

COLLABORATIVE SCIENCE FOR ESTUARIES

WEBINAR SERIES



Soupy Dalyander

Water Institute of the Gulf



George Ramseur

Moffatt & Nichol



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San Francisco Bay NERR



Stuart Siegel

San Francisco Bay NERR



Caitlin Young

*NOAA RESTORE Science
Program | Moderator*



Doug George

*NOAA Office for Coastal
Management | Moderator*

Collaborative Science Conversations

**BOO! Does Working Across Political Boundaries Scare You?
Try Collaborative Science!**



National Estuarine
Research Reserve System
Science Collaborative



RESTORE
SCIENCE PROGRAM

Date: Wednesday, November 2, 2022

Time: 3:00-4:00 PM ET

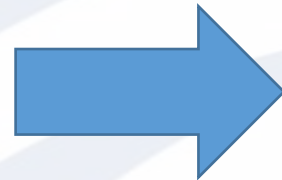
Session Overview

- Housekeeping
- Framing today's session
- Panelist introductions and opening remarks
- Discussion and Q&A



Have a question?

Use the “Questions” function to pose questions throughout the webinar.



A screenshot of a webinar interface. The top part shows the 'Audio' settings panel with options for 'Computer audio' and 'Phone call', a 'MUTED' indicator, and a volume slider. Below this is the 'Questions' section, which contains a text input field with the placeholder text '[Enter a question for staff]' and a 'Send' button. At the bottom of the interface, there is a 'Webinar Now' section displaying the 'Webinar ID: 200-167-467' and the 'GoToWebinar' logo.

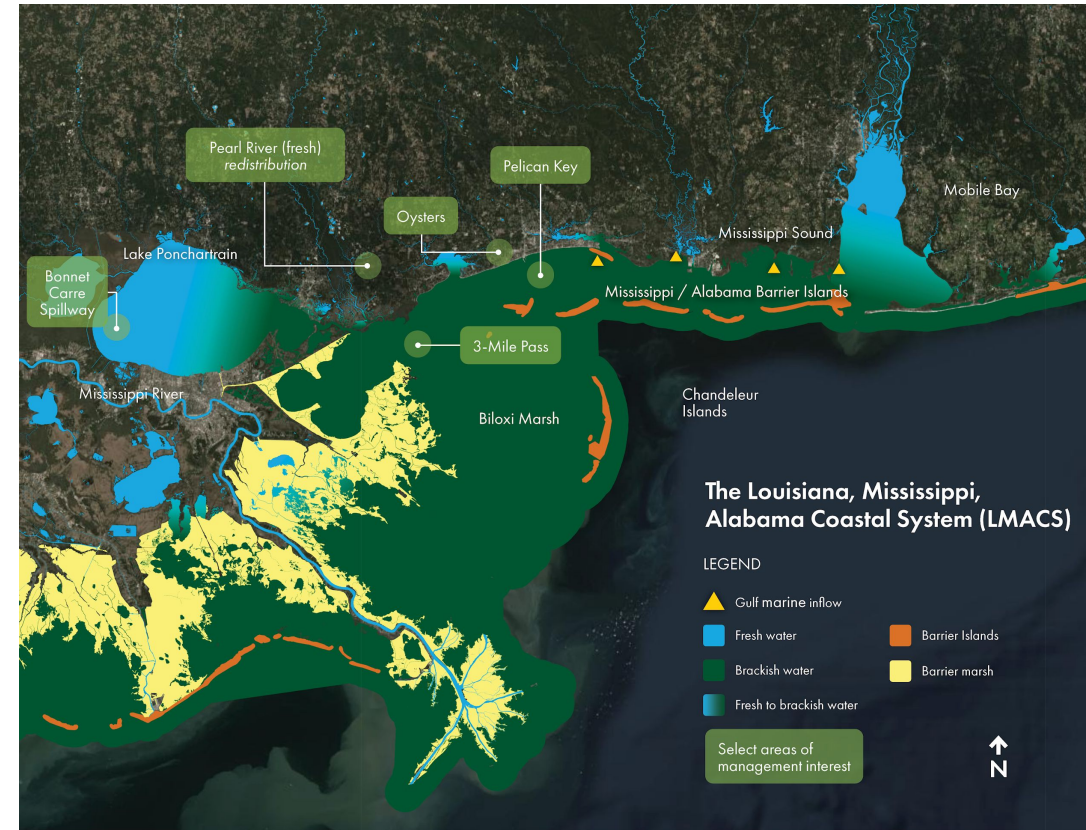


National Estuarine
Research Reserve System
Science Collaborative



Structured-decision making to co-produce an actionable science plan in support of

Louisiana, Mississippi, Alabama Coastal System (LMACS) Water Quality Management



Core Team: George Ramseur, Soupy Dalyander, James Pahl, Donna Averion, Anna Linhoss, Paul Mickle, Mike Miner



US Army Corps of Engineers®



Long-term
Year 5+

HOLISTIC MANAGEMENT OF WATER QUALITY IN THE LOUISIANA, MISSISSIPPI, ALABAMA COASTAL SYSTEM (LMACS)

Near-term
Years 1 to 5

Development of a decision-support and model framework
to investigate the impacts of management actions and natural drivers on water quality in the LMACS

Creation of an interagency RM working group
to use framework outputs and guide its continued development to support decision-making

Application of framework to investigate response
of hydrodynamics and primary water quality parameters to management factors and natural drivers

Structured-Decision Making to Co- Produce an Actionable Science Plan

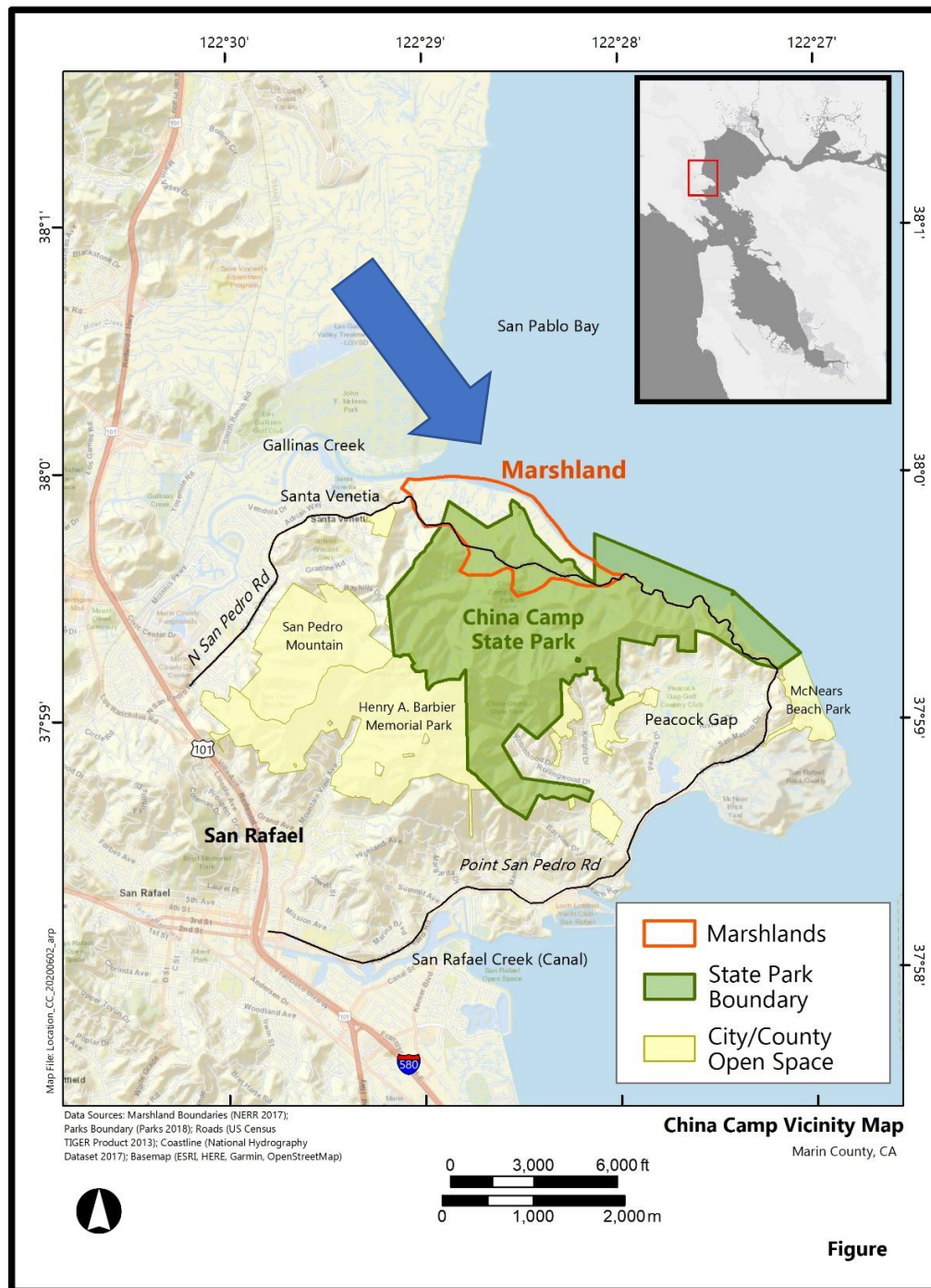
Identified critical uncertainties that affect water quality management

Devised a research plan for reducing those uncertainties

Formulated an application plan to ensure decision relevancy



The Project



Figure

- Community Co-Design of Low-Lying Road Adaptation at China Camp State Park
- Resolve marsh impairment, maintain transportation network function
- CA State Parks land, NERR reserve, County road, CA and fed permits needed
- Road connects City-County
- Many affected and interested parties

China Camp is Rare Ecologically



Community of Interests

SF Bay NERR
Reserve

Responsible Parties

State Parks
Park

County
Road

**Friends of
China Camp**
Park Operator

PSPRC, SVNA
Road Access

County, City
*Public Safety, Elected
Officials*

**BCDC*, RWQCB,
USACE, EPA**
Regulators
**Reserve Partner*

**MCBC, Bay Trail,
Water Trail**
Recreation

Federated Indians of Graton Rancheria
*Tribal Archaeological and Cultural
Resources*

**USFWS, NMFS,
CDFW, SLC, SHPO**
Resource Trustees

GCWC, WAM
Watershed



**SCC, SFBRA, WCB,
CDFW, DWR, etc.**
Funding

PBCS, USGS, SFEI
Research

StB, MAS, MCL
Advocacy

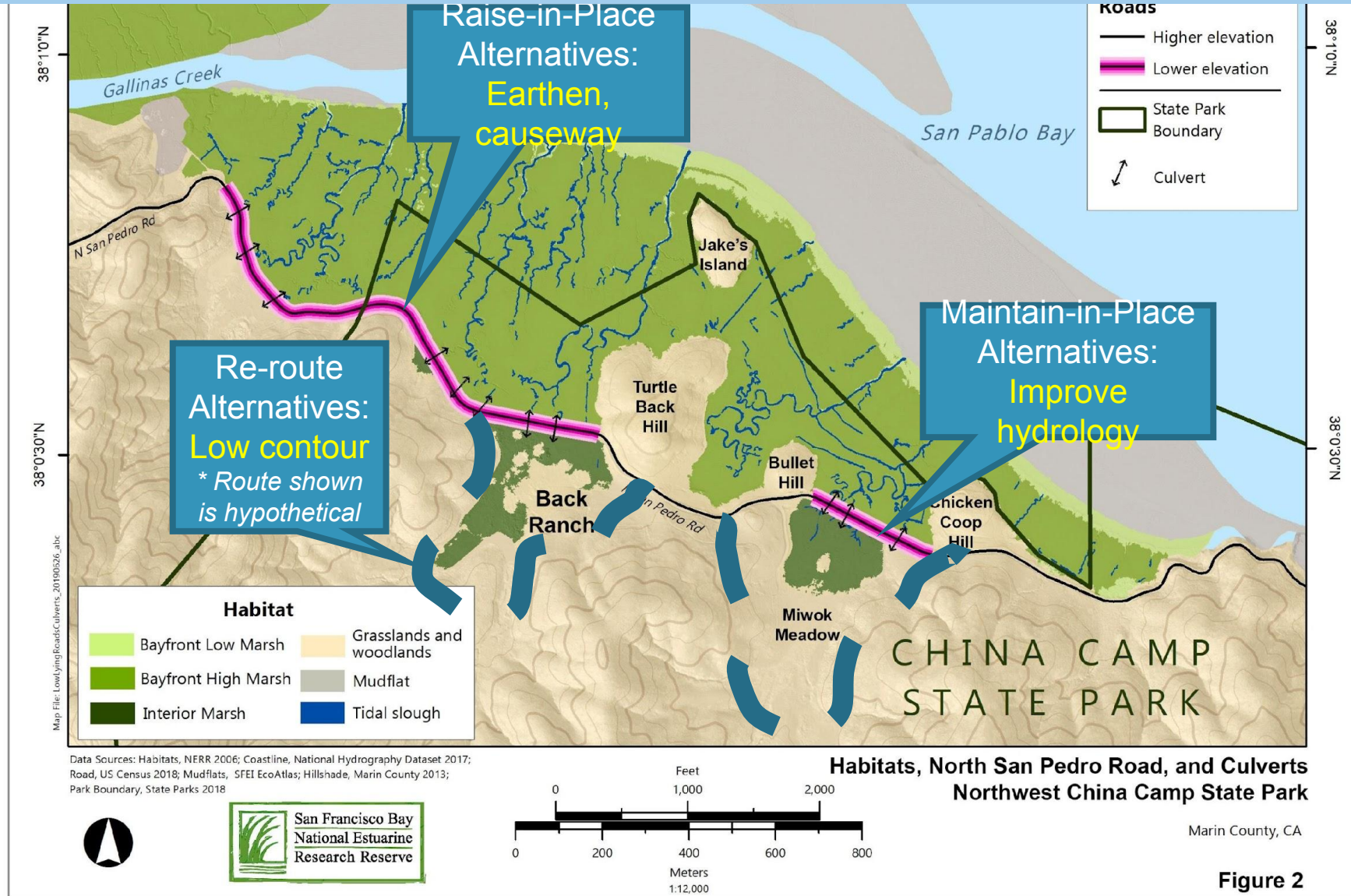
Others
As desire to engage

SFBJV, SFEP, CA Audubon
Regional Conservation

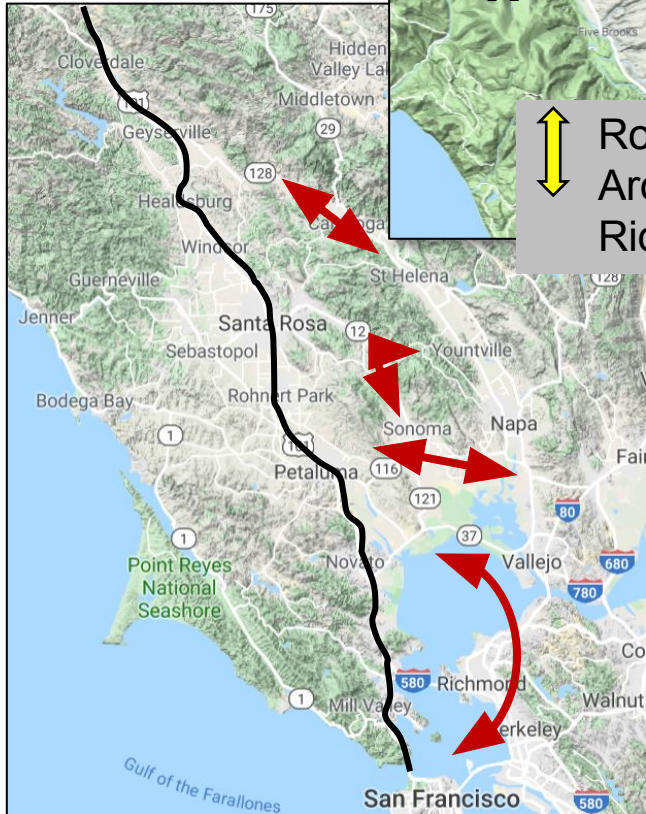
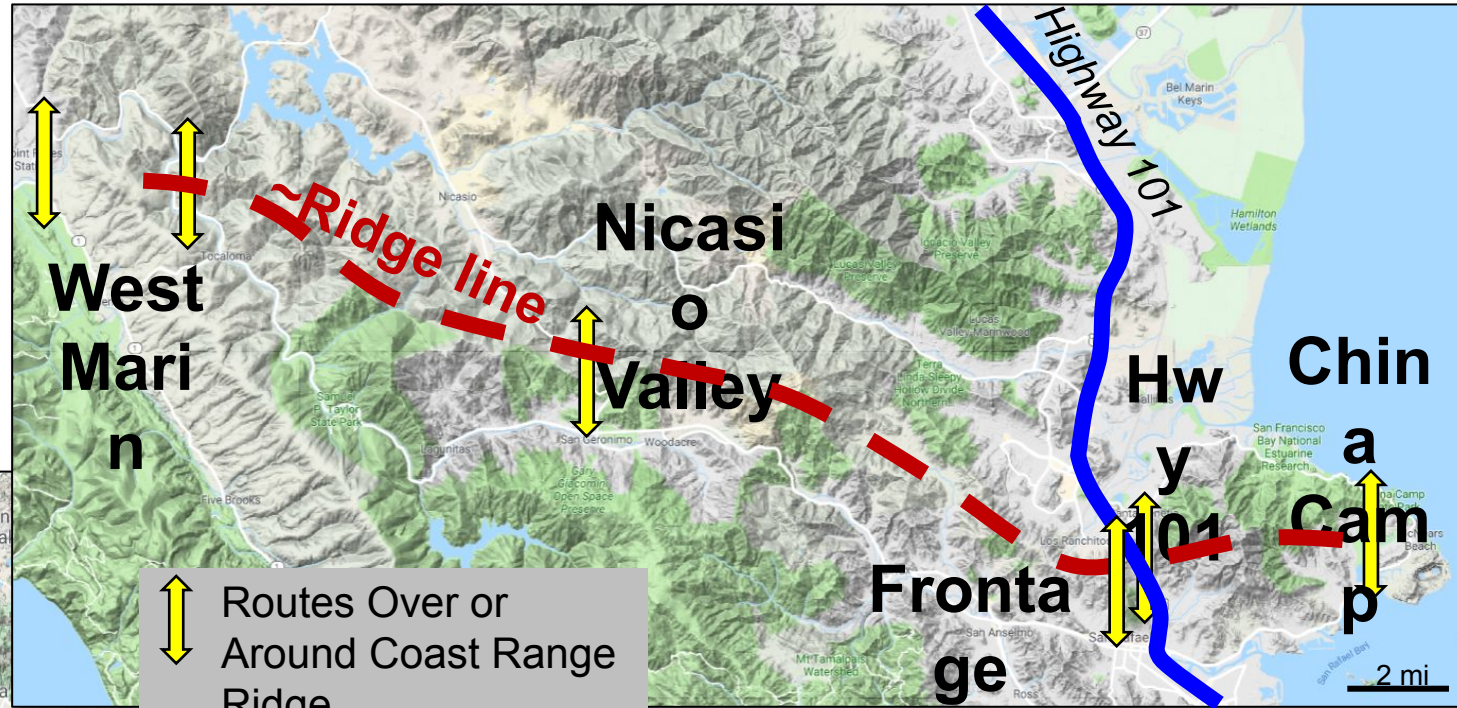
MMWD
*Recycled Water
Pipeline*

SF Bay additional slides for more
context

Alternatives Selected for Feasibility Study



The Road is Important



Management Issues

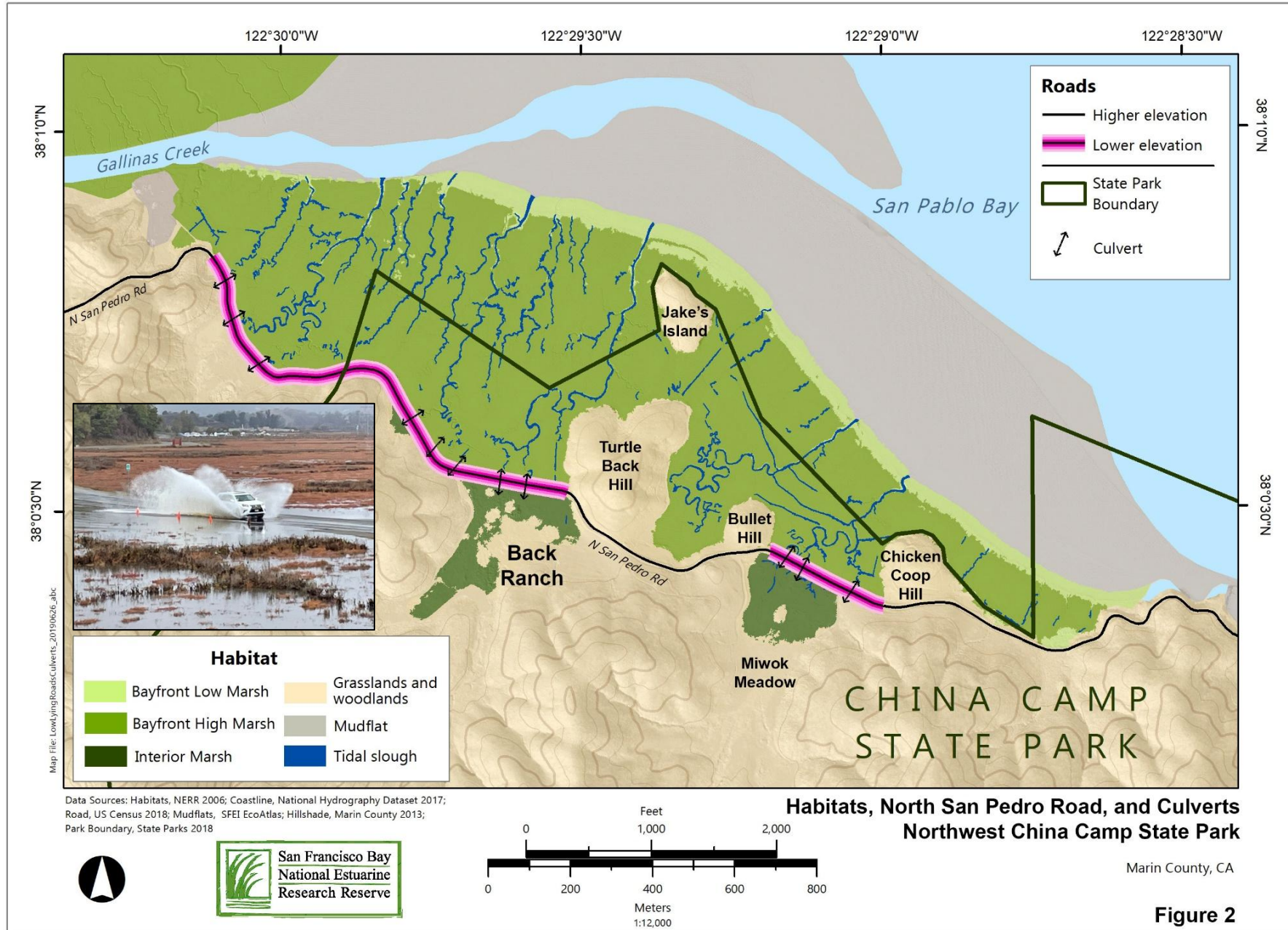
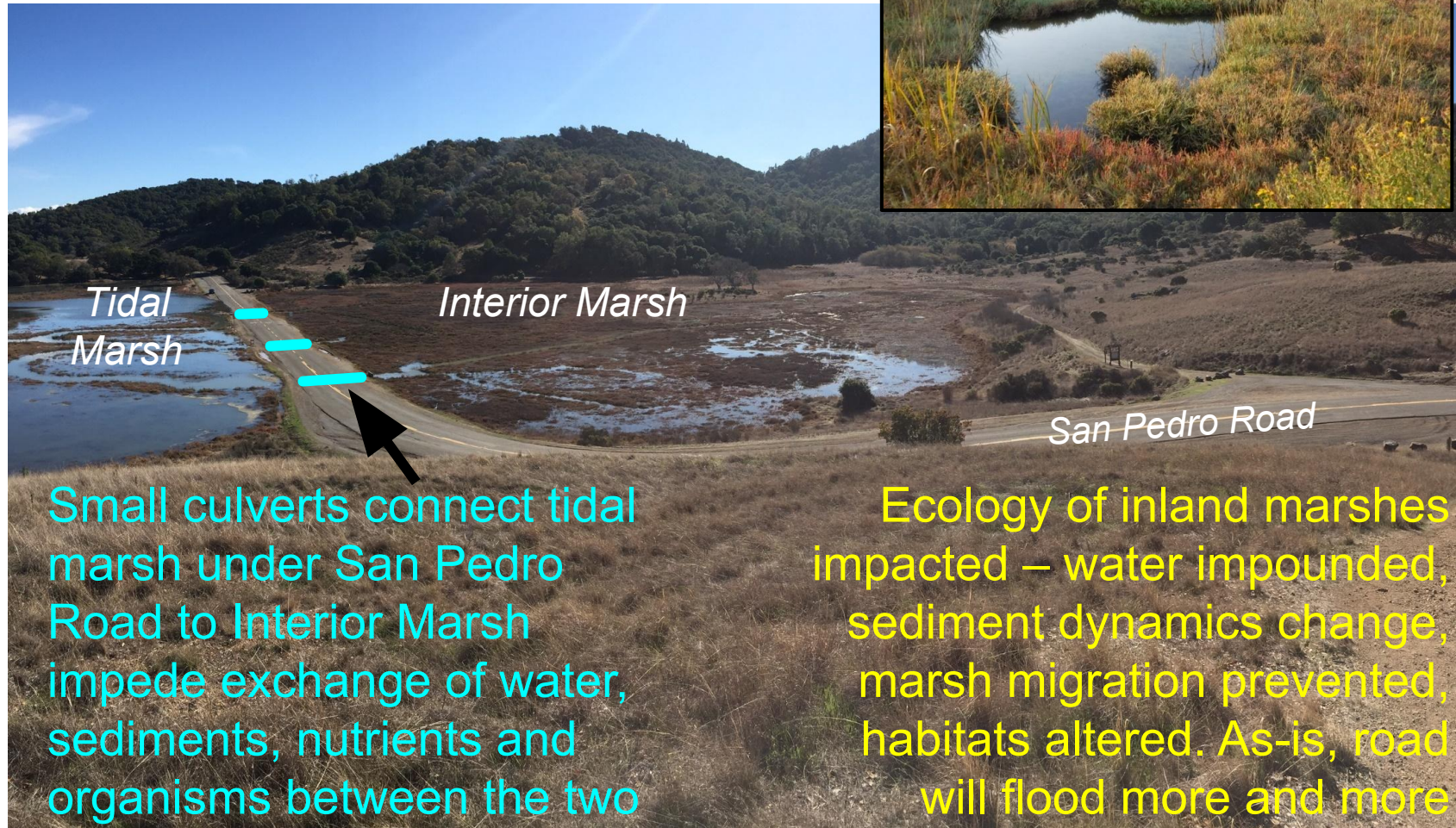


Figure 2

Management Issues



Small culverts connect tidal marsh under San Pedro Road to Interior Marsh impede exchange of water, sediments, nutrients and organisms between the two marshes

Ecology of inland marshes impacted – water impounded, sediment dynamics change, marsh migration prevented, habitats altered. As-is, road will flood more and more often.

Funding Planning: Grant #1 of ?



NERRS Science Collaborative, 2018-2019



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A Collaborative Process to Develop Solutions for Tidal Road Flooding in China Camp State Park

Project Type:

Catalyst

Focus Area(s):

[Climate Change](#)

Keyword(s):

[planning](#), [adaptation](#), [sea level rise](#)

Reserve(s):

[San Francisco Bay, CA](#)

Project Duration:

September 2018 to August 2019

Grant Amount:

\$157,321.00

Project Lead(s):

Stuart Siegel, San Francisco Bay NERR,
siegel@sfsu.edu

Aimee Good, San Francisco Bay NERR,
aimee@sfsu.edu

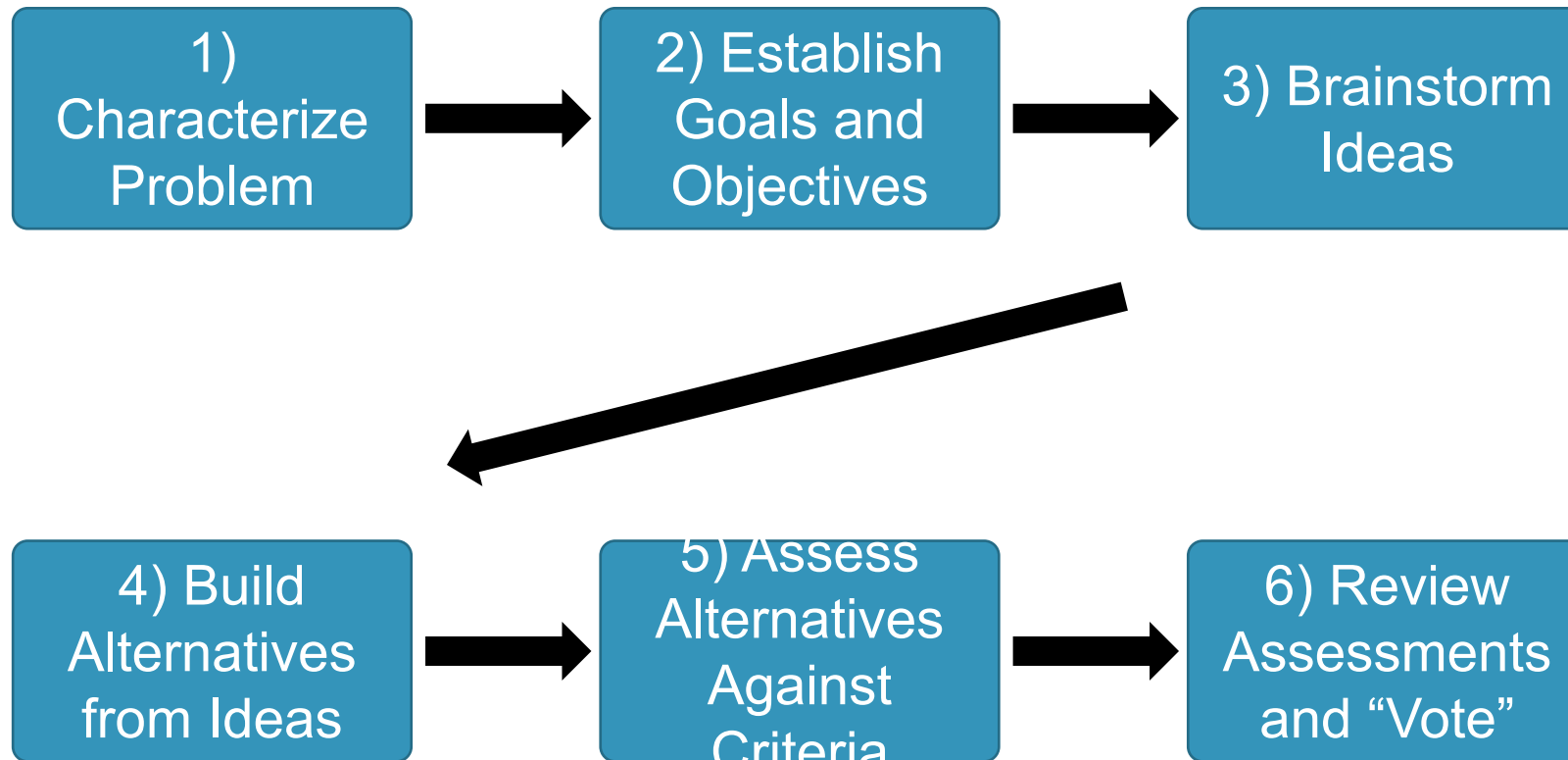
Project Record in National Catalog:

[NOAA InPort Database](#)



The group evaluated these adaptation options and mapped a path forward to address road flooding at China Camp.

Alternatives Development (2018-2019)



Setting Project Goals



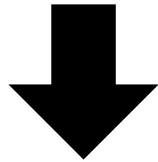
The Problem

- 1) Flooding impairs road uses
- 2) Road impairs tidal marsh ecology and SLR resiliency



Context

- 1) Ecology: rare ecological setting
- 2) Cultural: tribal archaeology and cultural practices
- 3) Park: recreation, education
- 4) Road: park access, commute, emergency responders, evacuation



GOALS

- 1) Maintain through-Park road access
- 2) Protect and enhance natural resources
- 3) Protect cultural resources
- 4) Provide minimum 3' and up to 7' SLR adaptation

Funding Planning: Grant #2 of ?






NERRS Science Collaborative, 2022-2024


mij China Camp road flooding project gets \$525K grant



LOCAL NEWS

China Camp road flooding project gets \$525K grant

By **WILL HOUSTON** | whouston@marinij.com |
PUBLISHED: July 26, 2021 at 6:08 p.m. | UPDATED: July 27, 2021 at 12:26 p.m.

A photograph of a paved road winding through a landscape with hills in the background. A yellow diamond-shaped sign on the right side of the road reads "ROAD MAY FLOOD". A person is riding a bicycle on the road. The photo is framed by left and right navigation arrows.

Getting to a Project Design



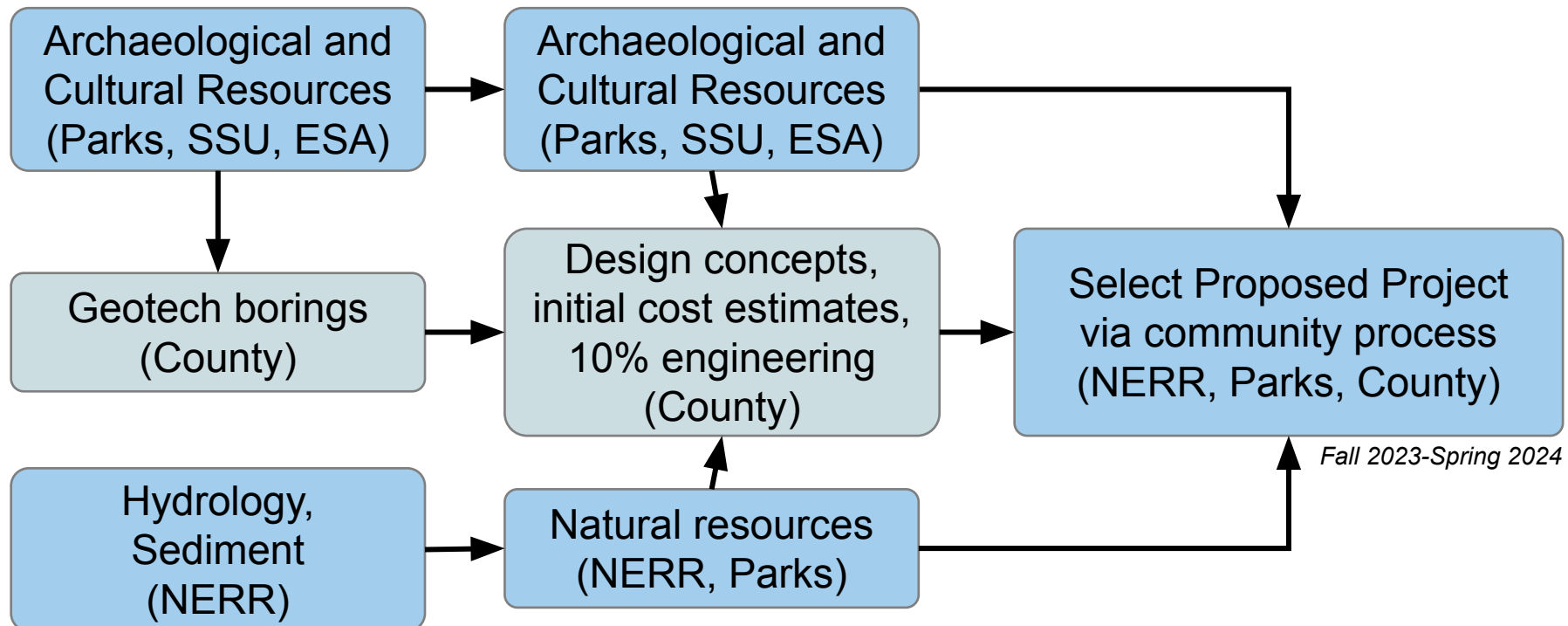
Investigations Feasibility Assessments

2022-2023

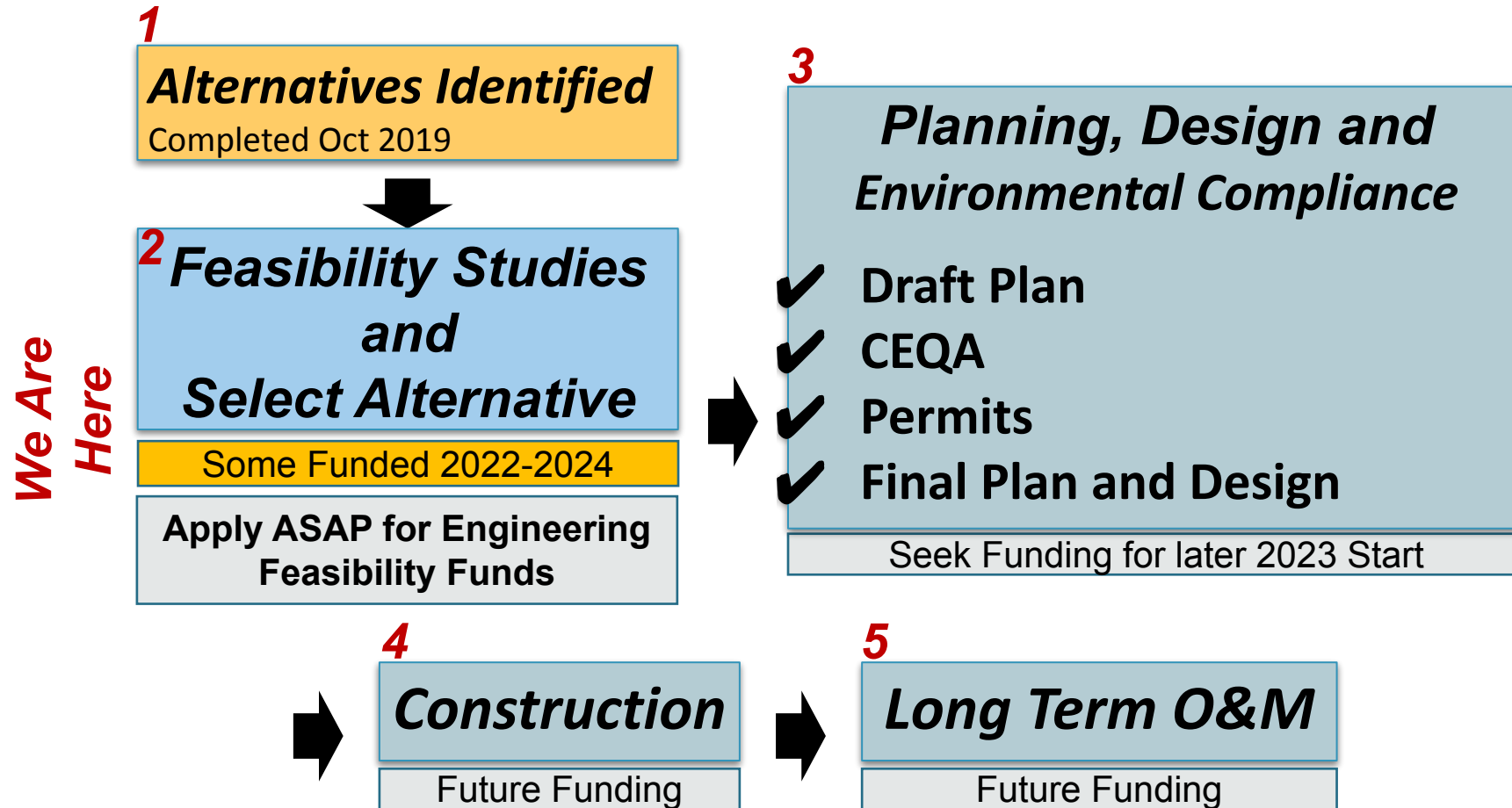
Winter 2022-Winter 2024

Funded

Not yet Funded



Next Steps

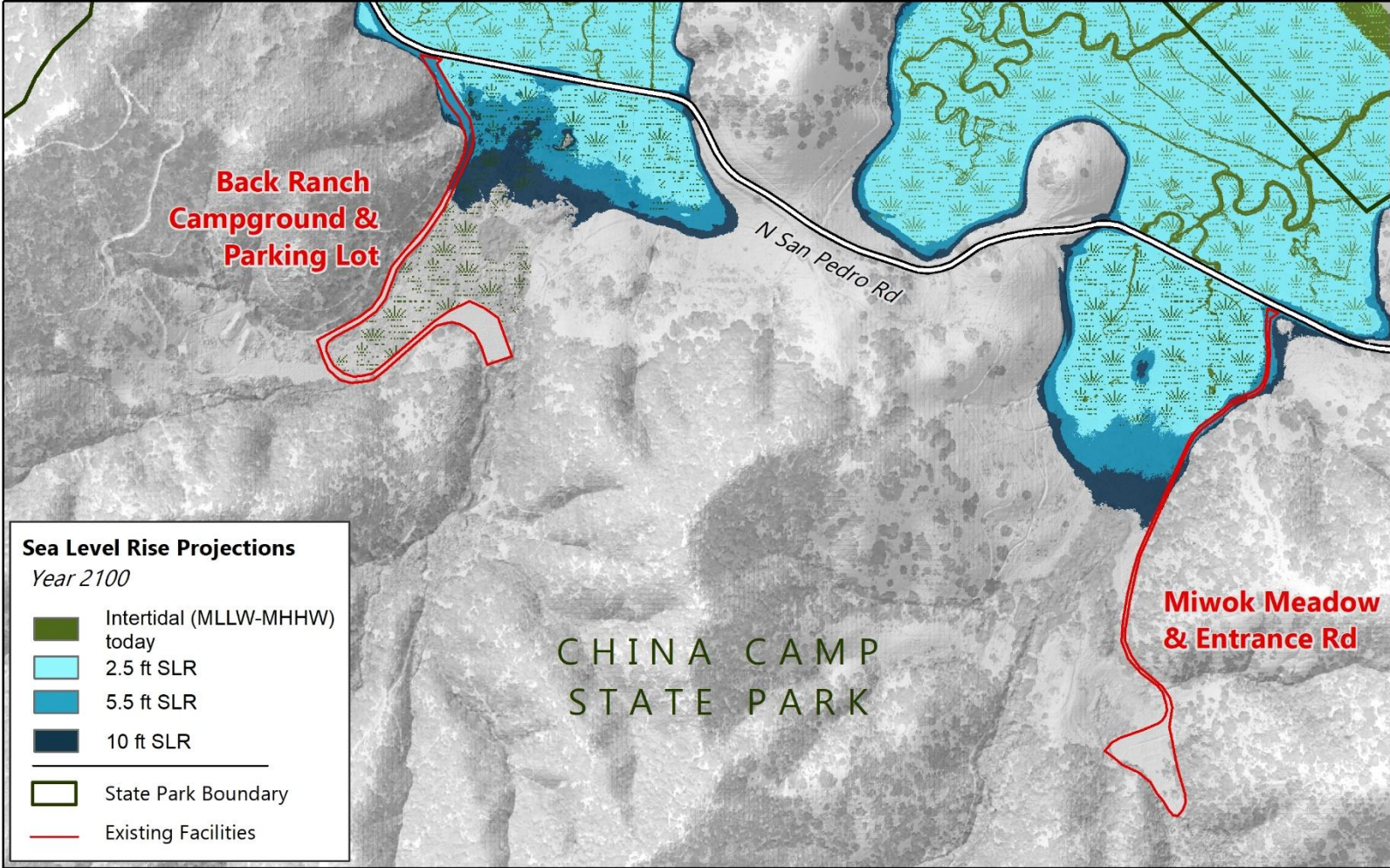


Source: Updated from NERR 2019: Road Map to Implementation, China Camp Shoreline Road Adaptation.

THANK YOU

siegel@sfsu.edu



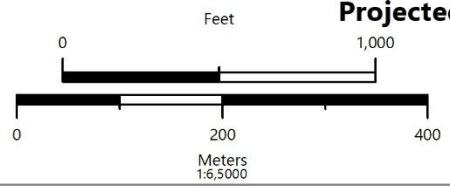


Map File: SeaLevelRise_LargeExtent_LCC_20181129_abc

Sea Level Rise Projections
Year 2100

- Intertidal (MLLW-MHHW) today
- 2.5 ft SLR
- 5.5 ft SLR
- 10 ft SLR
- State Park Boundary
- Existing Facilities

Data Sources: DEM, Marin County 2013; Coastline, National Hydrography Dataset 2017; Road, US Census 2017; Mudflats, SFEI EcoAtlas; Park Boundary, State Parks 2018;



Projected Sea Level Rise in China Camp State Park and Its Surroundings

Marin County, CA

Figure 5A

Blending Technical Expertise and Community Participation to Plan Adaptation of North San Pedro Road Through China Camp State Park

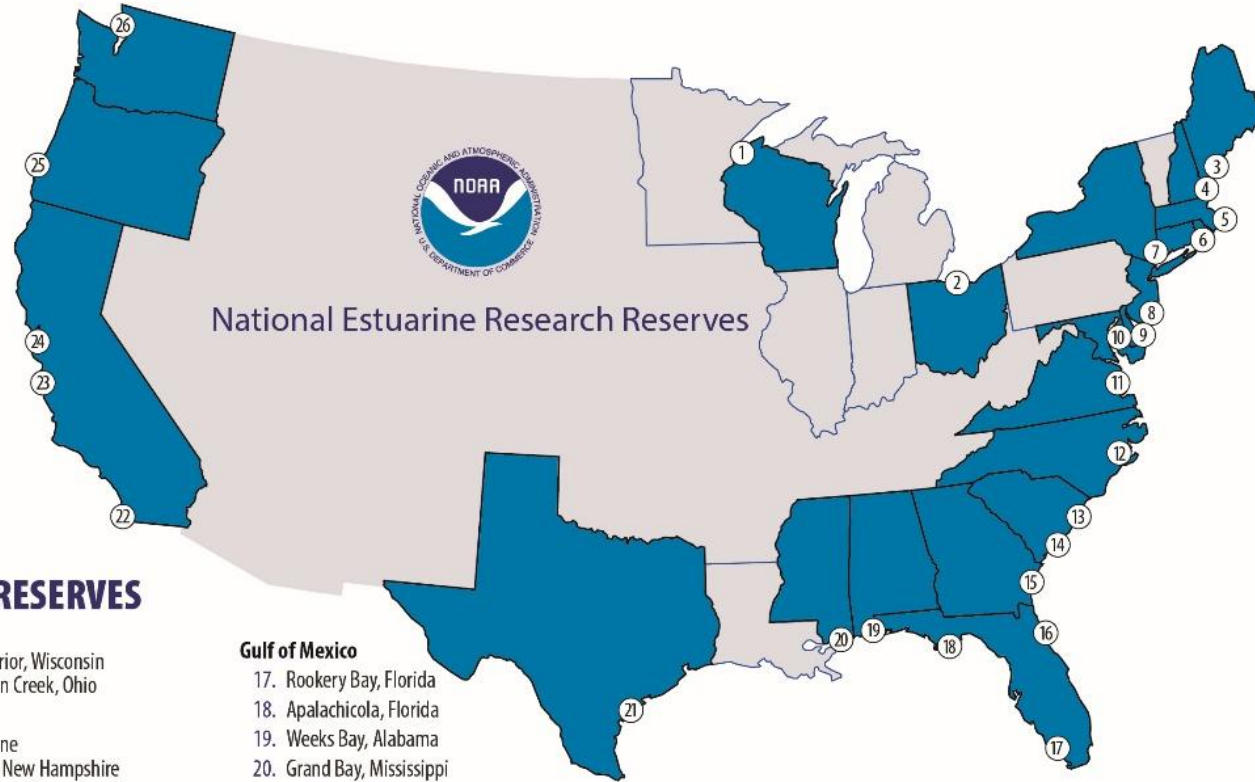
San Francisco Bay National Estuarine Research Reserve

Stuart Siegel, PhD, PWS (Project Lead)

Aimee Good (Collaborative Lead)



National Estuarine Research Reserve System



LIST OF RESERVES

Great Lakes

1. Lake Superior, Wisconsin
2. Old Woman Creek, Ohio

Northeast

3. Wells, Maine
4. Great Bay, New Hampshire
5. Waquoit Bay, Massachusetts
6. Narragansett Bay, Rhode Island

Mid-Atlantic

7. Hudson River, New York
8. Jacques Cousteau, New Jersey
9. Delaware
10. Chesapeake Bay, Maryland
11. Chesapeake Bay, Virginia

Southeast

12. North Carolina
13. North Inlet-Winyah Bay, South Carolina
14. ACE Basin, South Carolina
15. Sapelo Island, Georgia
16. Guana Tolomato Matanzas, Florida

Gulf of Mexico

17. Rookery Bay, Florida
18. Apalachicola, Florida
19. Weeks Bay, Alabama
20. Grand Bay, Mississippi
21. Mission-Aransas, Texas

West

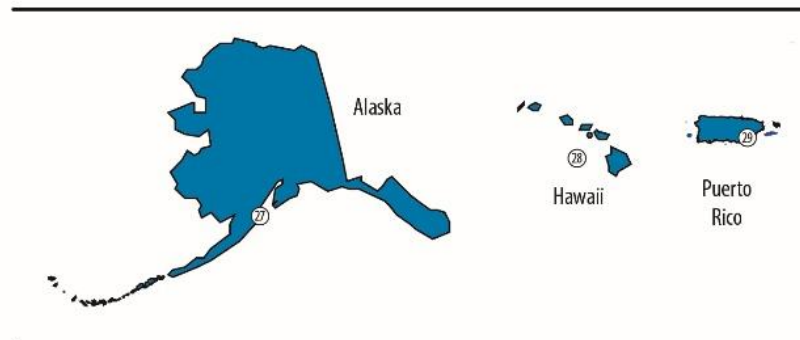
22. Tijuana River, California
23. Elkhorn Slough, California
24. San Francisco Bay, California
25. South Slough, Oregon
26. Padilla Bay, Washington
27. Kachemak Bay, Alaska

Pacific

28. He'eia, Hawai'i

Caribbean

29. Jobos Bay, Puerto Rico



Q&A

Q: Speaking of compromise. How do you navigate different expectations of folks coming from the 'bottom' vs requirements of folks coming from the 'top'? Is there a time to bring those two groups together, or is there a need to translate between those two groups?

- **A:** Be super clear and deliberate about who is a decision maker and who's a stakeholder. Nothing frustrates people more than thinking that you're asking for their input when you're actually just asking them for information.

Q: Do you have advice for a case where working groups have a few members who aren't interested in compromising their own goals?

- **A:** That's tricky. Sometimes people don't want to make an "informed" decision. It can help to understand where they're coming from and what they hope to gain from putting up a roadblock. If you want to try and plan ahead for how you'll handle that situation if/when it arises, consider implementing a team charter from the outset of the project. You can find examples of team charters in the Guide to Collaborative Science here: <https://nerrssciencecollaborative.org/guide/manage/launch/#3atip2>

