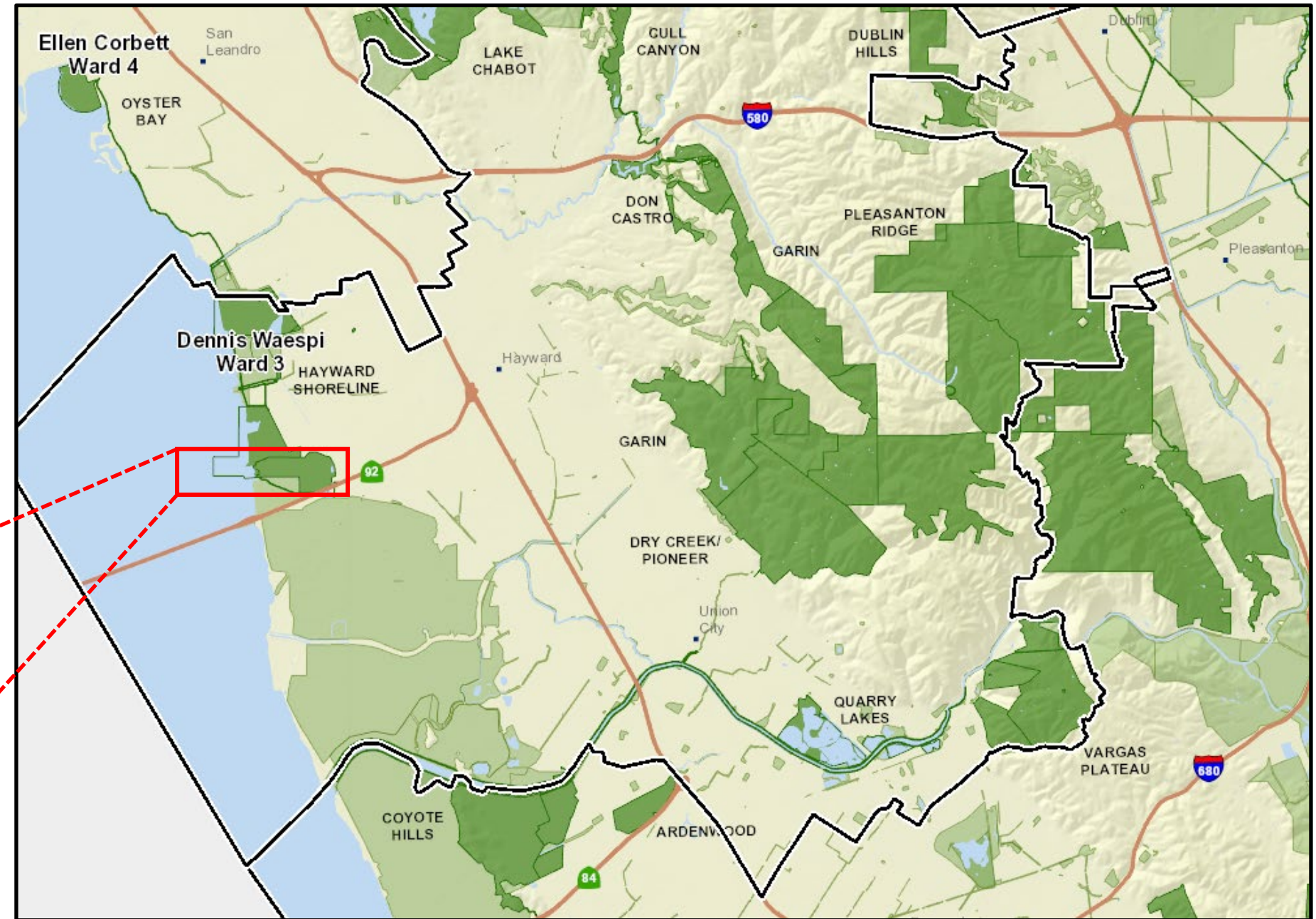
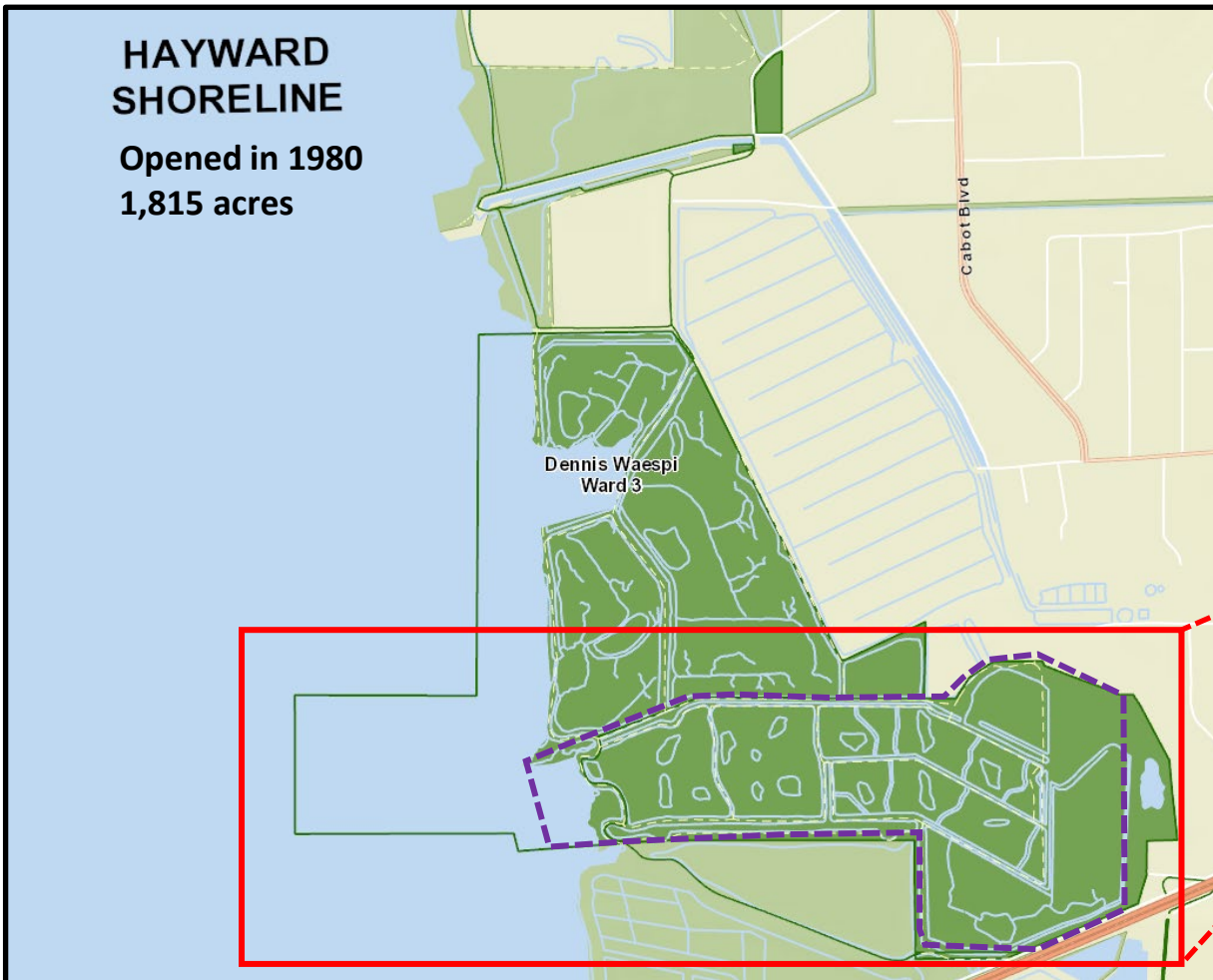


Hayward Regional Shoreline Restore Hayward Marsh (Former USD Treatment Marsh)

Board Executive Committee Update
9/14/21



Location

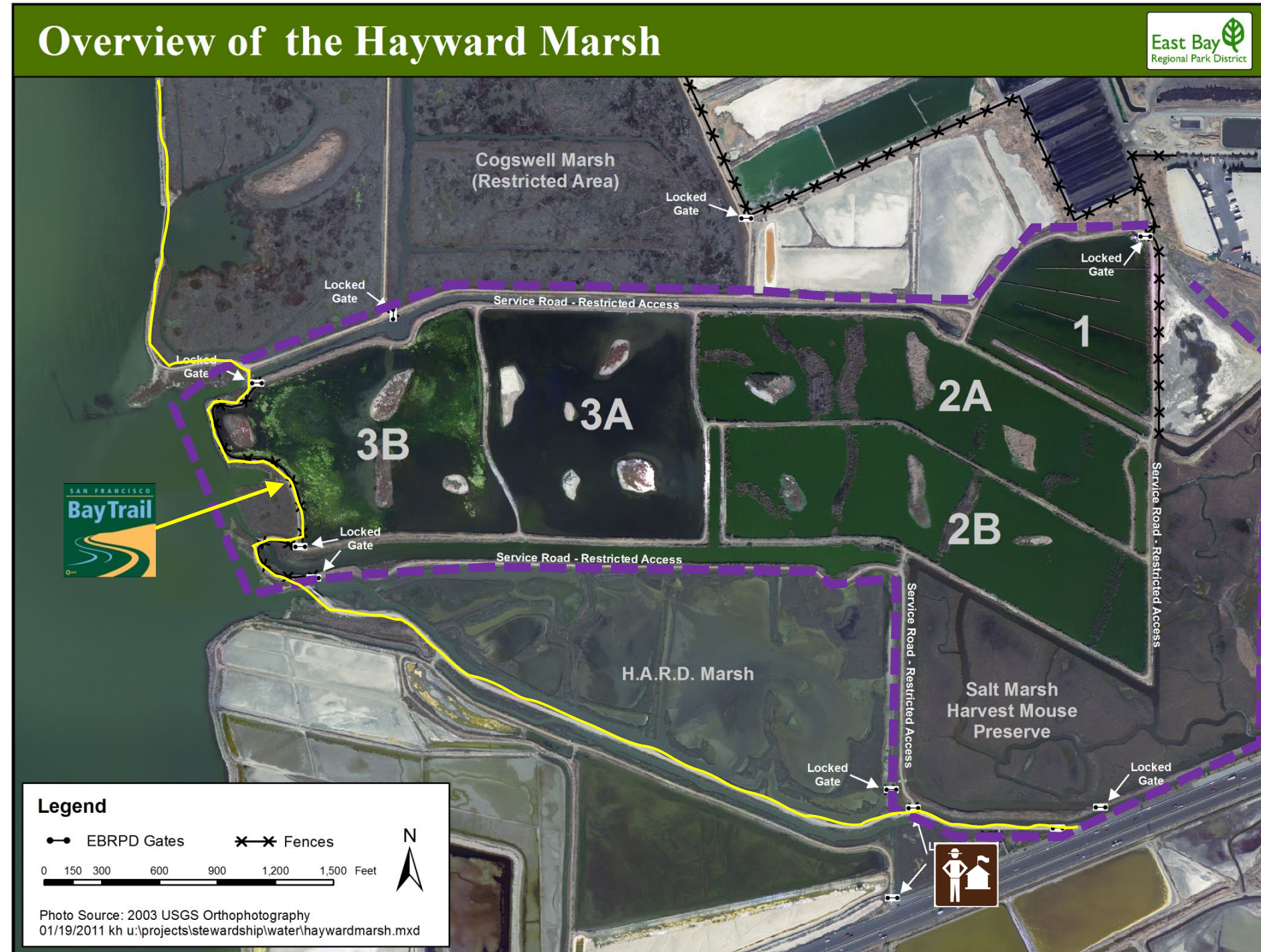


Background

Hayward Marsh (Project Area):

- Owned by Park District used by Union Sanitary District (USD) for wastewater treatment marsh
- 145 Acres, Constructed in 1985
- Designed to provide freshwater and brackish habitat
- Ponds and channels are silted, wastewater treatment no longer viable. USD to cease discharges.

Overview of the Hayward Marsh



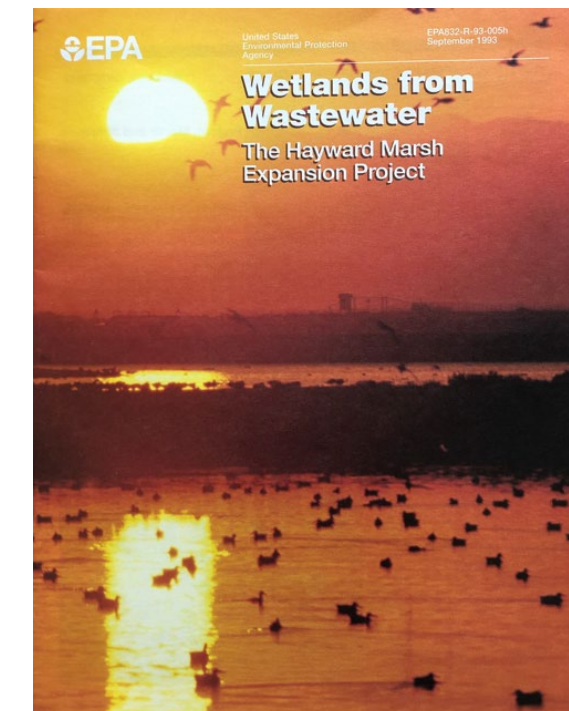
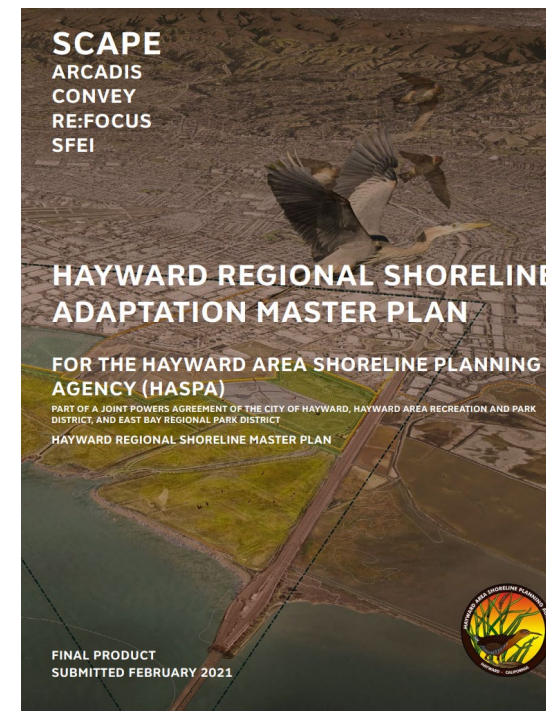
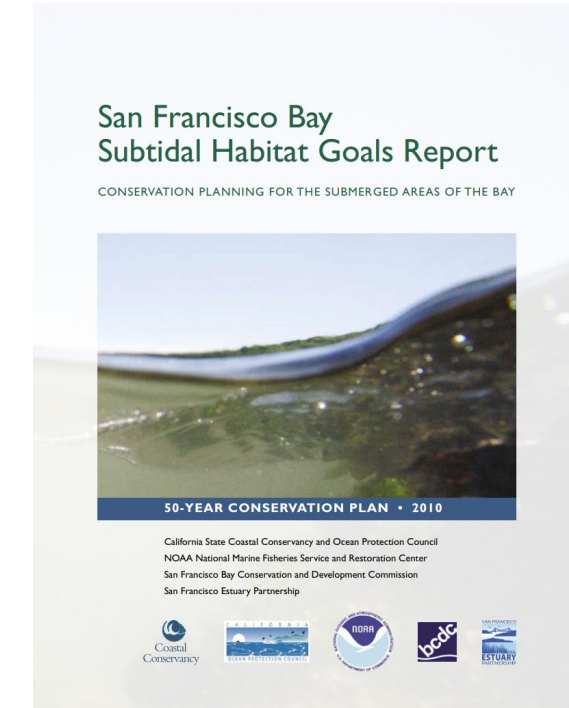
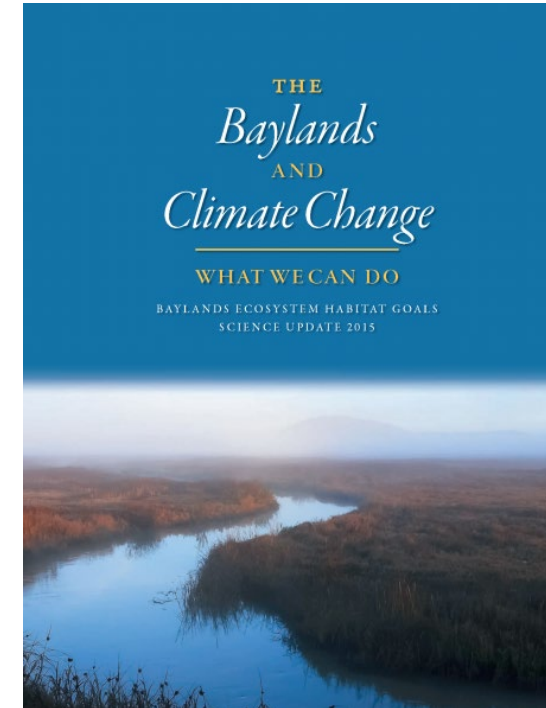
Project Goals

- Enhance Wildlife Habitat
- Plan for Sea Level Rise
- Improve Public Access Opportunities
- Improve Management Capabilities



Guidance/Reference

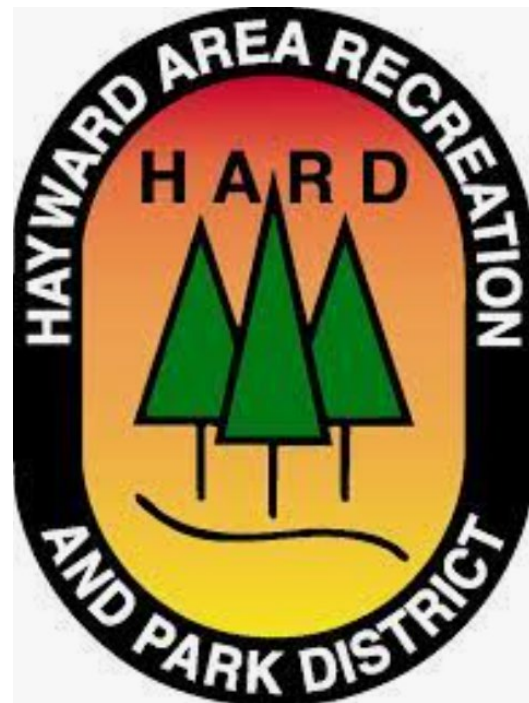
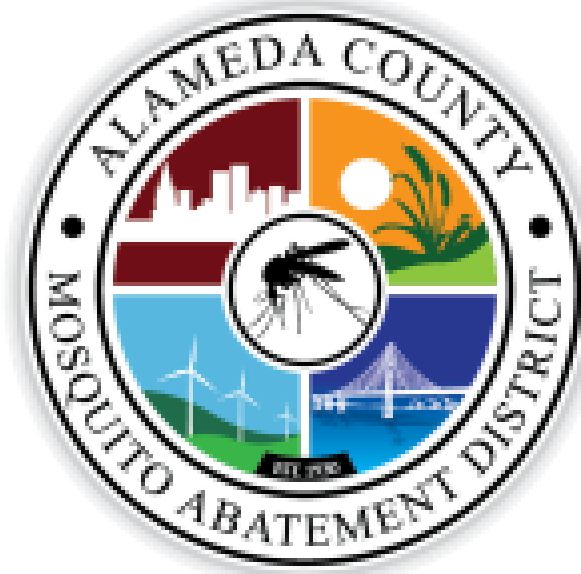
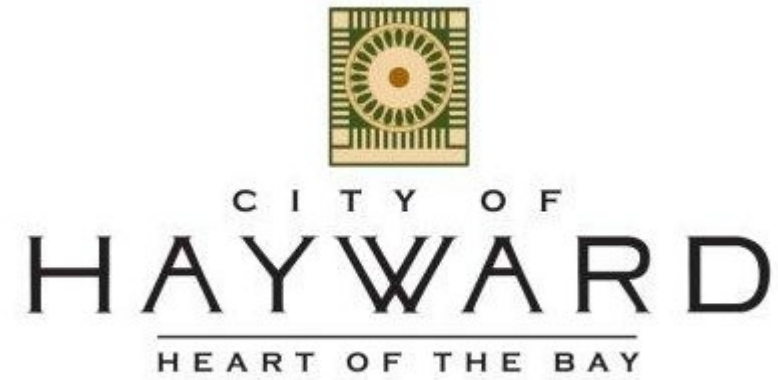
- Baylands Ecosystem Habitat Goals Project
- Subtidal Habitat Goals Report
- HASPA Hayward Regional Shoreline Adaptation Master Plan
- Other SF Bay Restoration Projects
 - South Bay Salt Ponds Restoration Project
 - EBRPD Restoration Projects
- History of site-specific species management (Least Tern, Snowy Plover, Salt Marsh Harvest Mouse)



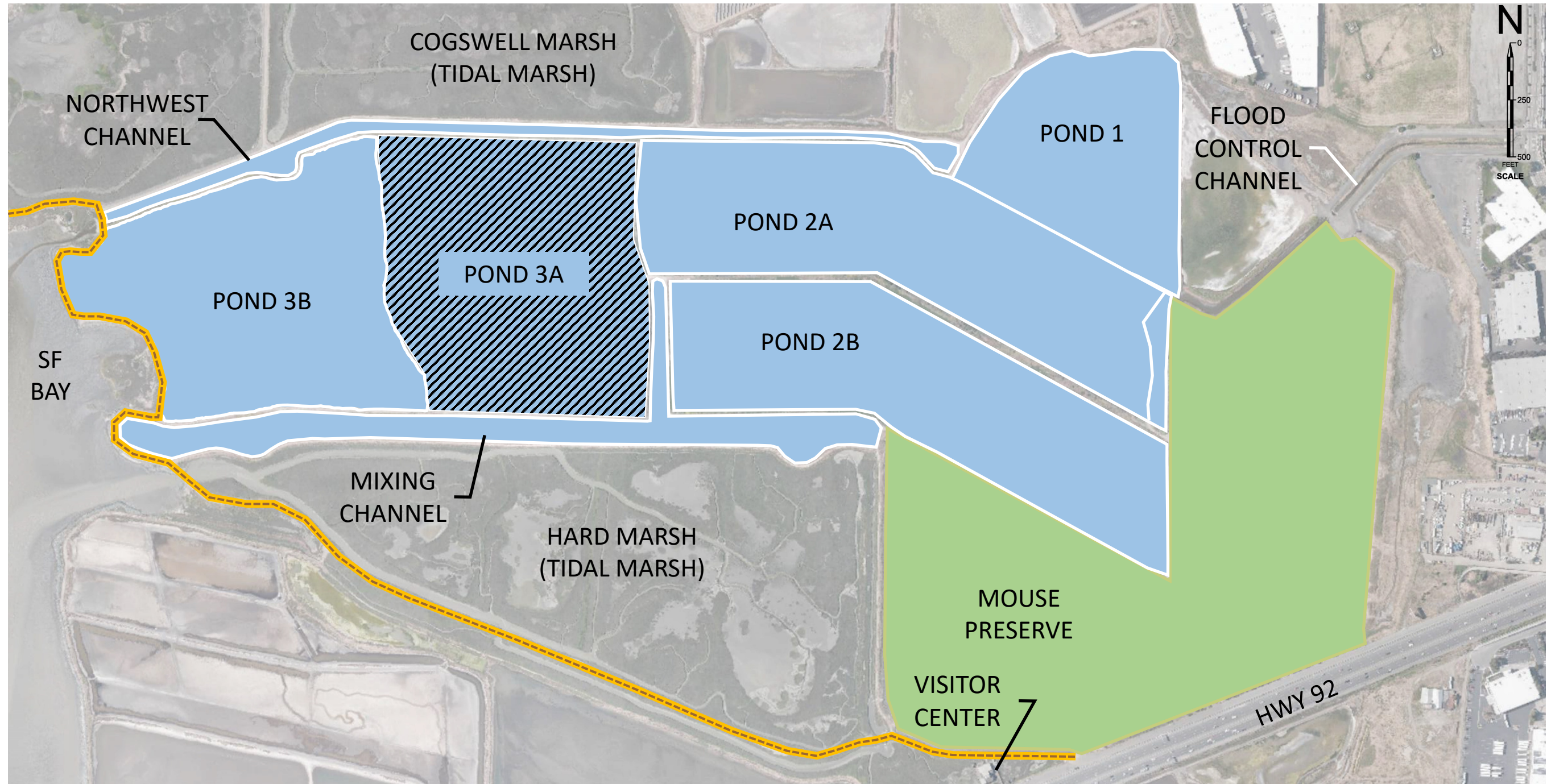
Scope and Schedule

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(Scope Includes: Feasibility/Pre-Design, 35% Design, Assessment of Impacts/CEQA)
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(Tidal monitoring, Phase I Hazmat, Geotech, Bio Resources, Wetland Delineation, Regulatory Coordination)
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(Develop 3 design concepts)
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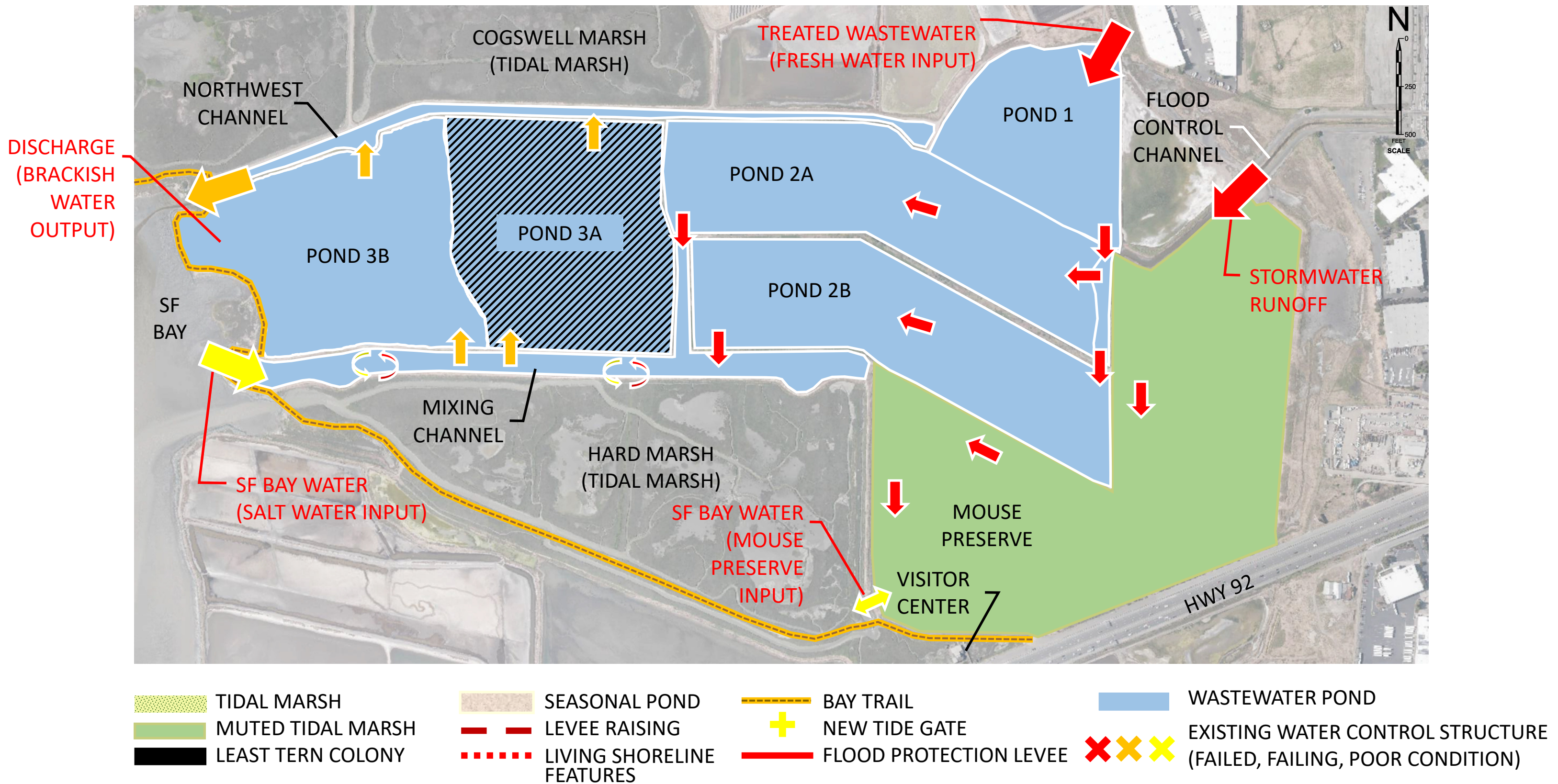
Agency Stakeholders



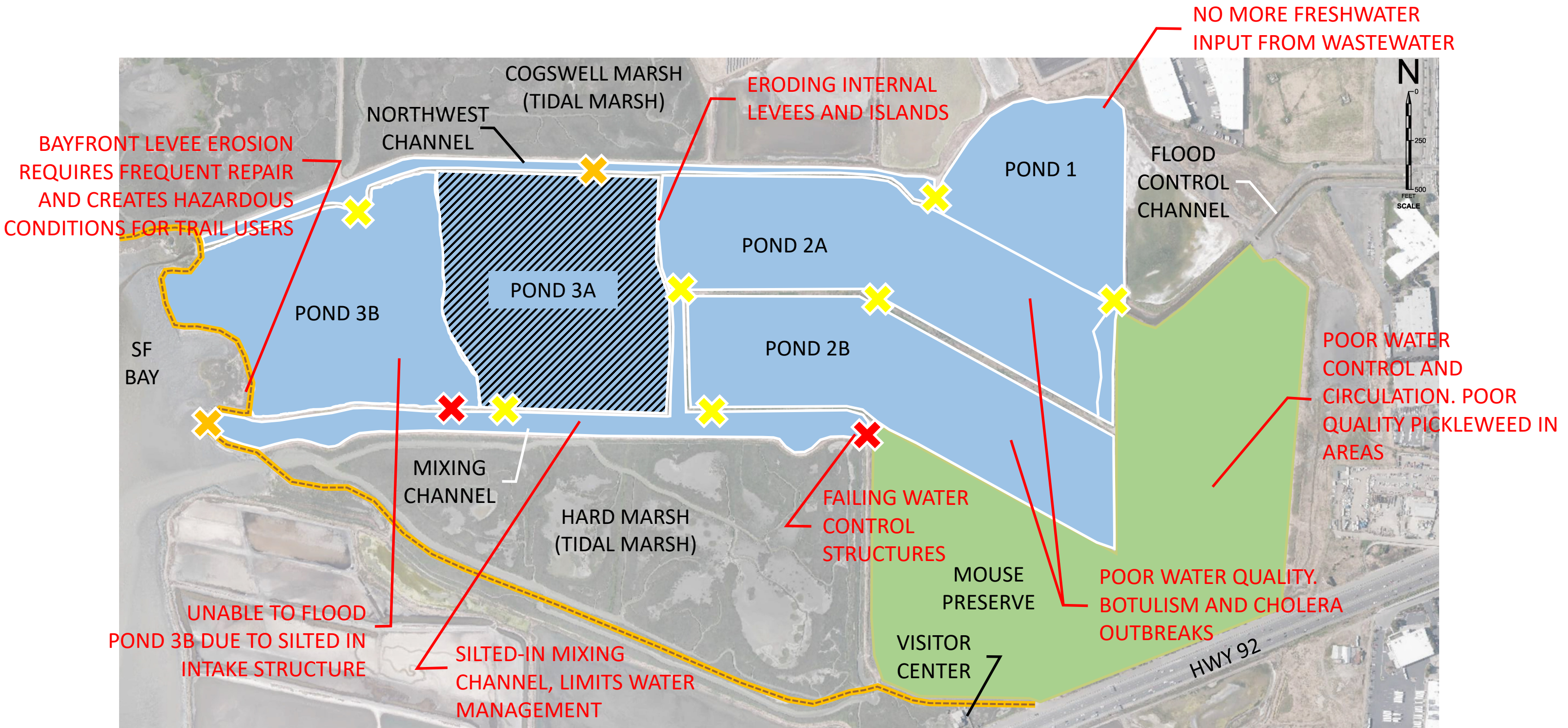
Existing Conditions



Existing Conditions: Pond Operation Summary

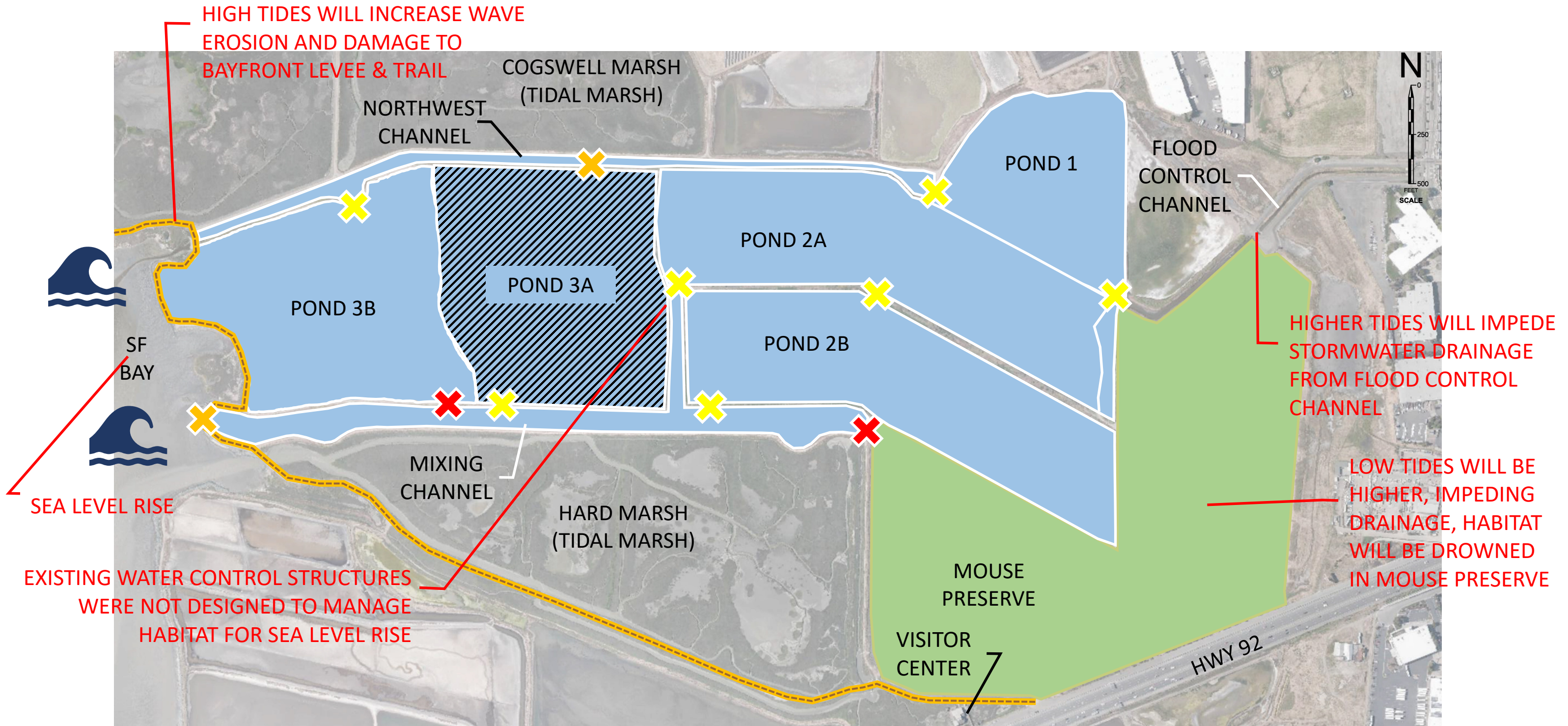


Existing Conditions: Challenges



- | | | | |
|---|--|--|--|
|  TIDAL MARSH |  SEASONAL POND |  BAY TRAIL |  WASTEWATER POND |
|  MUTED TIDAL MARSH |  LEVEE RAISING |  NEW TIDE GATE |  EXISTING WATER CONTROL STRUCTURE (FAILED, FAILING, POOR CONDITION) |
|  LEAST TERN COLONY |  LIVING SHORELINE FEATURES |  FLOOD PROTECTION LEVEE | |

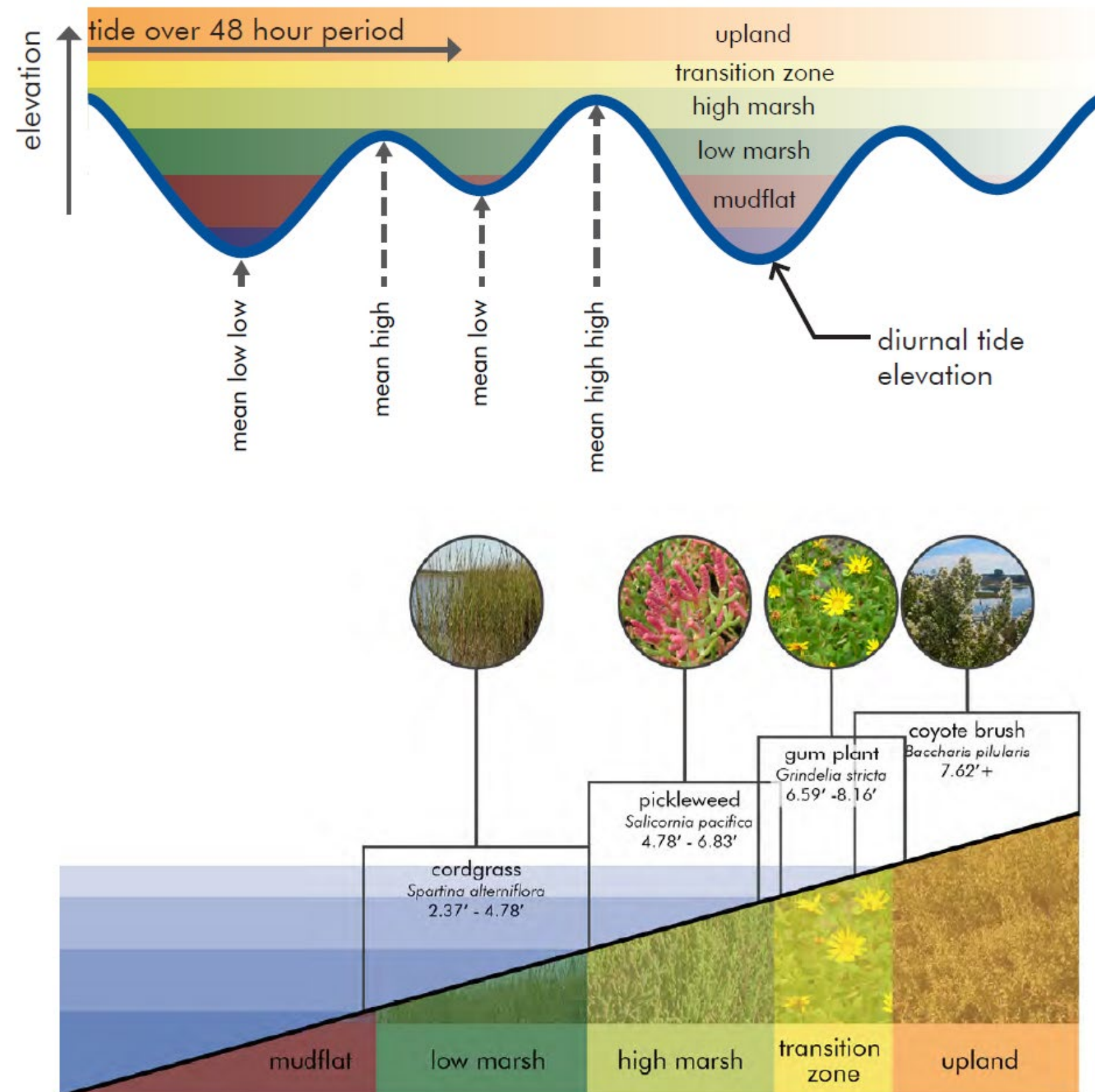
Sea Level Rise Challenges



- | | | | |
|-------------------|---------------------------|------------------------|--|
| TIDAL MARSH | SEASONAL POND | BAY TRAIL | WASTEWATER POND |
| MUTED TIDAL MARSH | LEVEE RAISING | NEW TIDE GATE | EXISTING WATER CONTROL STRUCTURE (FAILED, FAILING, POOR CONDITION) |
| LEAST TERN COLONY | LIVING SHORELINE FEATURES | FLOOD PROTECTION LEVEL | |

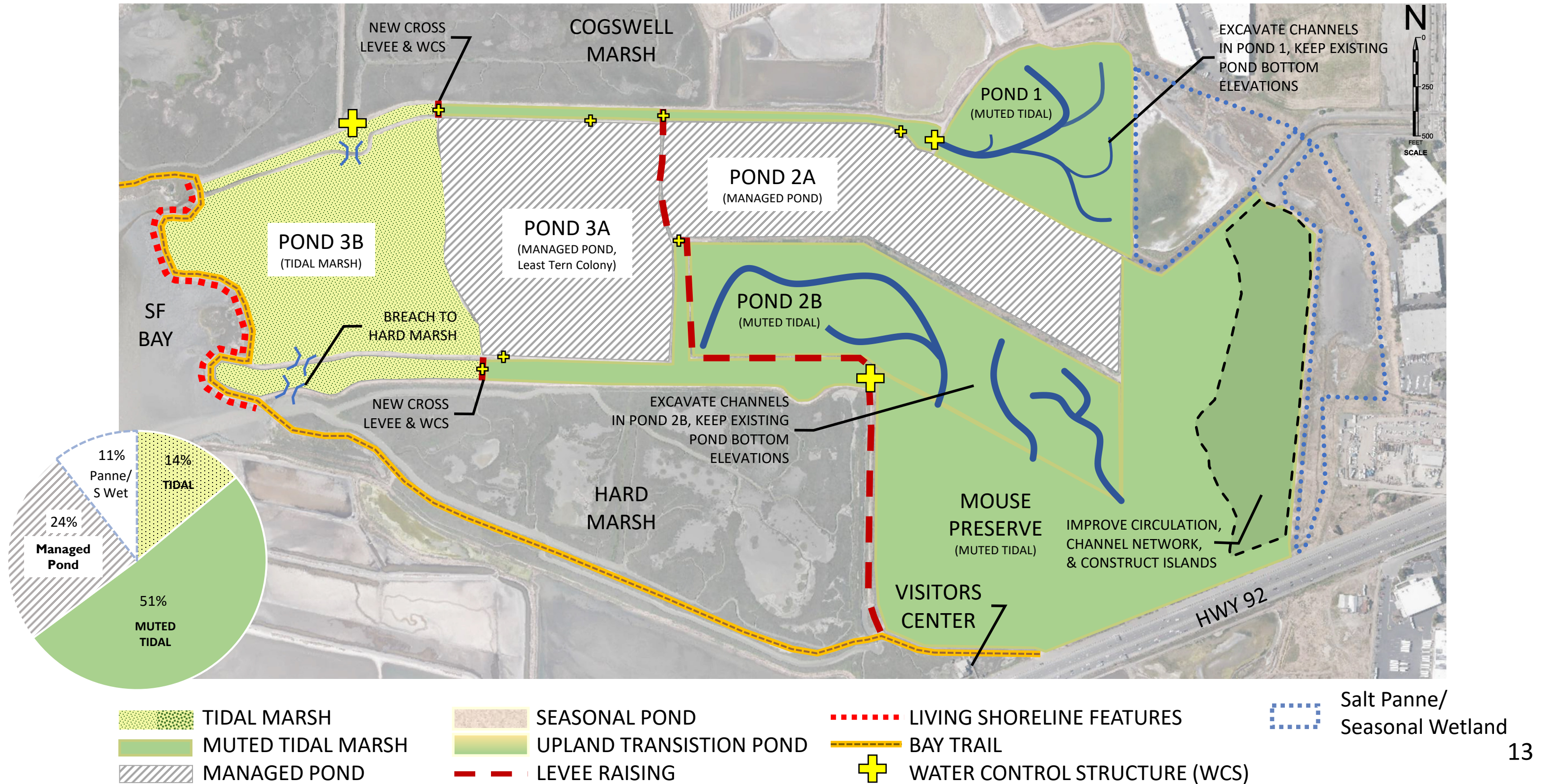
Review of Tides and Habitat

tidal inundation & habitat zones



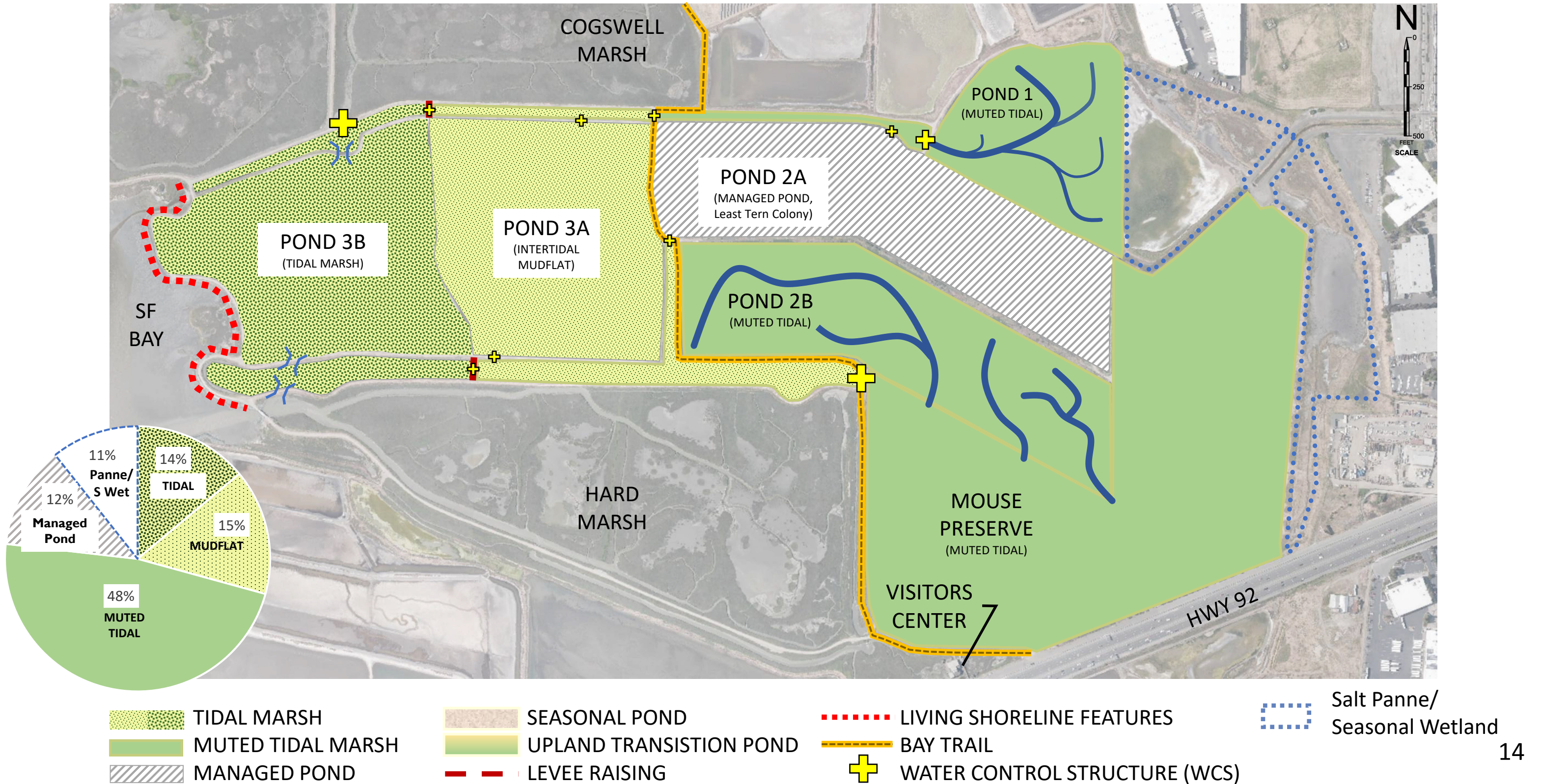
Option I: Maximize Near-Term Tidal

NEAR TERM • ~0-20 YEARS



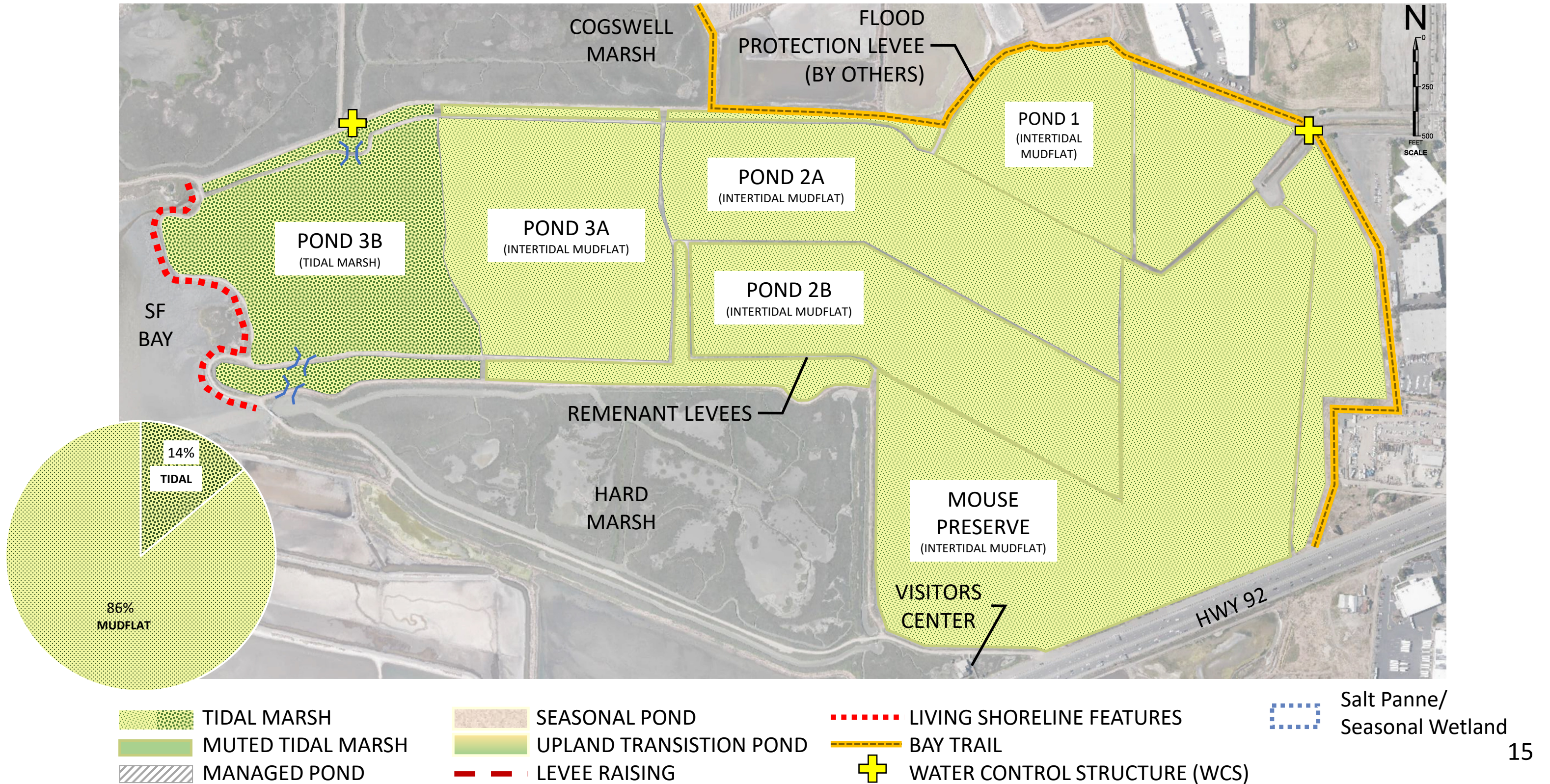
Option I: Maximize Near-Term Tidal

MEDIUM TERM • ~20+ YEARS (2FT SLR)



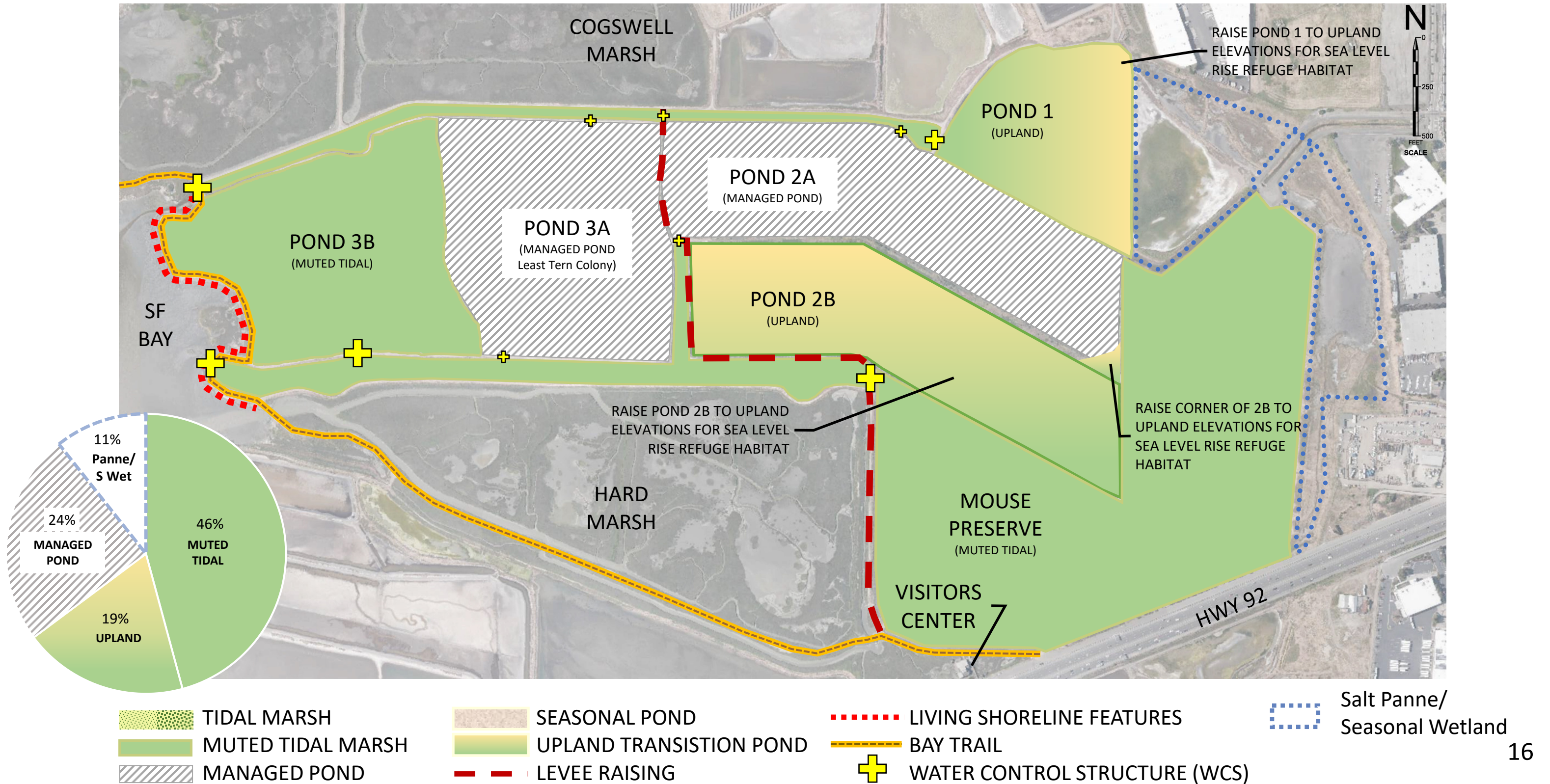
Option I: Maximize Near-Term Tidal

LONG TERM • 50+ YEARS (5FT SLR)



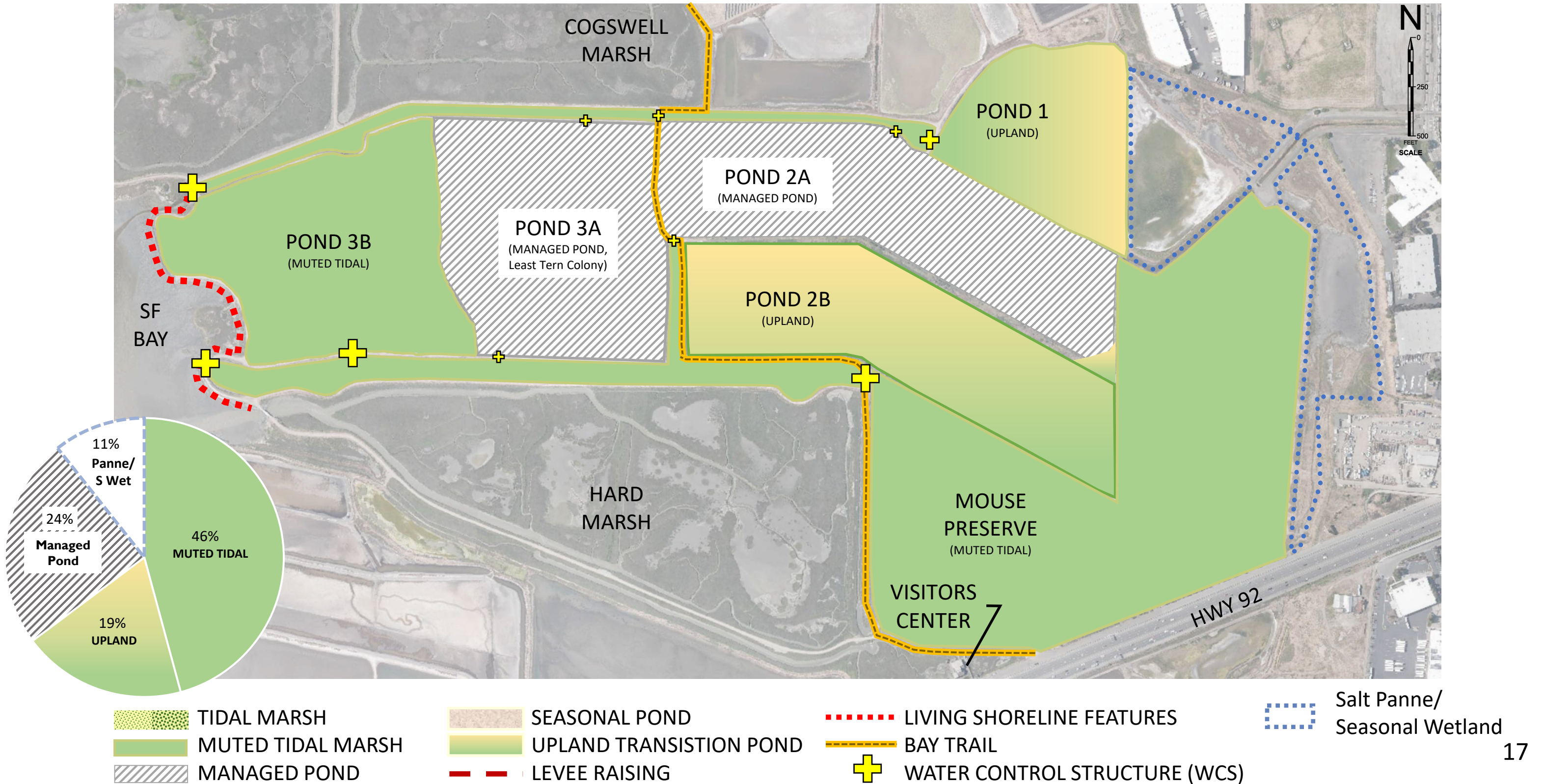
Option 2: Maximize Resilience to Sea Level Rise

NEAR TERM • ~0-20 YEARS



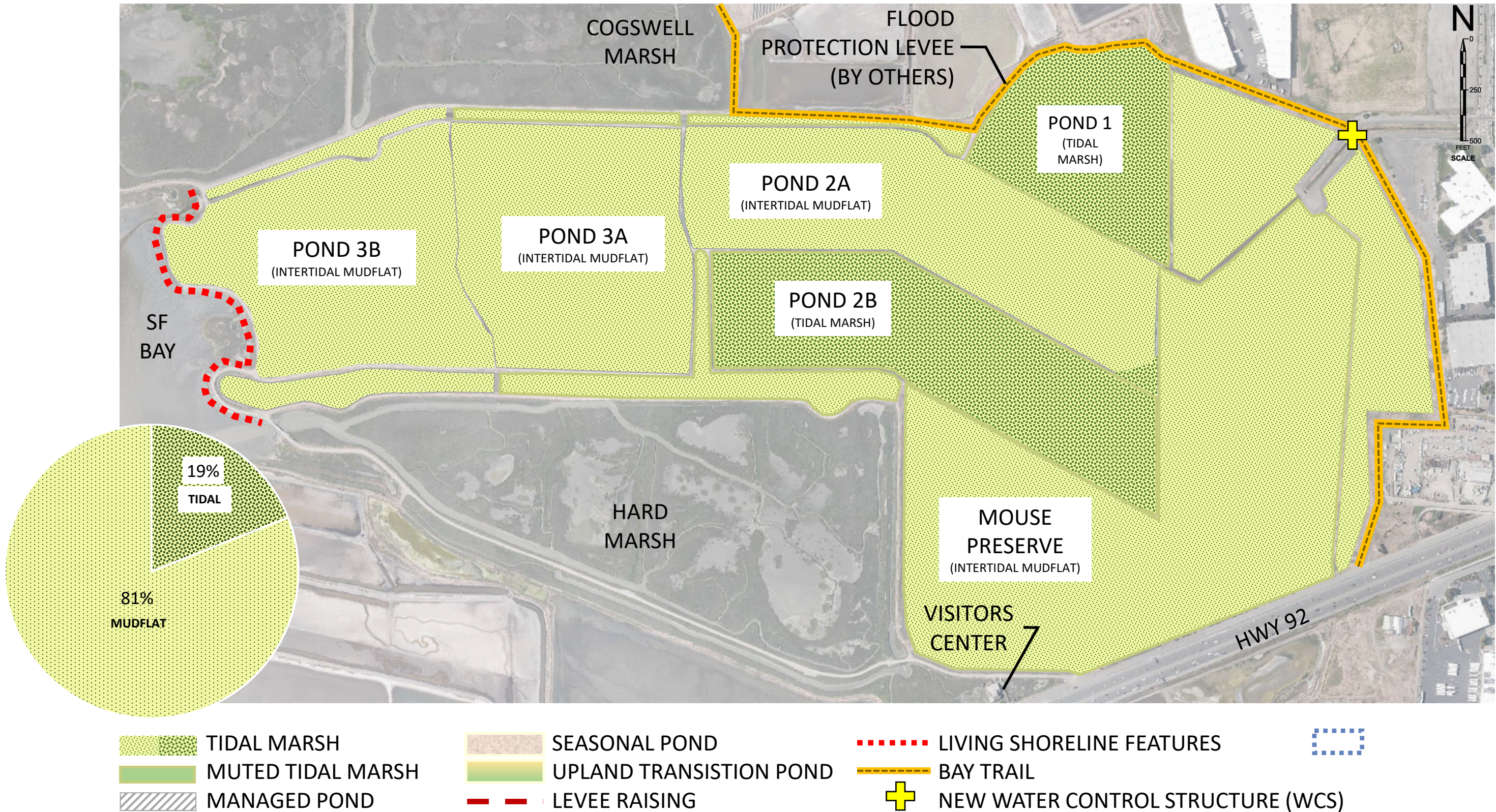
Option 2: Maximize Resilience to Sea Level Rise

MEDIUM TERM • ~20+ YEARS (2FT SLR)



Option 2: Maximize Resilience to Sea Level Rise

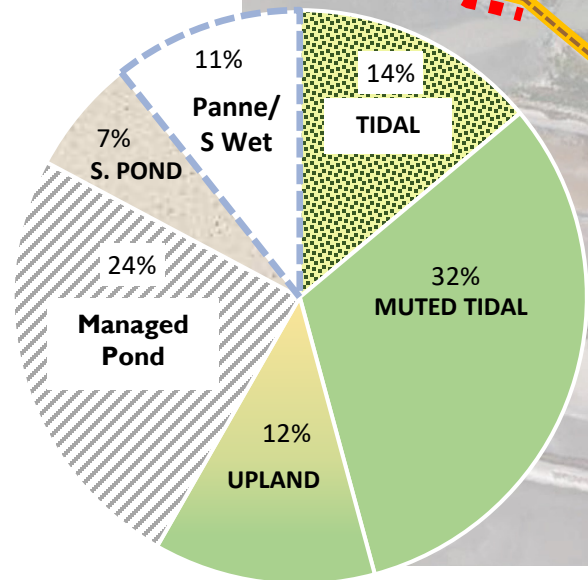
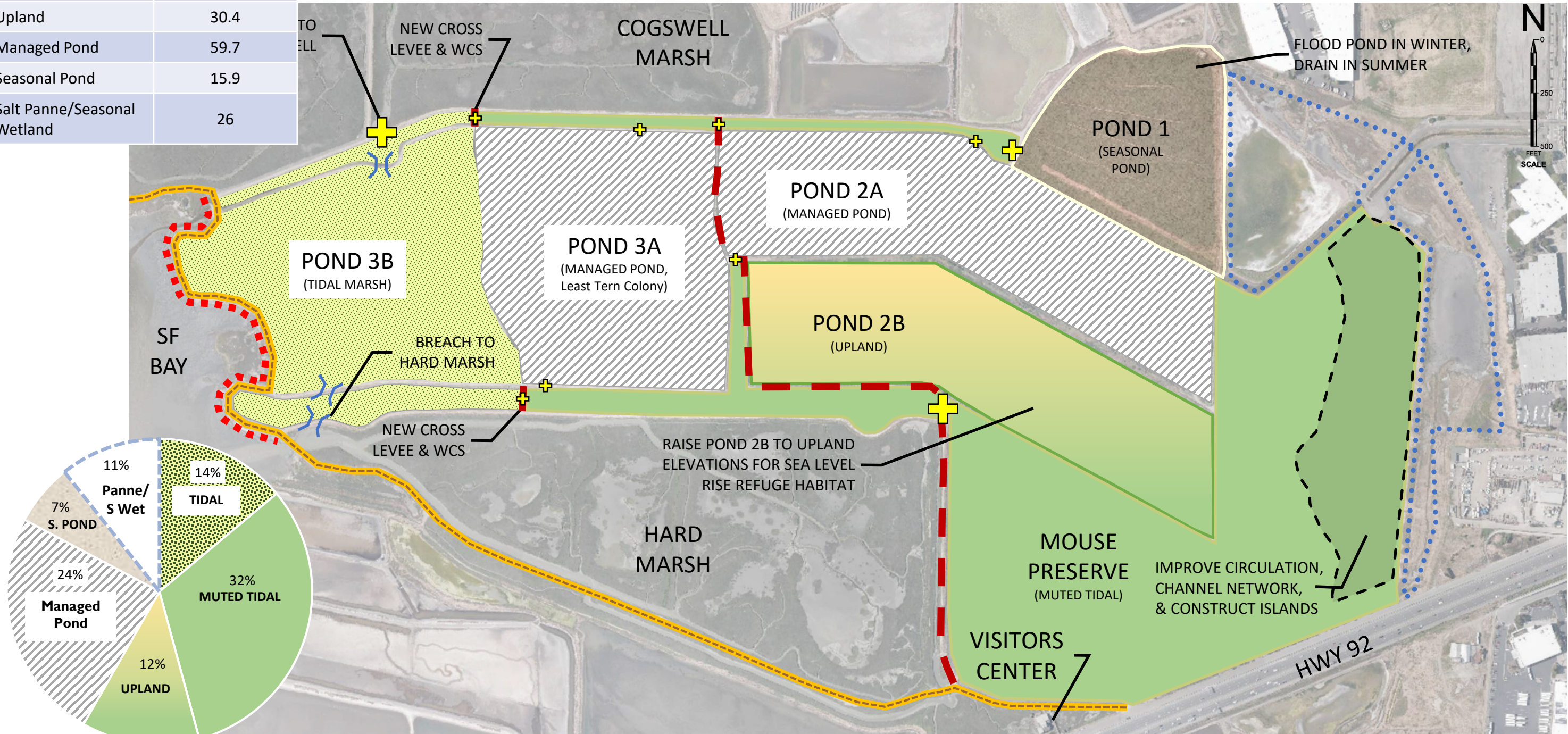
LONG TERM • 50+ YEARS (5FT SLR)



Option 3: Balance of Near-Term Habitat and Resilience

NEAR TERM • ~0-20 YEARS

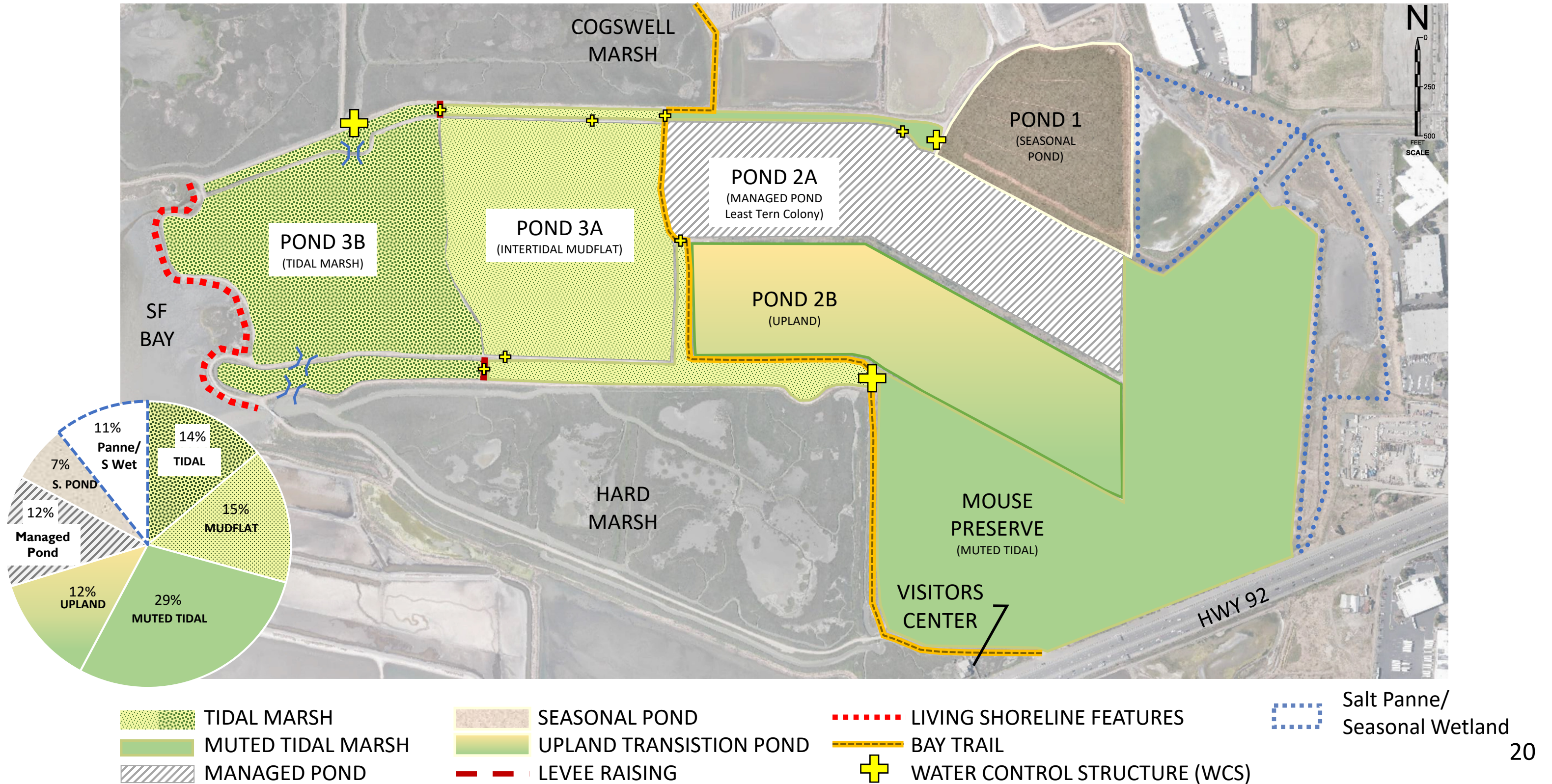
Habitat Type	Area (ac)
Tidal Marsh	33.9
Intertidal Mudflat	0
Muted Tidal Marsh	77.6
Upland	30.4
Managed Pond	59.7
Seasonal Pond	15.9
Salt Panne/Seasonal Wetland	26



- TIDAL MARSH
- MUTED TIDAL MARSH
- MANAGED POND
- SEASONAL POND
- UPLAND TRANSITION POND
- LEVEE RAISING
- LIVING SHORELINE FEATURES
- BAY TRAIL
- NEW WATER CONTROL STRUCTURE (WCS)
- Salt Panne/ Seasonal Wetland

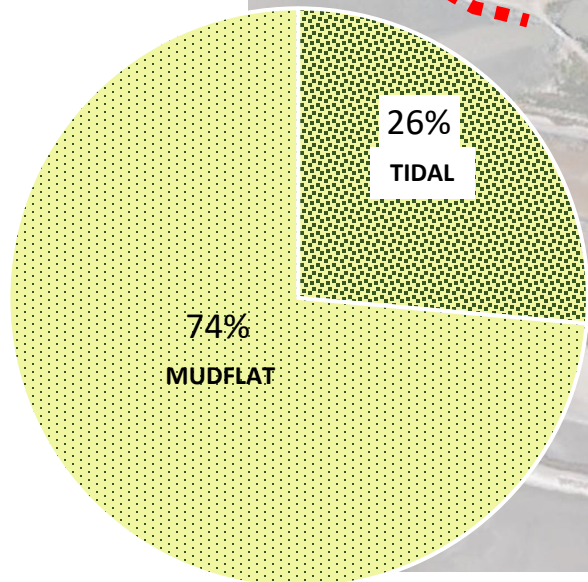
Option 3: Balance of Near-Term Habitat and Resilience

MEDIUM TERM • ~20+ YEARS (2FT SLR)



Option 3: Balance of Near-Term Habitat and Resilience

LONG TERM • 50+ YEARS (5FT SLR)



- TIDAL MARSH
- SEASONAL POND
- LIVING SHORELINE FEATURES
- Salt Panne/ Seasonal Wetland
- MUTED TIDAL MARSH
- UPLAND TRANSITION POND
- BAY TRAIL
- LEVEE RAISING
- MANAGED POND
- LEVEE RAISING
- NEW WATER CONTROL STRUCTURE (WCS)

Evaluation of Project Goals

- Enhance Wildlife Habitat
- Plan for Sea Level Rise
- Improve Public Access Opportunities
- Improve Management Capabilities

	Term		
	Near Years 0-20	Medium 20 Years 2ft SLR	Long 50 Years 5ft SLR
Option 1: Maximize Near Term Tidal Marsh (\$20-\$26M)	+++	+	-
Option 2: Maximize Resilience to Sea Level Rise (\$26-\$32M)	++	+++	++
Option 3: Balance of Near-Term Habitat and Resilience (\$21-\$27M)	+++	+++	++

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