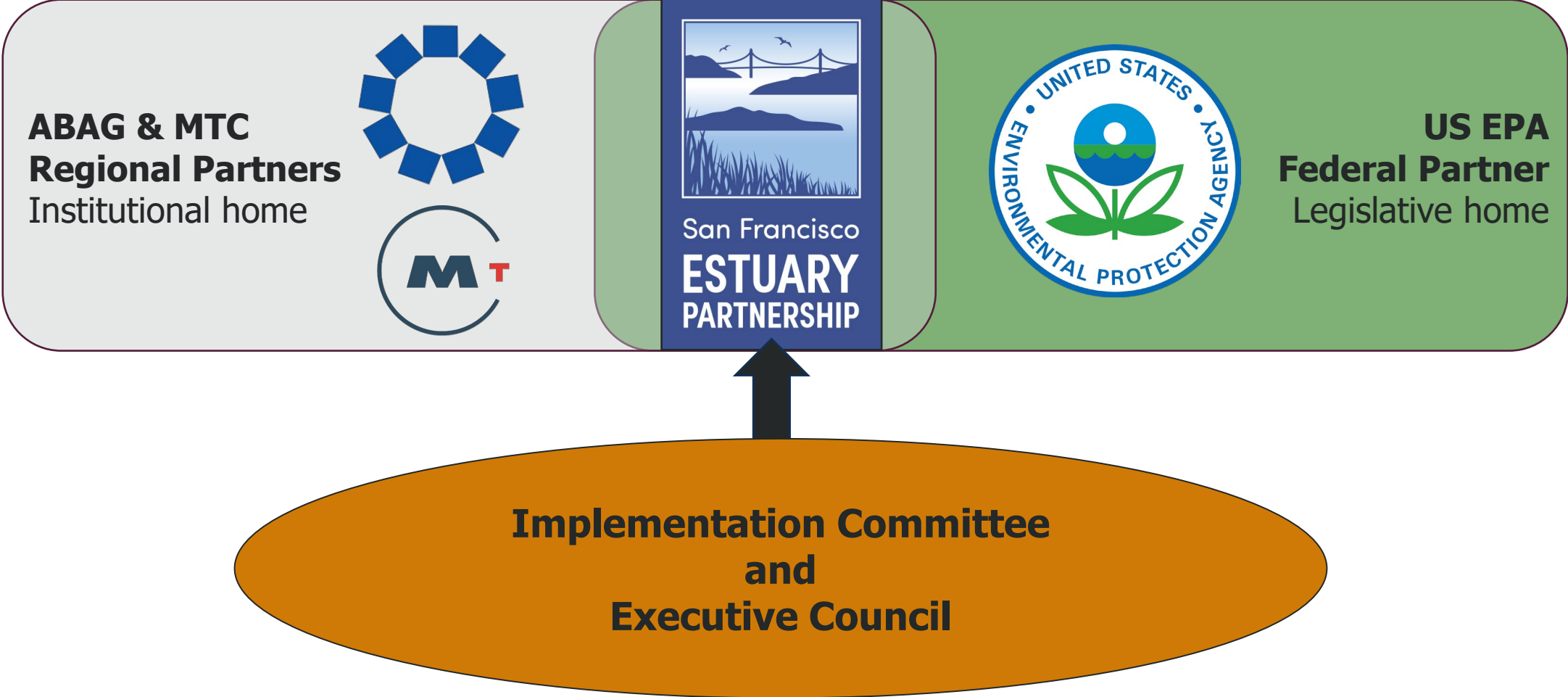


# North Bay: Bridging Resilience & Ecological Restoration

James Muller, Ellen Plane, Barbara Salzman



# Estuary Partnership Governance



# Resilience through Planning

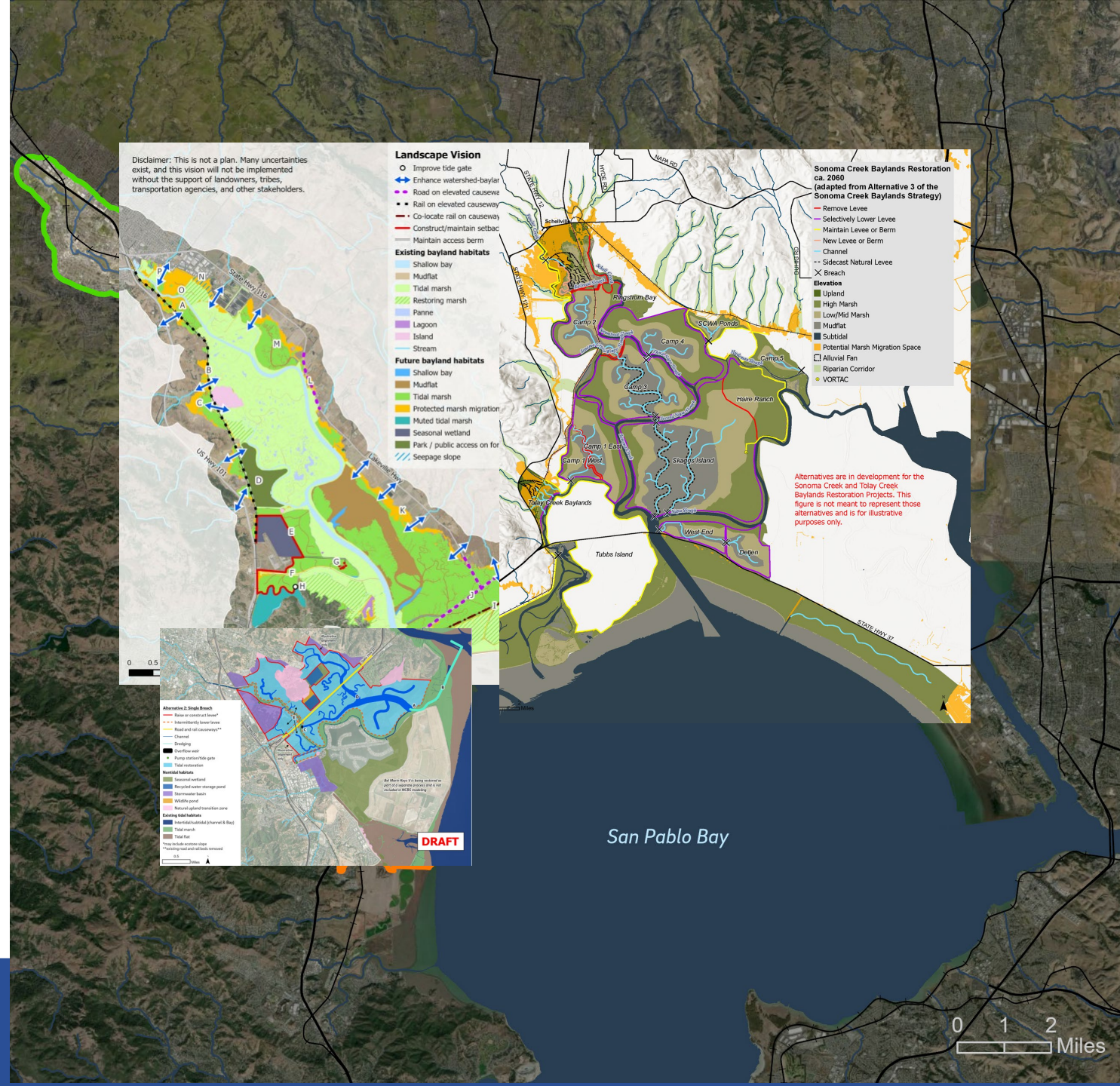


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# Baylands Strategies

- Sonoma Creek Baylands Strategy (2020)
- Petaluma River Baylands Strategy (2023)
- Novato Creek Baylands Strategy (2026)





# Novato Creek Baylands Strategy



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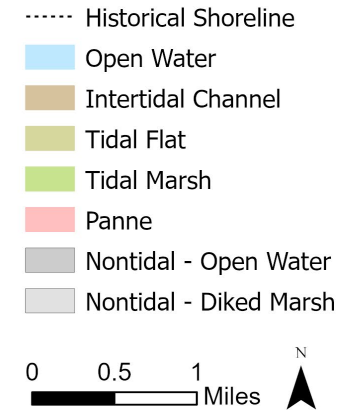
**SFEI**



Marin  
Audubon  
Society

**ESA**  
May 8, 2026

# Landscape Evolution



# Novato Creek Baylands Today

- Over 4,000 acres of diked baylands surrounded by unengineered berms
- Creek has shallowed and narrowed due to loss of tidal prism
- Major roads and infrastructure vulnerable to flooding



January 2019

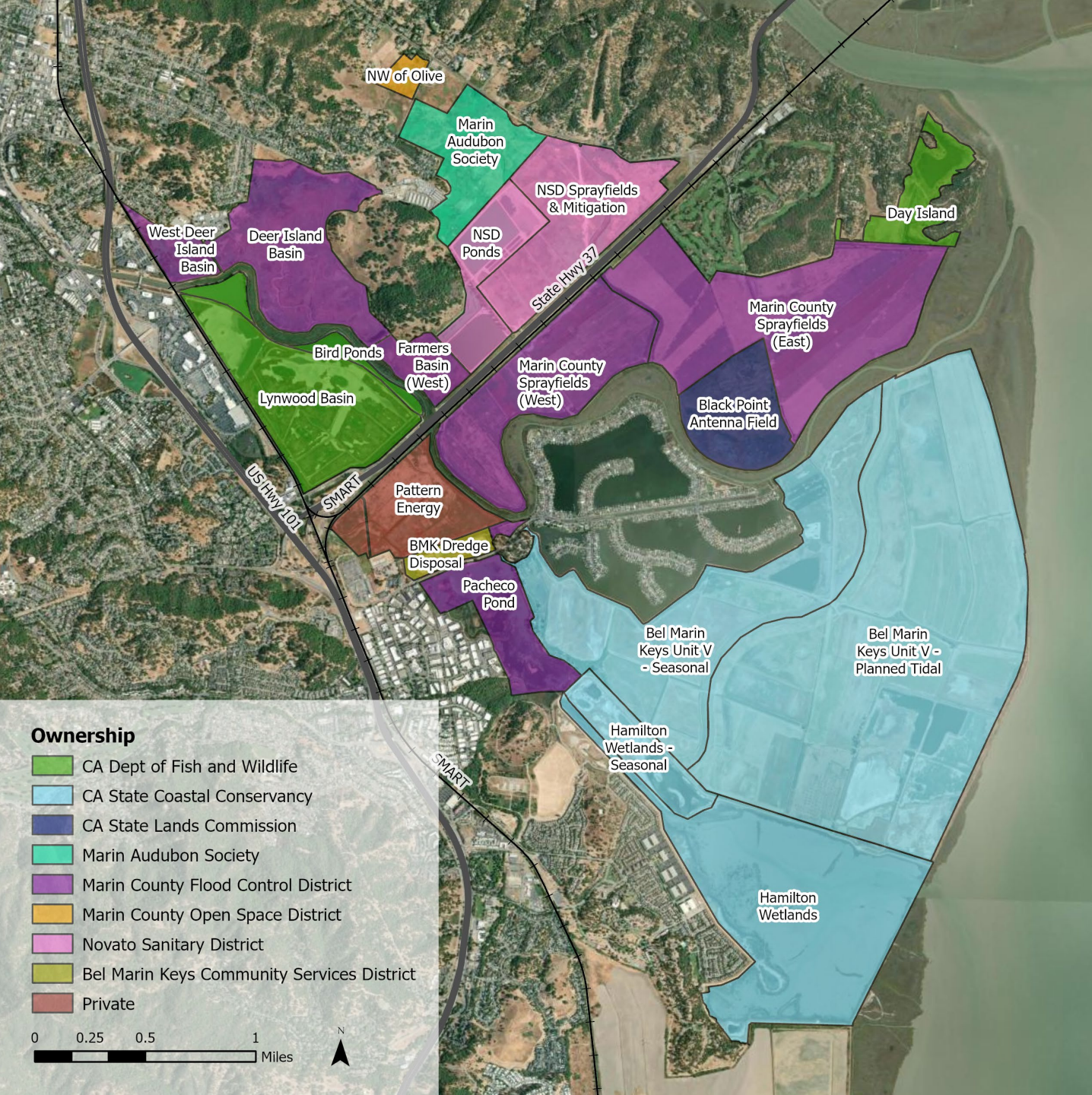
# Strategy Purpose

The Novato Creek Baylands Strategy will outline a path to creating a cohesive and functional landscape in the Novato Operational Landscape Unit (OLU).

## Goals:

- Restore tidal ecosystems to the maximum extent possible, including subtidal habitats, mudflats, marshes, and adjacent upland transition zones.
- Increase the resilience of the Novato baylands and upstream areas, including people, infrastructure, and ecosystems, to flooding under current and future climate change and sea-level rise.
- Build community and Tribal needs and priorities into both the strategy and its restoration options.

# Ownership

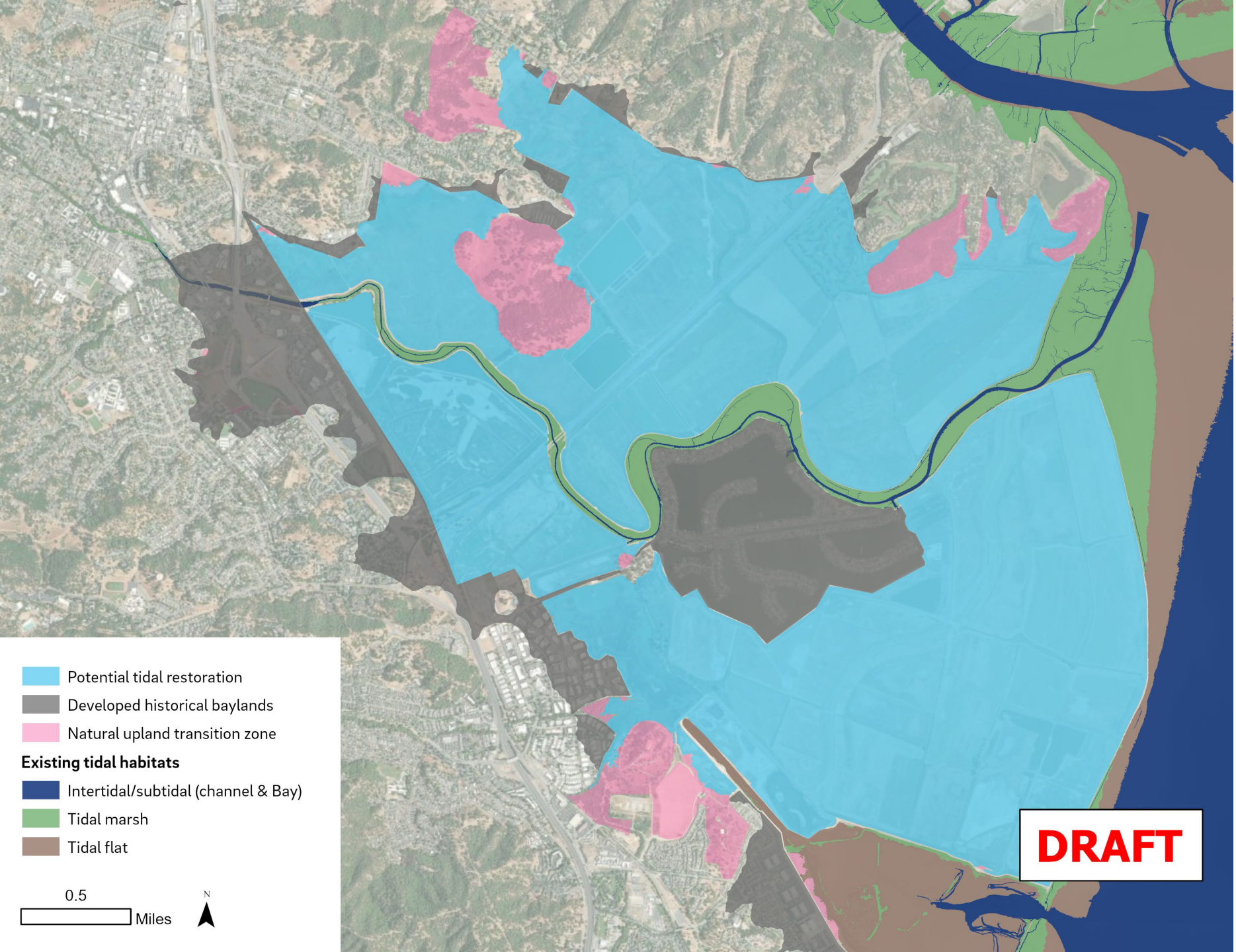


# Creating the Strategy

- Set goals
- Engaged with landowners and other interested parties
- Researched existing conditions
- Assessed cultural resources
- Developed restoration alternatives
- Conducted hydraulic modeling
- Evaluated alternatives and estimated costs
- Created an implementation plan and funding strategy



# Extent of undeveloped historical baylands



- Potential tidal restoration
- Developed historical baylands
- Natural upland transition zone

**Existing tidal habitats**

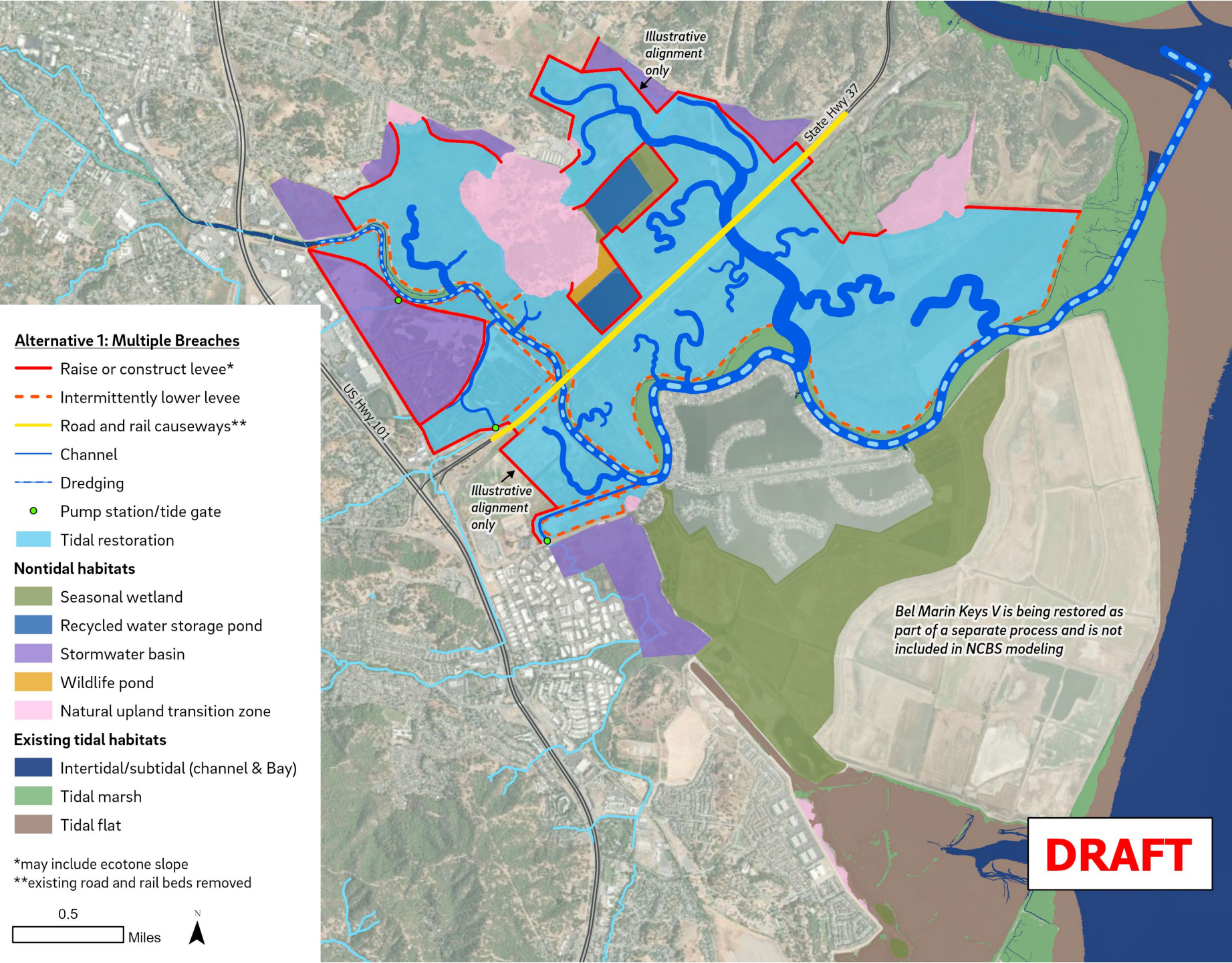
- Intertidal/subtidal (channel & Bay)
- Tidal marsh
- Tidal flat



**DRAFT**

# Multiple Breaches (long term)

- Mimics historical channel alignments
- Requires raising of both SR 37 and SMART onto elevated causeways
- Routes flows through constrained Novato Creek channel
- Requires extensive dredging



## Alternative 1: Multiple Breaches

- Raise or construct levee\*
- - - Intermittently lower levee
- Road and rail causeways\*\*
- Channel
- - - Dredging
- Pump station/tide gate
- Tidal restoration

## Nontidal habitats

- Seasonal wetland
- Recycled water storage pond
- Stormwater basin
- Wildlife pond
- Natural upland transition zone

## Existing tidal habitats

- Intertidal/subtidal (channel & Bay)
- Tidal marsh
- Tidal flat

\*may include ecotone slope

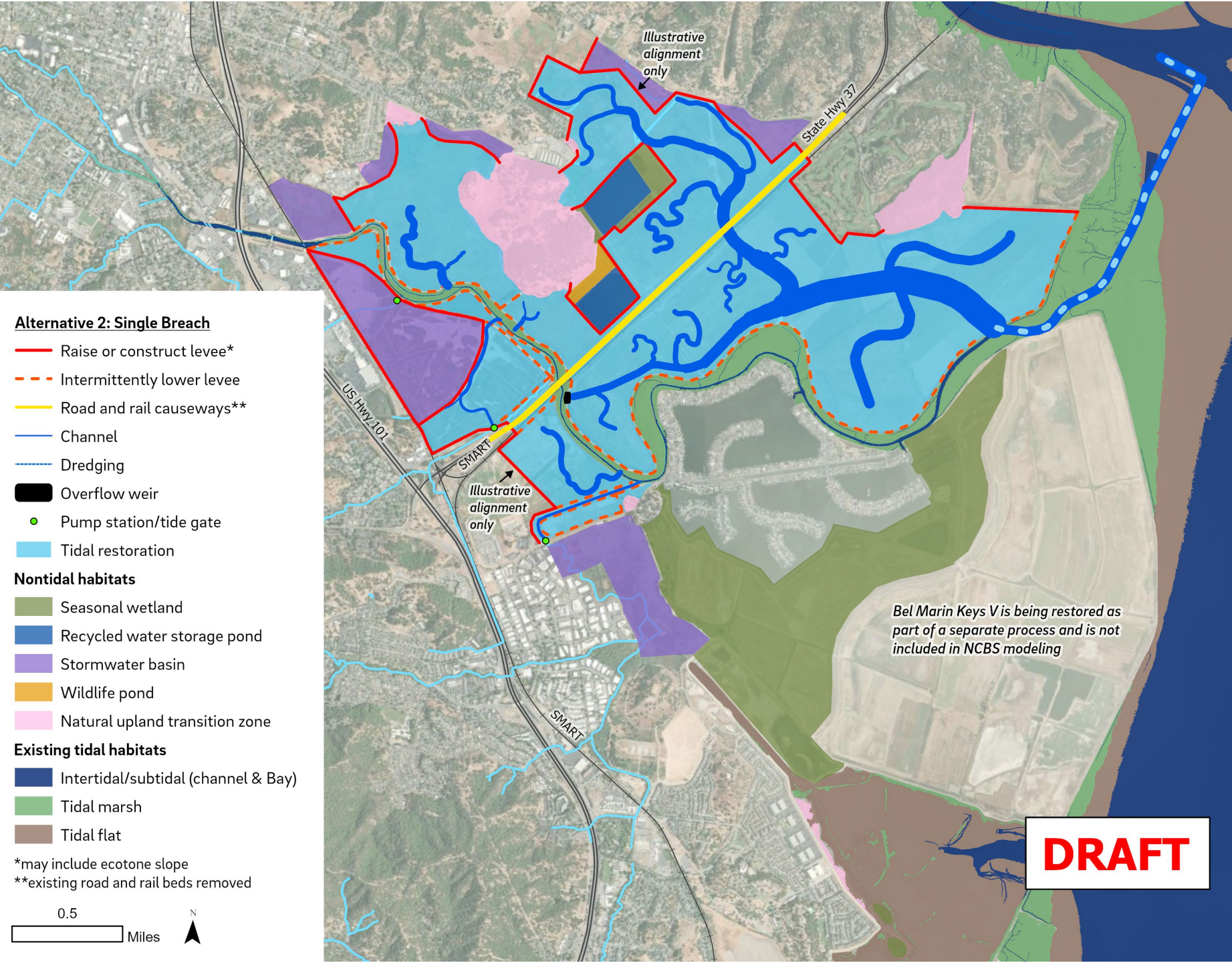
\*\*existing road and rail beds removed



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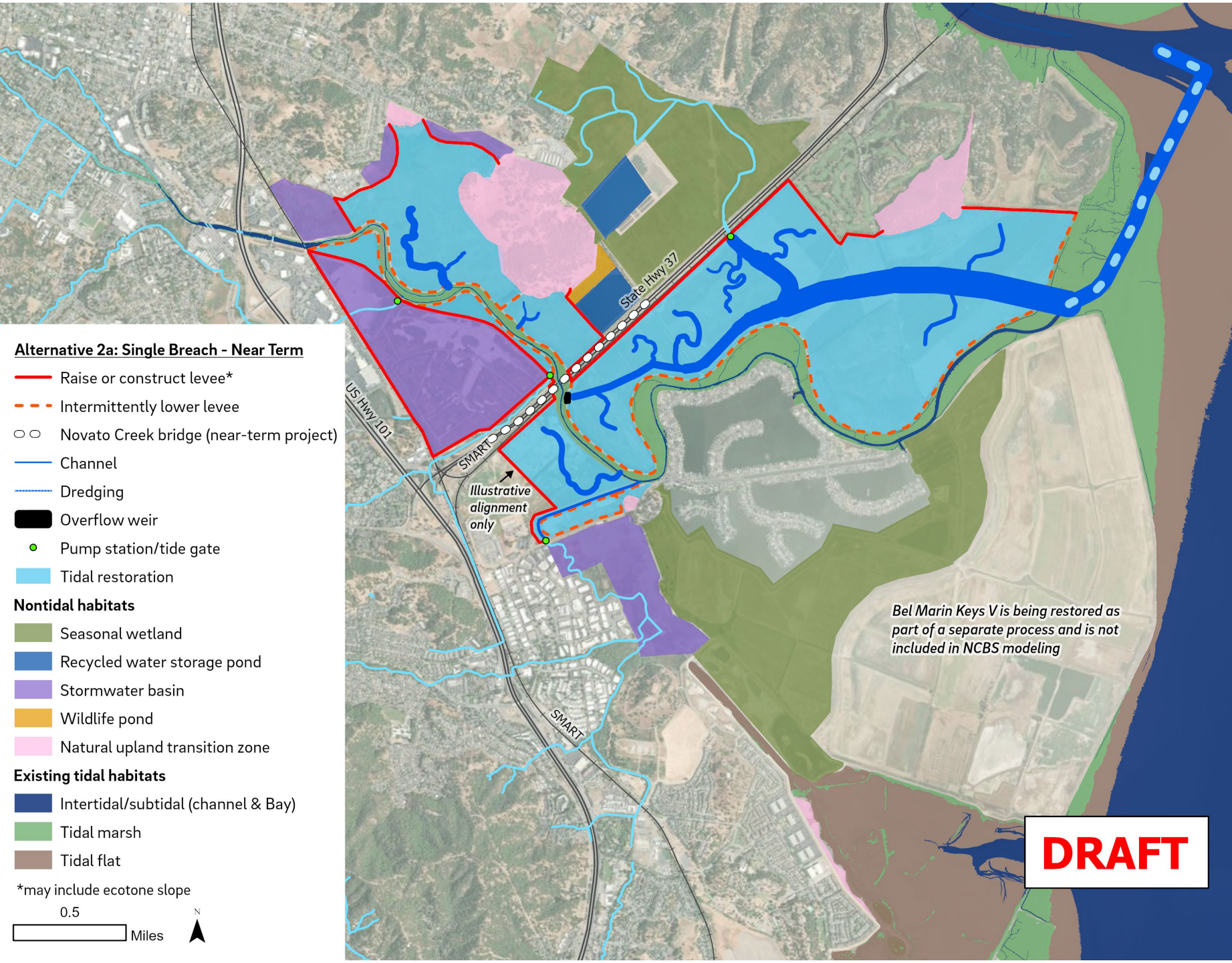
# Single Breach (long term)

- Routes majority of flow through new channel to increase tide range in restored areas
- Dredging only downstream of primary breach
- Requires raising of both SR 37 and SMART onto elevated causeways



# Single Breach (near term)

Subset of Alternative 2 that can be implemented prior to raising SR 37 and SMART; requires temporary setback levee to protect them



**Alternative 2a: Single Breach - Near Term**

- Raise or construct levee\*
- - - Intermittently lower levee
- Novato Creek bridge (near-term project)
- Channel
- - - Dredging
- Overflow weir
- Pump station/tide gate
- Tidal restoration

**Nontidal habitats**

- Seasonal wetland
- Recycled water storage pond
- Stormwater basin
- Wildlife pond
- Natural upland transition zone

**Existing tidal habitats**

- Intertidal/subtidal (channel & Bay)
- Tidal marsh
- Tidal flat

\*may include ecotone slope



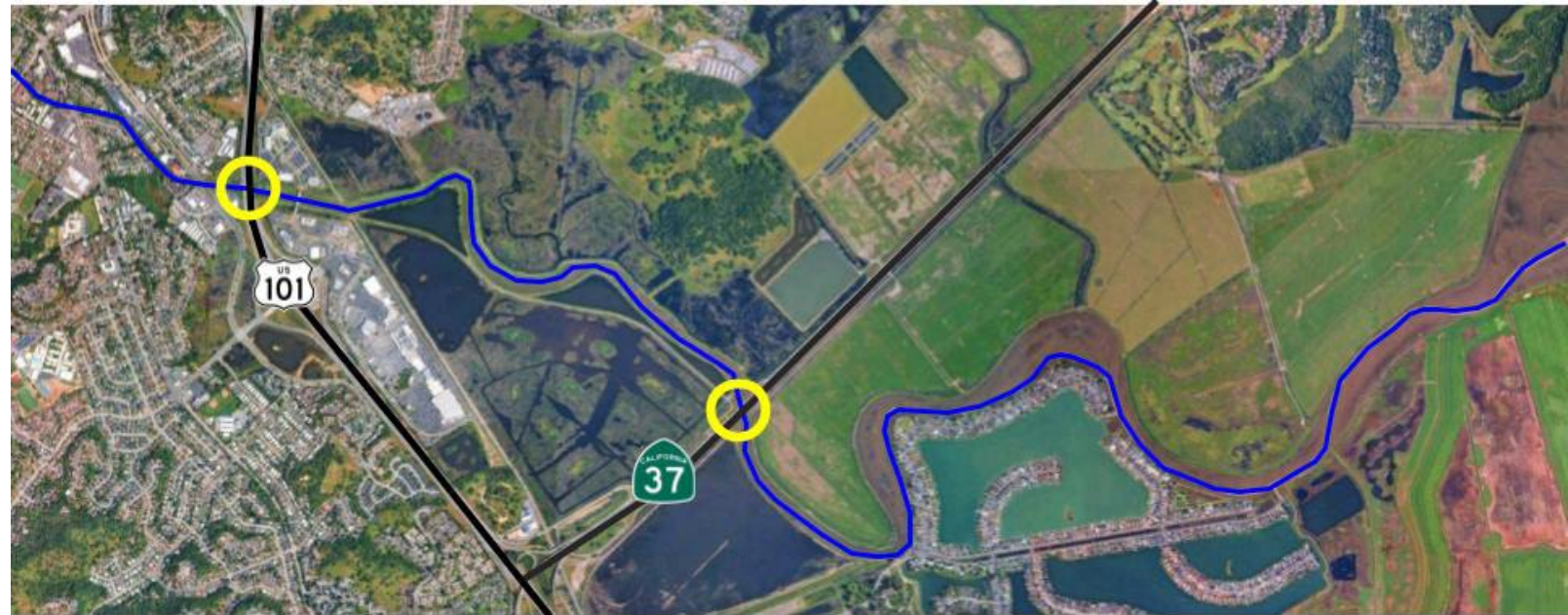
*Bel Marin Keys V is being restored as part of a separate process and is not included in NCBS modeling*

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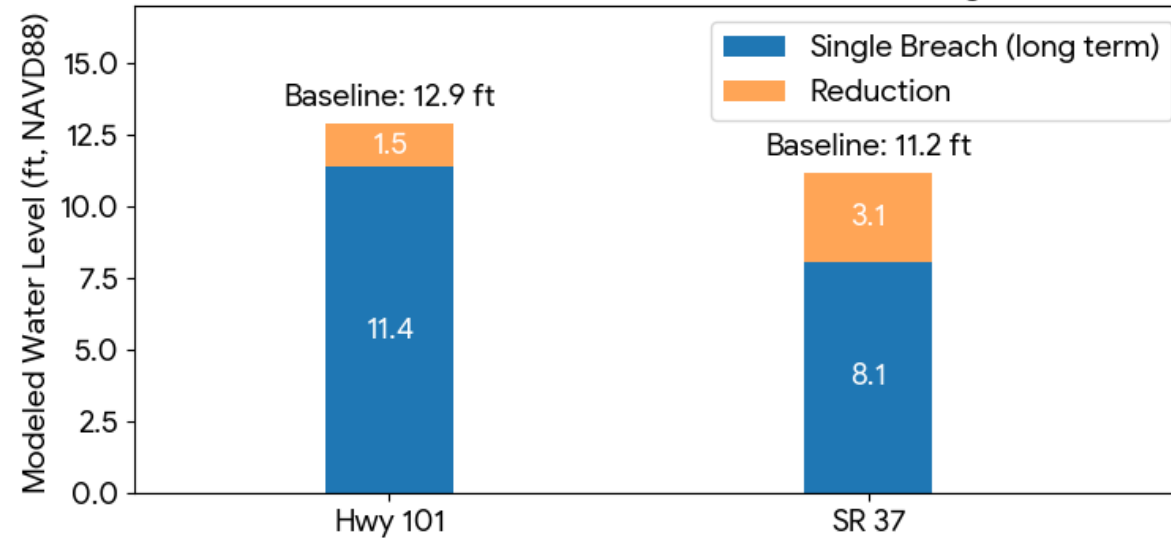
# Modeling results – flood reduction

Single Breach (long term)

For the 50-yr flow and 1-yr tide event



Modeled Maximum Water Levels: Baseline vs. Single Breach



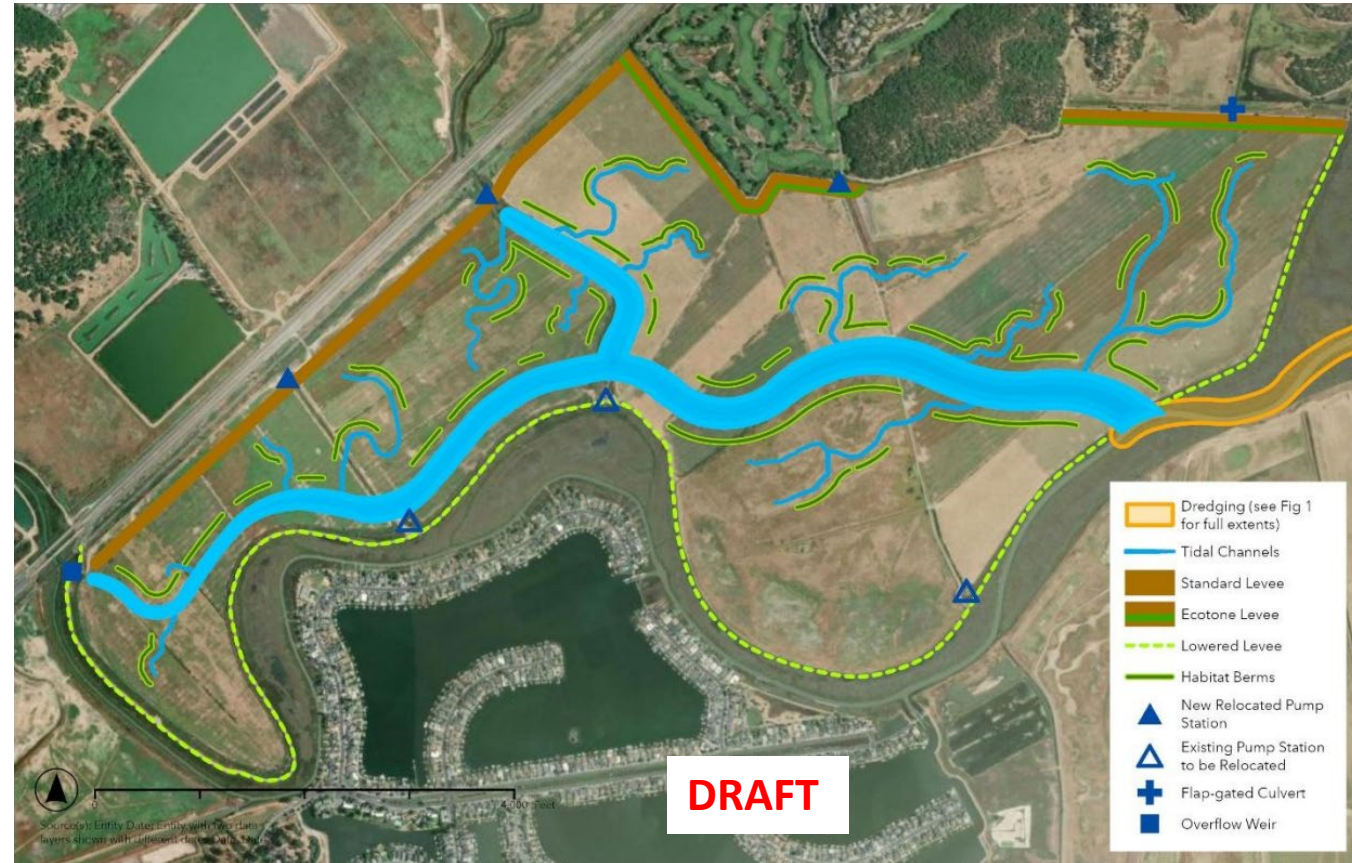
# Near-term project: "All Sprayfields" Alternative

Rough order of magnitude costs (829 ac)

- \$50M (\$60K/ac), excluding contingency and soft costs
  - Restoration of Sprayfields \$28M
  - Flood protection of SR37 & SMART \$9M
  - Dredging of Novato Creek \$13M

Flood modeling:

- 50-year flood: **-0.2 feet** at Hwy 101 and **-0.6 feet** at SR 37



# Next Steps

Key challenges to overcome identified in Implementation Strategy section.  
Continued coordination needed on:

- SMART and SR 37 crossings at Novato Creek and Simmons Slough
- Possible lingering contamination at Black Point Antenna Field (State Lands Commission)
- Truncation of Novato Sanitary District Outfall line
- Relocation/modification of other wastewater pipelines
- Possible PG&E tower modifications

# Perspectives from Marin Audubon Society

Photo by Ben Botkin



# Planning to Implementation



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**FIGURE 1**  
Strip Marsh East Location Map

# Thank You



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**PARTNERSHIP**

James Muller | Assistant Director

415-778-6674

James.muller@sfestuary.org

[sfestuary.org](http://sfestuary.org)



Ellen Plane | Senior Scientist

ellenp@sfei.org

[sfei.org](http://sfei.org)