Central Coast Highway 1 Climate Resiliency Study

Public Workshop

August 29, 2019

Study Timeline

August 2019

Outreach and Community Engagement

December 2019

Outreach and Community Engagement

Identify Existing Conditions

Develop Adaptation Concepts & Scenarios

Evaluation of Adaptation Alternatives & Benefit-Cost Analysis

Adoption of Final Adaptation Strategy

June 2020

Summer-Winter 2019

Workshop Objectives

- Provide an overview of the study: work completed to date, where we are now, where we're headed
- Provide background of climate change impacts for Highway 1, Elkhorn Rail and Elkhorn Slough
- Provide community the opportunity to ask questions and provide comments

Workshop Schedule

- 6:00 – 6:10 PM – Arrivals/Introductions
- 6:10 – 6:30 PM – Study Presentation
- 6:30 – 7:00 PM – Q&A
- 7:00 – 7:45 PM – Interactive Session
- 7:45 – 8:00 PM – Wrap Up & Next Steps

Workshop Ground Rules

- Interact respectfully
- Honor the agenda and time limits for discussion
- Focus your input on the meeting topics/objectives
- Turn off or silence cell phones

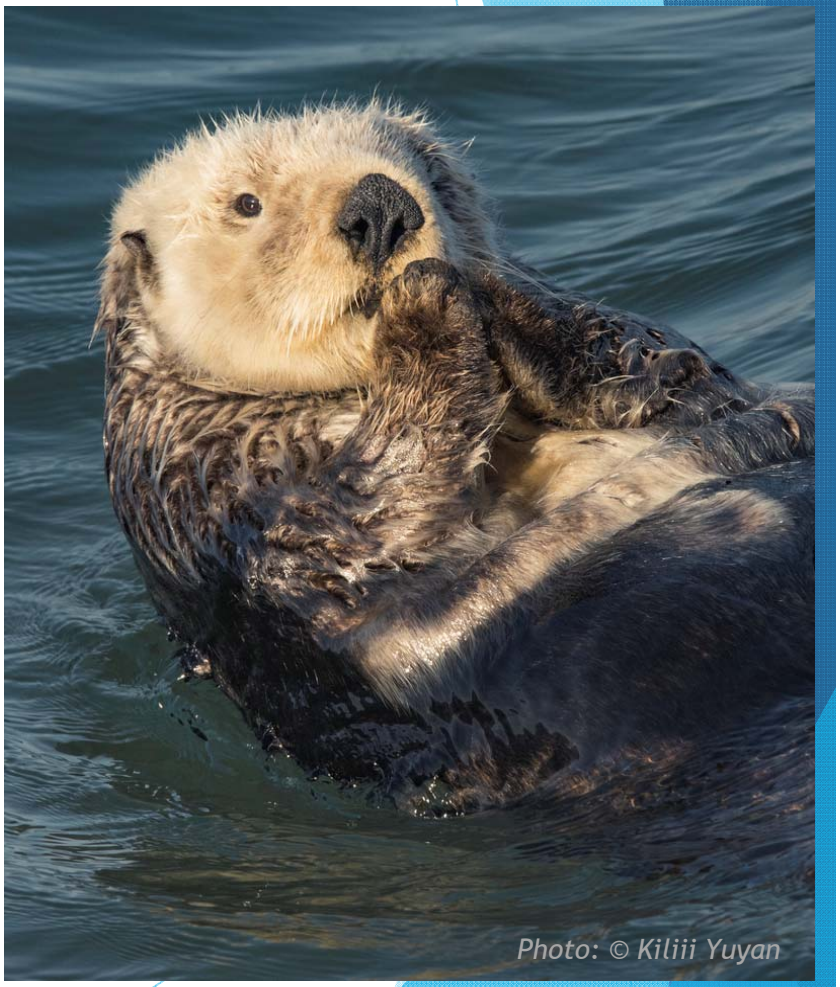
We want to hear from you:

1. Q&A or Interactive Session
2. Comment card
3. Send comment via email (hadamson@ambag.org)

 Photo: © Kenneth & Gabrielle Adelman

Project Goals

- Identify sea level rise adaptation approaches for Highway 1 and rail that can:
  - Promote healthy and resilient coastal habitats
  - Improve transportation safety & efficiency
  - Provide economic security and benefits to the local community



Elkhorn Slough

- Important habitat for many species
- Scientific research
- Recreation
  (e.g. kayaking, hiking, birding)
- Community resource

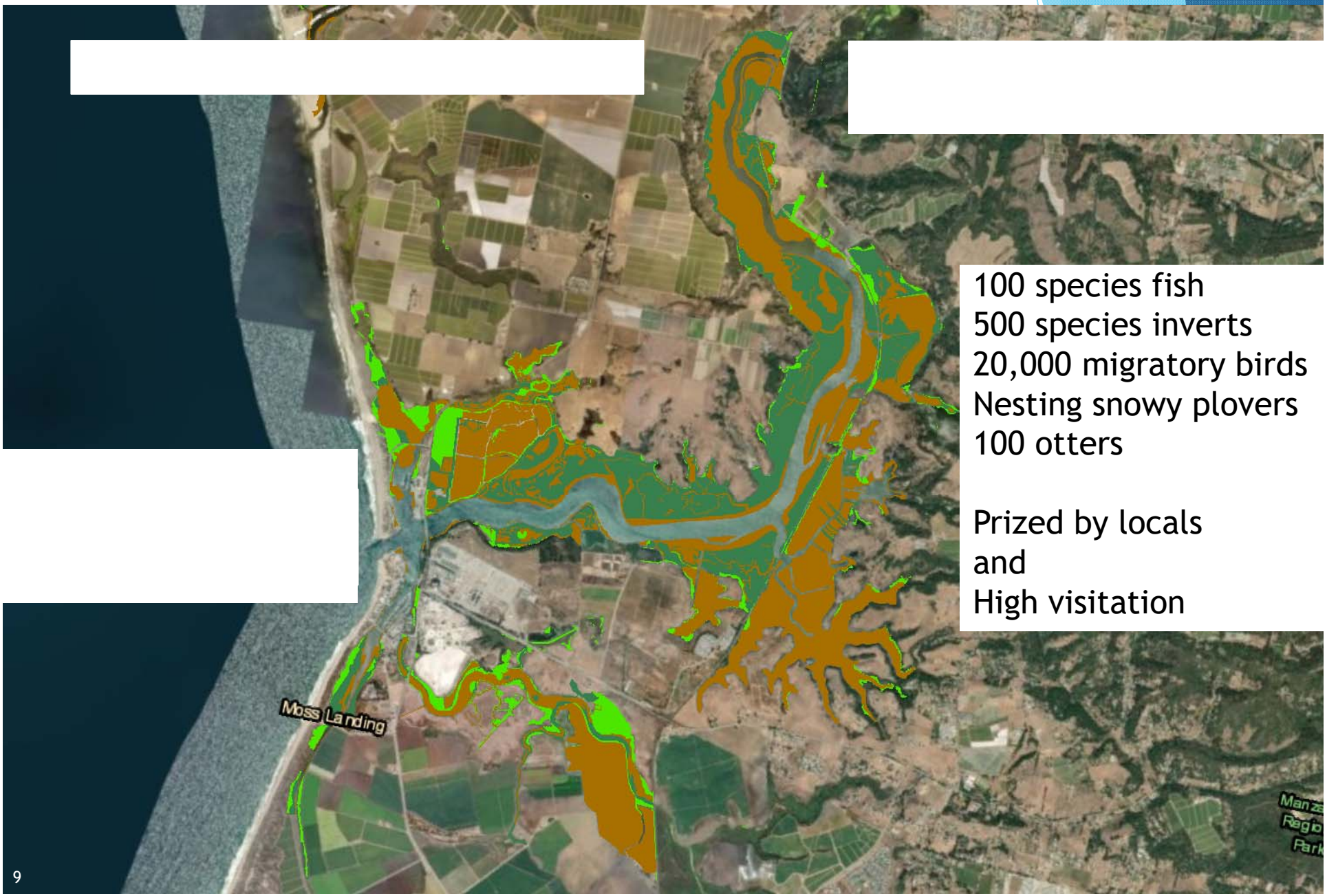

Kayaking


Otters


Estuary research and restoration


Snowy Plover

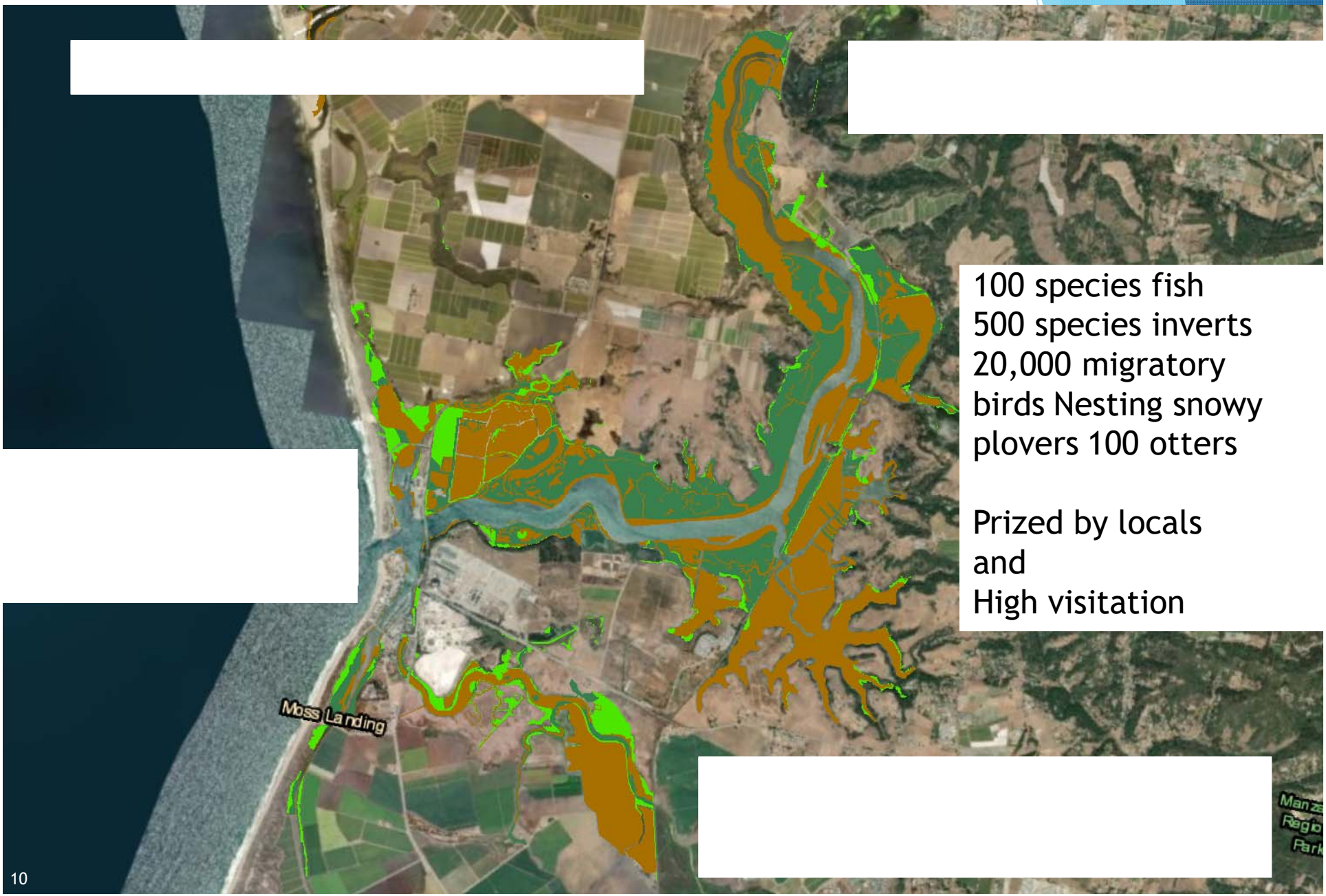
Elkhorn Slough



100 species fish
500 species inverts
20,000 migratory birds
Nesting snowy plovers
100 otters

Prized by locals
and
High visitation

Elkhorn Slough



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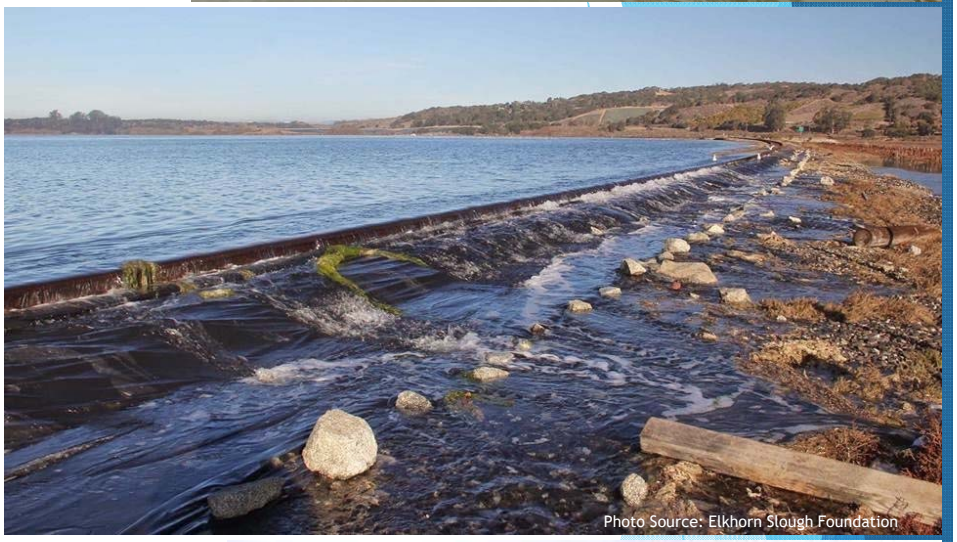
Transportation Corridor

- Highway 1
  - Extremely congested corridor with safety concerns
    - Warrants improvements and/or widening
  - 2015 Population: 763,000 → 2040 Projected population: 883,300
  - Monterey Bay Sanctuary Scenic Trail
- Railway
  - Monterey County Rail Extension Project
    - Passenger rail extension from Santa Clara County to Salinas

Climate Change Impacts

- Highway 1 – increasing flooding

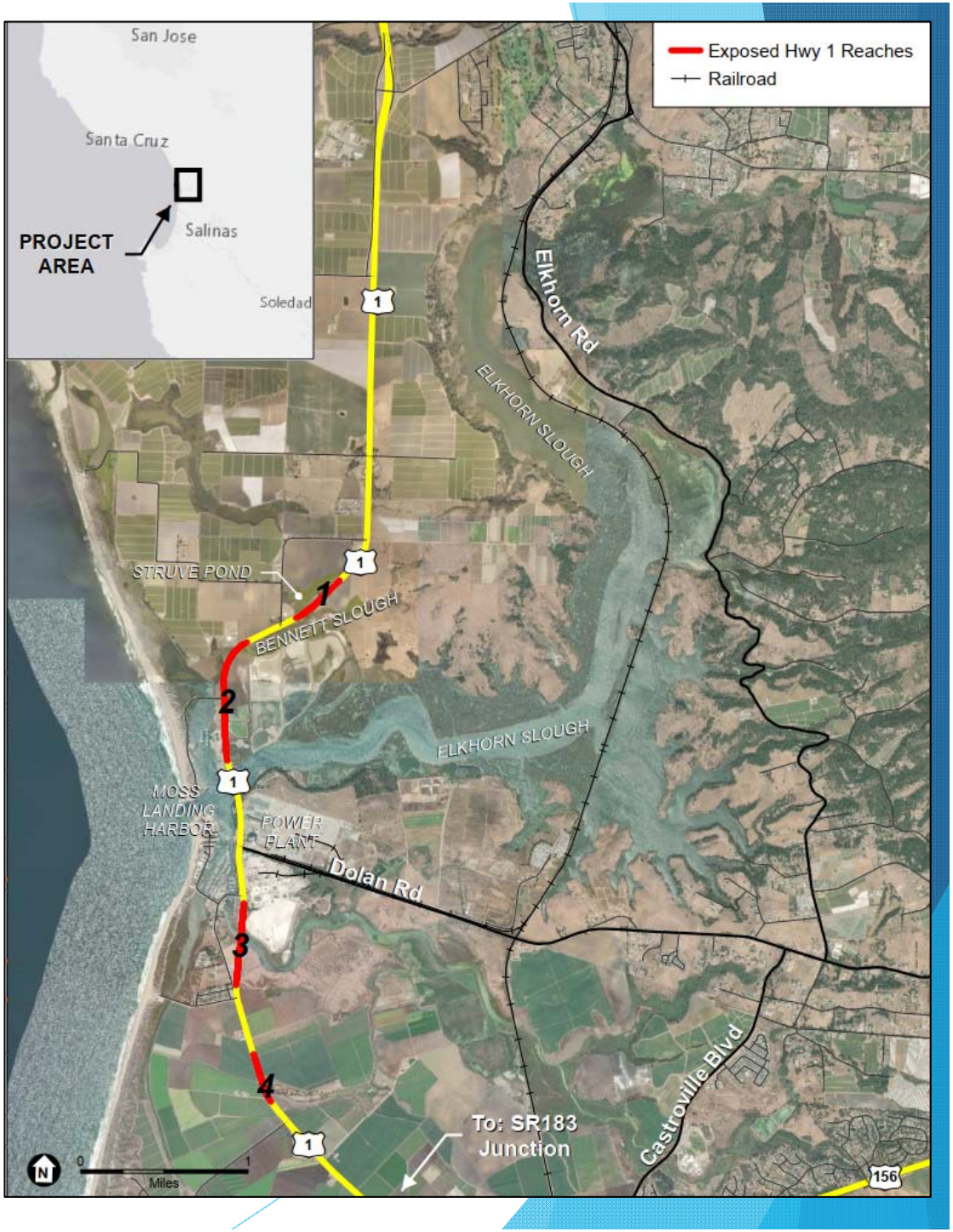
- Railway - increasing flooding



- Habitat – potential loss and/or degradation due to flooding

Study Overview

Develop and evaluate highway and rail adaptation strategies to enhance the resilience of transportation infrastructure and Elkhorn Slough habitats under future climate conditions and transportation needs



Summary of Roadway Flooding Thresholds

REACH	FLOOD TIME HORIZON for COASTAL STORM
1	TODAY
2	BY 2040
3	BY 2045
4	BY 2045

Monthly tidal; Coastal storm; Riverine

Notes

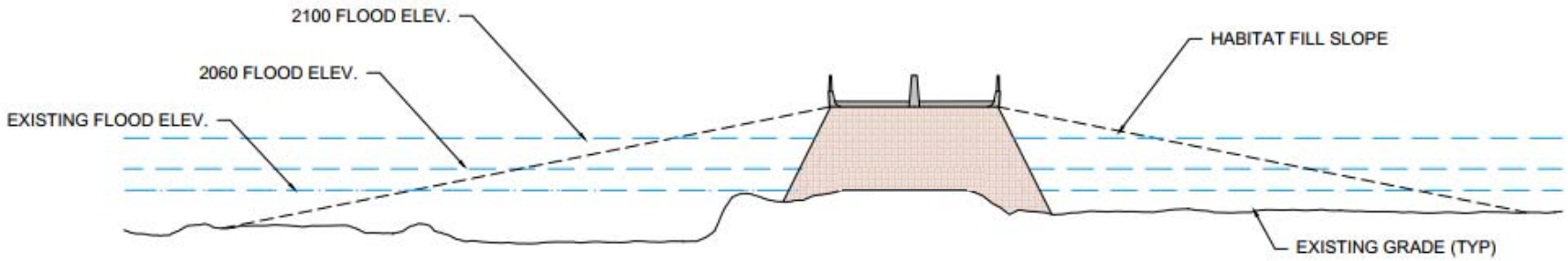
- GIS data and flooding thresholds based off of previous work for TNC Coastal Resilience: Southern Monterey Bay.
- Coastal and fluvial storm thresholds for 100-yr recurrence interval

Potential Adaptation Strategies

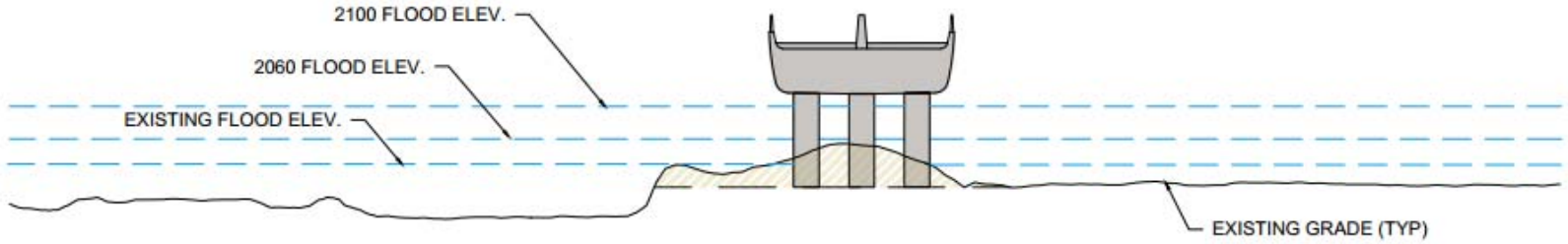
- Adapt in Place
  - Elevate highway and railway on fill or pylons
    - Natural infrastructure to protect transportation assets
    - Phased implementation
    - Coordinate with local planning efforts
- Realignment
  - Re-routing corridor inland

Adapt in Place

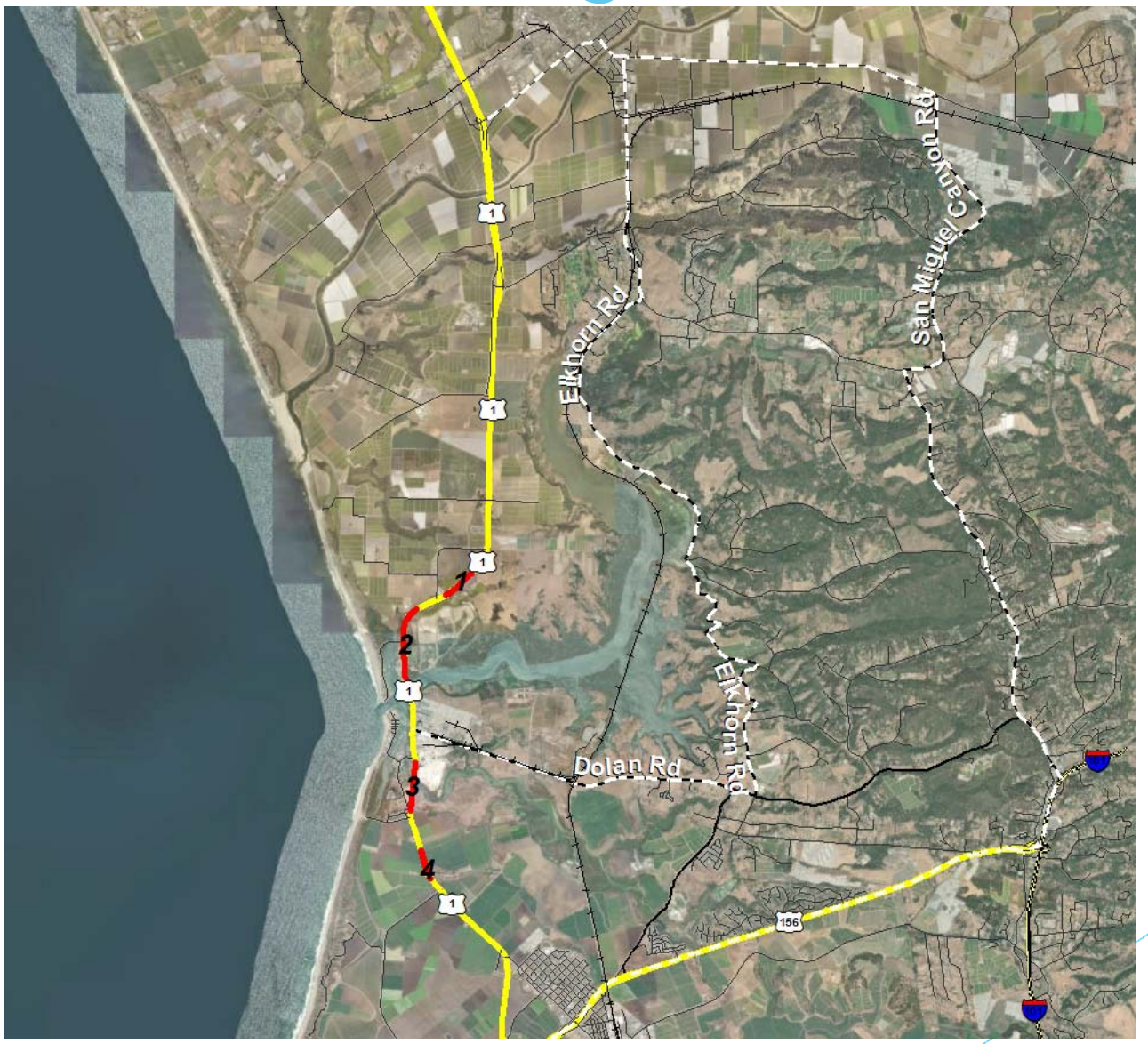
Road/Rail on Fill



Road/Rail on Pylons



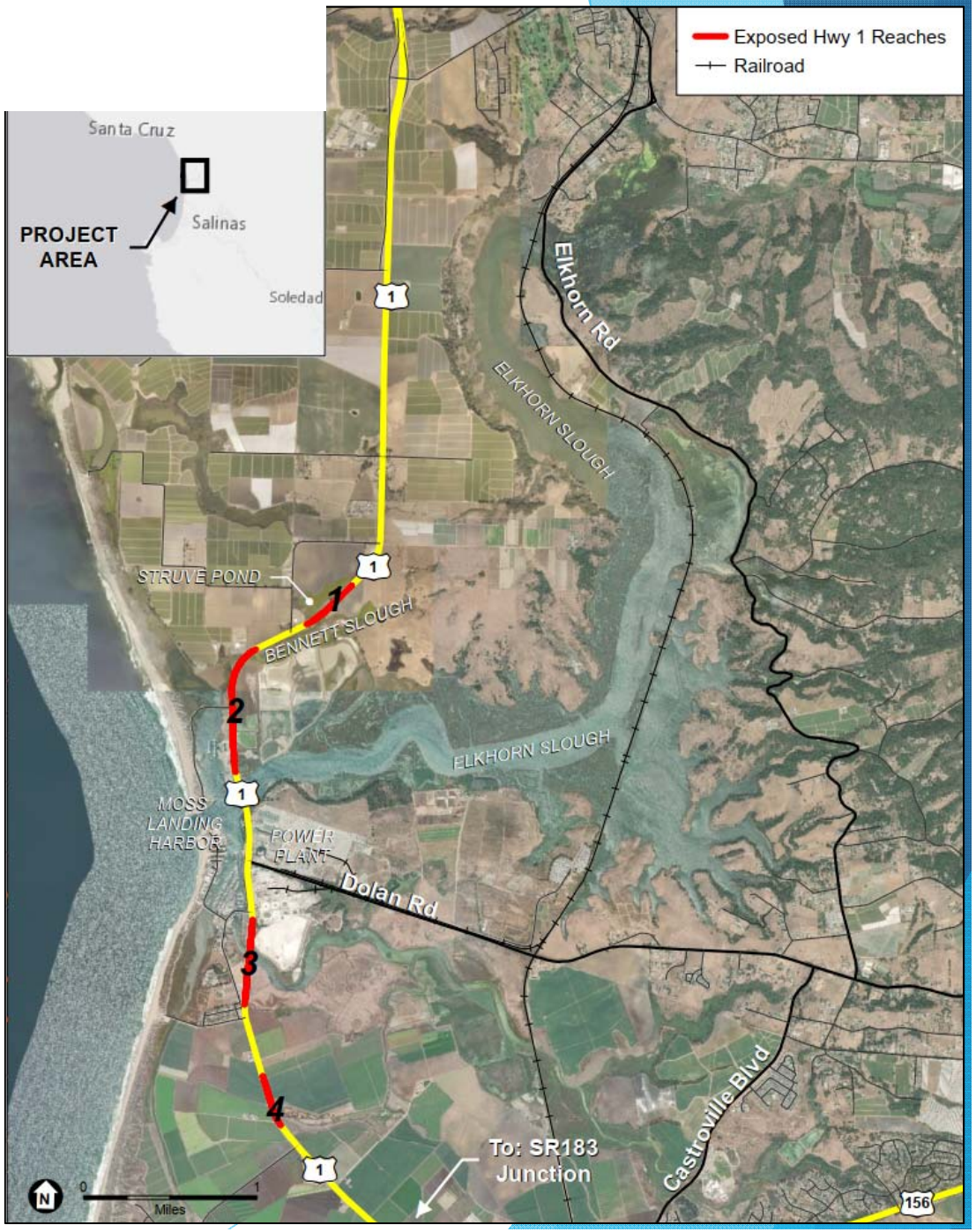
Potential Realignment



Modeling

For each adaptation alternative:

- Model transportation benefits
- Model sea level rise for new topography and hydrology
- Quantify sea level rise resilience for
  - Transportation
  - Habitats
- Model economic benefit-cost



Benefit-Cost Analysis

- Compare cost of taking no action to benefits of pursuing adaptation strategies
- Evaluate adaptation alternatives to determine:
  - Is it economically worthwhile?
  - Which is the best choice?
  - How long can action be delayed before costs exceed benefits?

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Question and Answer

Interactive Session

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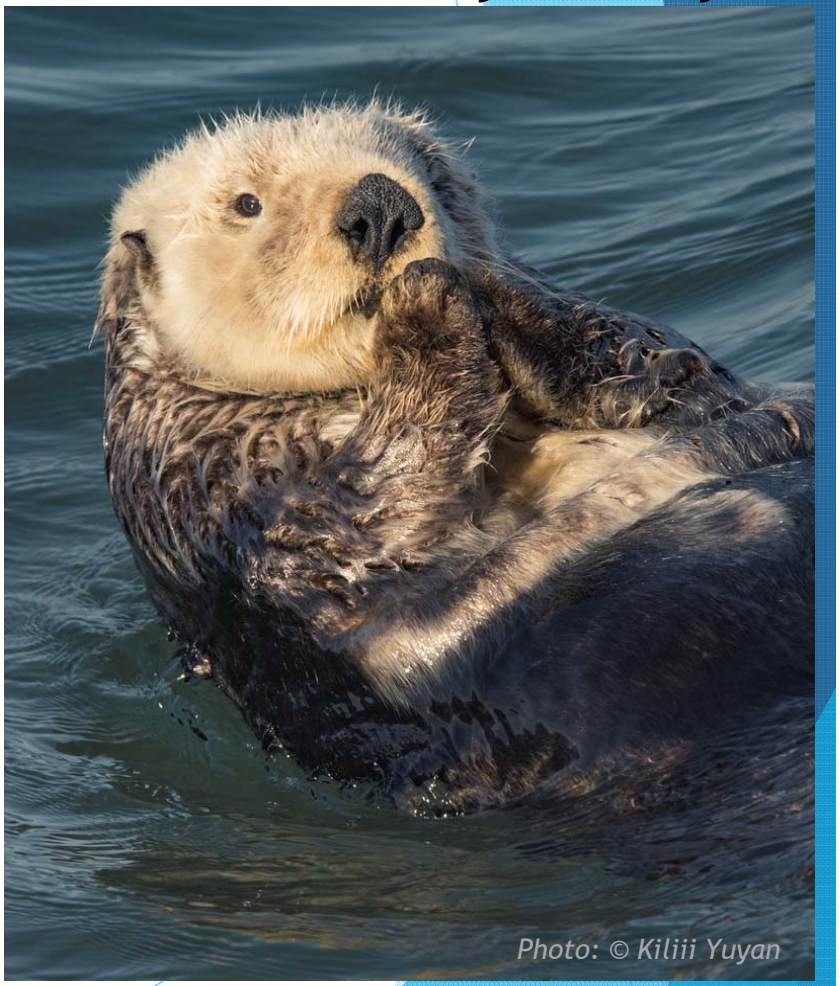

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