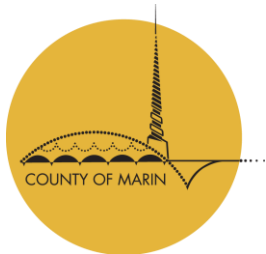


Marin's Response to the Vulnerability of Natural Resources



SAN FRANCISCO BAY RESTORATION AUTHORITY
JUNE 9. 2017

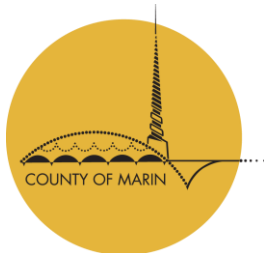
Marin County's Vulnerability Assessment Along the Bay Shoreline

Bothin Marsh: Identifying Problems and Looking for Solutions

Prototyping Pilot Projects Along Marin's Shoreline

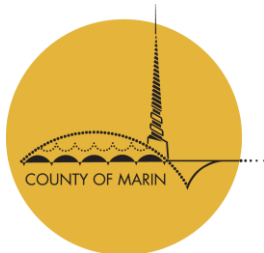
Deer Island Basin: Sediment Re-Use

McInnis Marsh Restoration Project

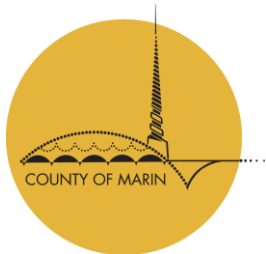


FLOOD RISK AND PUBLIC LANDS IN MARIN COUNTY

10 inches of
sea level rise
plus the King
Tide

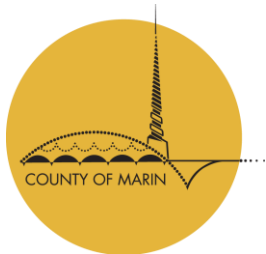
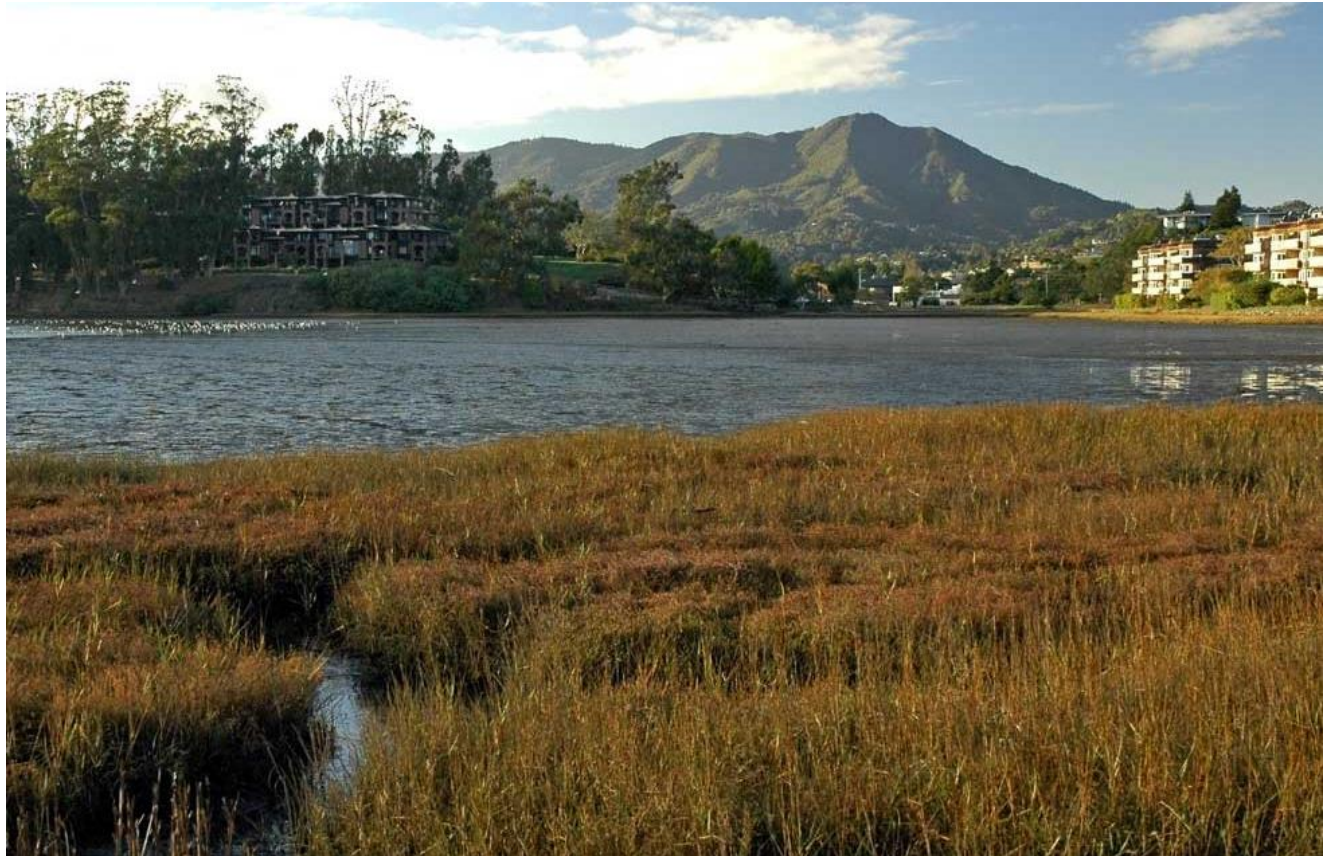


BOTHIN MARSH, SOUTHERN MARIN



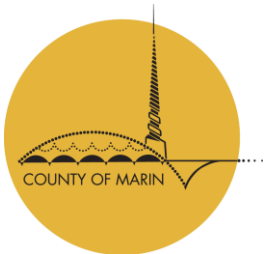
- Mill Valley Sausalito Multiuse Path
- Most Heavily Used Park Facility
- Former Railroad Right of Way that Bisects Marsh

BOTHIN MARSH HABITAT



- Wetlands on the Fringe of Richardson Bay
- Endangered Species Habitat, Ridgway's Rail and Saltmarsh Harvest Mouse

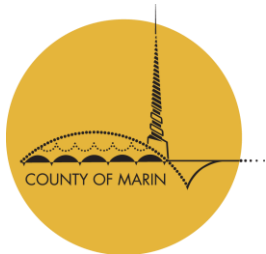
BOTHIN MARSH FLOODING



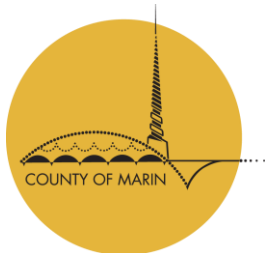
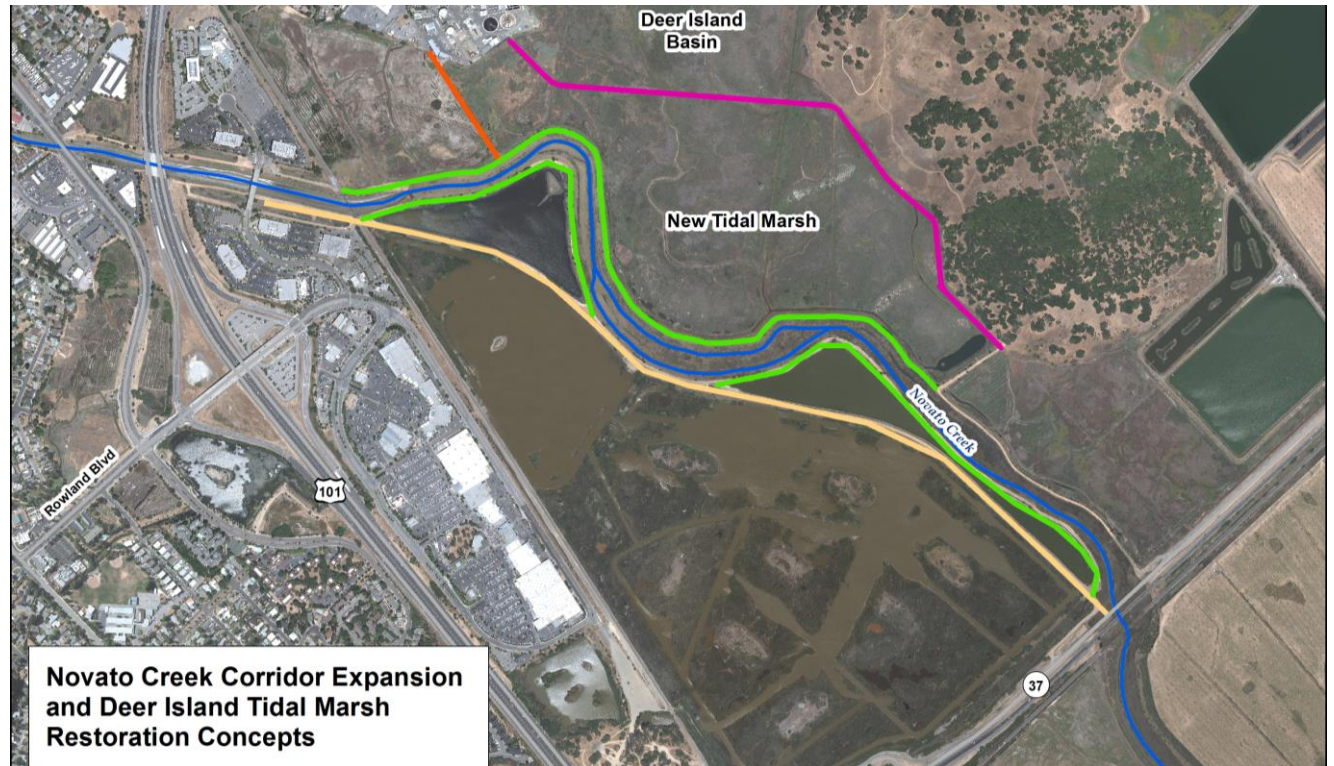
- Regularly Floods during King Tides and storm conditions
- Multiuse Path Floods

PILOT PROJECTS IN MARIN COUNTY

- Projects on public lands benefit habitat restoration, flood, sea level rise
- Marin County can be used as a living lab to understand what works and where
- Develop designs and monitor them for effectiveness

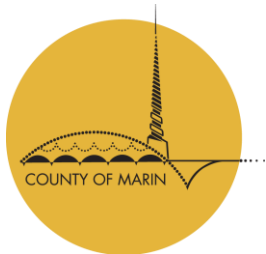


NOVATO CREEK TIDAL RESTORATION, DEER ISLAND BASIN

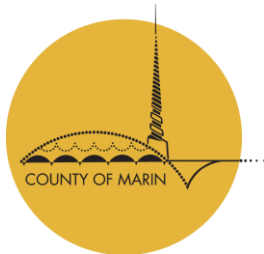


- Beneficial sediment reuse for SLR without mitigation
- Sediment placed on future levee alignment

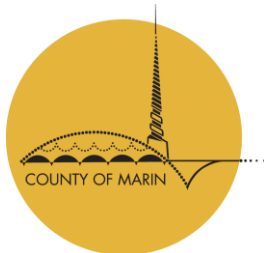
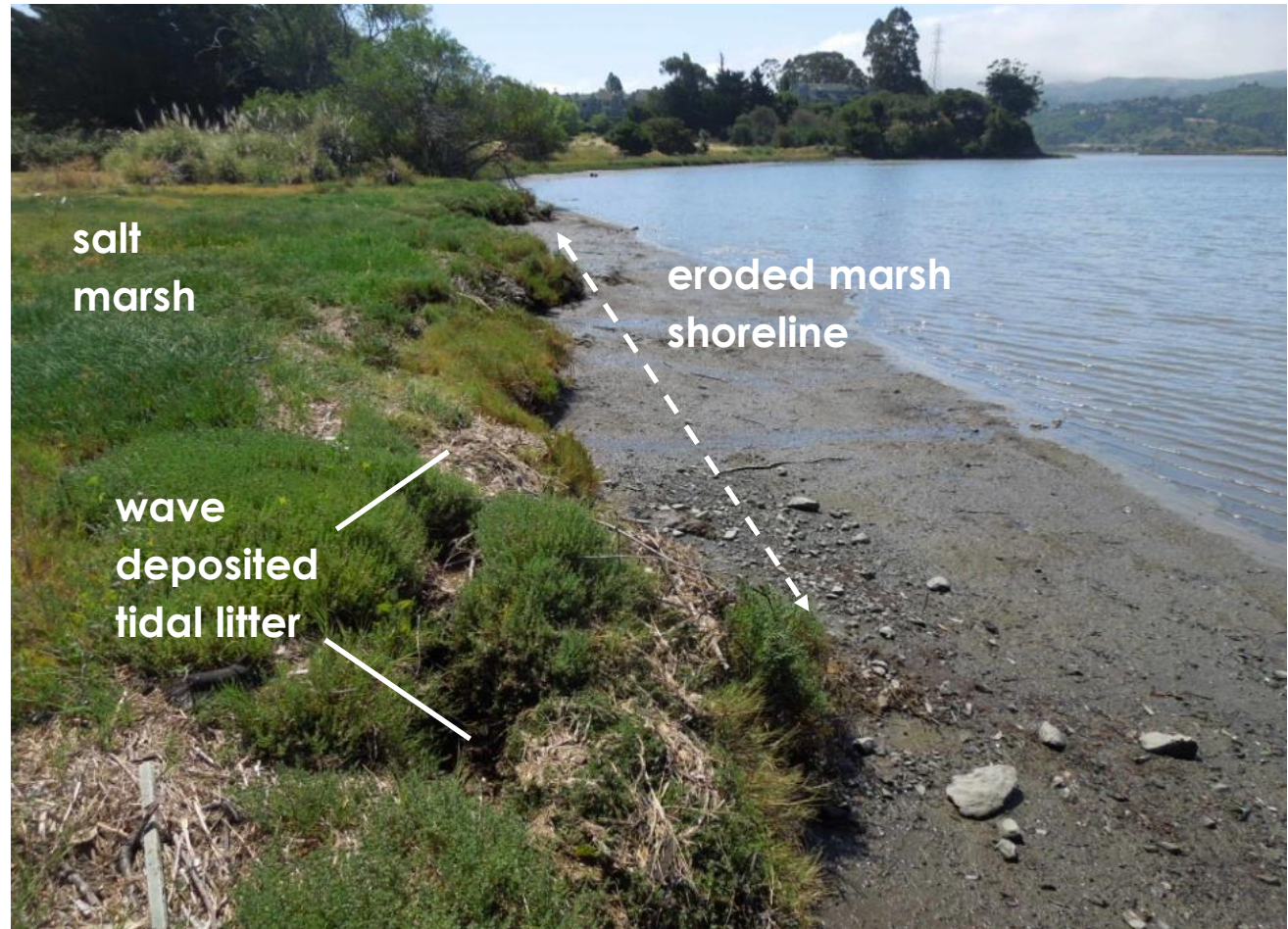
NOVATO CREEK TIDAL RESTORATION, DEER ISLAND BASIN



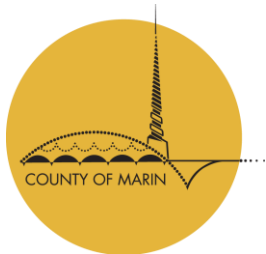
NOVATO CREEK TIDAL RESTORATION, DEER ISLAND BASIN



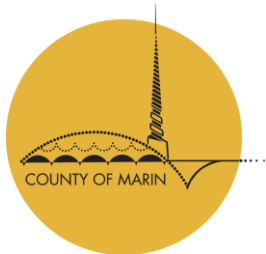
PILOT BEACH PROJECTS FOR SHORELINE EROSION



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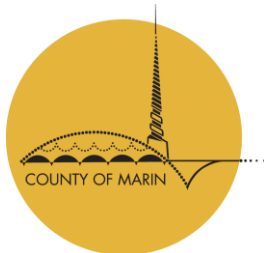
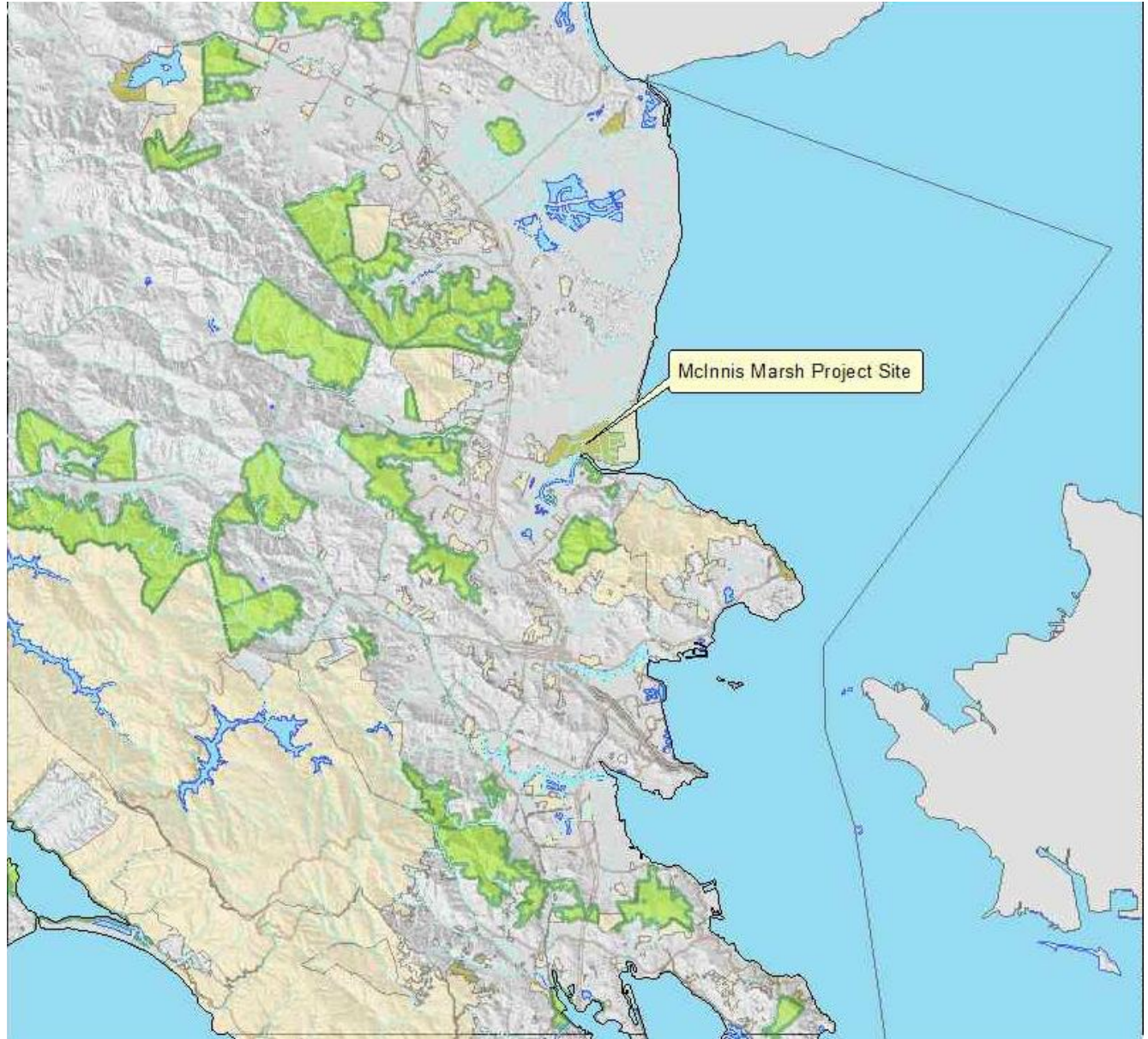


PILOT PROJECT BEACH SITES



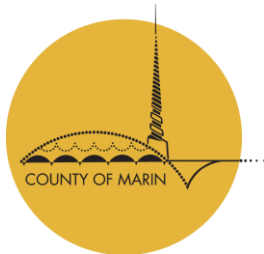
- Demonstrate engineered beaches as a viable approach to shoreline erosion

LOCATION

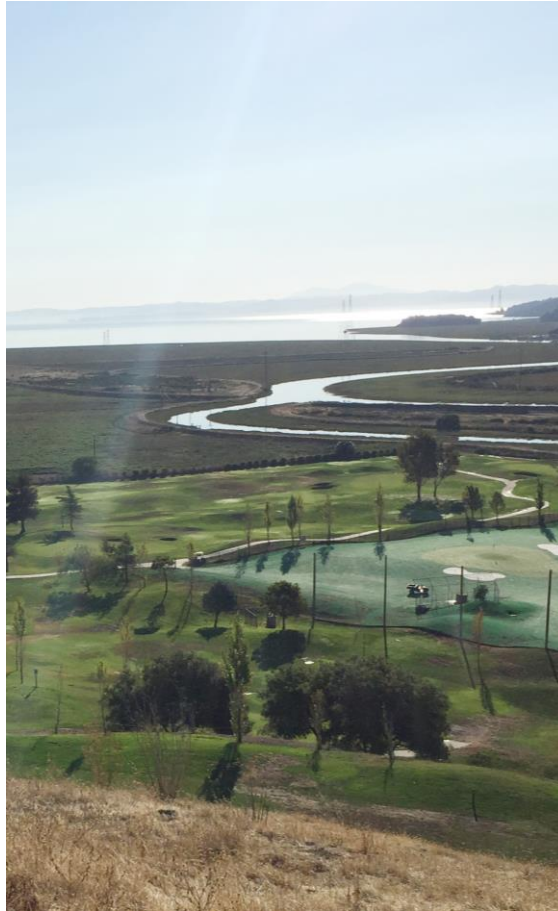


SEA LEVEL RISE

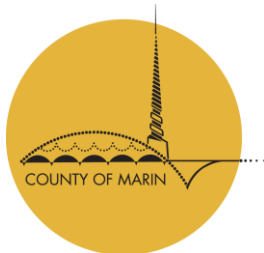
- Projected to be 4.7 to 24 inches by 2050
- Levee Overtopping at Current Sea Levels
- Levees are about 100 years old and were not engineered



POTENTIAL SEA LEVEL RISE IMPACTS

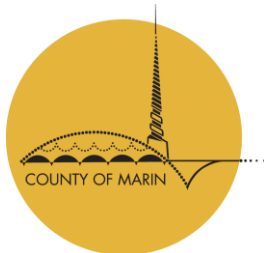


- Damage to Golf Course
- Flooding of Water Treatment Plant
- Loss of Levee Top Trails
- Destruction of Endangered Species Habitat

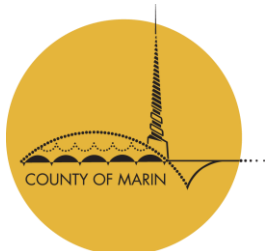
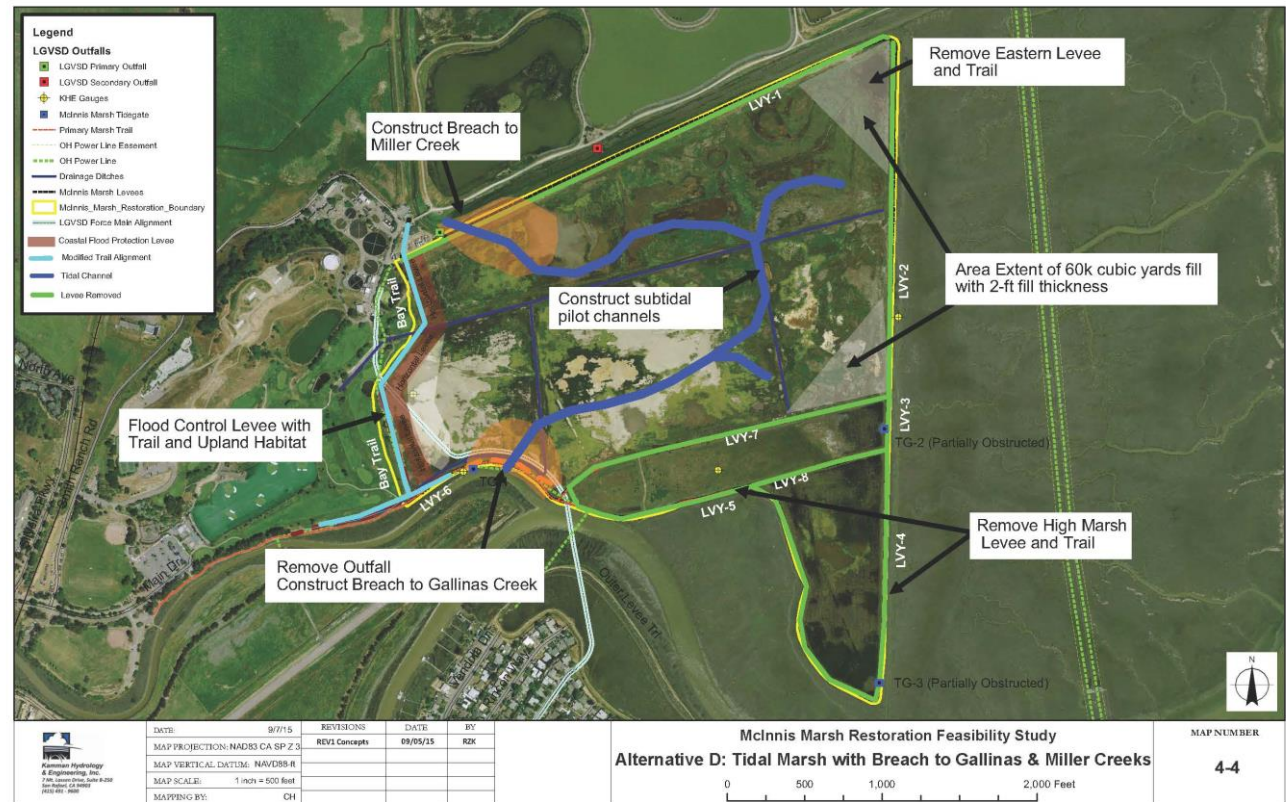


PROJECT GOALS

- Address issues related to sea level rise
- Protect and improve habitat for special-status species
- Provide area to accommodate the movement of marsh habitat as sea level rises
- Protect existing park and water treatment facilities
- Maintain and improve public access along the Bay Trail Alignment



PREFERRED ALTERNATIVE



- Remove all Levees
- Breach into Gallinas and Miller Creeks
- Construct a Horizontal Levee at Golf Course
- Re-Use of Gallinas Creek Dredge Material

Thank You

Please visit MarinSLR.org and MarinWatersheds.org

LIZ LEWIS, Planning Manager
Department of Public Works
LizLewis@marincounty.org

CHRIS CHOO, Principal Watershed Planner
Department of Public Works
CChoo@marincounty.org

JAMES RAIVES, Senior Open Space Planner
Marin County Parks
JRaives@marincounty.org

