

# Living Shorelines, Nature-Based Solutions, and Sand Management Feasibility Study

Focus Group Meeting 3  
December 2 and 3, 2024



*Artwork by Farallon Strategies*



# Agenda

- Meeting Considerations
- Refined Evaluation Criteria
- Final Sites and Draft Concepts
- Next Steps



# Meeting Considerations + Chatham House Rules

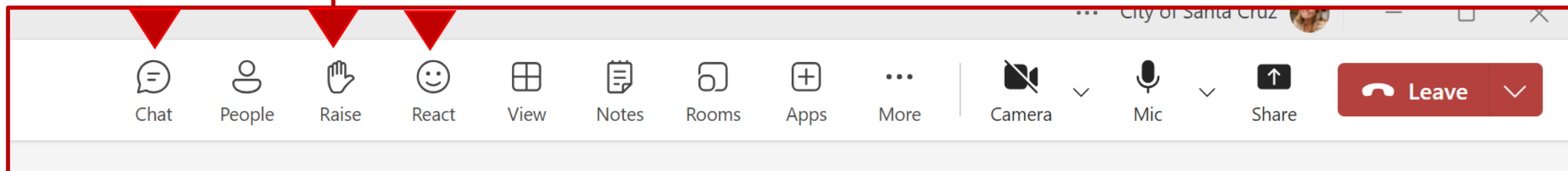
Stay present

Take space,  
make space

One person at a  
time

Use chat/  
hand raise

Question ideas,  
not people





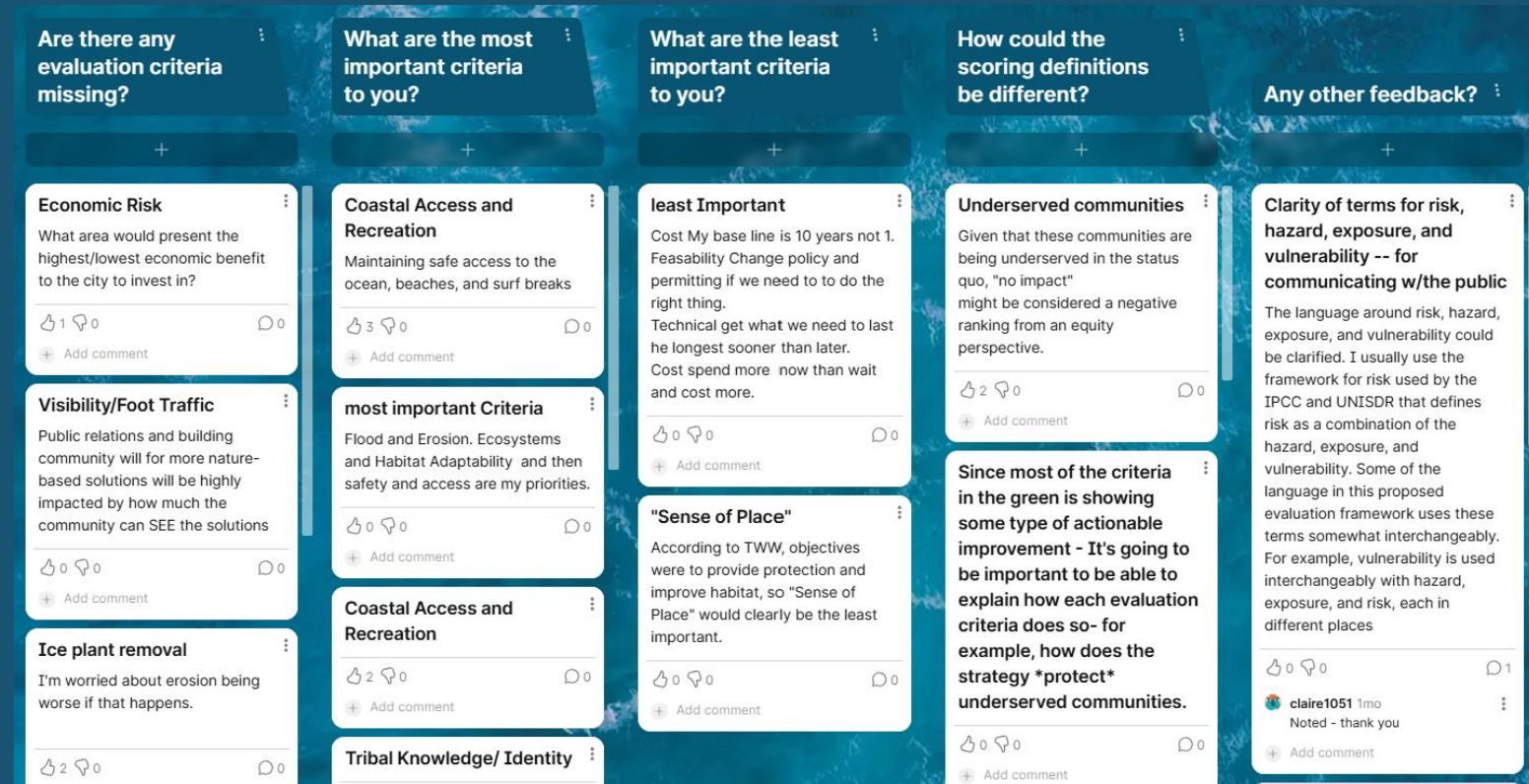
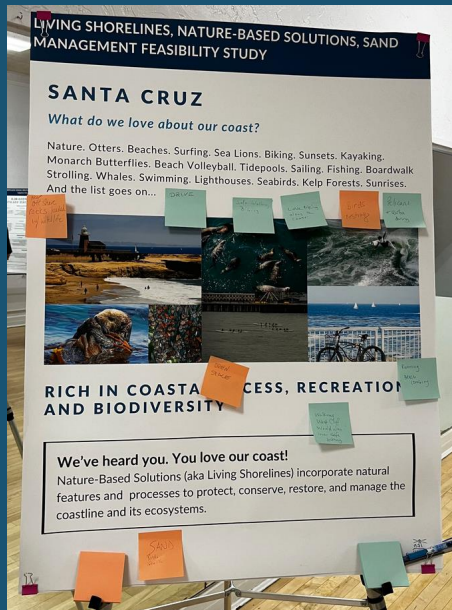
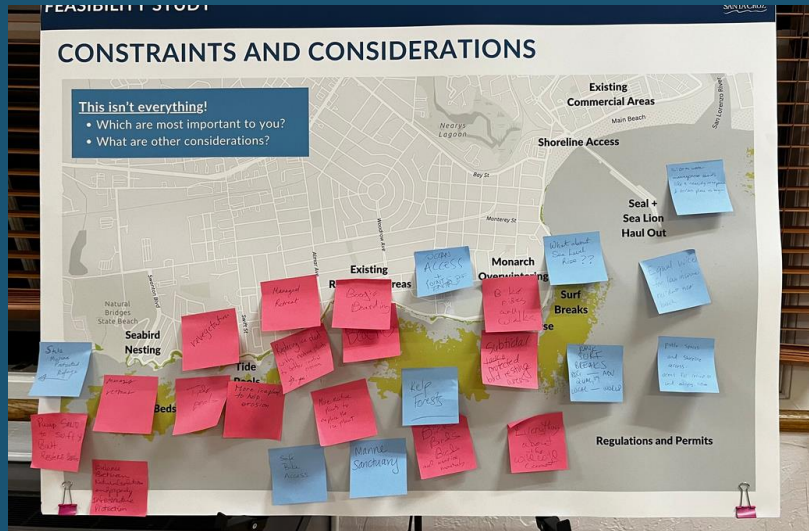
# Big Picture Approach



- Reduce vulnerability to coastal storms
- Develop a diverse set of strategies
- Prioritize options that also benefit habitats and public recreation
- Prioritize options with permitting precedent
- Include feedback into the strategies from a wide array of shoreline users



# Refining Evaluation Criteria



We confirmed top community priorities are:

1. Coastal Access and Recreation
2. Healthy Ecosystems and Habitat

# Evaluation Criteria Scoring

## Primary Criteria Categories

- Coastal Management and Resources
- Ecosystems and Habitats
- Access and Recreation
- Technical
- Costs
- Policy
- Equity

**Criteria are evaluated using negative; neutral; positive scoring definitions.**

Example:

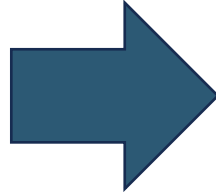
For Coastal Erosion criteria, the following scoring definition is used.

**May speed up erosion; no effect on erosion; protects against erosion**

# Coastal Management and Resources

## First Draft

- Flood
- Erosion
- Underserved Communities\*



## Refined Criteria

- Flood
- Erosion
- Sand Management

To be assessed quantitatively using coastal engineering analyses.

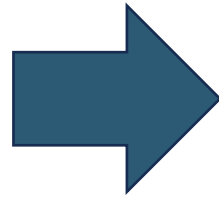
\*Underserved communities criteria was not removed from project but instead included as a key site selection criterion.

# Ecosystems and Habitat

## First Draft

### Marine and Terrestrial

- Connectivity and native habitats
- Biological and species diversity



## Refined Criteria

### Marine and Terrestrial

- Resilience
- Abundance
- Diversity
- Substrate Complexity

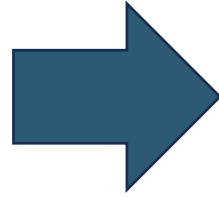
To be assessed qualitatively using expert judgement, including ESA ecologists and FG input.



# Access and Recreation

## First Draft

- Safe Coastal Access
- Bike Trail Access
- Pedestrian Access
- Beaches
- Surf



## Refined Criteria

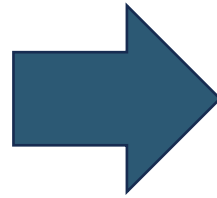
- Mixed-Use Trail Access
- Pedestrian Access
- Beaches
- Surf
- Marine Harvest

To be assessed qualitatively using expert judgement, including consultation with City staff and FG input. Beach criteria is assessed semi-quantitatively.

# Technical and Costs

## First Draft

- Material Sourcing
- Expected Project Life
- Capital Costs
- Operations and Maintenance Costs
- Availability of Funding



## Refined Criteria

- Material Sourcing
- Adaptability
- Capital Costs
- Operations and Maintenance Costs
- Availability of Funding

To be assessed qualitatively using expert judgement, including consultation with City staff. Capital Costs and Operations and Maintenance Costs will be assessed semi-quantitatively.

# Policy and Equity

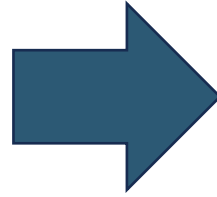
## First Draft

Previously in Administrative Feasibility

- Policy Alignment
- Regulation and Permitting

Previously in Sense of Place and Cultural Identity

- Tribal Priorities and Traditional Ecological Knowledge



## Refined Criteria

- Policy Alignment
- Regulation and Permitting
- Tribal Priorities

To be assessed qualitatively using expert judgement, including consultation with City staff and with tribal representatives.



**Any remaining questions or  
comments for evaluation criteria?**

# What are the final sites?

1. Main Beach
2. Its Beach
3. Mitchell's Cove

Draft concepts have been developed for each site, and will proceed to 30% design for 1-3 sites, using concepts that score the best using the evaluation criteria.



# Why these sites?

## Site Selection Criteria

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### Site Vulnerability

Vulnerability to Flood and Erosion

Relative Exposure

Equity

### Number of Viable Options

Number of Viable NBS Options

### Likelihood for Project Success

Potential for Economic Benefit

Potential for Reducing Vulnerability

Relative Likelihood for Near-Term  
Project Construction



### Site Revisions:

1. The final site selected for Its Beach is on the far west end. More information was provided for availability of funding there.
2. Lighthouse Point is being addressed in a separate project – the Lighthouse Point Hazard Analysis project.



# Site 1: Main Beach



# Site 1: Main Beach

## 1. Vegetated Dune:

Construct vegetated dune near eastern edge of Main Beach. Use buried cobble and wood to limit erosion from river and wave action. Use sand fencing and vegetation to capture wind-blown sand.

## 2. Sand Management:

Place sand if erosion threshold-met.





# Site 1: Main Beach

# Vegetated Dune

- Public Coastal Access
- Vegetated Dune
- Buried LWD Line
- Approx. Debris Line from 2023 Storm
- Kelp





## Site 1: Main Beach

## Vegetated Dune



Coastal  
access  
routes



# Site 1: Main Beach

# Sand Management



# Site 1: Working Evaluation Criteria Scoring

**Comparison to present-day conditions:** 1 = worse; 2 = similar; 3 = better

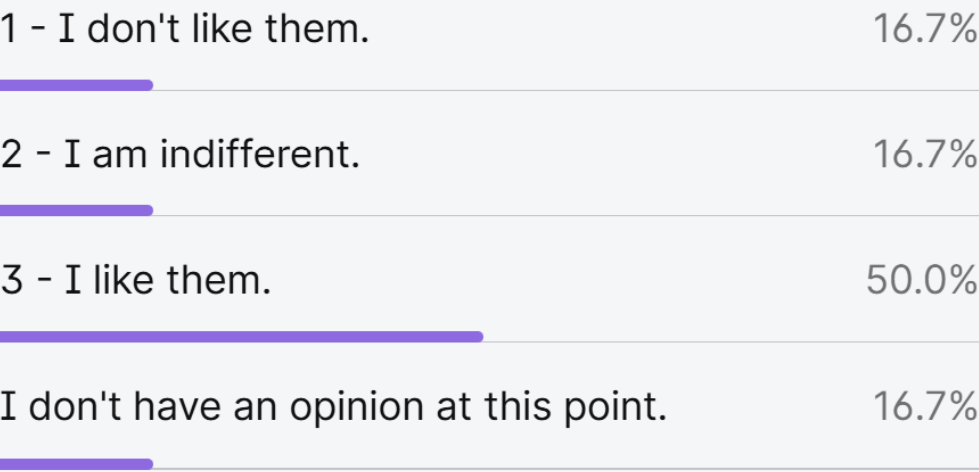
	No Action	Veg Dune	Beach Nourishment
Coastal Mgmt and Resources	1.7	3	2.7
Ecosystems and Habitats	2	2.5	2.3
Access and Recreation	1	2.2	2.2
Technical	1.5	3	2
Costs	1	2	1.3
Policy	1	2.5	2
Tribal Priorities			
<u>Average</u>	1.2	2.5	2.1



# Site 1: Main Beach Poll Results

## Focus Group 3A Responses

How do you like these draft concepts for Main Beach so far? Please provide a score from 1 - 3.



6 votes • [Hide Results](#)

## Focus Group 3B Responses

How do you like these draft concepts for Main Beach so far? Please provide a score from 1 - 3.



9 votes • [Hide Results](#)

*Please note unfortunately the scores were flipped between the groups in this poll for this site.*

## Site 2: Its Beach





# Site 2: Its Beach

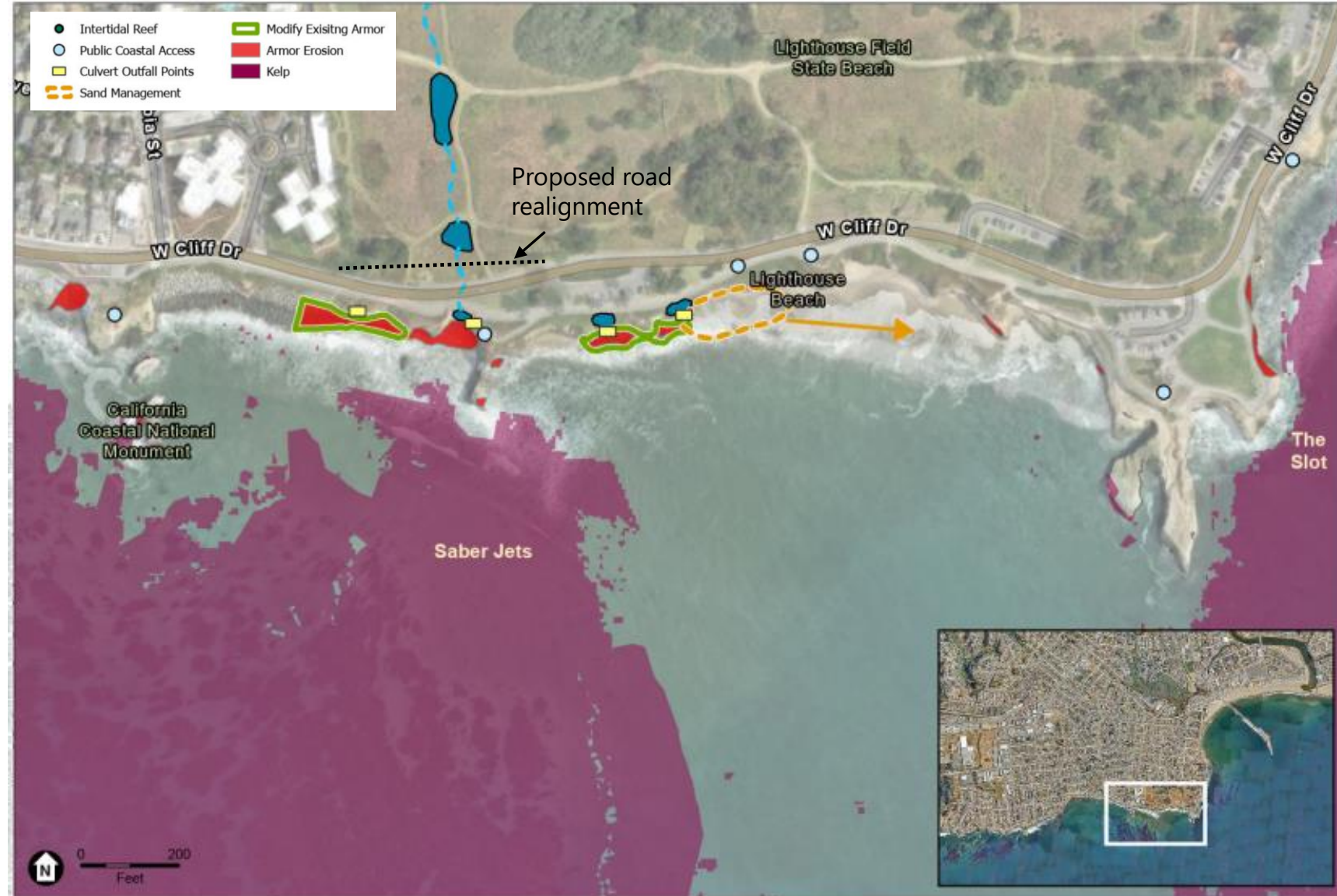
## 1. Reduce Erosion from Stormwater

1. Use pond and swale habitats to slow stormwater flows.
2. Reduce erosion from outfalls with stepped pool habitat, replacing ice plant.

## 2. Green-Grey Options

1. **Option A:** Modify existing armor surface to improve recruitment, allow to slip over time and become low intertidal habitat.
2. **Option B:** Replace armor with textured, erodible concrete surfacing to create more space for beach. Add tide pool shelf within footprint of existing armor.
3. **Option C:** Buried setback wall embedded into bluff near parking lot. Remove armor.

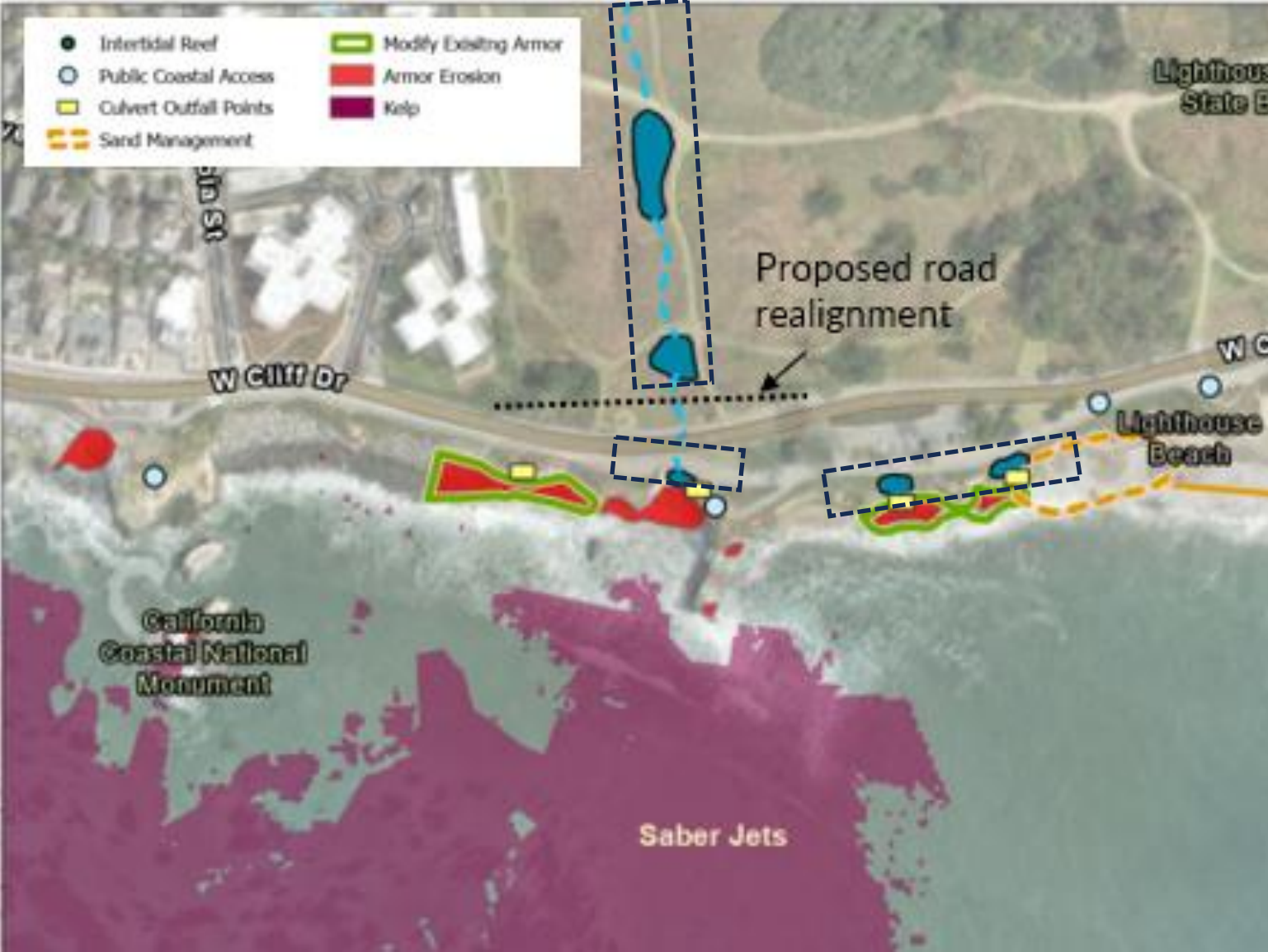
3. **Sand Management:** If the beach erodes in the long-term, consider periodic placement of material to maintain public recreation.





# Site 2: Its Beach

# Reduce Erosion from Stormwater





## Site 2: Its Beach

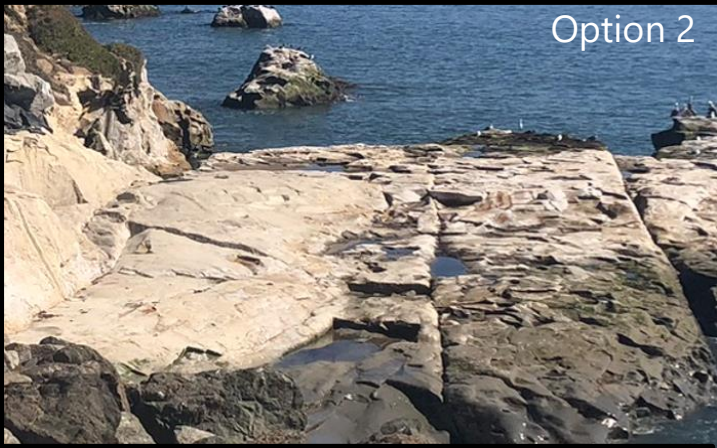
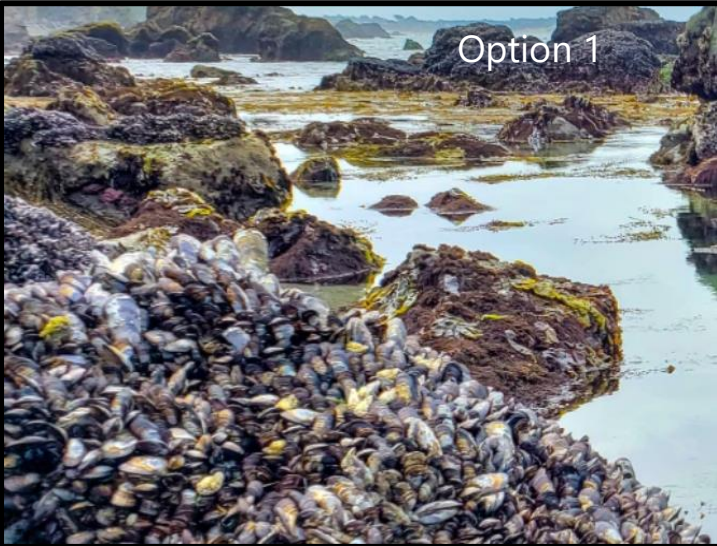
## Reduce Erosion from Stormwater





# Site 2: Its Beach

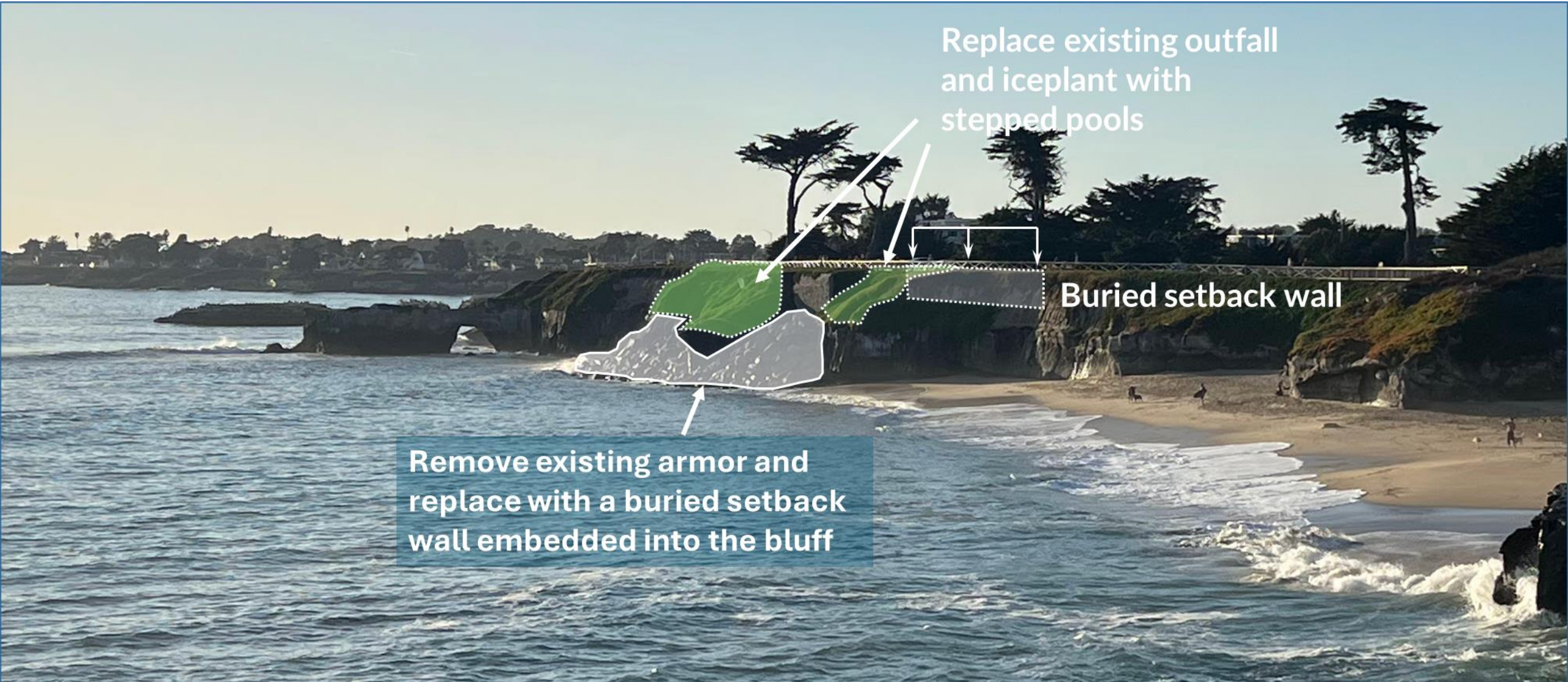
# Green-Grey Options





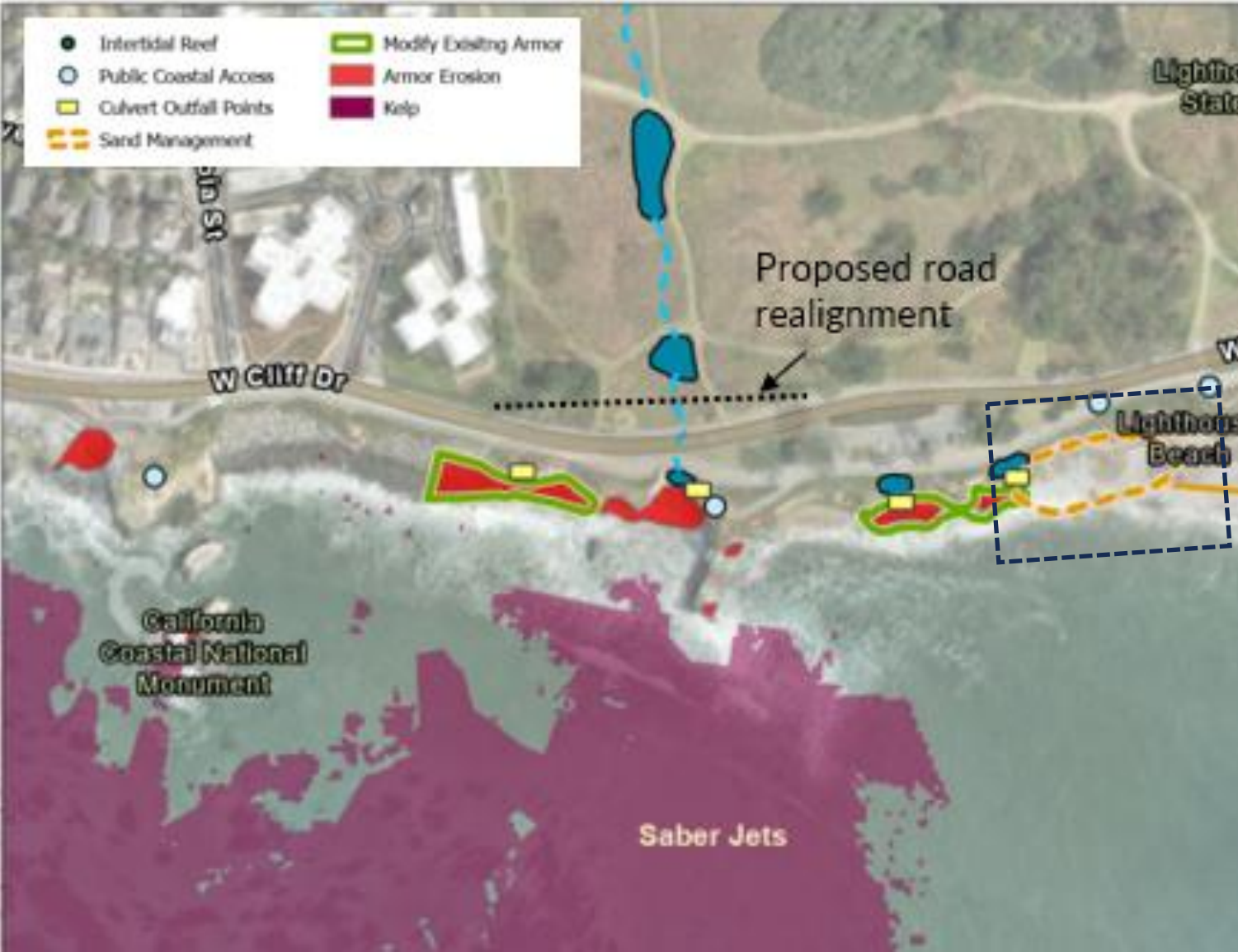
## Site 2: Its Beach

## Green-Grey Options





# Site 2: Its Beach



# Site 2: Working Evaluation Criteria Scoring

	No Action	Storm-water	Green-Grey 1	Green-Grey 2	Green-Grey 3	Sand Mgmt
Coastal Mgmt and Resources	1.3	2.3	1.7	1.7	2.7	2.3
Ecosystems and Habitats	1.6	2.5	2.6	2.6	3	2.8
Access and Recreation	1	2.2	1.8	2	2.6	2.2
Technical	1.5	2.5	2.5	2	2	2
Costs	1	2.3	1.7	1.7	2	1.3
Policy	1	2.5	2	2	2	2
Tribal Priorities						
<u>Average</u>	1.2	2.4	2.0	2.0	2.4	2.1



# Site 2: Its Beach Poll Results

## Focus Group 3A Responses

How do you like these draft concepts for Its Beach so far? Please provide a score from 1 - 3.

1 - I don't like them. 0.0%

2 - I am indifferent. 14.3%

3 - I like them. 71.4%

I don't have an opinion at this point. 14.3%

7 votes • Hide Results

## Focus Group 3B Responses

How do you like these draft concepts for Its Beach so far? Please provide a score from 1 - 3.

1 - I don't like them. 0.0%

2 - I am indifferent. 12.5%

3 - I like them. 75.0%

I don't have an opinion at this point. 12.5%

8 votes • Hide Results

# Site 3: Mitchell's Cove



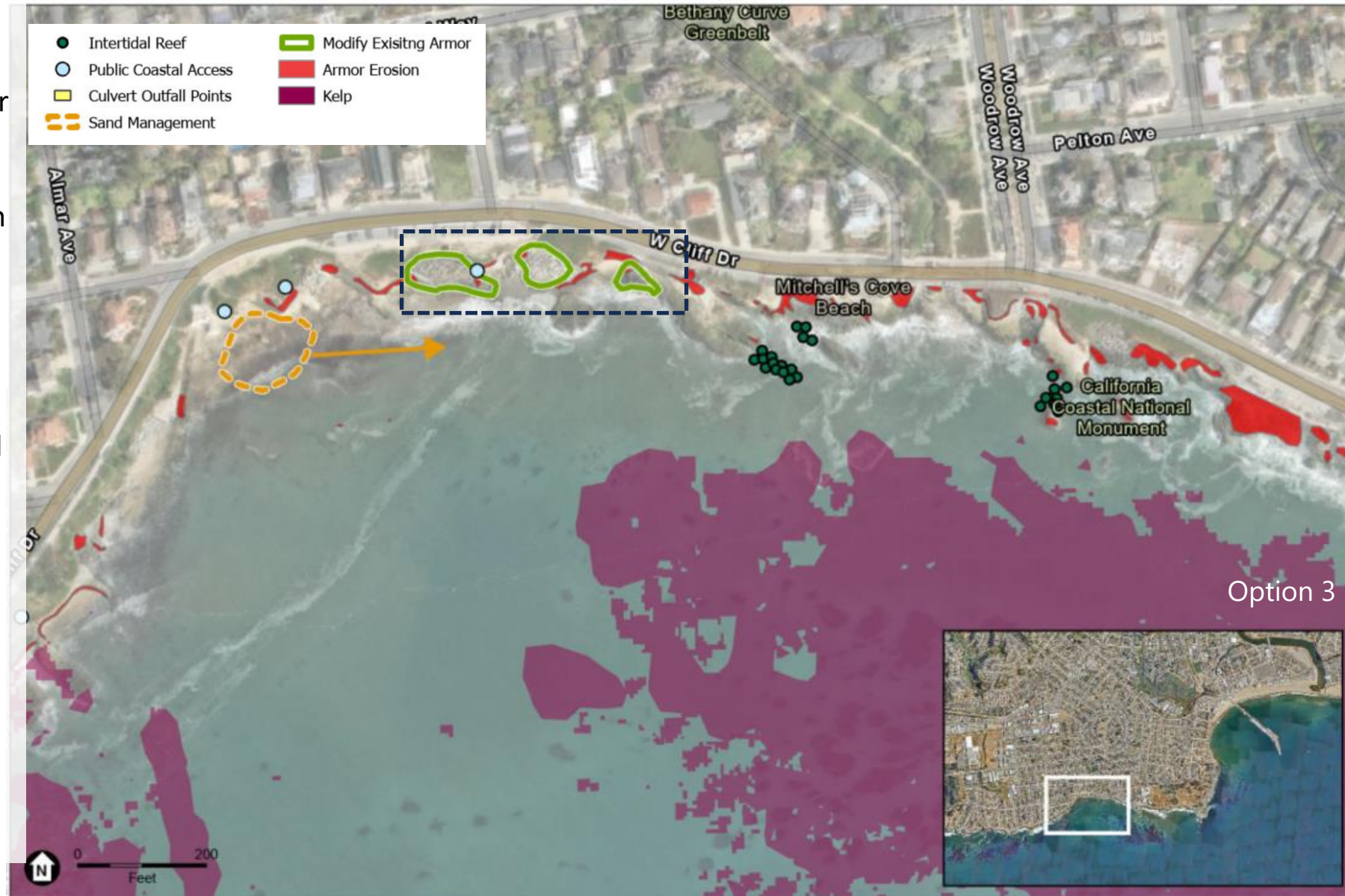


# Site 3: Mitchell's Cove

## 1. Green-Grey Options

1. **Option A:** Modify existing armor surface to improve recruitment, allow to slip over time and become low intertidal habitat.
2. **Option B:** Replace armor with textured, erodible concrete surfacing to create more space for beach. Add tide pool shelf within footprint of existing armor.
3. **Option C:** Buried setback wall embedded into bluff near parking lot. Remove armor.

2. **Intertidal Reefs:** Place low profile boulders to encourage sand retention and recruit intertidal species.
3. **Sand Management:** If the beach erodes in the long-term, consider periodic placement of material to maintain public recreation.





# Site 3: Mitchell's Cove

# Green-Grey Options





## Site 3: Mitchell's Cove

## Green-Grey Options





# Site 3: Mitchell's Cove

# Intertidal Reef





## Site 3: Mitchell's Cove

## Intertidal Reef





# Site 3: Mitchell's Cove



## Sand Management





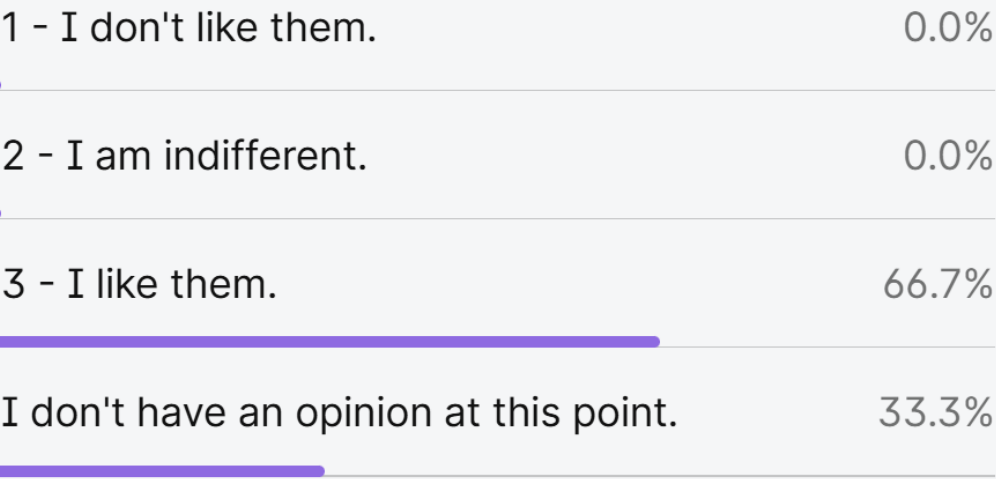
# Site 3: Working Evaluation Criteria Scoring

	No Action	Green-Grey 1	Green-Grey 2	Green-Grey 3	Reef	Sand Mgmt
Coastal Mgmt and Resources	1.3	1.7	1.7	2.7	2.7	2.3
Ecosystems and Habitats	1.6	2.6	2.6	3	2.5	2.8
Access and Recreation	1	2	2.2	2.6	2.4	2.2
Technical	1.5	2.5	2	2	1.5	2
Costs	1	1.7	1.7	2	2	1.3
Policy	1	2	2	2	1	2
Tribal Priorities						
<u>Average</u>	1.2	2.1	2.0	2.4	2.0	2.1

# Site 3: Mitchell's Cove Poll Results

## Focus Group 3A Responses

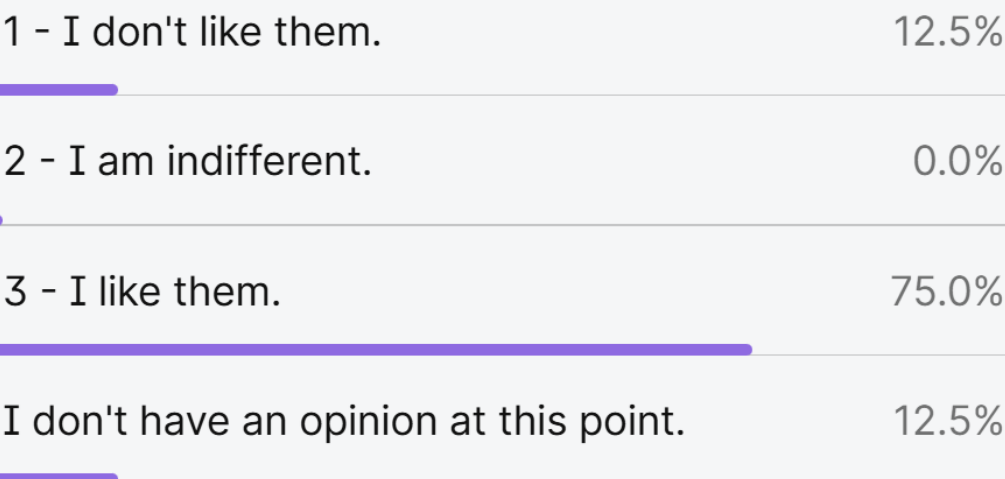
How do you like these draft concepts for Mitchell's Cove so far? Please provide a score from 1 - 3.



6 votes • [Hide Results](#)

## Focus Group 3B Responses

How do you like these draft concepts for Mitchell's Cove so far? Please provide a score from 1 - 3.



8 votes • [Hide Results](#)



# Next Steps

- Provide more input on scoring if you want to.
- Stipends – please let us know if you have not already.
- Next community meeting is next week and virtual!
  - **Suggestions for presenting concepts to the public?**
- Optional fourth focus group coming in the new year to present designs.
- Final community meeting will be in the new year.



## GET INVOLVED!

Community Conversations: Nature Based Solutions, Living Shorelines and Sand Management Feasibility Study

DEC  
12

### COMMUNITY CONVERSATION

**5:30pm-7pm | Virtual Meeting (Zoom)**

Provide input on the recommended nature based solutions

**Thank you!**