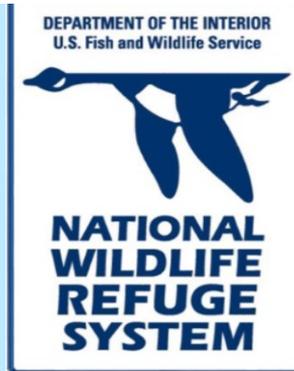




**Restoration Activities  
On  
San Pablo Bay  
National Wildlife Refuge**

# San Francisco Bay National Wildlife Refuge Complex

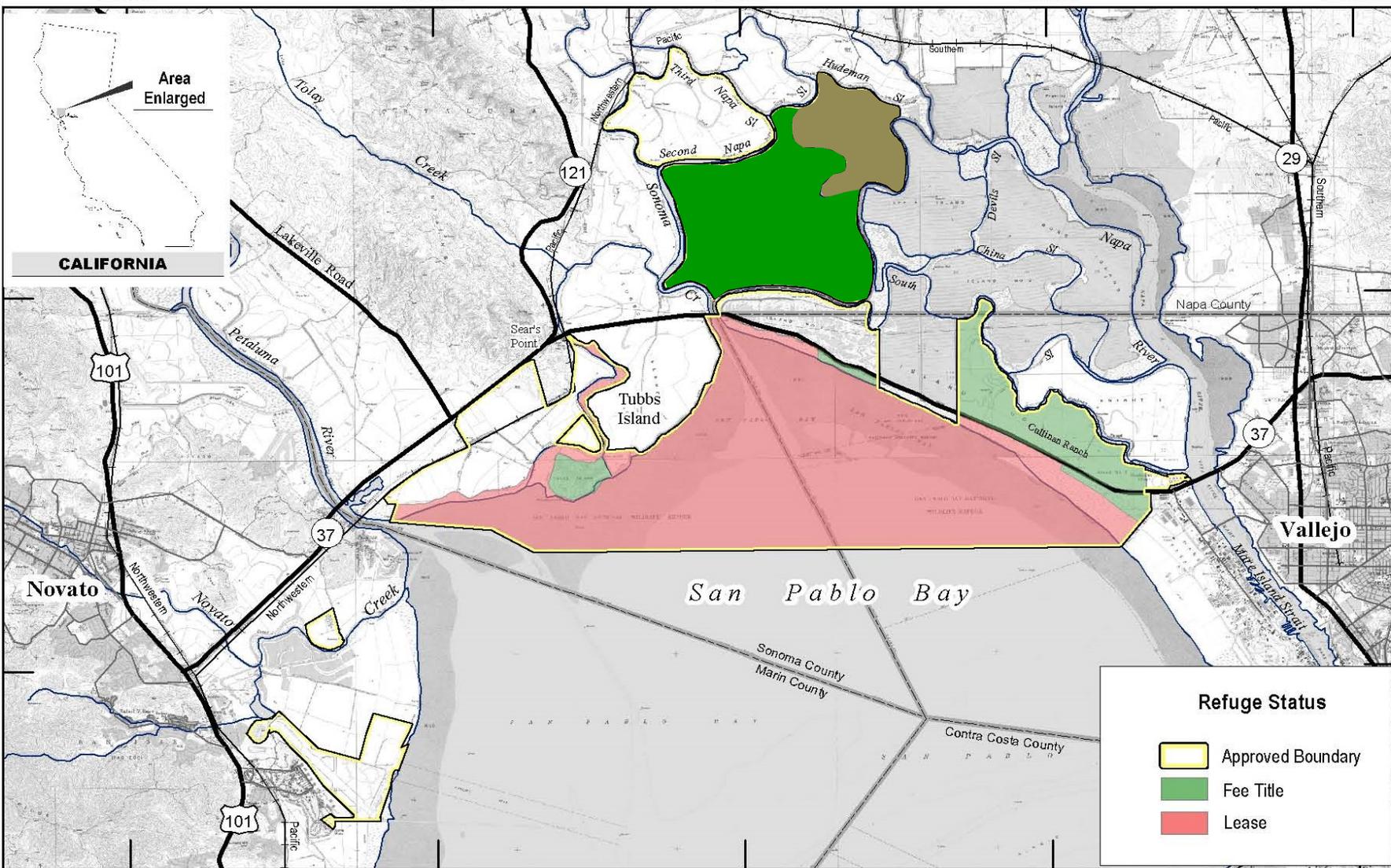




# San Pablo Bay National Wildlife Refuge

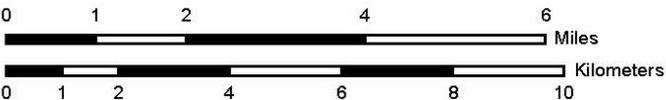
Marin, Napa, Sonoma and Solano Counties, California

122°33'36"W 122°28'48"W 122°24'0"W 122°19'12"W 122°14'24"W



**Refuge Status**

- Approved Boundary
- Fee Title
- Lease



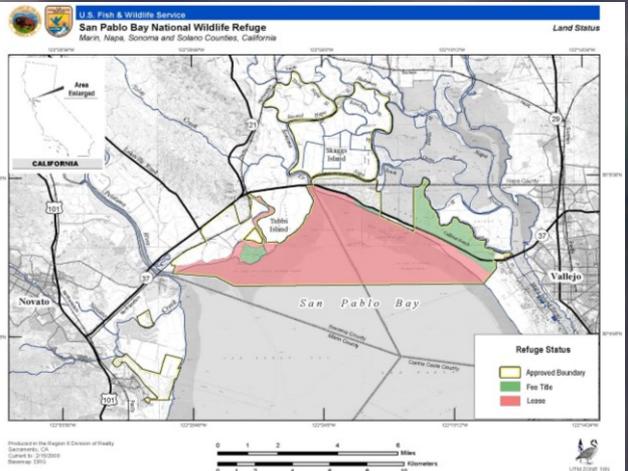
Produced in the Region 8 Division of Realty  
Sacramento, CA  
Current to: 2/15/2008  
Basemap: DRG



Historically . . .

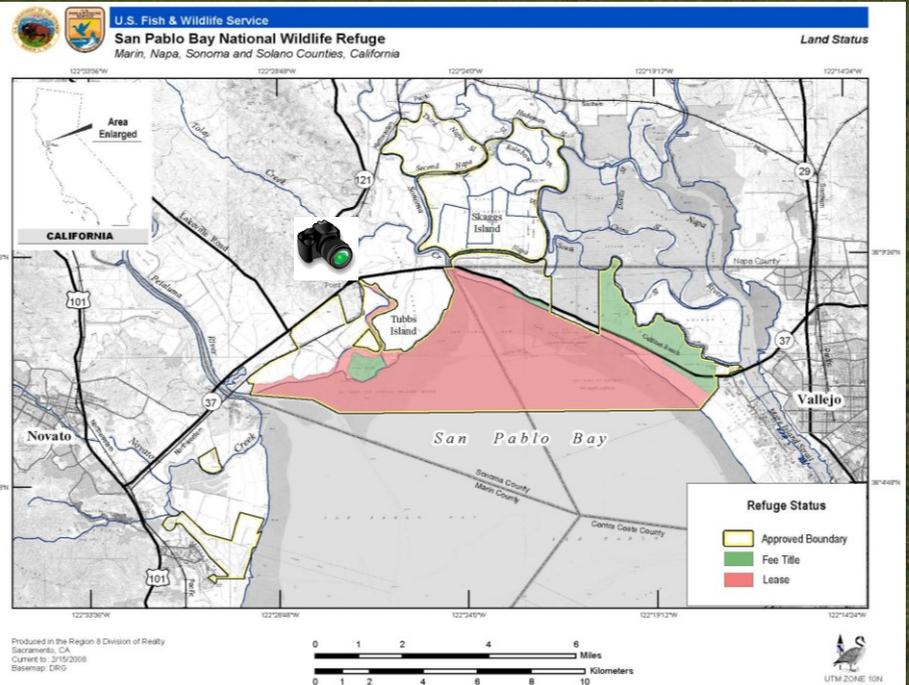


# ... the pre-Spanish conditions



# From Cougar Mountain east to American Canyon

10 miles

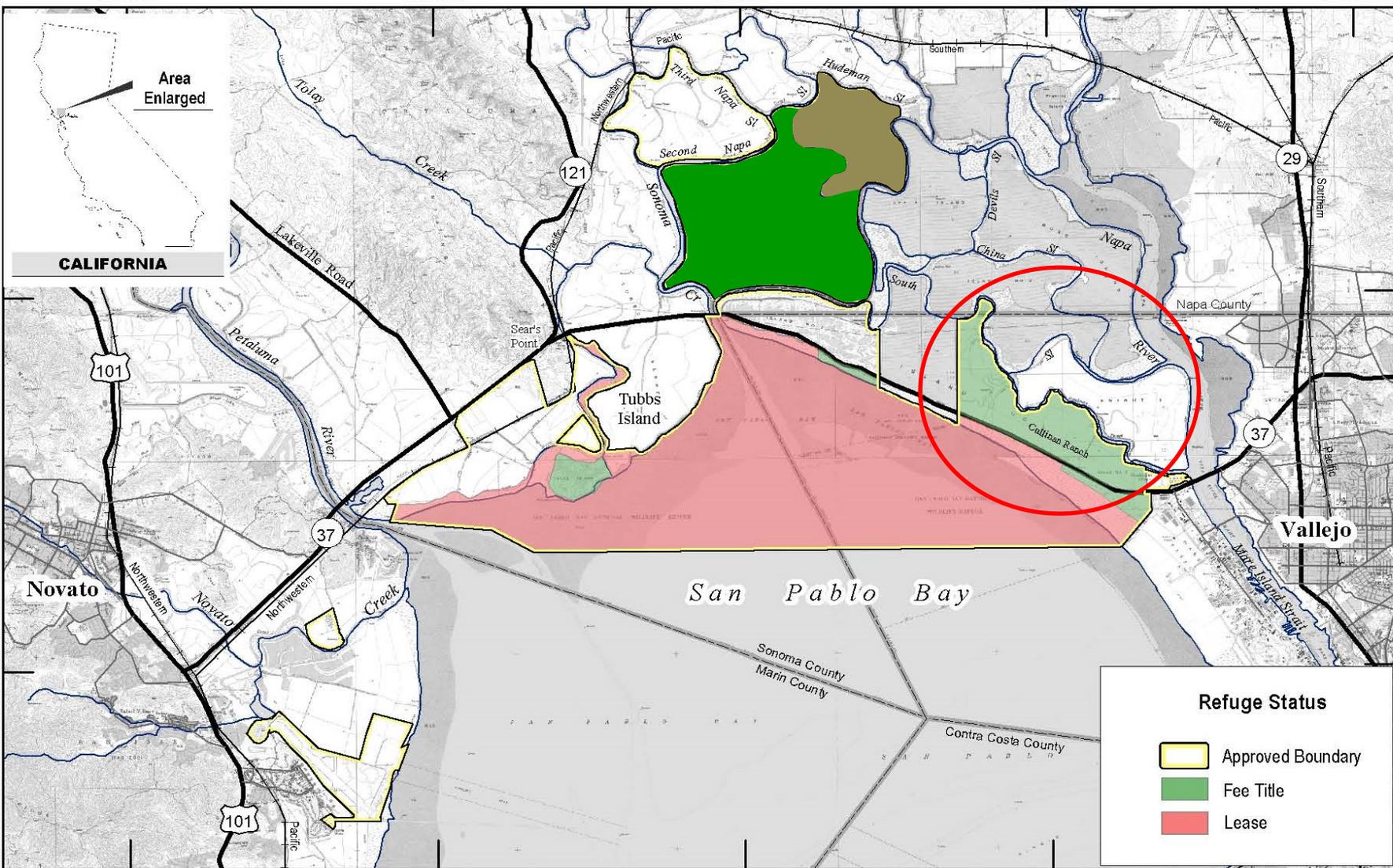




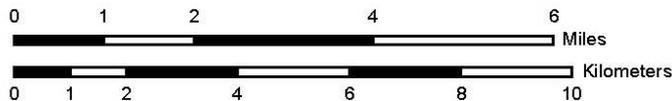
# San Pablo Bay National Wildlife Refuge

Marin, Napa, Sonoma and Solano Counties, California

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122°33'36"W 122°28'48"W 122°24'0"W 122°19'12"W 122°14'24"W





# CULLINAN RANCH

## Tidal Restoration Project



**POND 1 PARKING LOT**



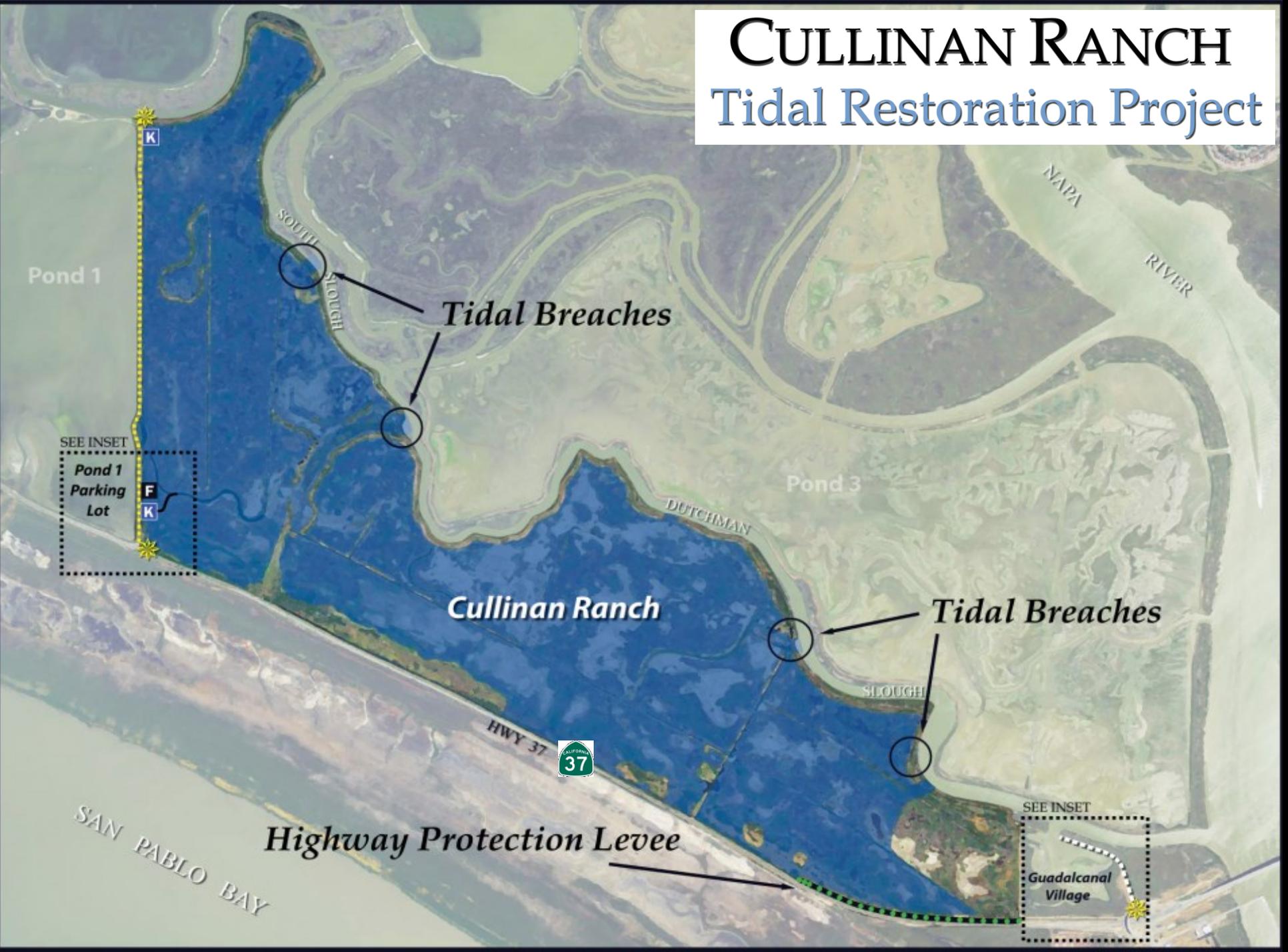
**GUADALCANAL VILLAGE**

- Proposed trail access (ADA compliant)
- Improved levee (ADA compliant)
- Proposed levee
- Kayak access channel
- Kayak launch ramp
- Fishing pier
- Viewing area with signage and/or benches

NOTE: Improvements to Guadalcanal Village public access infrastructure will be constructed once U.S. Fish and Wildlife Service has successfully transferred Guadalcanal Village from the California Department of Transportation and as permits and funding allows. Alternatively, U.S. Fish and Wildlife Service will provide a similar level of access on a future North Bay project in addition to the access proposed for that project.



# CULLINAN RANCH Tidal Restoration Project



Pond 1



SOUTH SLOUGH

*Tidal Breaches*



DUTCHMAN SLOUGH

Pond 3

**Cullinan Ranch**

*Tidal Breaches*



SLOUGH



HWY 37



*Highway Protection Levee*

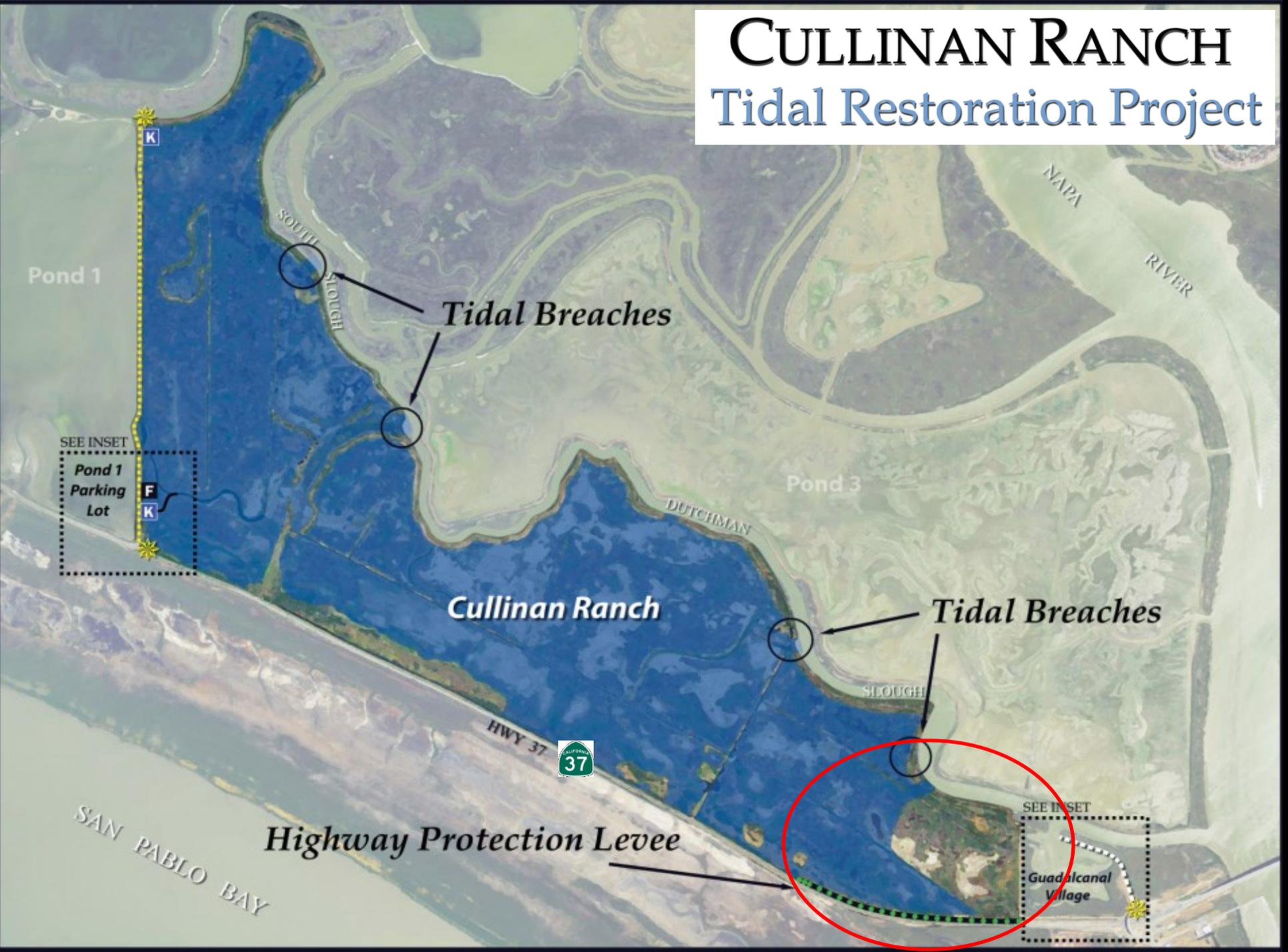
SAN PABLO BAY

SEE INSET



Guadalcanal Village

# CULLINAN RANCH Tidal Restoration Project



Pond 1

K

SOUTH  
SLOUGH

*Tidal Breaches*

NAPA

RIVER

SEE INSET

Pond 1  
Parking  
Lot

F

K

Pond 3

DUTCHMAN

**Cullinan Ranch**

*Tidal Breaches*

SLOUGH

HWY 37



*Highway Protection Levee*

SAN PABLO BAY

SEE INSET

Guadalupe  
Village

# CULLINAN RANCH Tidal Restoration Project





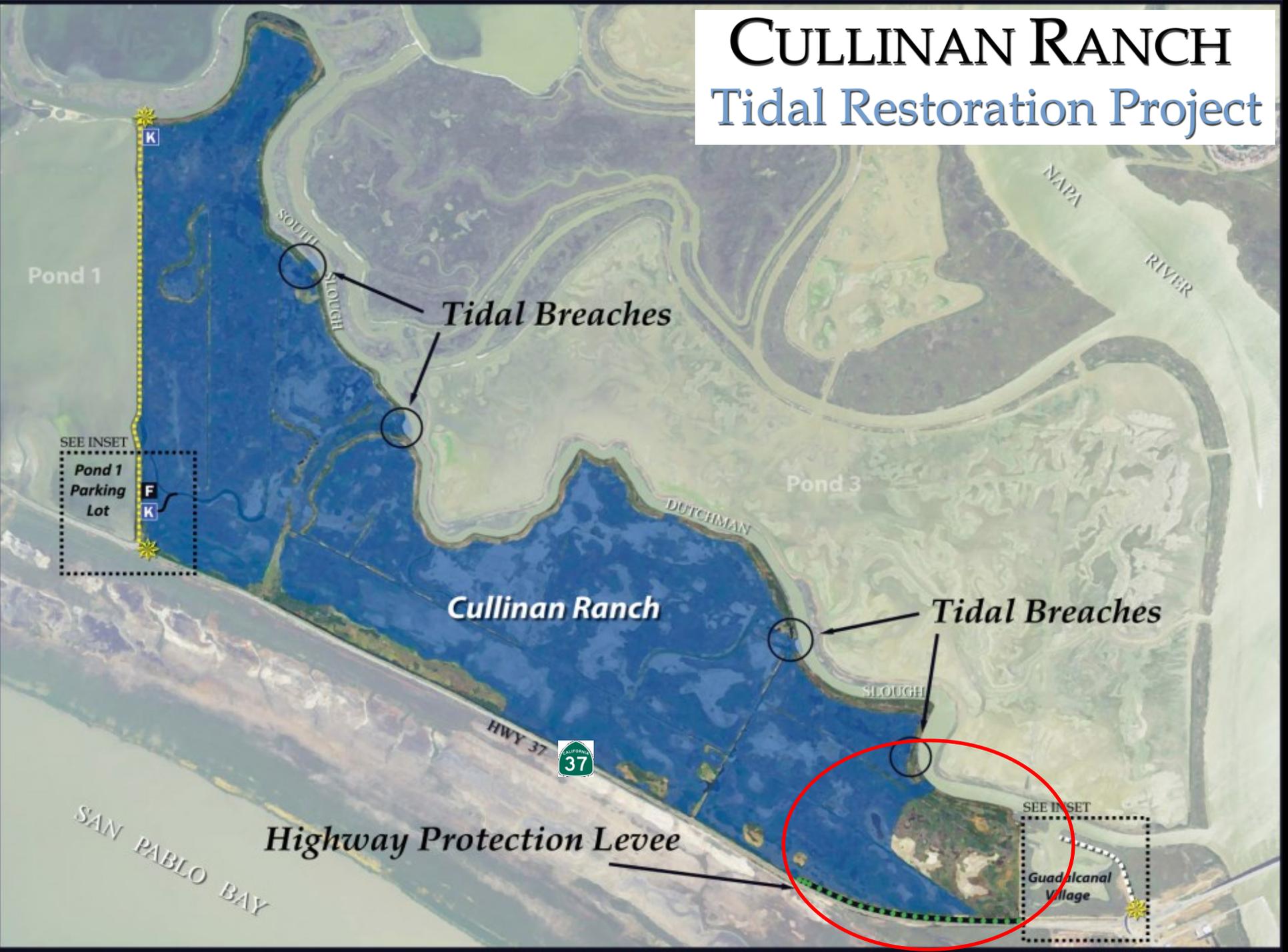
**CULLINAN RANCH**  
Tidal Restoration Project

# CULLINAN RANCH

## Tidal Restoration Project



# CULLINAN RANCH Tidal Restoration Project



Pond 1



SOUTH SLOUGH

*Tidal Breaches*



Pond 3

DUTCHMAN SLOUGH

**Cullinan Ranch**

*Tidal Breaches*



SLOUGH

HWY 37



*Highway Protection Levee*

SAN PABLO BAY

SEE INSET

Guadalupe Village



# CULLINAN RANCH Tidal Restoration Project

**Deep Water  
Habitats**





Pond 1

Existing Gravel Road

New 12'x100' Wooden Fishing Pier

New Kayak Channel

New ADA Surface

Cullinan Ranch

New Acceleration Lane

Existing Parking Lot

New 15'x130' Kayak Launch

New Viewing Platform

New Pickleweed Bench



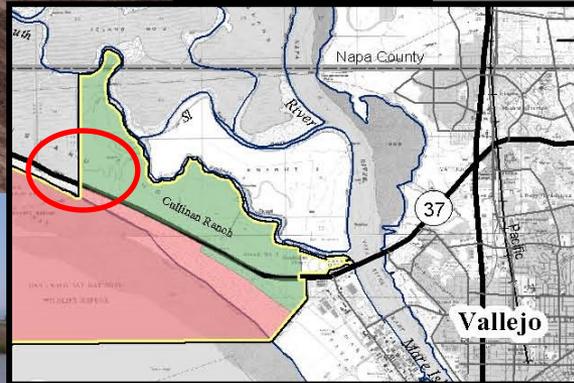
New Deceleration Lane

# CULLINAN RANCH Tidal Restoration Project

HWY



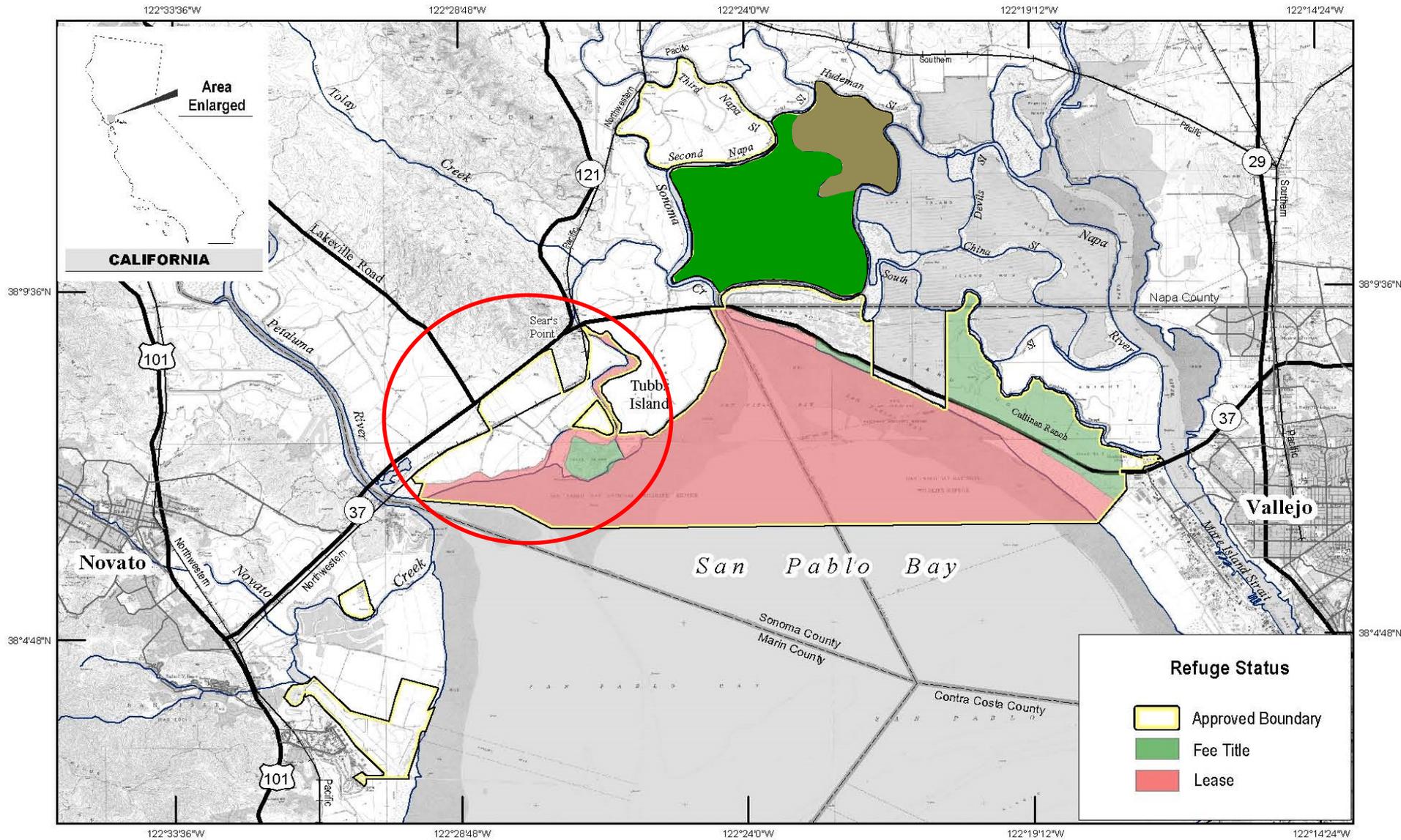
# Come visit!





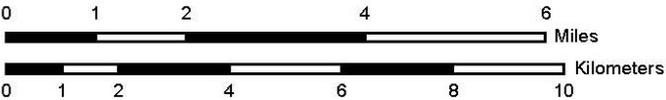
# San Pablo Bay National Wildlife Refuge

Marin, Napa, Sonoma and Solano Counties, California



**Refuge Status**

- Approved Boundary
- Fee Title
- Lease

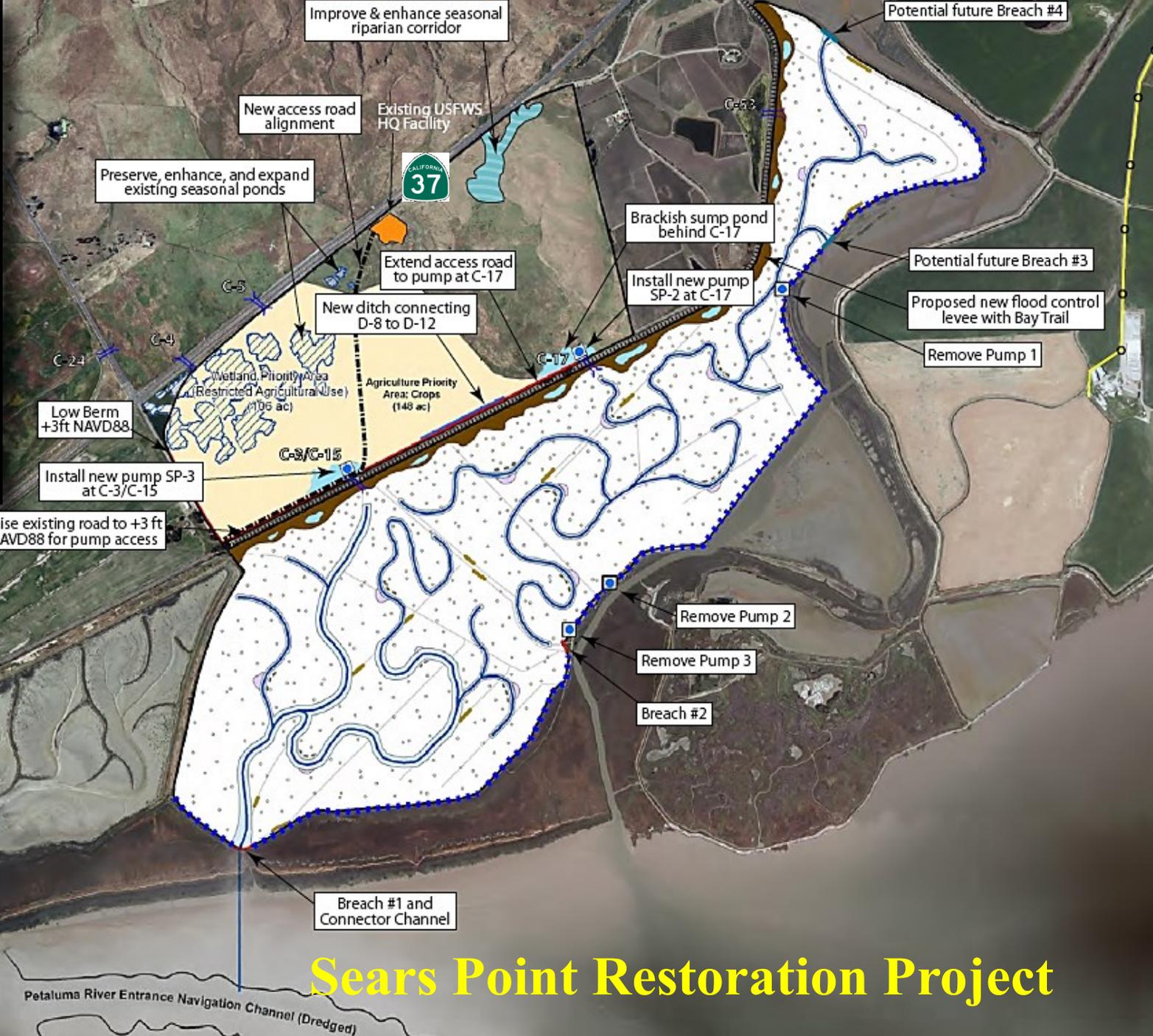


# Sears Point Restoration Project



Stephen Joseph photo

-  Pump
-  Marsh Mounds
-  Pannes
-  Proposed New Levee
-  Pilot Channels (Inner=Deep, Outer=Shallow)
-  Ditch Blocks
-  Sidecast Ridges
-  Sidecast Mounds (See Figure 2-7)
-  Drainage Ditches
-  Project Boundary
-  Culverts
-  Lowered Perimeter Levee
-  SMART Rail Line Through Site
-  New Powerline Alignment



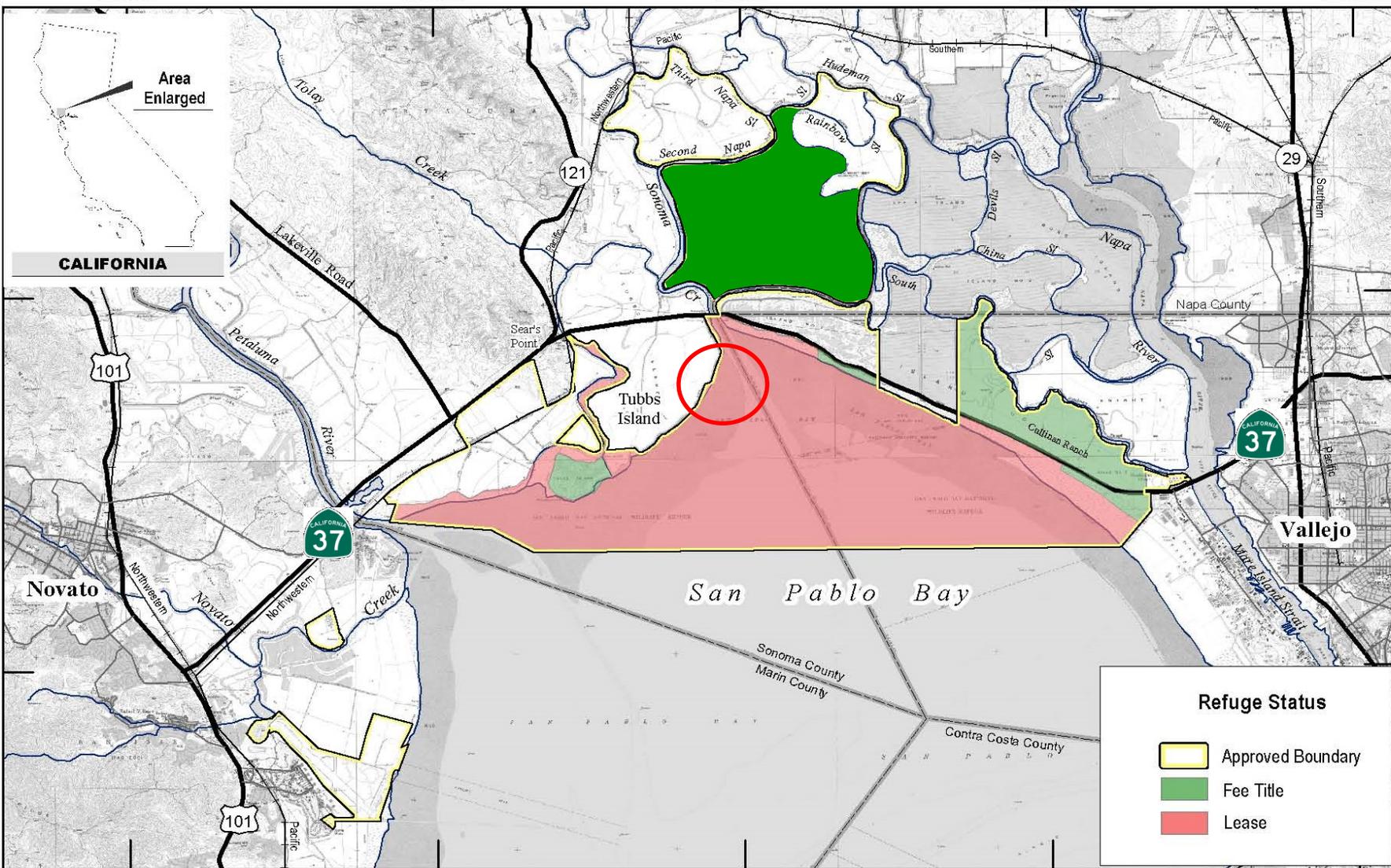
# Sears Point Restoration Project



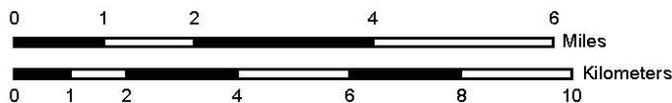
# San Pablo Bay National Wildlife Refuge

Marin, Napa, Sonoma and Solano Counties, California

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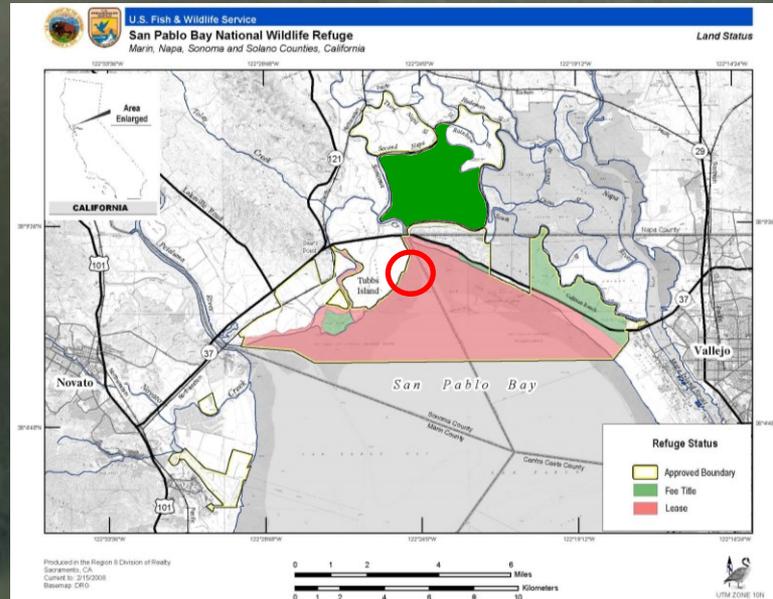
122°33'36"W 122°28'48"W 122°24'0"W 122°19'12"W 122°14'24"W



# Sonoma Creek Salt Marsh Enhancement Project



# Sediment Accretion Over Time



# Sonoma Creek Salt Marsh Enhancement Project

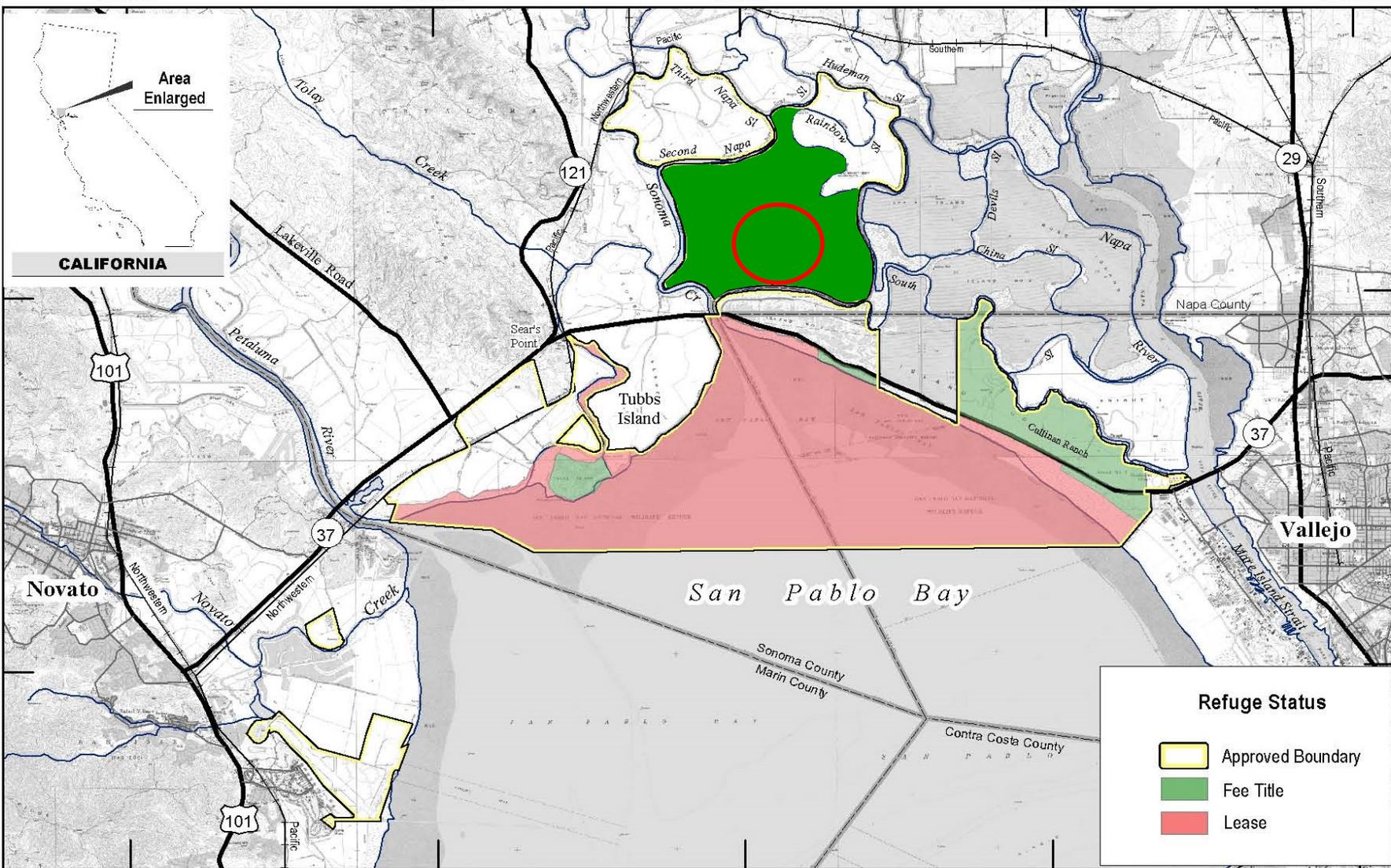




# San Pablo Bay National Wildlife Refuge

Marin, Napa, Sonoma and Solano Counties, California

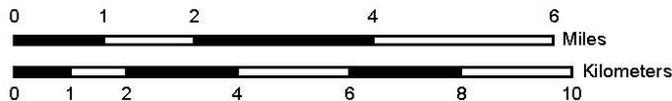
122°33'36"W 122°28'48"W 122°24'0"W 122°19'12"W 122°14'24"W



**Refuge Status**

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- Lease

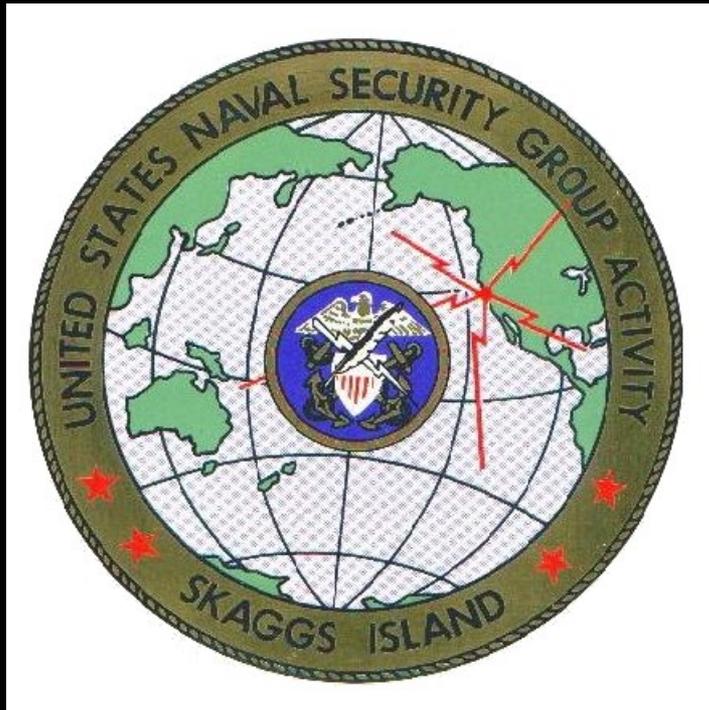
122°33'36"W 122°28'48"W 122°24'0"W 122°19'12"W 122°14'24"W



Estuarine marshland . . .

Skaggs Island . . .

Oat-hay farmland 1920-ish . . .



. . . 1941

U.S. Navy . . .

1993 decommissioned . . .

2011 Skaggs Island Unit . . .

. . . Now what?



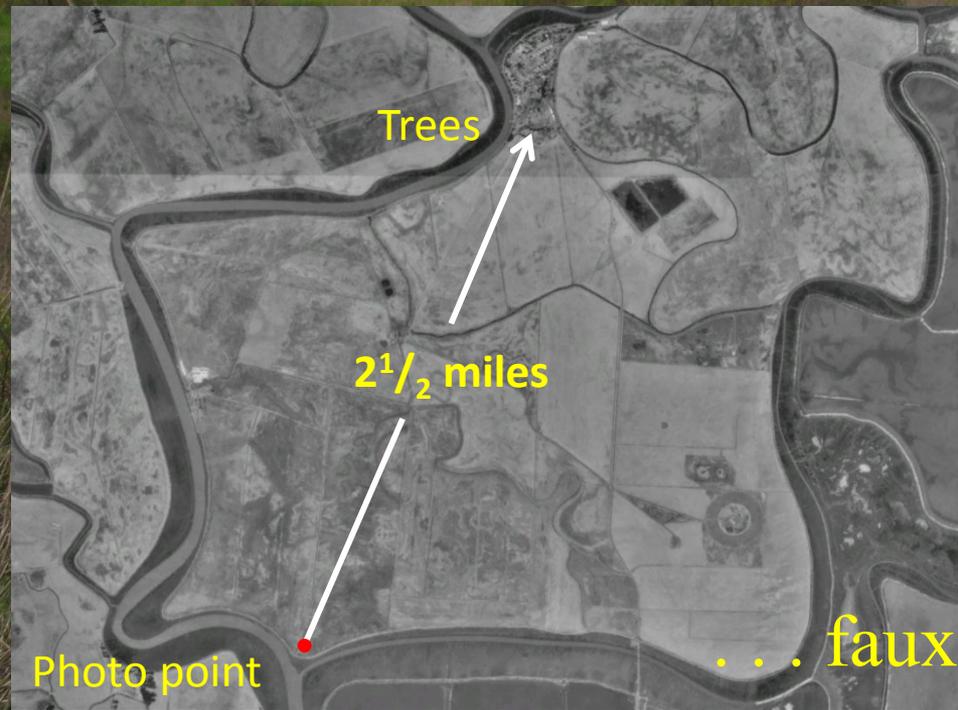
All 140+ buildings are gone



Ramal Road



# Skaggs Island Unit, San Pablo Bay National Wildlife Refuge



... faux upland 6ft+ below sea level

2-29-48

2-20

GS-EF





... a mere 54 miles of trenching

An aerial photograph of a dry, cracked landscape. A dark, winding river channel flows through the center, surrounded by numerous smaller, interconnected cracks in the parched earth. The overall color palette is a range of browns and grays, indicating severe drought conditions.

Remember that *crows nest* view?

To what extent can we turn back the clock?

Can we?

Should we?

# Benefits marsh endemics, fisheries, waterfowl, and other wildlife



