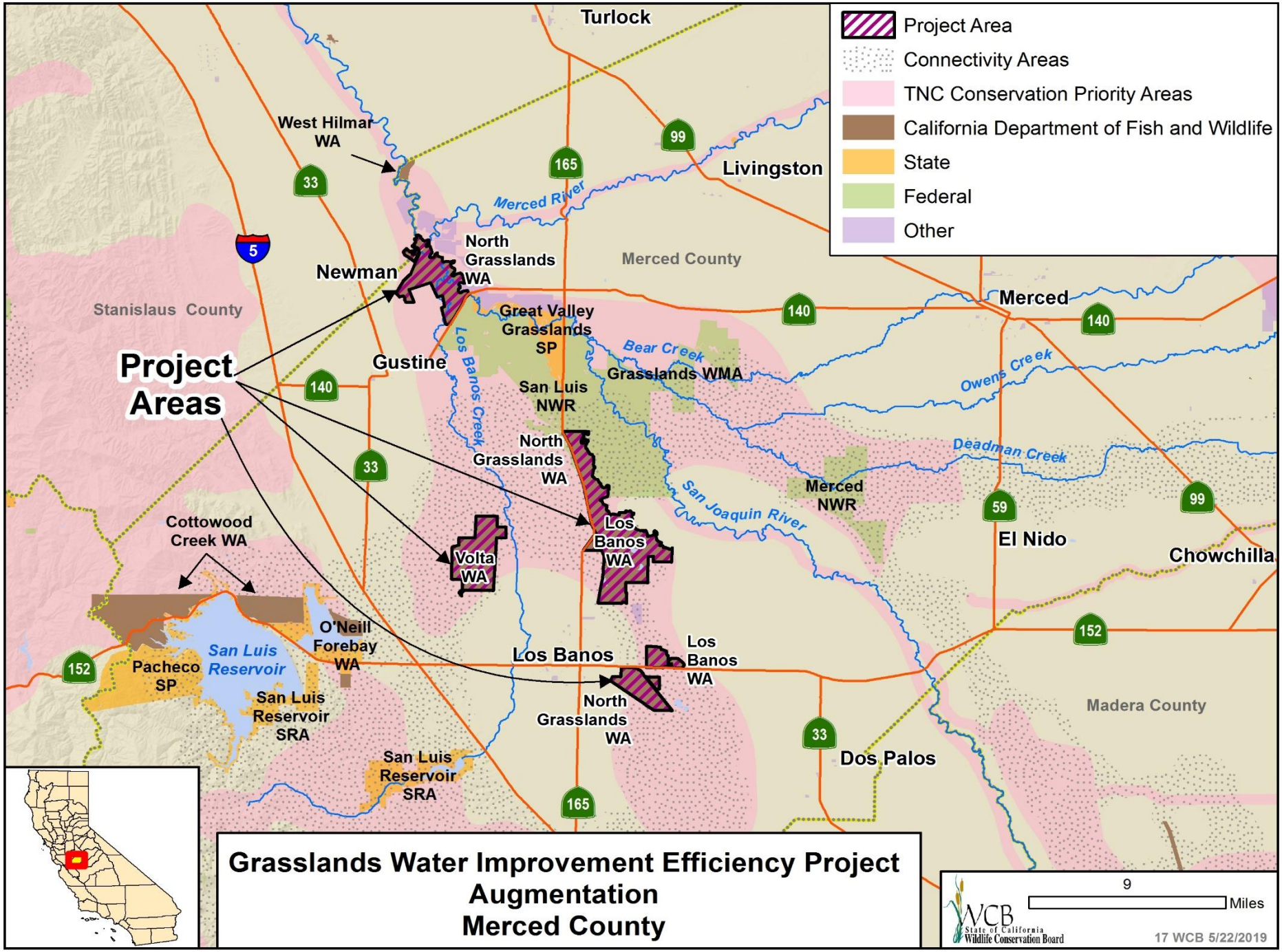
#15. Camp Pollock Site Improvement

One of two poles to be removed as a decommissioned amenity.

#15. Camp Pollock Site Improvement



Site Plan


Project Area
Connectivity Areas
TNC Conservation Priority Areas
California Department of Fish and Wildlife
State
Federal
Other
Turlock
West Hilmar WA
Livingston
Merced River
North Grasslands WA
Merced County
Newman
Stanislaus County
Great Valley Grasslands SP
Merced
Project Areas
Gustine
Los Banos Creek
Bear Creek
Grasslands WMA
Owens Creek
San Luis NWR
North Grasslands WA
Deadman Creek
Merced NWR
San Joaquin River
Los Banos WA
Volta WA
El Nido
Chowchilla
Cottowood Creek WA
O'Neill Forebay WA
San Luis Reservoir
Pacheco SP
San Luis Reservoir SRA
Los Banos
Los Banos WA
North Grasslands WA
Madera County
Dos Palos
San Luis Reservoir SRA
5
33
99
165
140
152
59
Grasslands Water Improvement Efficiency Project
Augmentation
Merced County
9
Miles
WCB State of California Wildlife Conservation Board
17 WCB 5/22/2019

#16. Grasslands Water Improvement Efficiency Project Augmentation

A broad crested weir (BCW) being built. We will be installing BCW's to increase the accuracy of measuring how much water 3 state wildlife areas are receiving.

Photo courtesy of U.S. Bureau of Reclamation

#16. Grasslands Water Improvement Efficiency Project Augmentation

A functioning broad crested weir

#16. Grasslands Water Improvement Efficiency Project Augmentation

A section of the main delivery ditch bank on the Gadwell Unit will be built up to allow the wildlife area staff to build up head pressure to push water into adjacent units. Currently, water almost floods over the existing ditch bank (left side of picture) when building up head pressure.

#16. Grasslands Water Improvement Efficiency Project Augmentation

Ditch bank refurbishing on Gadwall Unit will be done with dirt generated from swale excavation in nearby units. The unit pictured will have swales excavated from inlet to outlet.

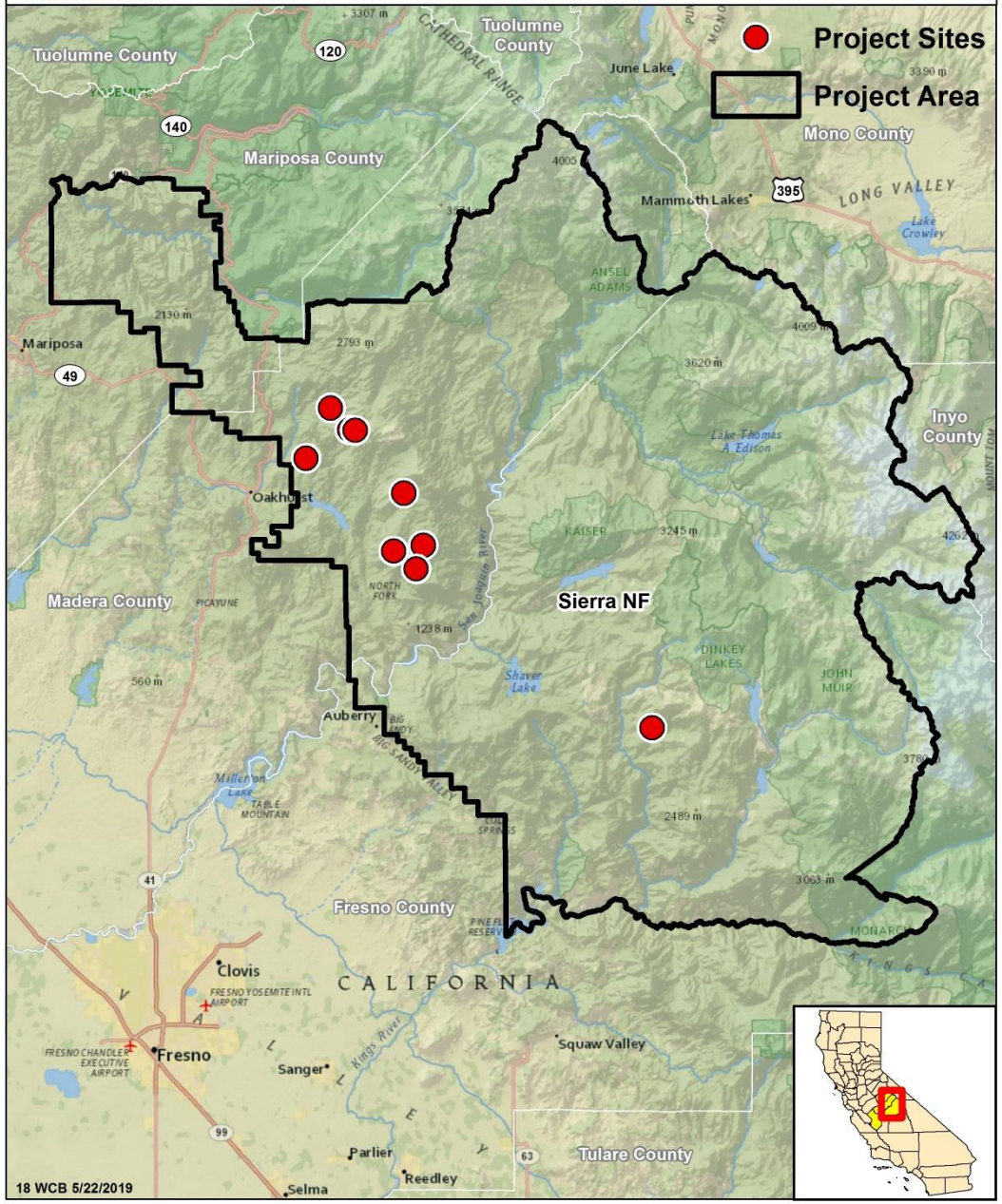
#16. Grasslands Water Improvement Efficiency Project Augmentation

The current drainage structure at Buttonwillow Lakes Dam on Los Banos Wildlife Area. We will rebuild the dam to allow for a dropdown gate to be installed.

#16. Grasslands Water Improvement Efficiency Project Augmentation

The Buttonwillow Lakes Dam on Los Banos Wildlife Area where the new dropdown gate is to be installed. The new structure will allow 50 CFS to be released and will help meet specific time windows when water needs to be released.

Sierra National Forest, Meadows Restoration Planning
Madera/Fresno County



#17. Sierra National Forest, Meadows Restoration Planning

Beehive Meadow headcut and streambank sluffing.

Photo Courtesy of Sierra National Forest

#17. Sierra National Forest, Meadows Restoration Planning

Conifer encroachment at meadow edge.

Photo Courtesy of Sierra National Forest

#17. Sierra National Forest, Meadows Restoration Planning

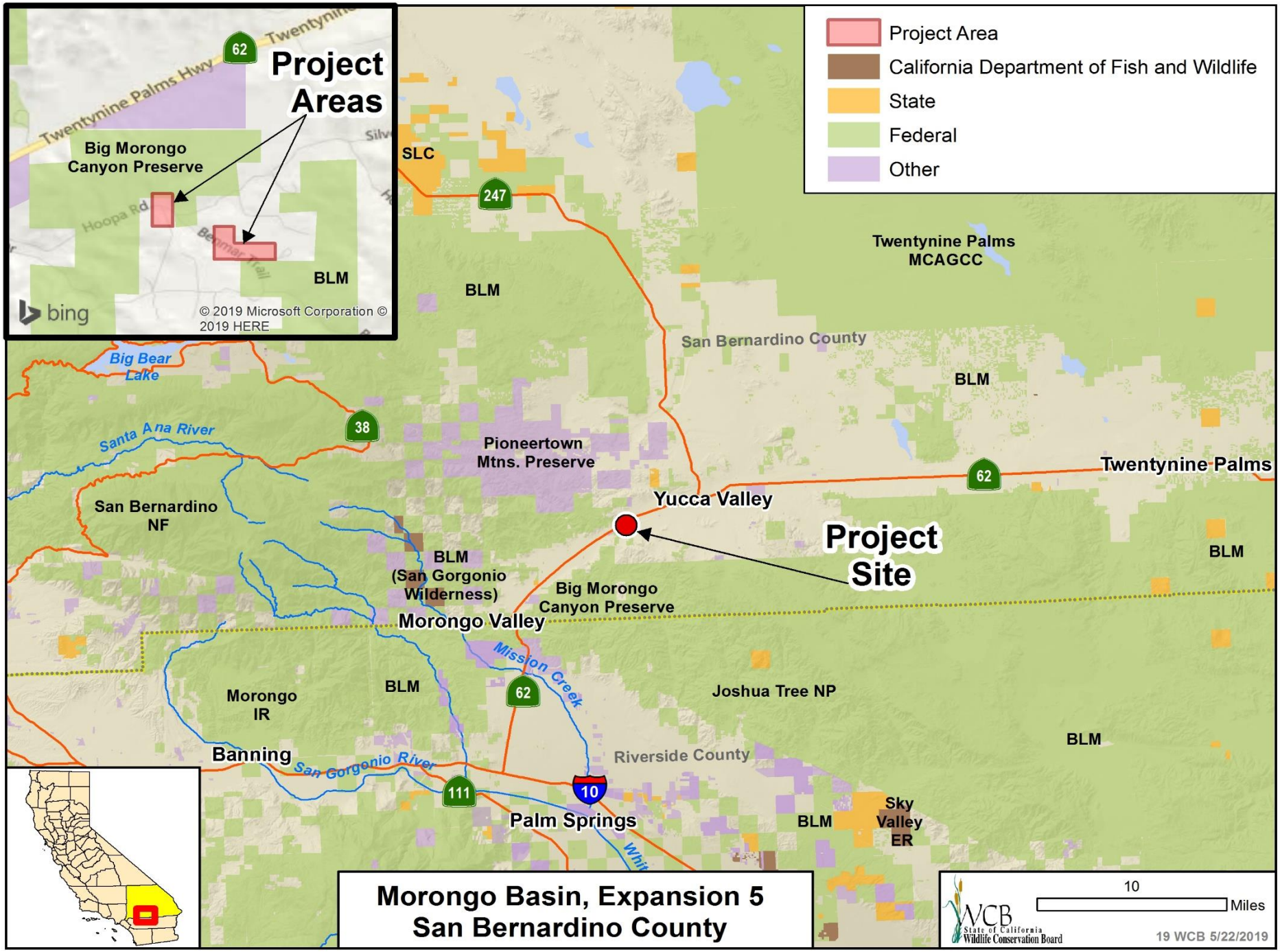
Sinkhole in meadow from diversion piping.

Photo Courtesy of Sierra National Forest

#17. Sierra National Forest, Meadows Restoration Planning

Peckinpah Meadow- sawdust fire recovery

Photo Courtesy of Sierra National Forest


Project Areas
Big Morongo Canyon Preserve
Twentynine Palms Hwy
Hoopa Rd
Bermar Trail
BLM
© 2019 Microsoft Corporation © 2019 HERE
Project Area
California Department of Fish and Wildlife
State
Federal
Other
SLC
247
BLM
Twentynine Palms MCAGCC
San Bernardino County
BLM
Big Bear Lake
Santa Ana River
38
Pioneertown Mtns. Preserve
62
Twentynine Palms
Yucca Valley
San Bernardino NF
Project Site
BLM
BLM (San Gorgonio Wilderness)
Big Morongo Canyon Preserve
Morongo Valley
Mission Creek
Morongo IR
BLM
62
Joshua Tree NP
BLM
Banning
San Gorgonio River
Riverside County
111
10
Palm Springs
BLM
Sky Valley ER
Morongo Basin, Expansion 5
San Bernardino County
10
Miles
WCB State of California Wildlife Conservation Board
19 WCB 5/22/2019

#18. Morongo Basin, Expansion 5

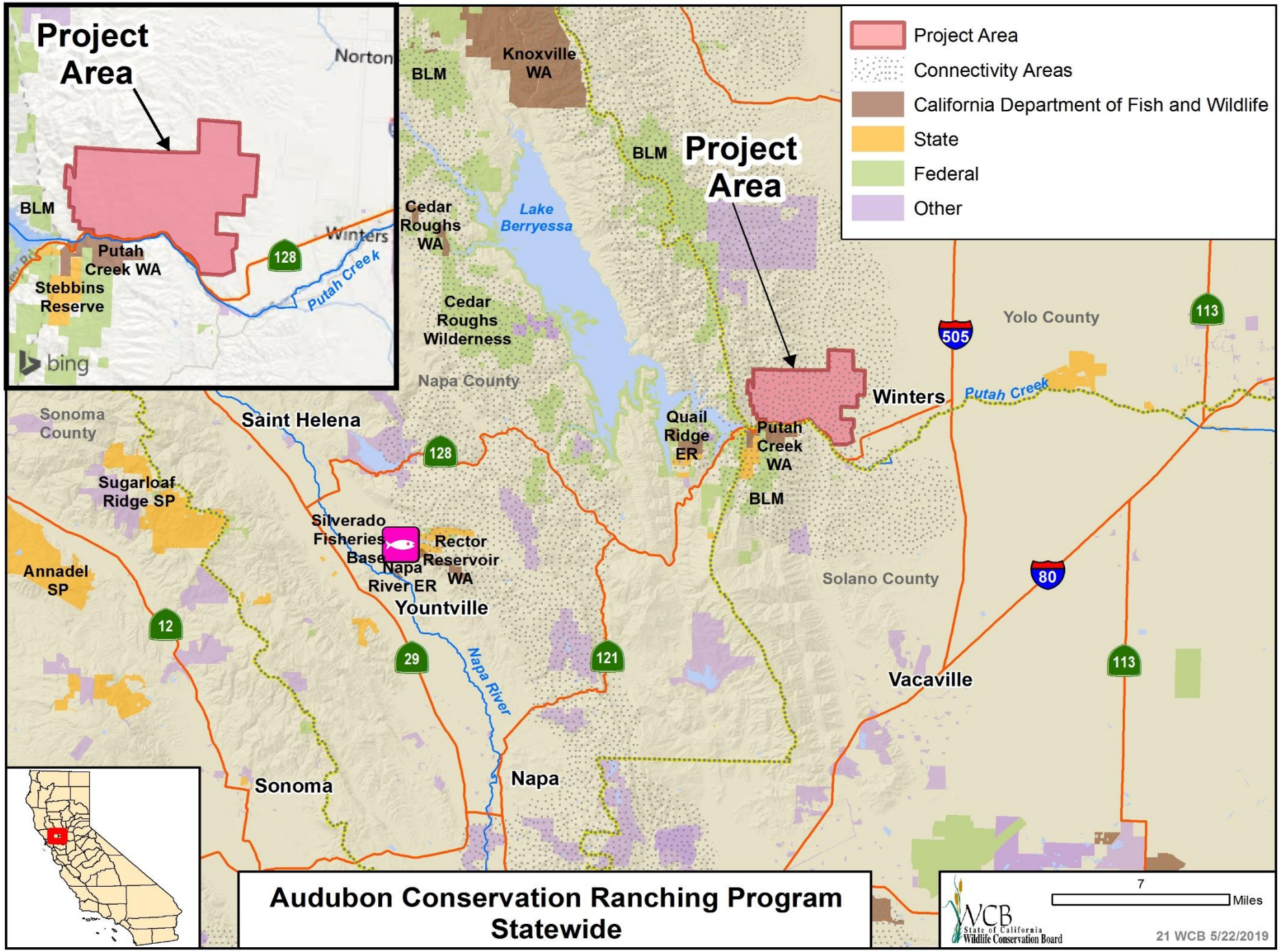
Typical desert habitat found on the Thomas Parcel

#18. Morongo Basin, Expansion 5

Joshua Tree and creosote bush dominated the plant community on the Thomas Parcel, Morongo Basin Expansion 5

#20. Otay Mesa Vernal Pool

This item has been withdrawn from consideration at this time.

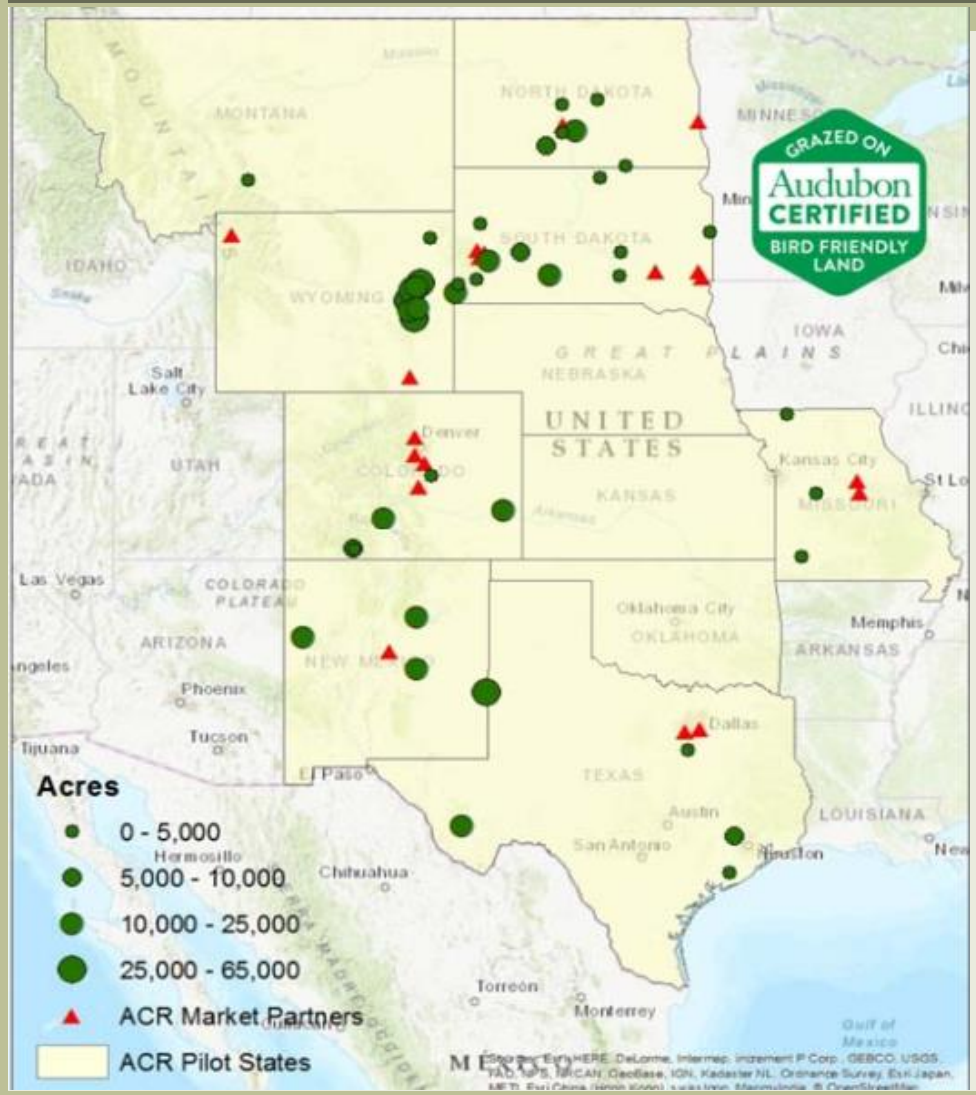

Project Area
Connectivity Areas
California Department of Fish and Wildlife
State
Federal
Other
Project Area
Norton
BLM
Putah Creek WA
Stebbins Reserve
Winters
128
Putah Creek
bing
Knoxville WA
BLM
Project Area
Cedar Roughs WA
Lake Berryessa
Cedar Roughs Wilderness
Napa County
Yolo County
505
113
Winters
Putah Creek
Sonoma County
Saint Helena
128
Quail Ridge ER
Putah Creek WA
BLM
Sugarloaf Ridge SP
Silverado Fisheries Base
Napa River ER
Rector Reservoir WA
Annadel SP
Yountville
Solano County
80
12
29
121
Napa River
Vacaville
113
Sonoma
Napa
Audubon Conservation Ranching Program
Statewide
7
Miles
WCB State of California Wildlife Conservation Board
21 WCB 5/22/2019

#20. Audubon Conservation Ranching Program

California's rangelands:

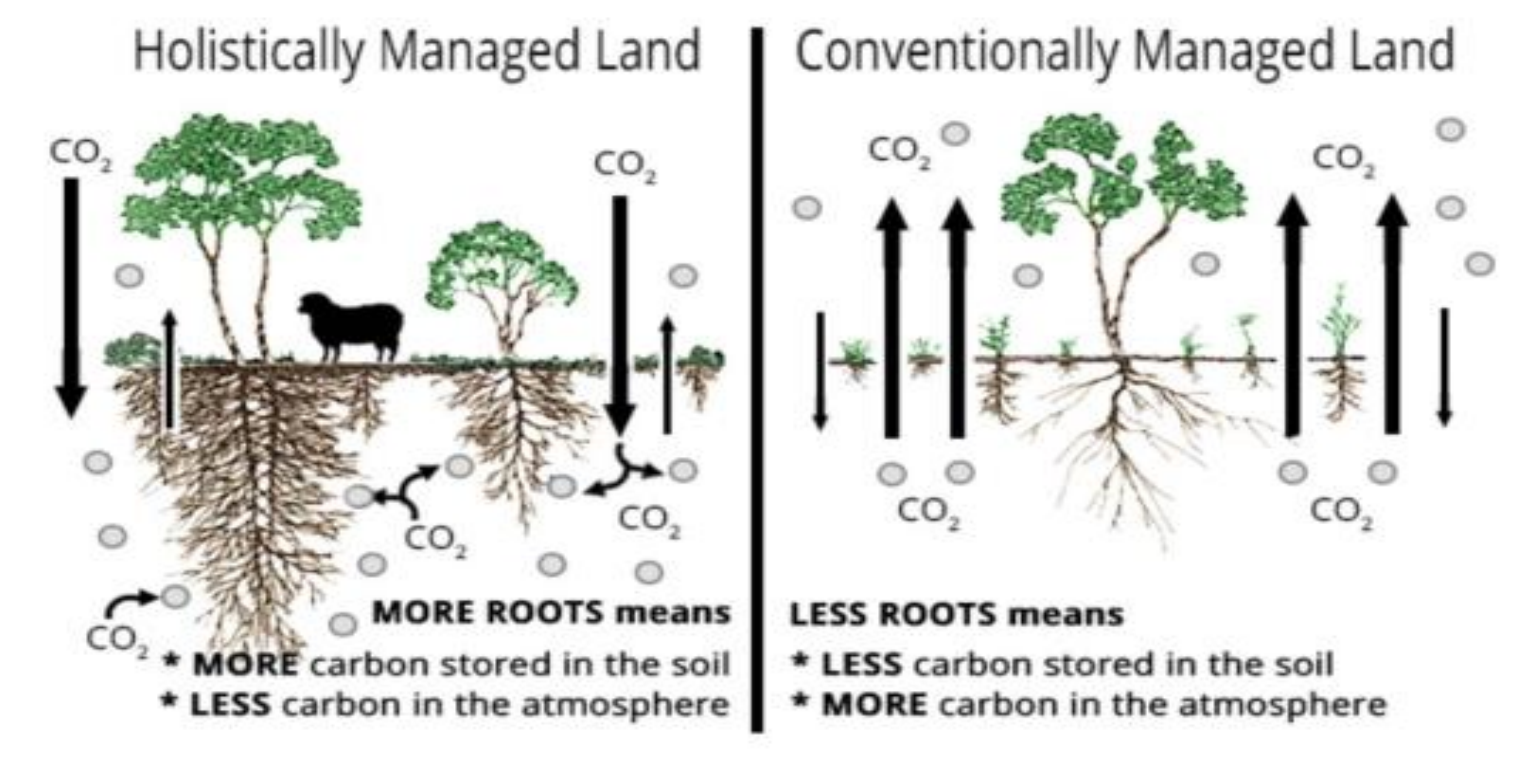
- Approx. 41 million acres
- Average 20,000 acres lost annually
- Remaining grasslands are being degraded

#20. Audubon Conservation Ranching Program



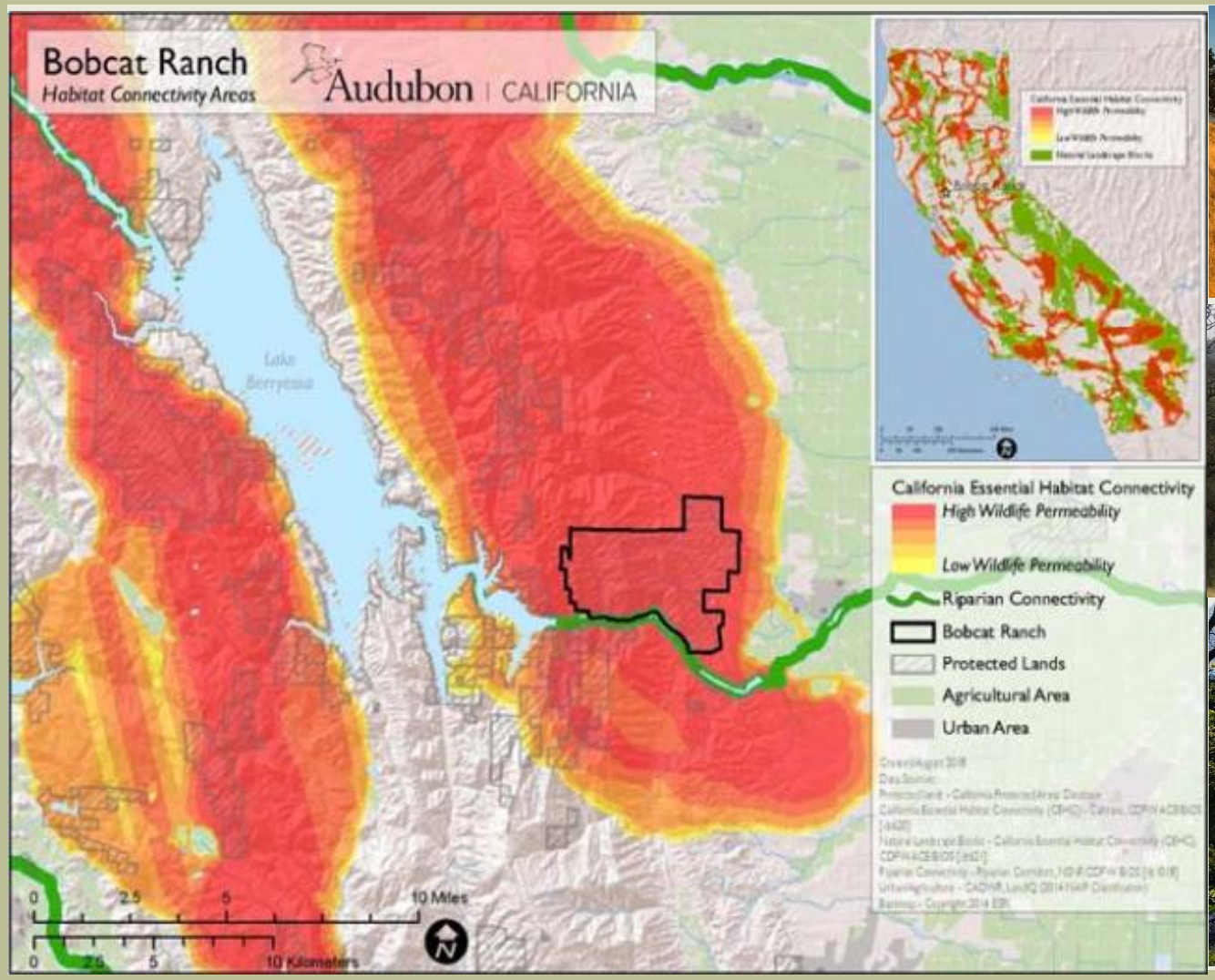
- Audubon Conservation Ranching Program: connecting sustainable ranching with eco-conscious consumers
- Existing participation:
  - 60 ranches enrolled (799,244 acres)
  - Supply chain: 42 restaurants, retailers and institutions
- Overall process:
  - Certification
  - Market opportunities

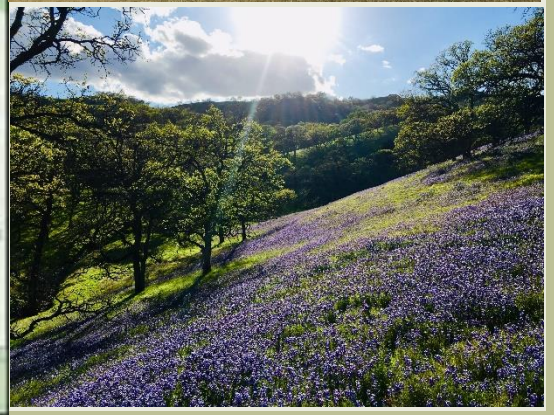
#20. Audubon Conservation Ranching Program



- Habitat Management
- Forage and feeding
- Animal health and welfare
- Environmental sustainability

#20. Audubon Conservation Ranching Program

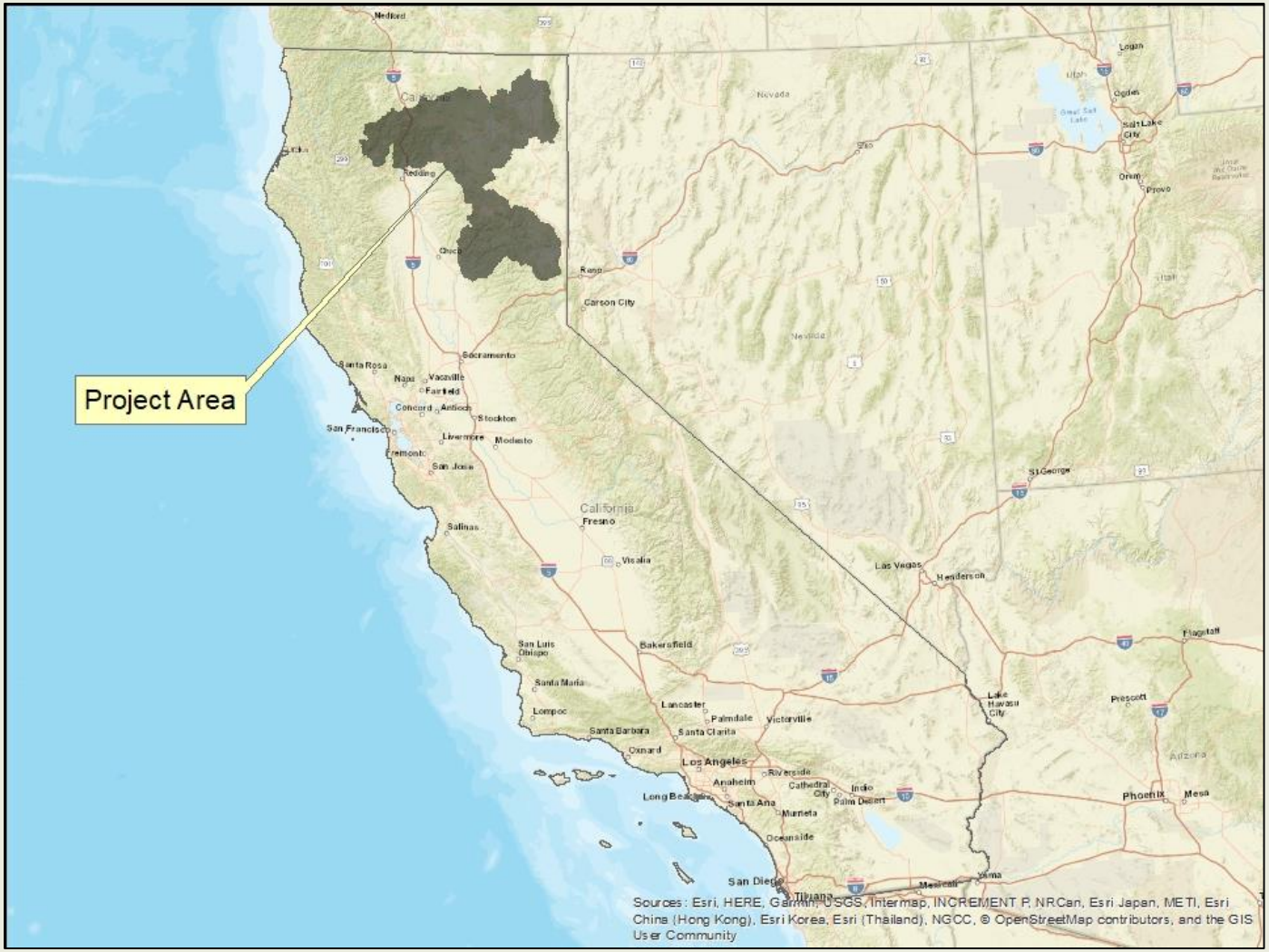




Climate Resilience Planning for Key Sacramento River Watersheds

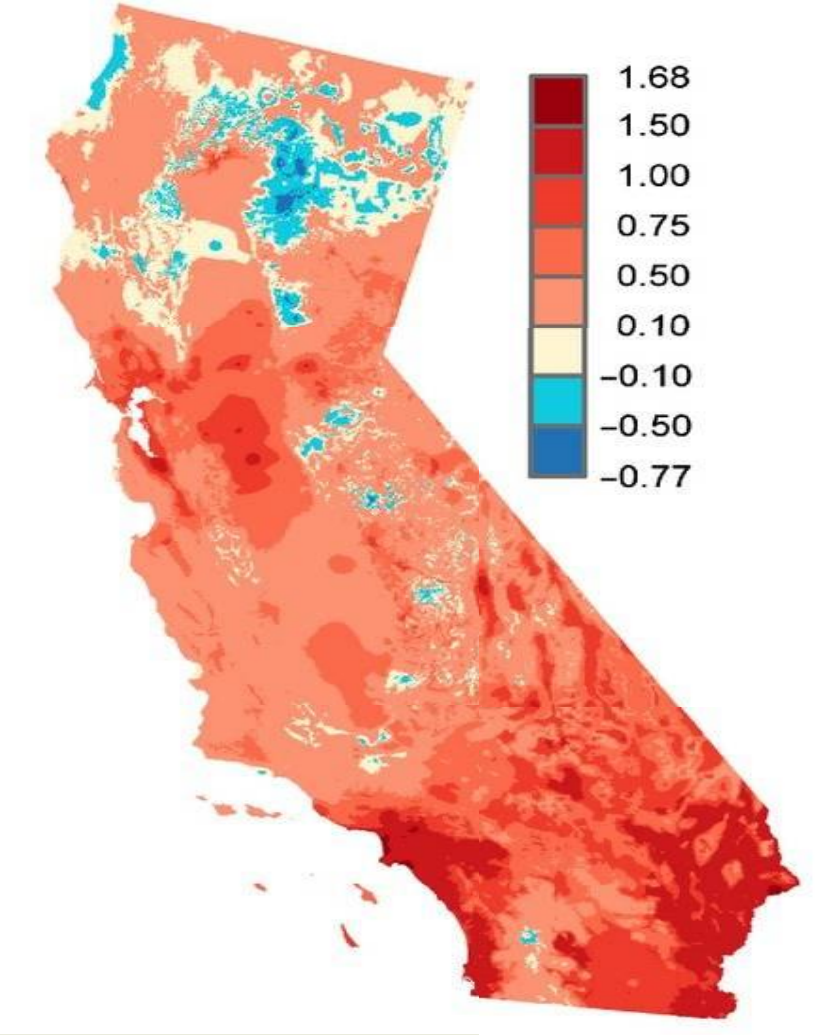
Trinity/Siskiyou/Sierra/Shasta/Plumas/Modoc/Lassen/Butte County

#21. Climate Resilience Planning for Key Sacramento River Watersheds



- 5 key watersheds
- 7million-acre project area
- water for 28 million Californians

#21. Climate Resilience Planning for Key Sacramento River Watersheds

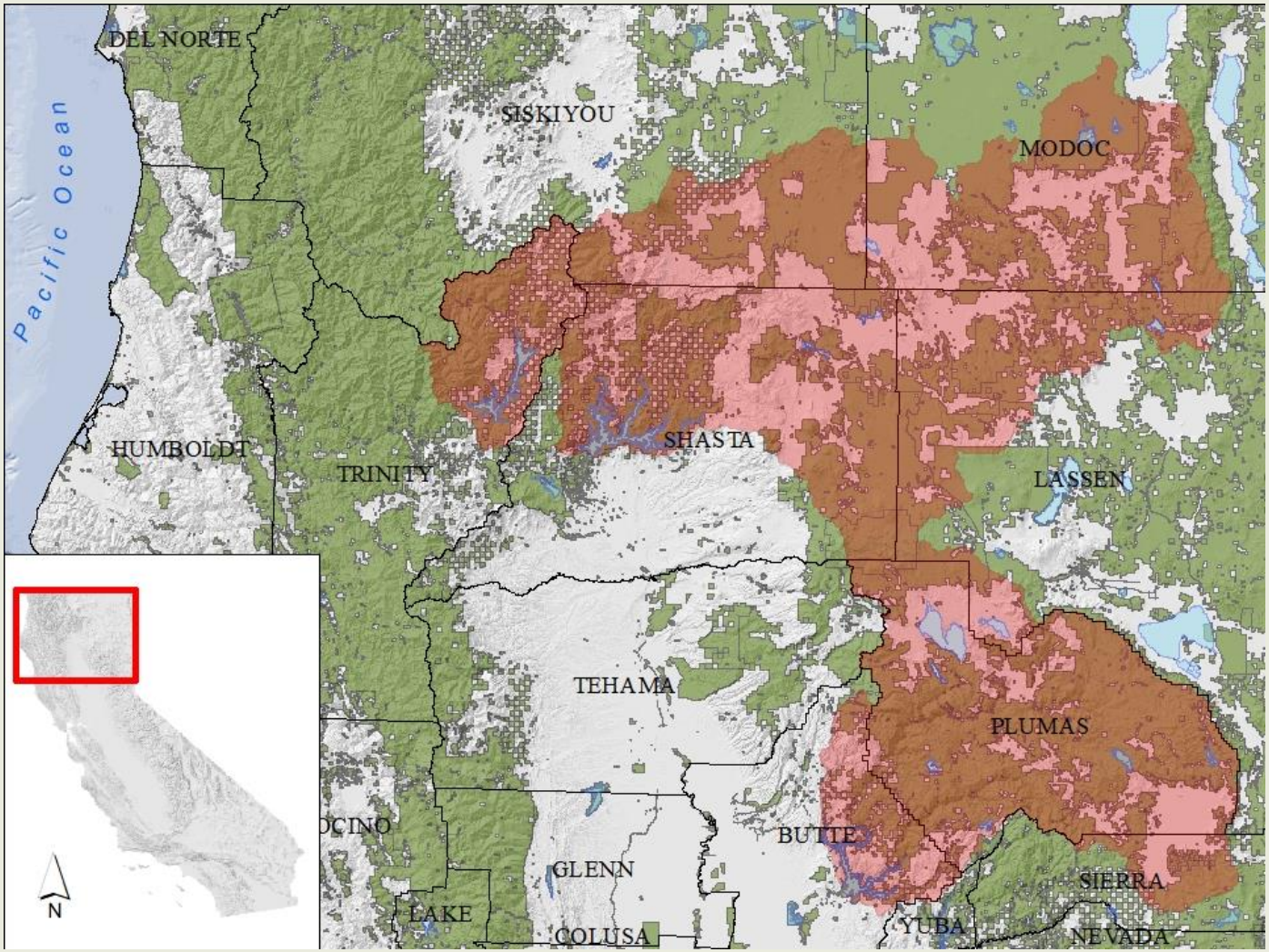


Change in mean annual temp (°C) during the 20th century

- Cascade cooler and wetter
- Projected to continue as such

Rapacciuolo et al. 2014. Global Change Biology 20(9):2841-2855.

#21. Climate Resilience Planning for Key Sacramento River Watersheds



- 62% public ownership
- Fragmented
- Degraded habitat:
  - 65% forest
  - 90% meadow

  (PFT 2017)

#21. Climate Resilience Planning for Key Sacramento River Watersheds

← grazing impacts to stream bank

post-fire → sedimentation

Photos courtesy of Pacific Forest Trust

#21. Climate Resilience Planning for Key Sacramento River Watersheds

Stream channel restoration (McCloud River)

Photos courtesy of Pacific Forest Trust

#21. Climate Resilience Planning for Key Sacramento River Watersheds

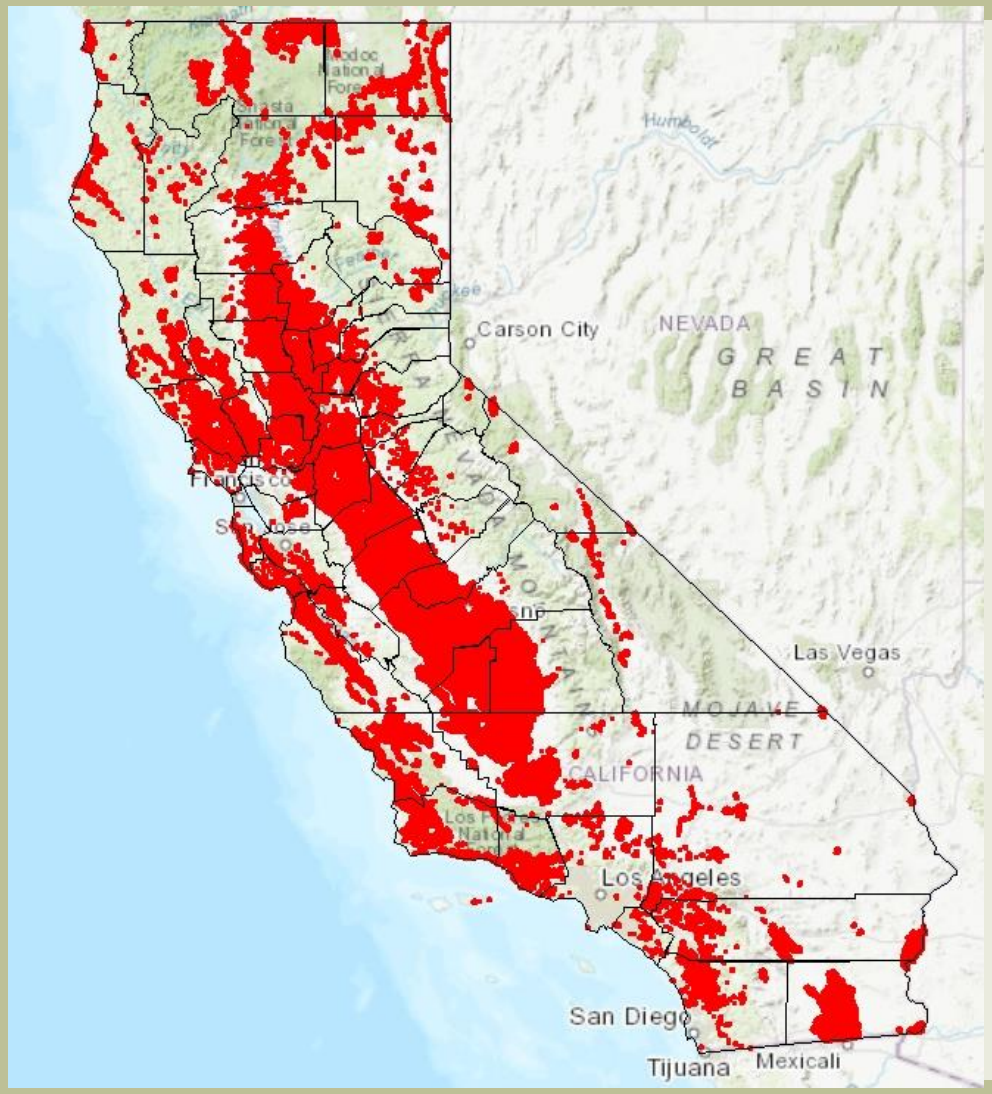
Restoration Opportunities

- Forests
- Meadows
- Streams
- Roads
- Connectivity

Enhancing Wildlife Habitat and Carbon Sequestration on Working Lands

Stanislaus/Sonoma/Santa Barbara/San Mateo/Napa/Mendocino Marin/Humboldt/Del Norte County

#22. Enhancing Wildlife Habitat and Carbon Sequestration on Working Lands



Agricultural Land in California

#22. Enhancing Wildlife Habitat and Carbon Sequestration on Working Lands

- Soils contain approximately 75% of the land carbon pool
- Increasing soil organic carbon (SOC) storage can significantly reduce atmospheric carbon dioxide

Photo: Carbon Cycle Institute

#22. Enhancing Wildlife Habitat and Carbon Sequestration on Working Lands

Agricultural lands interface with wetlands, grasslands, riparian corridors, and aquatic environments

Wildlife friendly agricultural practices:

- Provide food and cover for wildlife
- Enhance wildlife and nesting habitat
- Increase biological diversity
- Improve wildlife migration corridors
- Maintain riparian habitat

Photo: California Department of Water Resource

#22. Enhancing Wildlife Habitat and Carbon Sequestration on Working Lands

Resource Conservation Districts (RCD):

- Humboldt County
- Cahuma
- Mendocino County
- Marin
- Del Norte
- Gold Ridge
- Sonoma
- Napa
- East Stanislaus
- San Mateo

Counties:

- Del Norte
- Humboldt
- Marin
- Mendocino
- Napa
- San Mateo
- Santa Barbara
- Sonoma
- Stanislaus

- Work in cooperation with farmers to identify management practices that will provide multiple long-term ecosystem services
- Conservation Carbon Farm Plans
- Streamflow Enhancement Plans

Photo: Carbon Cycle Institute

#22. Enhancing Wildlife Habitat and Carbon Sequestration on Working Lands

Conservation Carbon Farming Plans (CCFP)

- A CCFP is a guiding document that landowners use to implement conservation practices over the course of multiple years.
- Identifies practices for a farm to implement to increase carbon sequestration and improve wildlife habitat

Photos: Carbon Cycle Institute

#22. Enhancing Wildlife Habitat and Carbon Sequestration on Working Lands

Windbreak/Shelterbelt

Silvopasture

Frequently Recommended Practices

- Hedgerows
- Riparian Forest Buffer Establishment
- Windbreak/ Shelterbelt Establishment
- Filter strip
- Riparian Herbaceous Cover
- Range planting
- Silvopasture
- Alley Cropping

Hedgerow

Alley Cropping

Photos: Carbon Cycle Institute

#22. Enhancing Wildlife Habitat and Carbon Sequestration on Working Lands

Streamflow Enhancement Plans (SEP)

- Set of tools to aid voluntary water conservation efforts
- SEPs may include grassy swales, rain gardens, rainwater catchment and streamflow diversion forbearance, and forest management
- Will help compensate for increasingly frequent and prolonged periods of droughts and floods

Grassy Swale

Photos: Carbon Cycle Institute

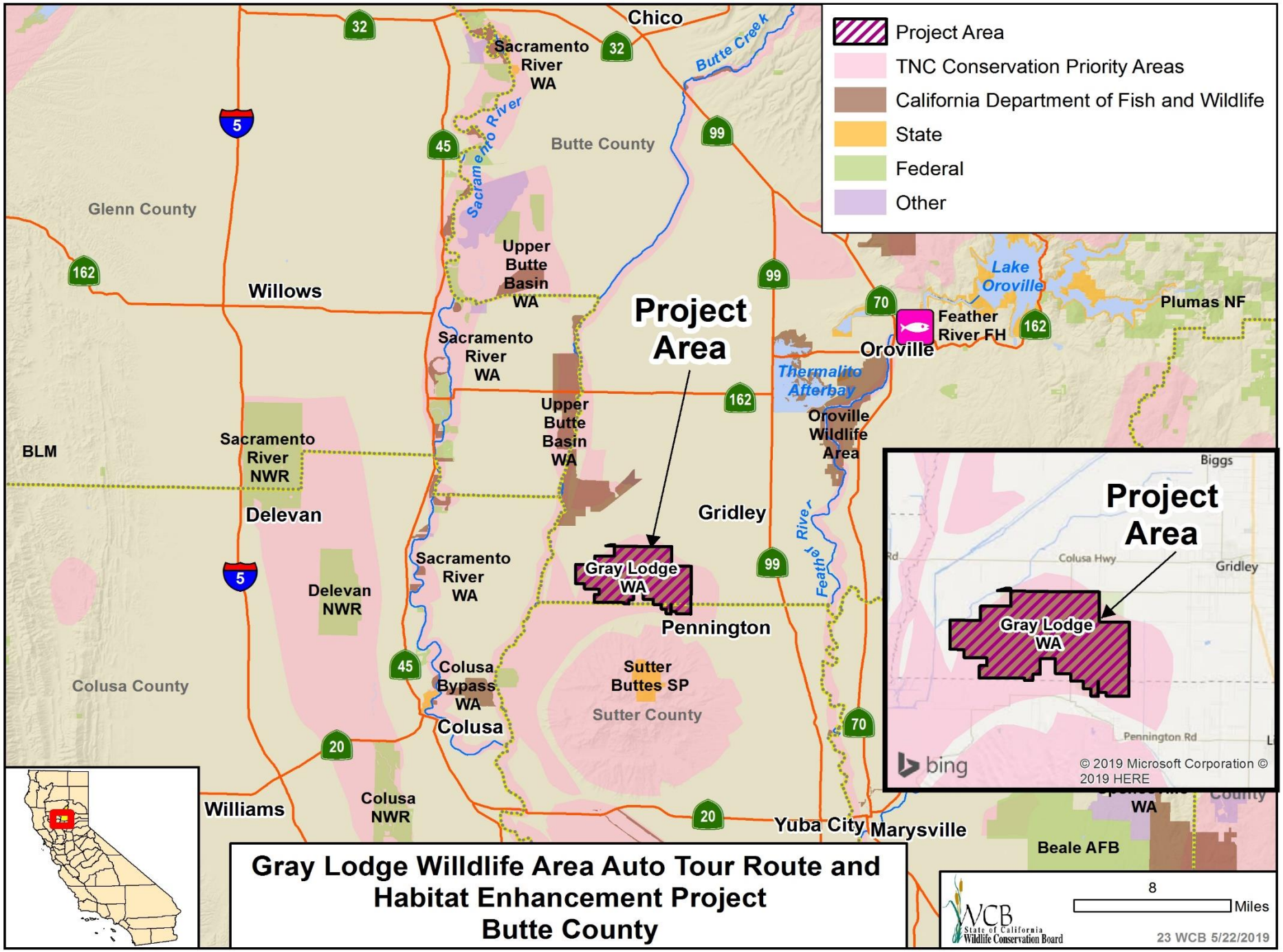
#22. Enhancing Wildlife Habitat and Carbon Sequestration on Working Lands

Agricultural Producer Outreach

Workshops

Farmer to Farmer Field Days

Photos: Carbon Cycle Institute


Project Area
TNC Conservation Priority Areas
California Department of Fish and Wildlife
State
Federal
Other
Chico
Butte Creek
Sacramento River WA
Sacramento River
Butte County
Glenn County
Willows
Upper Butte Basin WA
Project Area
Lake Oroville
Plumas NF
Feather River FH
Oroville
Thermalito Afterbay
Oroville Wildlife Area
Sacramento River WA
Upper Butte Basin WA
BLM
Sacramento River NWR
Delevan
Gridley
Feather River
Gray Lodge WA
Delevan NWR
Pennington
Colusa Bypass WA
Sutter Buttes SP
Colusa County
Sutter County
Colusa
Williams
Colusa NWR
Yuba City
Marysville
Beale AFB
Biggs
Colusa Hwy
Pennington Rd
bing
© 2019 Microsoft Corporation © 2019 HERE
Gray Lodge Willdlife Area Auto Tour Route and Habitat Enhancement Project
Butte County
8
Miles
WCB State of California Wildlife Conservation Board
23 WCB 5/22/2019

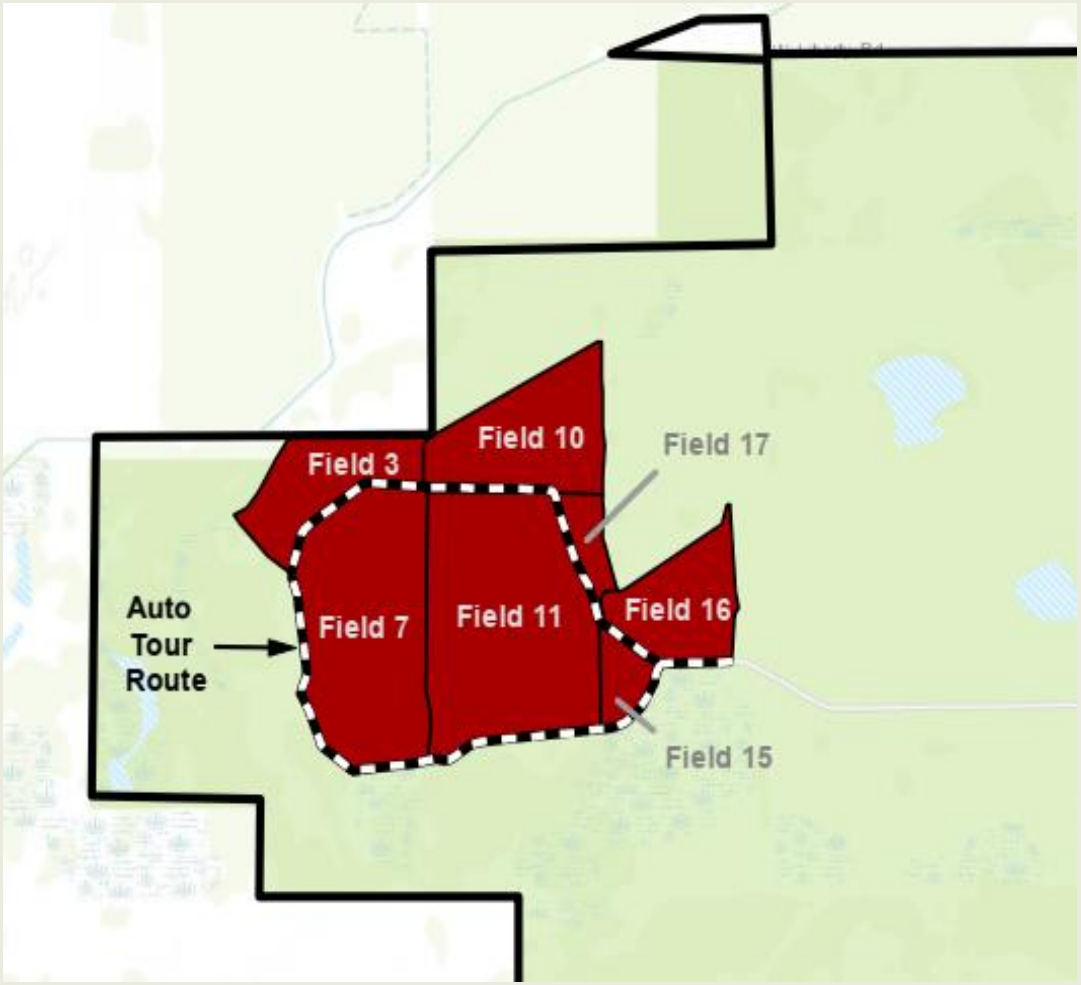
#23. Gray Lodge Wildlife Area Auto Tour Route and Habitat Enhancement Project

Wetland fields within the Gray Lodge Wildlife Area

#23. Gray Lodge Wildlife Area Auto Tour Route and Habitat Enhancement Project

Wetland field with low functioning swale system

#23. Gray Lodge Wildlife Area Auto Tour Route and Habitat Enhancement Project



Map showing the relationship between the project's wetland fields and auto-tour route

#23. Gray Lodge Wildlife Area Auto Tour Route and Habitat Enhancement Project

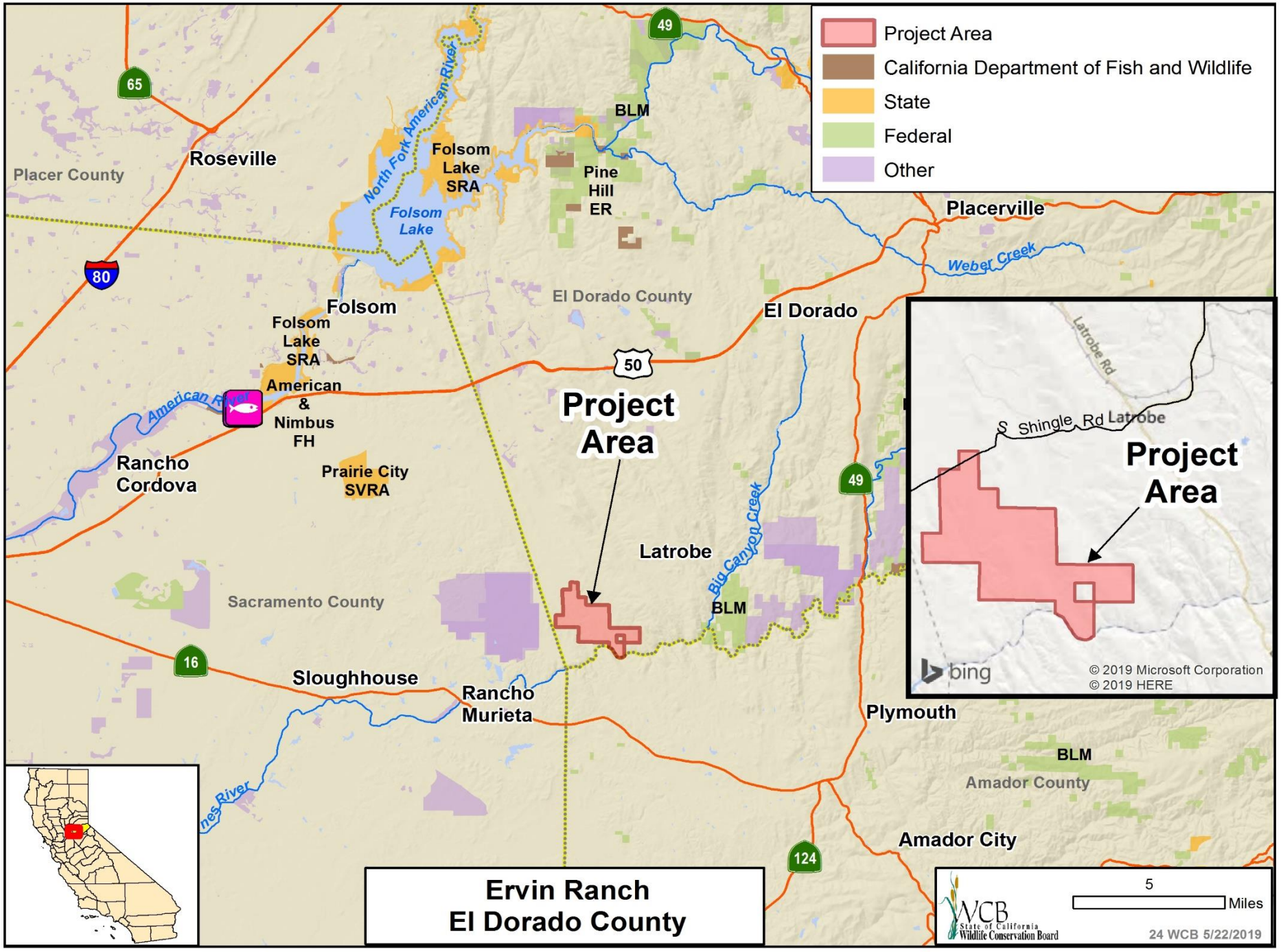
Steep levee sides can lead to dangerous driving conditions

#23. Gray Lodge Wildlife Area Auto Tour Route and Habitat Enhancement Project

Degraded water control structures will be replaced with new structures to improve water conveyance

#23. Gray Lodge Wildlife Area Auto Tour Route and Habitat Enhancement Project

Project enhancements will provide benefits to wildlife and improve public recreational opportunities.


Project Area
California Department of Fish and Wildlife
State
Federal
Other
Placer County
Roseville
65
80
Folsom
Folsom Lake SRA
American & Nimbus FH
American River
Rancho Cordova
Prairie City SVRA
North Fork American River
Folsom Lake
BLM
Pine Hill ER
49
El Dorado County
Placerville
Weber Creek
El Dorado
50
Project Area
Latrobe
Big Canyon Creek
BLM
Sacramento County
16
Sloughhouse
Rancho Murieta
Plymouth
BLM
Amador County
Amador City
124
Latrobe Rd
S Shingle Rd Latrobe
Project Area
bing
© 2019 Microsoft Corporation
© 2019 HERE
Ervin Ranch
El Dorado County
5
Miles
WCB State of California Wildlife Conservation Board
24 WCB 5/22/2019

#24. Ervin Ranch

Cosumnes River on Ervin Ranch, riparian, oak woodland and grassland habitats dominate the ranch.

#24. Ervin Ranch

Cosumnes River is one of the few rivers in California lacking major dam infrastructure.

#24. Ervin Ranch

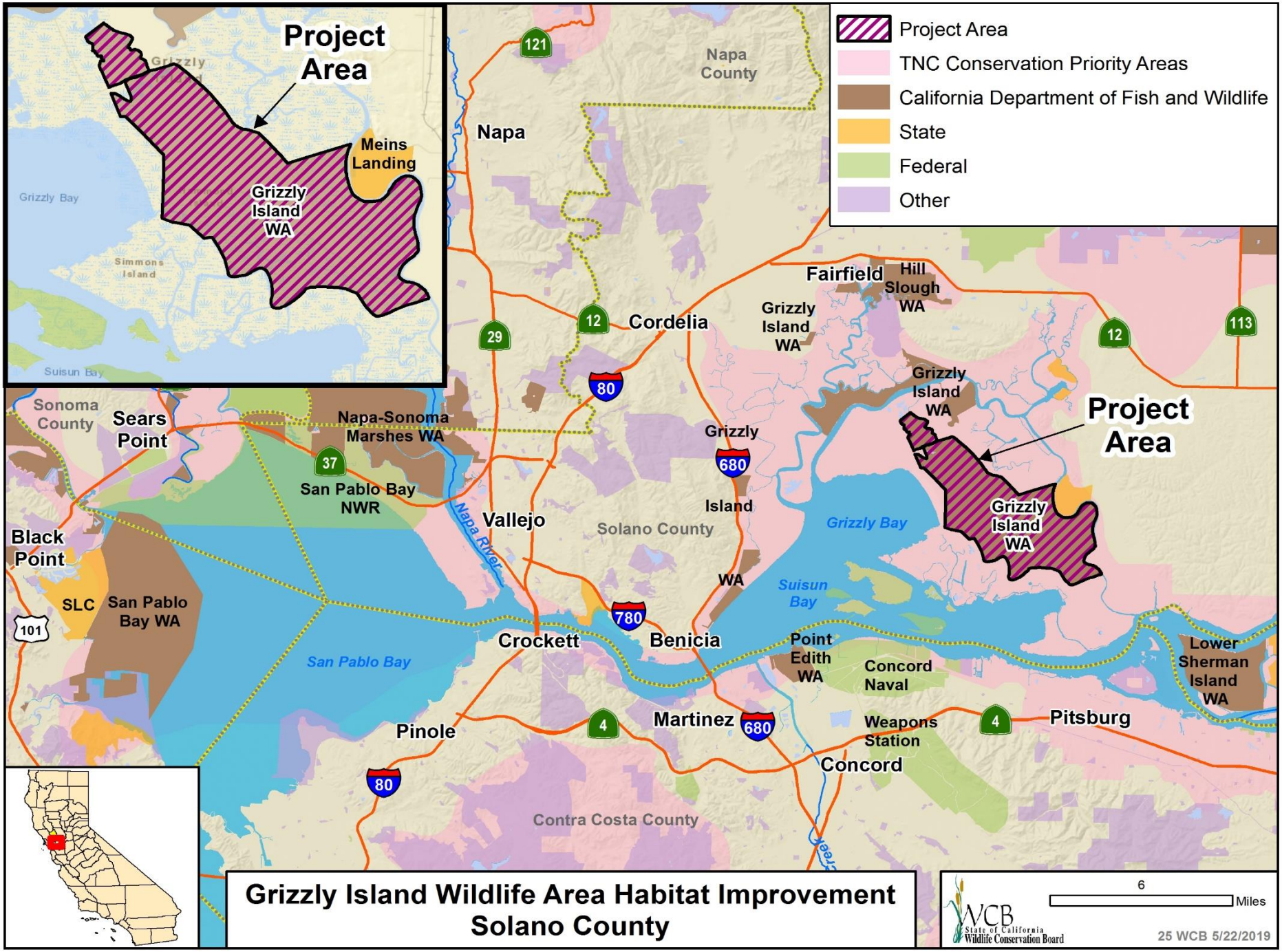
Gray pines are part of the oak woodland habitat type located on the Ervin Ranch.

#24. Ervin Ranch

Typical oak woodland and grasslands found on the Ervin Ranch.

#24. Ervin Ranch

Common Button Bush (*Cephalanthus Occidentalus*) found on Ervin Ranch


Project Area
Grizzly Island WA
Meins Landing
Grizzly Bay
Simmons Island
Suisun Bay
Project Area
TNC Conservation Priority Areas
California Department of Fish and Wildlife
State
Federal
Other
Napa County
Napa
Fairfield
Hill Slough WA
Cordelia
Grizzly Island WA
Sonoma County
Sears Point
Napa-Sonoma Marshes WA
San Pablo Bay NWR
Vallejo
Solano County
Grizzly Island
Grizzly Bay
Project Area
Black Point
SLC
San Pablo Bay WA
Napa River
Suisun Bay
Crockett
Benicia
Point Edith WA
Concord Naval Weapons Station
Lower Sherman Island WA
San Pablo Bay
Martinez
Pinole
Pitsburg
Concord
Contra Costa County
121
12
29
80
37
680
780
4
101
113
Grizzly Island Wildlife Area Habitat Improvement
Solano County
6
Miles
WCB State of California Wildlife Conservation Board
25 WCB 5/22/2019

#25. Grizzly Island Wildlife Area Habitat Improvement

Waterfowl and waterbird use of flooded wetland field.

#25. Grizzly Island Wildlife Area Habitat Improvement

Example of phragmites spread, choking out native wetland plants.

#25. Grizzly Island Wildlife Area Habitat Improvement

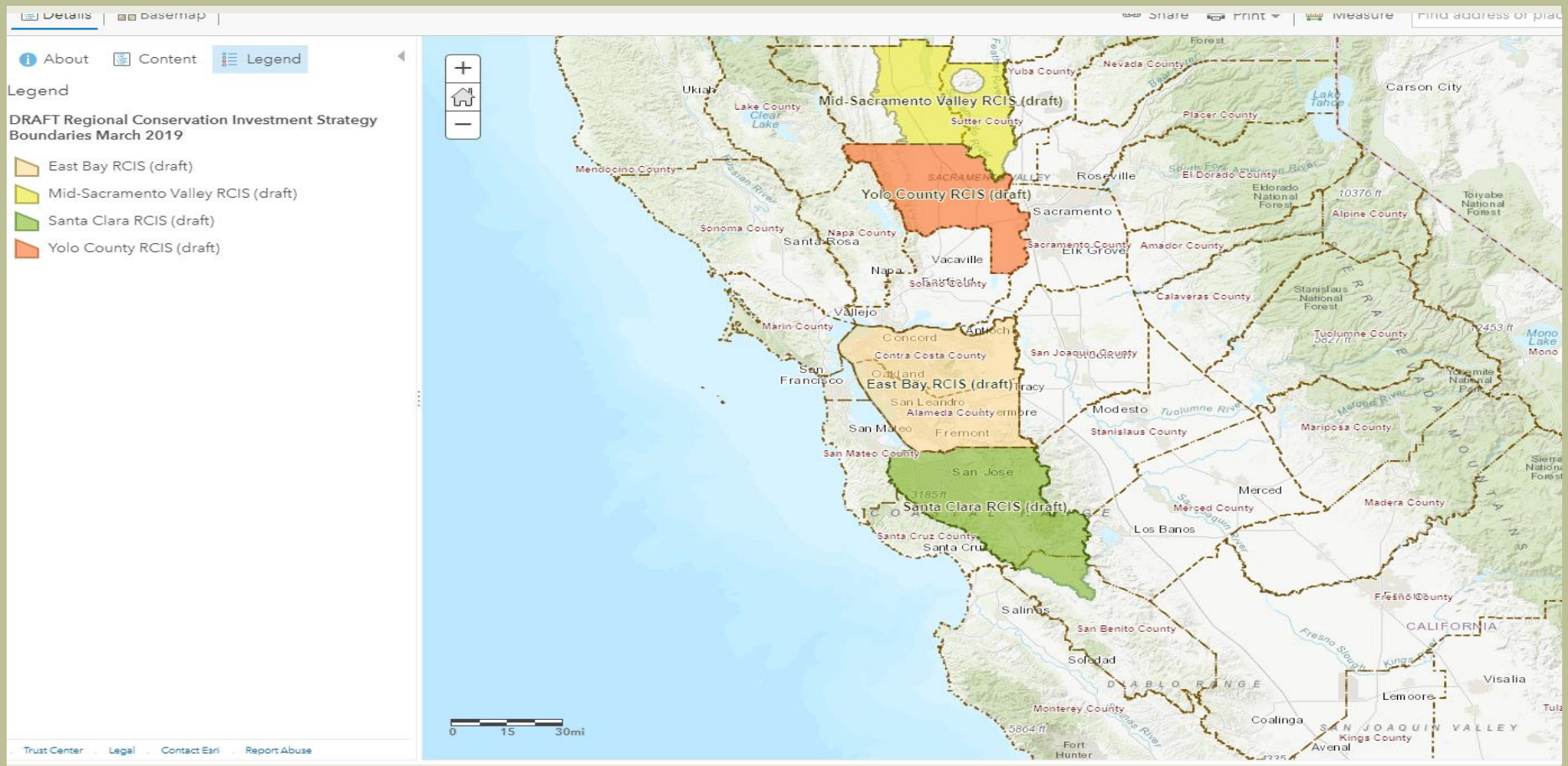
Tule reestablishment after phragmites removal by burning at Grizzly Island.

#25. Grizzly Island Wildlife Area Habitat Improvement

Wetlands within the Grizzly Island Wildlife Area.

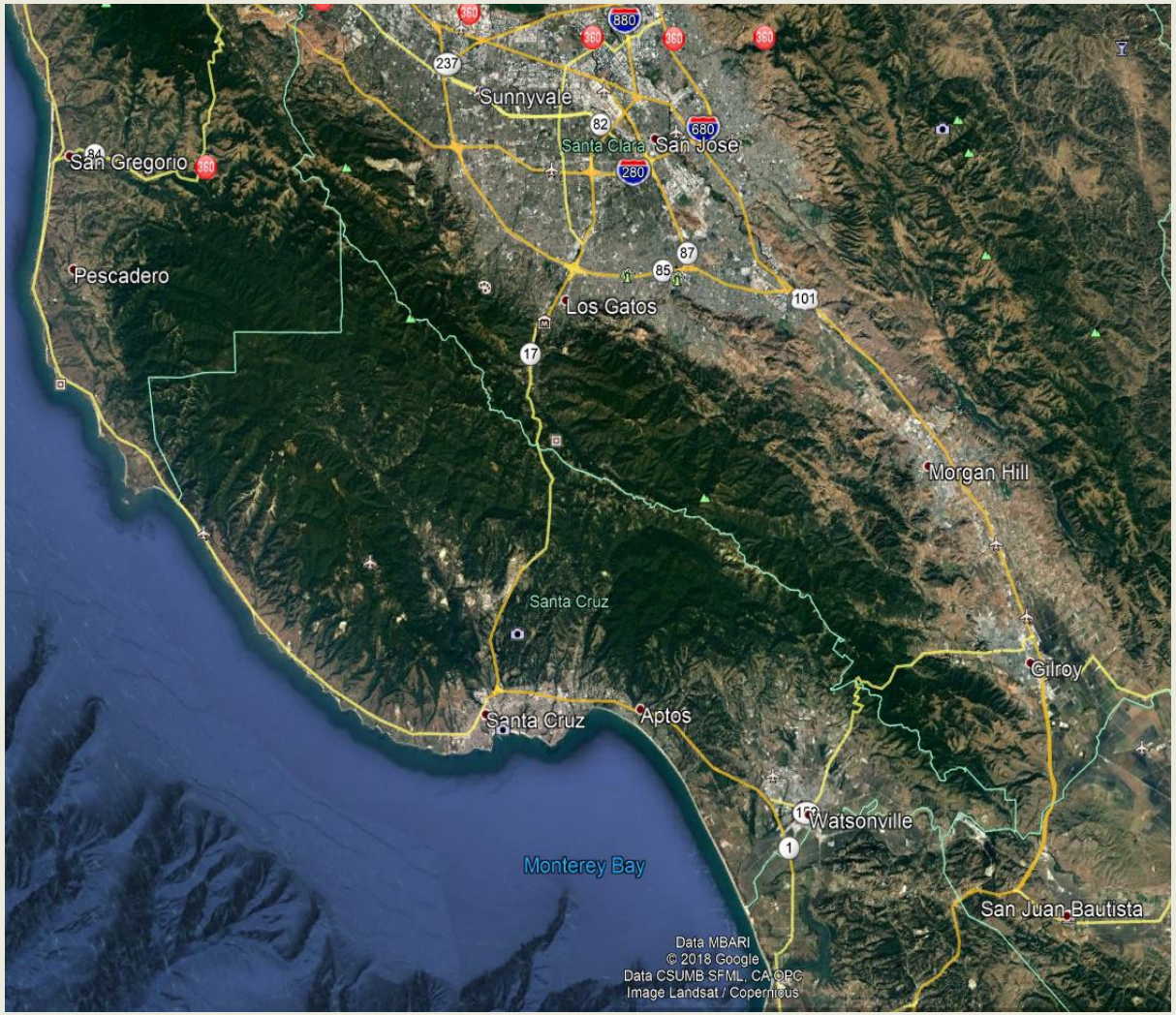

Project Area
San Jose
Cupertino
Campbell
Seven Trees
Saratoga
Los Gatos
San Mateo County
Santa Clara County
Coast Ranges
Santa Cruz Mountains
Lexington Hills
Boulder Creek
Ben Lomond
Project Area
Felton
Scotts Valley
Santa Cruz County
Morgan Hill
San Martin
Gilroy
Soquel
Corralitos
Santa Cruz
Capitola
Aptos
Opal Cliffs
Interlaken
Freedom
Watsonville
Aromas
Pajaro
Monterey County
San Benito County
San Juan Bautista
Elkhorn
Castroville
Pacific Ocean
87
85
17
101
152
156
Santa Cruz County Regional Conservation Investment Strategy
Santa Cruz County
8
Miles
WCB State of California Wildlife Conservation Board
26 WCB 5/22/2019

#26. Santa Cruz County Regional Conservation Investment Strategy



Current Draft Regional Conservation Investment Strategies

#26. Santa Cruz County Regional Conservation Investment Strategy



Aerial view of Santa Cruz County

#26. Santa Cruz County Regional Conservation Investment Strategy

Santa Cruz County supports a wealth of native biodiversity. Moore Creek Preserve

Photo courtesy of Santa Cruz County Regional Transportation Commission

#26. Santa Cruz County Regional Conservation Investment Strategy

Coastal bluffs near Davenport on the left and Santa Cruz Mountains on the right

Photo courtesy of Santa Cruz County Regional Transportation Commission

#26. Santa Cruz County Regional Conservation Investment Strategy

Top left is the Santa Cruz long-toed salamander, top right is Watsonville slough, bottom left California red-legged frog, and Coho Salmon center.

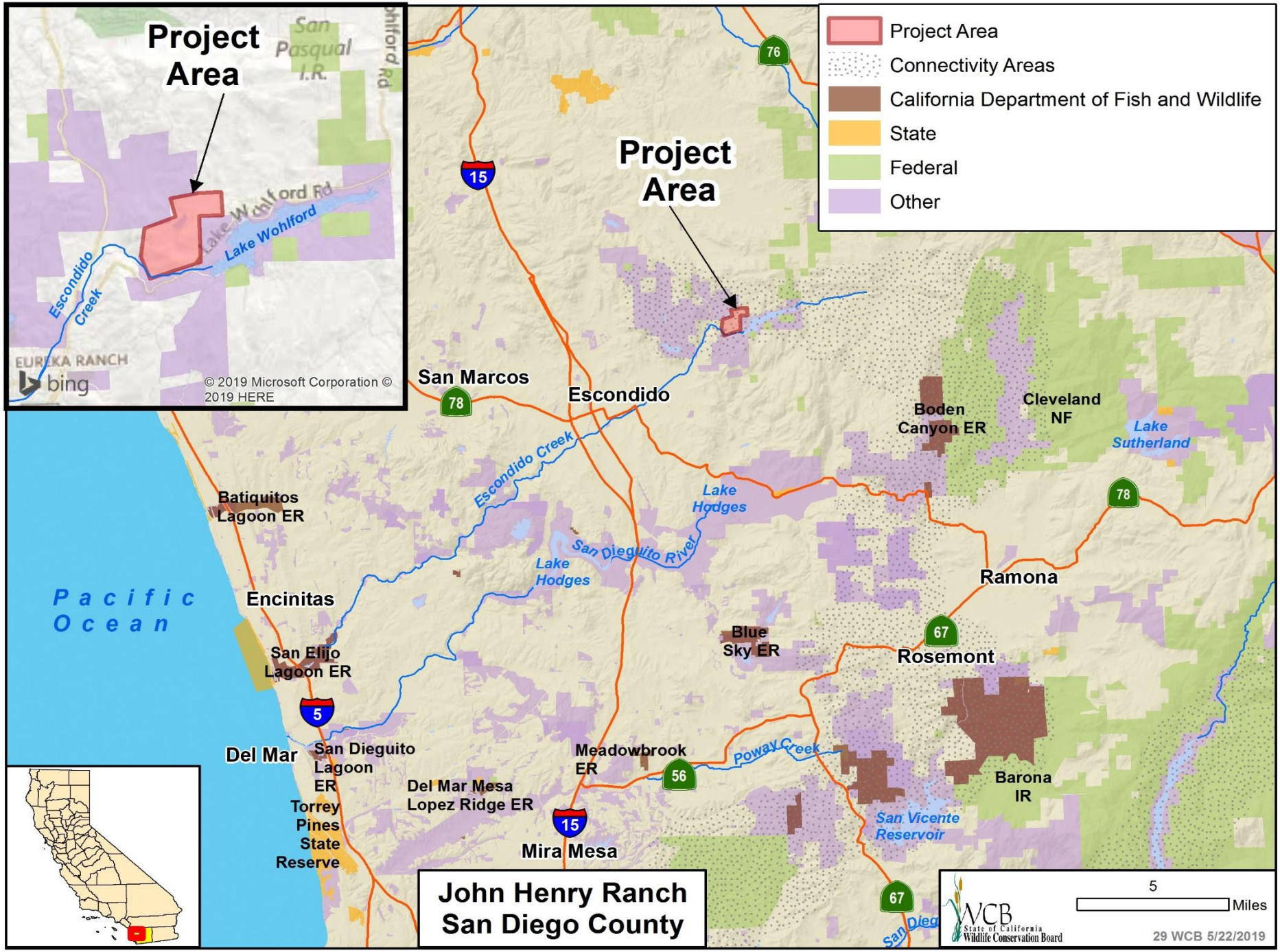
Photo courtesy of Santa Cruz County Regional Transportation Commission

#27. Colton Sand Dunes

This project has been withdrawn from consideration at this time.

#28. CDFW Land Management Plans, South Coast Region

This project has been withdrawn from consideration at this time.


Project Area
Connectivity Areas
California Department of Fish and Wildlife
State
Federal
Other
Project Area
Project Area
San Pasqual I.R.
Lake Wohlford Rd
Lake Wohlford
Escondido Creek
EUREKA RANCH
bing
© 2019 Microsoft Corporation © 2019 HERE
San Marcos
Escondido
Escondido Creek
Lake Hodges
San Dieguito River
Lake Hodges
Batiquitos Lagoon ER
Encinitas
San Elijo Lagoon ER
Pacific Ocean
Del Mar
San Dieguito Lagoon ER
Torrey Pines State Reserve
Del Mar Mesa Lopez Ridge ER
Mira Mesa
Meadowbrook ER
Poway Creek
Blue Sky ER
Boden Canyon ER
Cleveland NF
Lake Sutherland
Ramona
Rosemont
Barona IR
San Vicente Reservoir
15
76
78
5
56
67
John Henry Ranch
San Diego County
WCB State of California Wildlife Conservation Board
5
Miles
29 WCB 5/22/2019

#29. John Henry Ranch

Endangered Engelmann Oak Woodlands

#29. John Henry Ranch

Grassland and endangered Engelmann Oak Woodlands.

#29. John Henry Ranch

Mixed Chaparral

#29. John Henry Ranch

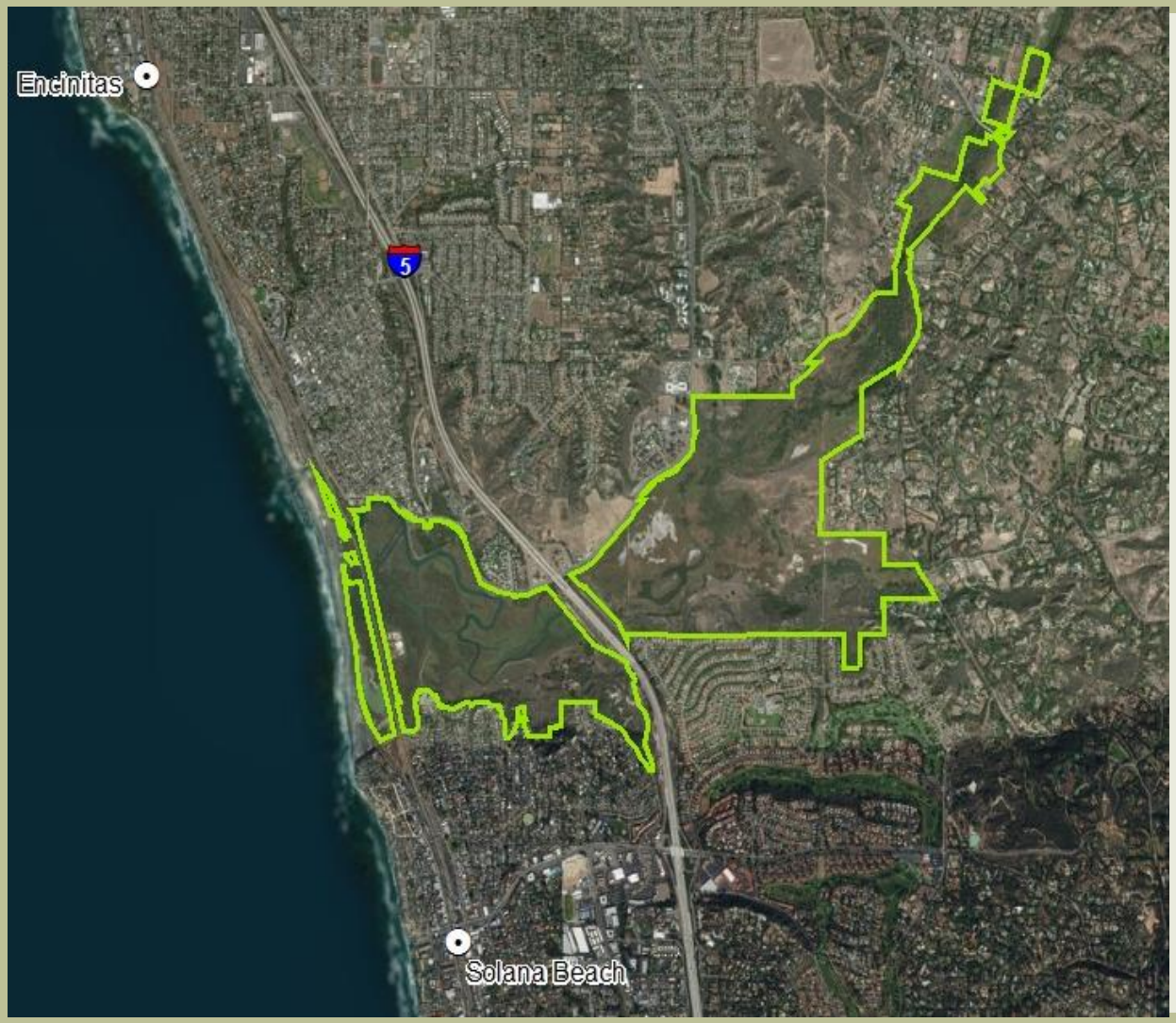
Grasslands along with mixed chaparral and scattered oak trees.

#29. John Henry Ranch

Mixed Chaparral


Project Area
HCP/NCCP
TNC Conservation Priority Areas
California Department of Fish and Wildlife
State
Federal
Other
Project Area
San Elijo Lagoon ER
San Elijo Lagoon ER
© 2019 Microsoft Corporation © 2019 HERE
Project Site
Camp Pendleton MCB
Bonsall
Oceanside
Vista
San Luis Rey River
San Diego County
Buena Vista Creek ER
Buena Vista Lagoon ER
Carlsbad Highlands ER
Carlsbad
Agua Hedionda Lagoon ER
Escondido
Boden Canyon ER
Batiquitos Lagoon ER
Escondido Creek
San Dieguito River
Encinitas
Blue Sky ER
Rosemont
San Elijo Lagoon ER
Del Mar
Poway
Poway Creek
San Vicente Reservoir
Mira Mesa
Miramar MCAS
Torrey Pines SR
Pacific Ocean
Lake
San Diego River
Cleveland NF
Santee
Alpine
Sweetwater River
Crestridge ER
El Cajon
San Diego
Clevland NF
Stonebridge Mesa and Santa Carina Terrace
Climate Adaptation and Resilience Project
San Diego County
7
Miles
WCB State of California Wildlife Conservation Board
30 WCB 5/22/2019

#30. Stonebridge Mesa and Santa Carina Terrace Climate Adaptation and Resilience Project



San Elijo Lagoon Ecological Reserve (SELER)

#30. Stonebridge Mesa and Santa Carina Terrace Climate Adaptation and Resilience Project

Stonebridge Mesa and Santa Carina Terrace

#30. Stonebridge Mesa and Santa Carina Terrace Climate Adaptation and Resilience Project

Looking Towards Stonebridge Mesa From Santa Carina Terrace

#30. Stonebridge Mesa and Santa Carina Terrace Climate Adaptation and Resilience Project

Current Site Conditions

Santa Carina Terrace

Stonebridge Mesa

#30. Stonebridge Mesa and Santa Carina Terrace Climate Adaptation and Resilience Project

Restoration Goals

Coastal Sage Scrub:
25 Acres

California Native Perennial Grasses:
13 acres

#30. Stonebridge Mesa and Santa Carina Terrace Climate Adaptation and Resilience Project

Climate Change Adaptation and Mitigation

- New plantings will sequester 2,096 Metric Tons of CO_2
- Provide high quality habitat for climate vulnerable wildlife species
- Supplement already rare vegetation types that are vulnerable to climate change
- Re-establish ecosystem functions including fog capture, fire resistance, and water infiltration
- Provide migration corridors for species impacted by sea level rise

#30. Stonebridge Mesa and Santa Carina Terrace Climate Adaptation and Resilience Project

Estuary to Upland Habitat Transition

#30. Stonebridge Mesa and Santa Carina Terrace Climate Adaptation and Resilience Project

Coastal California Gnatcatcher

45 sensitive species occupying the SELER:

- 18 plants
- 7 reptiles
- 3 mammals
- 1 invertebrate
- 16 birds

Two-Striped Gartersnake

Orange Throated Whiptail

California Adolphin

STRATEGIC PLAN UPDATE

WEDNESDAY MAY 22, 2019

#31. Strategic Plan Update

OUTLINE

- Conducted online survey – 60 full respondents (15-20 partial)
- Survey open through May 31
- Conducted two public meetings with about 75 participants combined
- Currently incorporating input and drafting an update document

#31. Strategic Plan Update

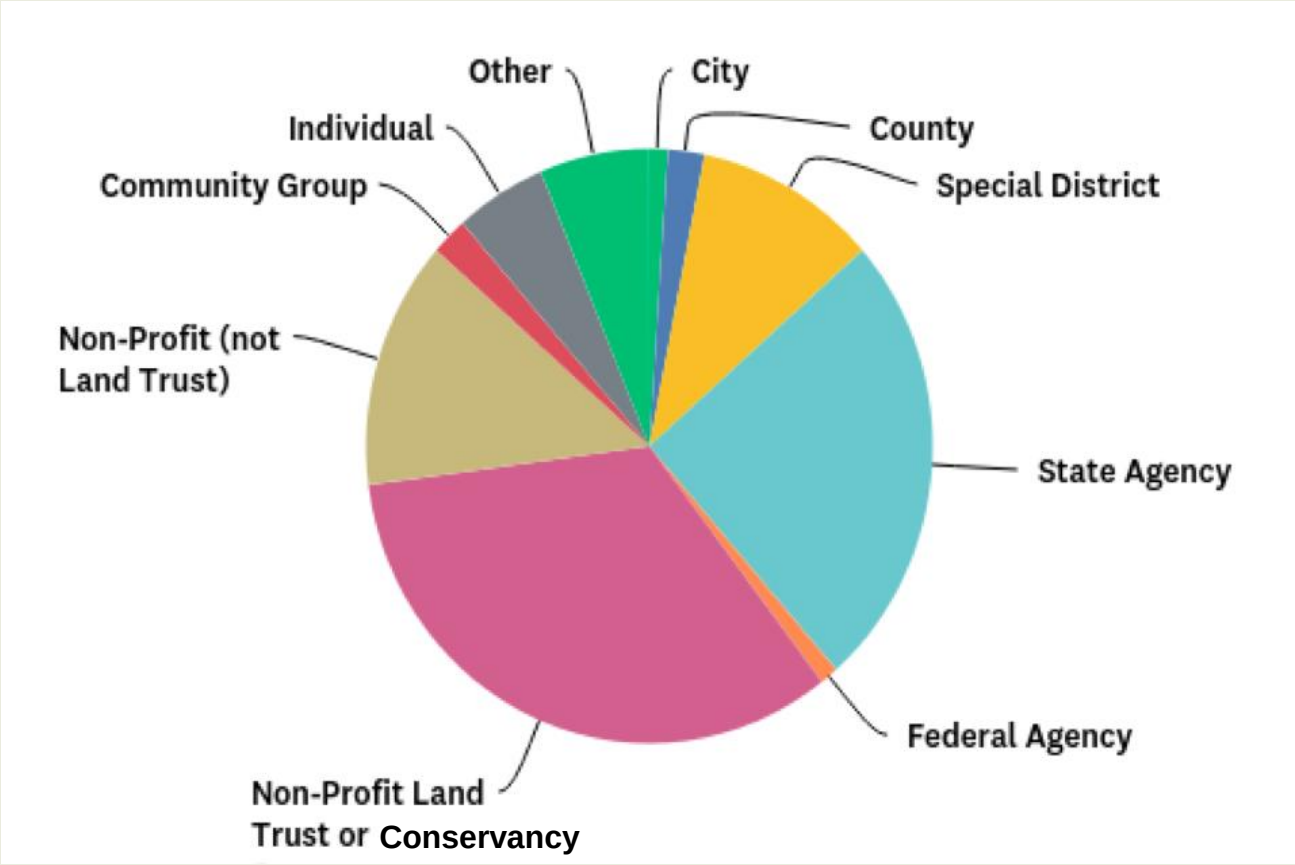
Overall Pulse Of The Pre-meeting Survey Results

KEY THEMES AND TAKE AWAY MESSAGES

- Climate resiliency including connectivity, corridors, and acquiring or restoring large landscape blocks is a high priority
- Focus on acquisition and restoration across programs
- Continued communication and collaboration, and expanded modes of communication is key to success
- Stay focused on WCB's unique mission

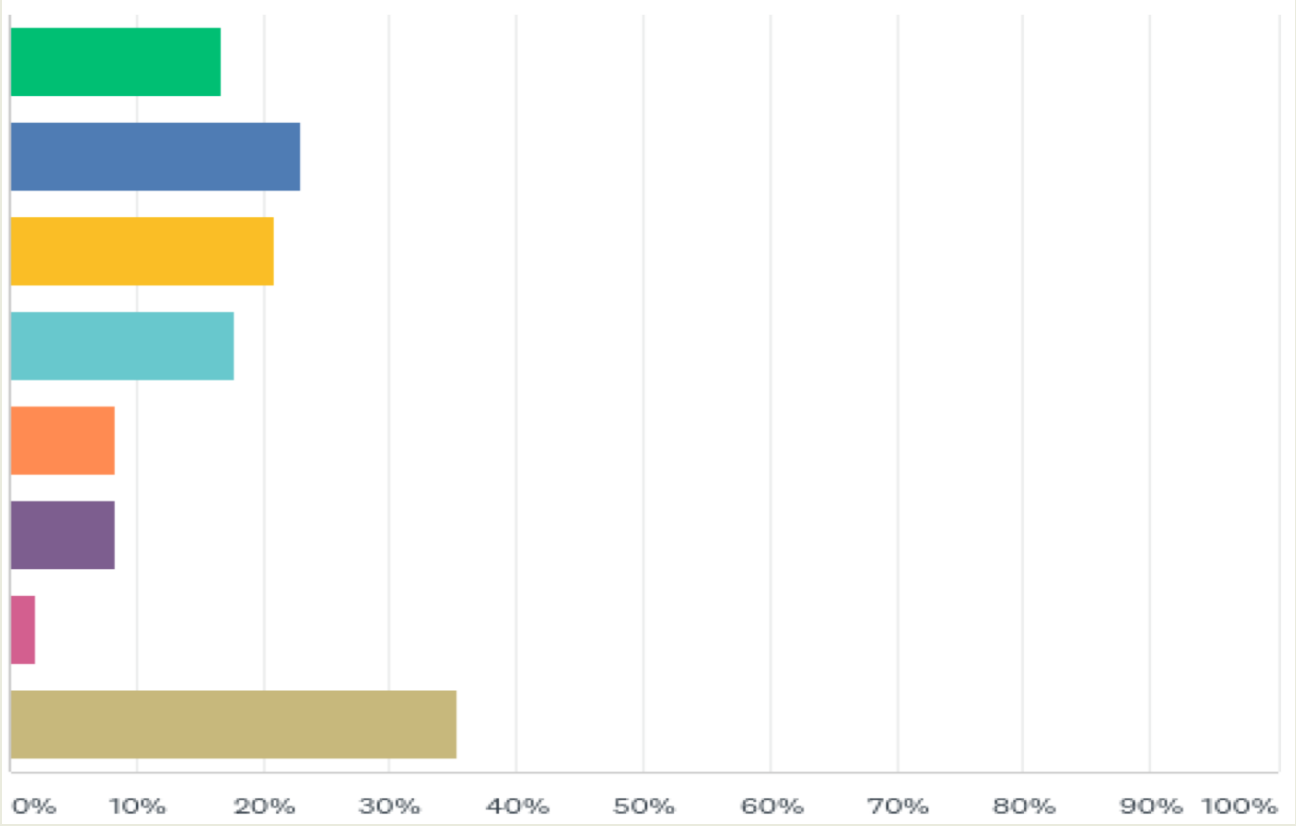
#31. Strategic Plan Update

Q1: Survey Respondents By Organization Type



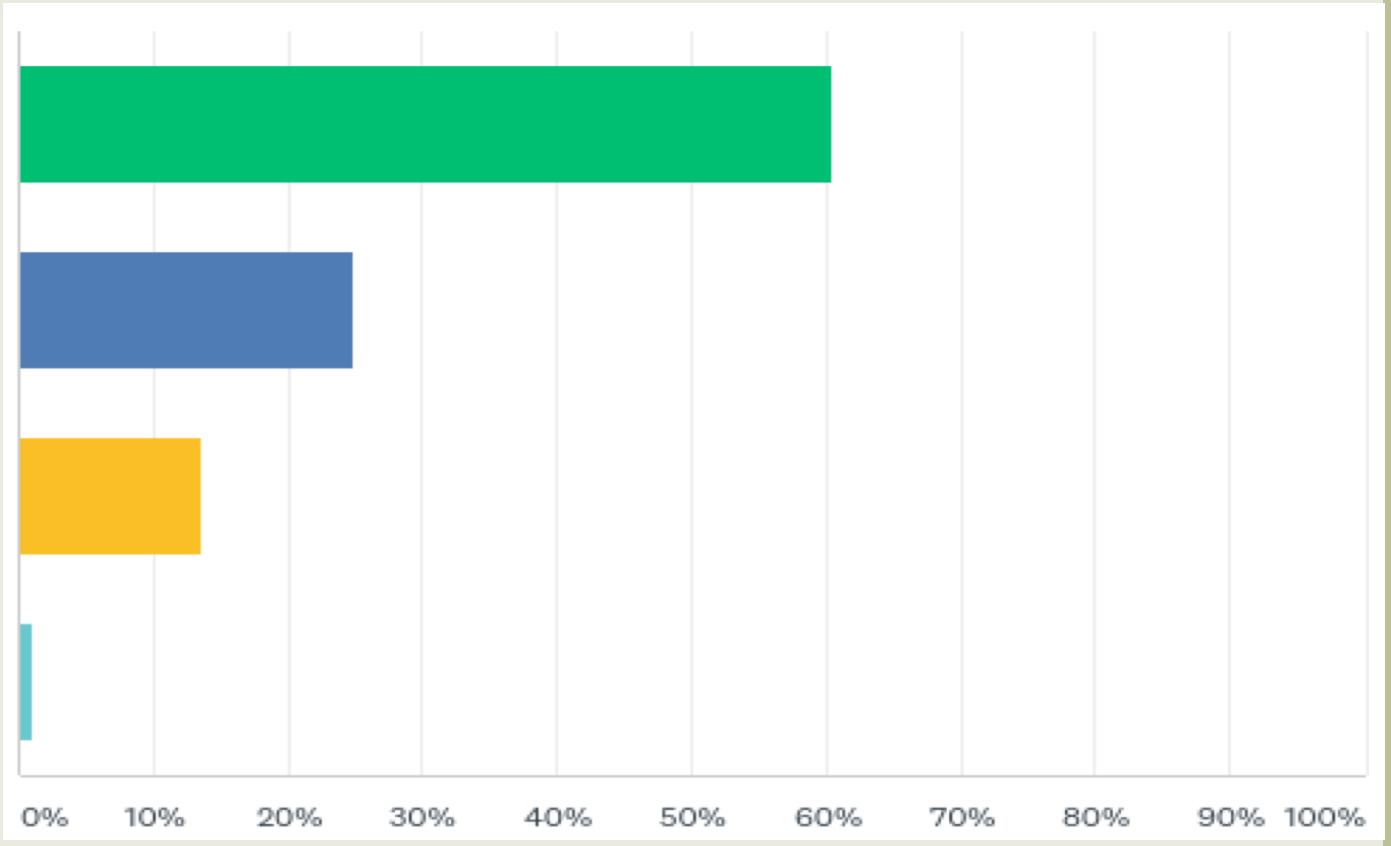
#31. Strategic Plan Update

Q2: In Which California Department of Fish and Wildlife Region or Regions do you have existing or proposed projects?



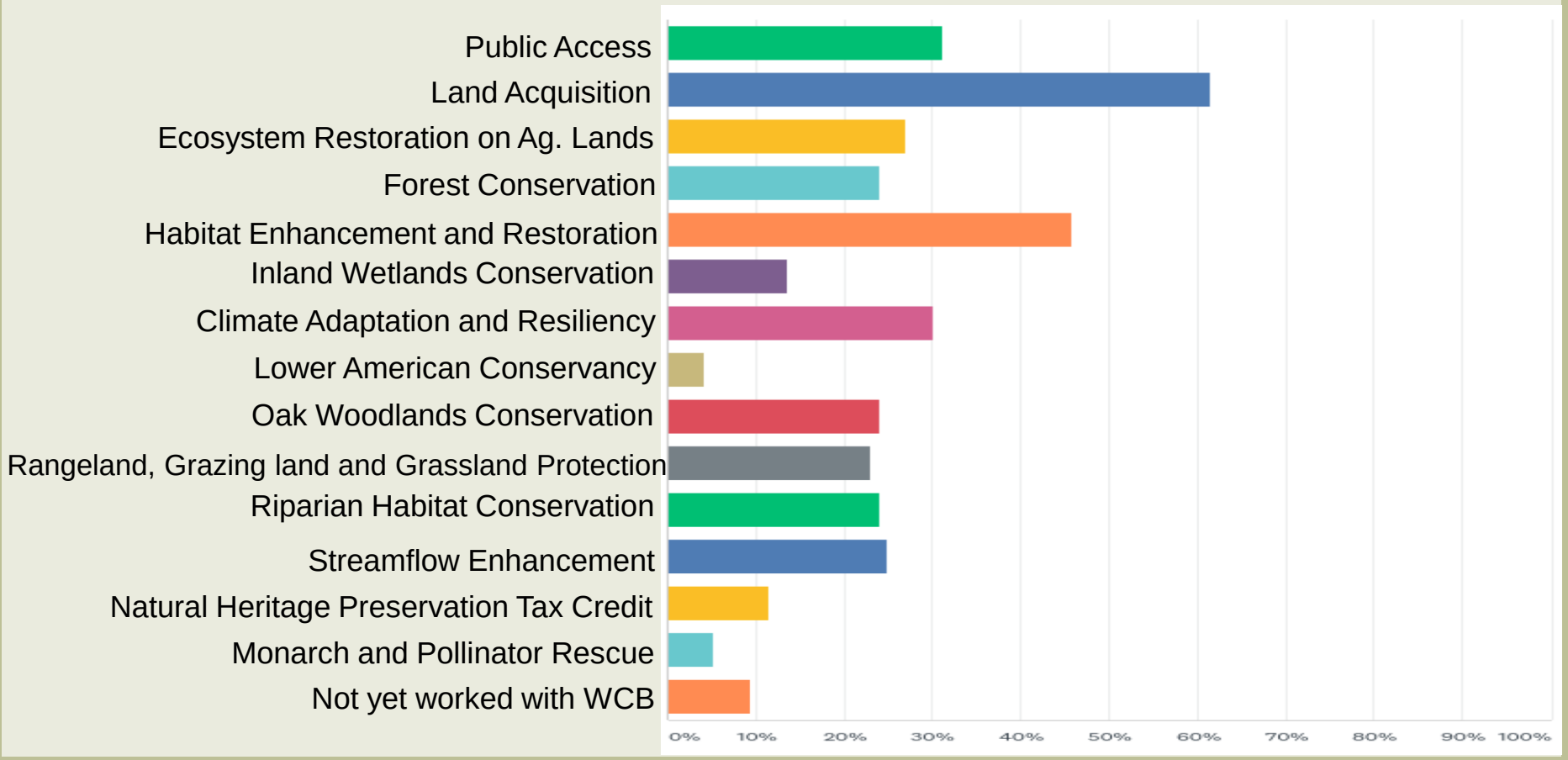
#31. Strategic Plan Update

Q3: How long have you interacted with the wildlife conservation board (WCB) as a partner, grant recipient or in other roles?



#31. Strategic Plan Update

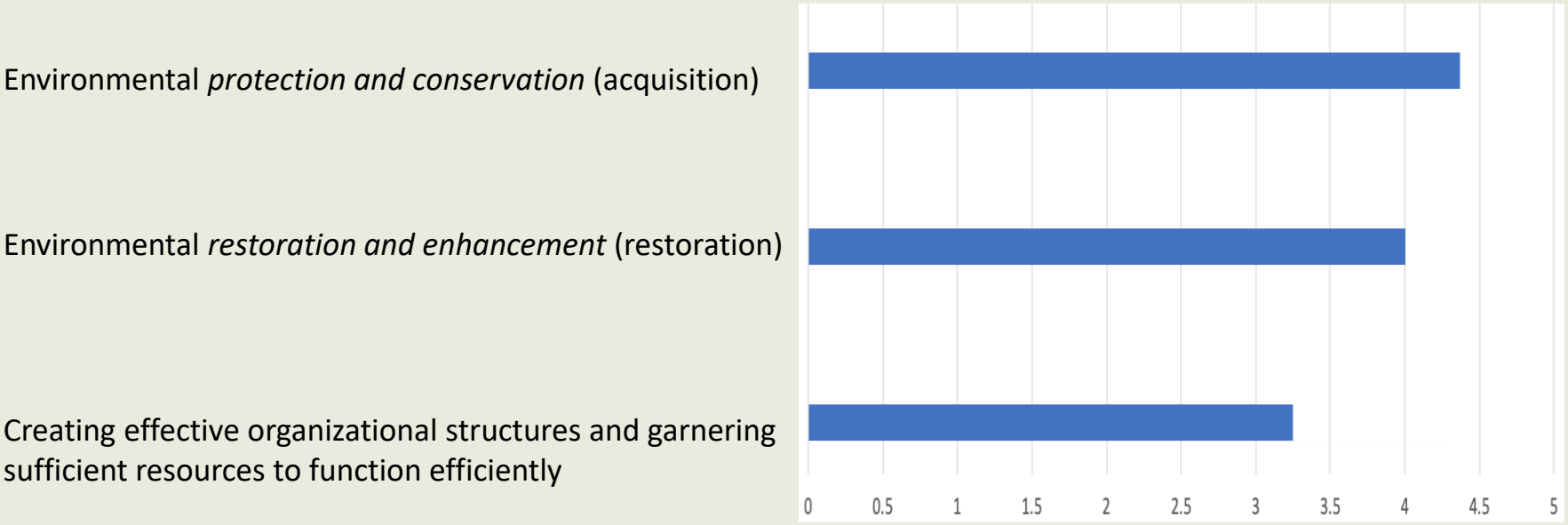
Q4: Which WCB programs have been the focus of your interactions?



#31. Strategic Plan Update

Q5: Where WCB has been most successful

Top 3 scores by weighted average among all respondents



#31. Strategic Plan Update

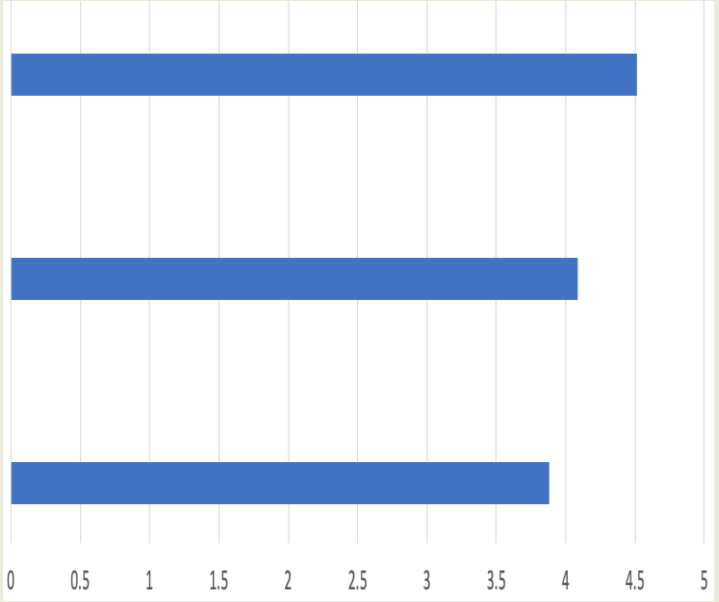
Q6: Most important elements of the plan update

Top 3 scores by weighted average among all respondents

Projects that provide long-term climate adaptation (connectivity, corridors) and mitigation (carbon sequestration) benefits

Projects that support regional efforts aimed at resiliency in response to extreme events such as fire, drought, flood

Refinement of Plan objectives, and priorities to better align with current habitat, species, and geographic conservation priorities



#31. Strategic Plan Update

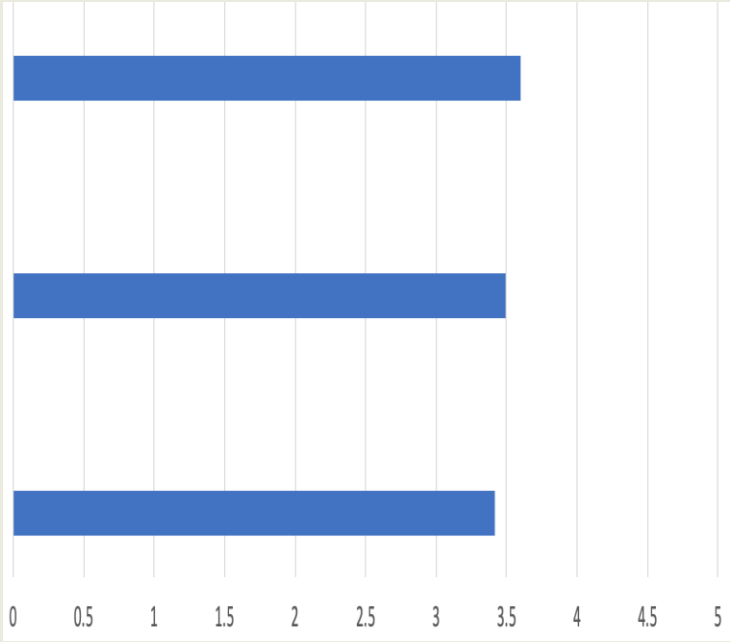
Q7: Most important WCB process objectives

Top 3 scores by weighted average amongst all respondents

Coordinate acquisition application processes to promote WCB project evaluation unification across programs

Modify the grant application process to further highlight the importance of extreme weather events, water quality and quantity, and compatible public use and access

Improve transparency and efficiency of WCB and CDFW project evaluation and recommendations



#31. Strategic Plan Update

Q8: In the next 5 years, what do you think the top programmatic or organizational WCB priorities should be?

SURVEY THEMES

- Climate change adaptation and resiliency (including corridors)
- Continued land acquisition and restoration
- Regional partnerships and improved collaboration
- Addressing declining and vulnerable species

#31. Strategic Plan Update

Q9: In the next 5 years, what will be your organization's top 3 priorities as they relate to WCB programs and strategic objectives?

SURVEY THEMES

- Climate change adaptation and resiliency (including corridors)
- Acquisition and protection of habitats (including streamflow enhancement)
- Public access
- Public outreach and engagement

#31. Strategic Plan Update

Q10: List at least 2 ways WCB could improve how it works to accomplish projects

MOST COMMON RESPONSES

- Improved grant processes (e.g. application, appraisals, transparency, etc.)
- Better communication with applicants and public
- Increased guidance to project proponents (e.g. standards for monitoring)

#31. Strategic Plan Update

Q11: List at least 2 things WCB does well and should continue to do and build upon

MOST COMMON RESPONSES

- Coordination with project proponents
- Funding projects that might not be otherwise funded
- Collaboration with partners
- Professional and responsive staff

#31. Strategic Plan Update

Conclusion: Overall Pulse of the Pre-meeting Survey Results

KEY THEMES AND TAKE AWAY MESSAGES

- Climate resiliency including connectivity, corridors, and acquiring or restoring large landscape blocks is a high priority
- Focus on acquisition and restoration across programs
- Continued communication and collaboration, and expanded modes of communication is key to success
- Stay focused on WCB's unique mission

#31. Strategic Plan Update

May 9 Public Meeting – Los Angeles

ENTITIES IN ATTENDANCE

City of LA Mayor's office

City of Los Angeles (3 different sections)

County of Los Angeles

National Wildlife Refuge Association

UCLA – Sustainable LA Grand Challenges

Cal State Los Angeles

Claremont Wildlands Conservancy

Rivers and Mountains Conservancy

Catalina Island Conservancy

Palos Verdes Peninsula Land Conservancy

San Bernardino Mountains Land Trust

Bolsa Chica Land Trust

Endangered Habitats League

Audubon

Trust for Public Land

River LA

Hills for Everyone

Nature for All

From Lot to Spot

#31. Strategic Plan Update

MAY 15 PUBLIC MEETING – SACRAMENTO

ENTITIES IN ATTENDANCE

Strategic Growth Council
The Nature Conservancy
Trust for Public Land
Rangeland Trust
Natural Resources Group
Conservation Strategy Group
Laguna Greenbelt Inc.
GEI Consultants
Assembly Water, Parks, and Wildlife Committee
Senate Natural Resources and Water Committee
San Joaquin River Parkway and Conservation Trust
Truckee River Watershed Council
Yolo Habitat Conservancy
City of Fresno Parks, After School, Recreation and Community Services Department

#31. Strategic Plan Update

NEXT STEPS

- Develop full draft of update – mid June
- Meet with Subcommittee
- Post Draft to website for 30 days
- Finalize update
- Present to Board in August

Elkhorn Slough – Hester Marsh Restoration