

# END-USER PRODUCTS

A photograph showing two researchers in a tidal flat. One researcher is kneeling on the left, wearing a blue jacket and a large backpack, and is using a white PVC frame to collect a sample from the mud. The other researcher is standing on the right, wearing a blue jacket, a white and grey striped beanie, and waders, and is holding a clipboard and pen, looking at the sample. The background shows a large body of water with many birds, and a building is visible in the distance under a clear sky.

**How best to package new information  
to inform management**

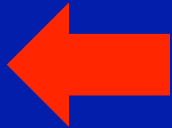
# We'd like to know....

- What are the most important analyses to do with our new data? What questions do you need answered?

## CONTENT

- How can we make our data easy for you to use? In what format do you prefer to receive the new information?

## PACKAGING



# What roles do you play with regard to Olympia oysters? **Select ONE**

- 25% 1. “on-the-ground” Oly restoration
- 0% 2. oyster farming (any species)
- 0% 3. planning/policy for oysters
- 38% 4. planning/policy for estuarine habitats
- 6% 5. funding of oyster restoration projects
- 6% 6. permitting / regulation related to oysters
- 0% 7. monitoring of oysters
- 13% 8. research projects on oysters
- 6% 9. education / outreach about oysters
- 6% 10. other / none

# END-USER PRODUCTS

## **Guidelines**

**Conceptual models**

**Decision trees**

**Site evaluations**

**Regional maps**

**Site selection tools**

**(will review each and then have you score its usefulness to your management decisions)**

# Guidelines

## Description of end-product:

- summary and interpretation of management implications of our new data
- brief written recommendations supplemented by figures/tables



Thanks to Jesse Caldwell (See Ezekiel 20:1-21)

02-07-2001

I DON'T KNOW ABOUT YOU, BUT I'VE ONLY  
FOUND A COUPLE THAT WORK FOR ME

# *Guidelines*

**Which questions would this product apply to?**

**ALL SEVEN QUESTIONS**

**Where:** recommendations about best sites

**When:** recommendations about timing

**How:** recommendations about stressor reduction

# Guidelines

Based on your past experience with similar products or your anticipated future needs...

**How valuable would this type of product be for applying new science to your needs ?**



# END-USER PRODUCTS

**Guidelines**

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**Decision trees**

**Site evaluations**

**Regional maps**

**Site selection tools**



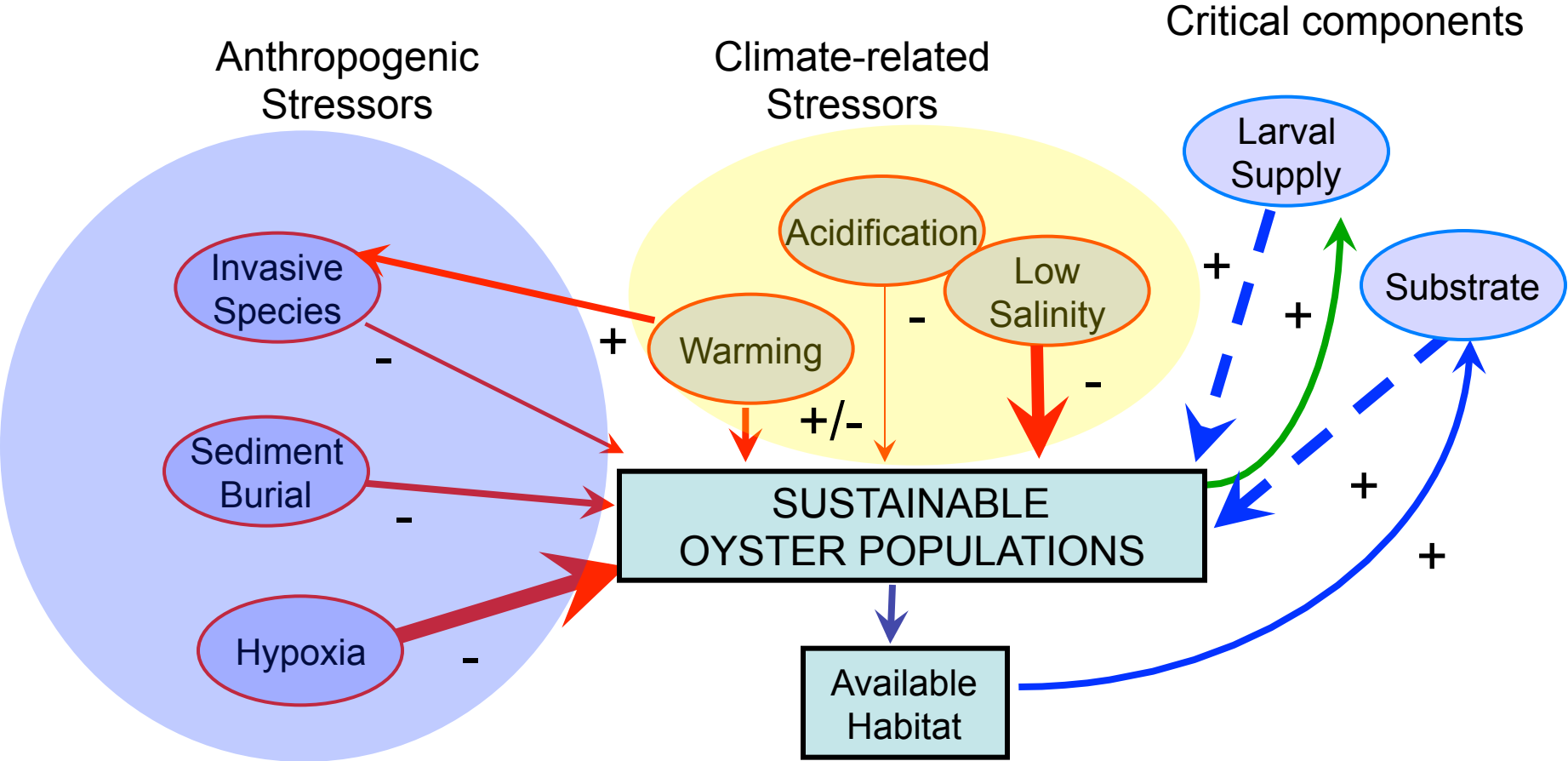
# *Conceptual models*

## **Description of end-product:**

-- diagram showing which oyster parameters are affected by different factors

--could be one single model, or variants developed to guide the different questions

# Conceptual model



# *Conceptual models*

**Which questions would this product apply to?**

**Where:** model useful for site selection by showing which factors matter

**How:** model applied to developing strategies for enhancing resilience through stressor reduction

# Conceptual models

Based on your past experience with similar products or your anticipated future needs...

**How valuable would this type of product be for applying new science to your needs ?**



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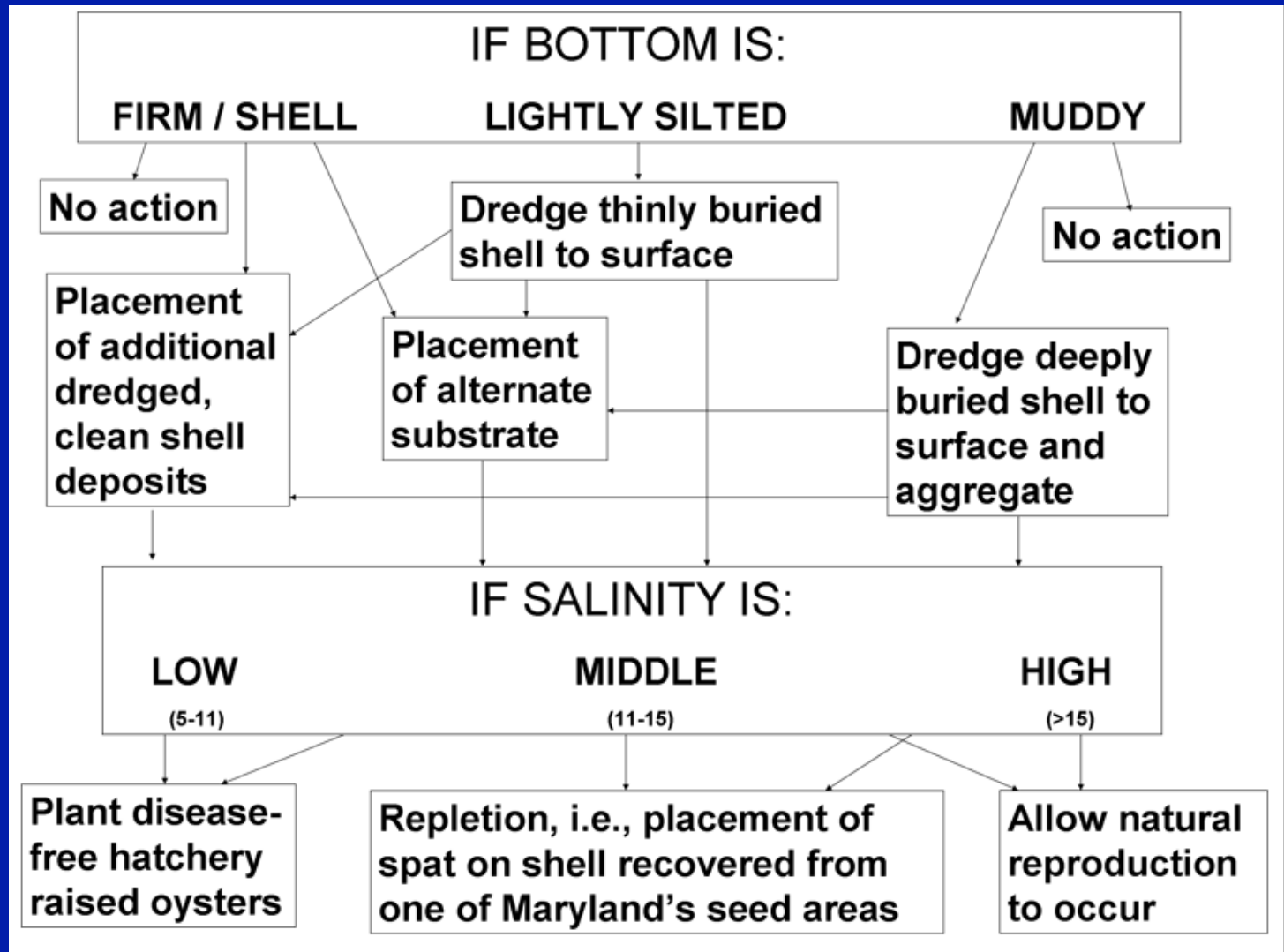
# *Decision trees*

## **Description of end-product:**

- provides guidance about which stressors to focus on at sites with differing conditions
- dichotomous key or flow chart

# Decision trees

## Example:



# *Decision trees*

**Which questions would this product apply to?**

**How:** helps managers identify critical stressors to focus on at a given site



# Decision trees

Based on your past experience with similar products or your anticipated future needs...

**How valuable would this type of product be for applying new science to your needs ?**



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# *Site evaluations*

## **Description of end-product:**

-- table summarizing info on the 18+ monitored sites

# Site evaluations

## Example:

SITE	OYSTER RESTORATION SUITABILITY SCORE
China Camp	High
Port Orient	Low
Loch Lomond	Medium
Port Pinole	Medium
Brickyard Cove	Low
Sausalito	High
Berkeley	High
Arambaru Island	Medium
Oyster Point	Medium
Coyote Point	Low
Eden Landing	High

# Site evaluations

## Example:

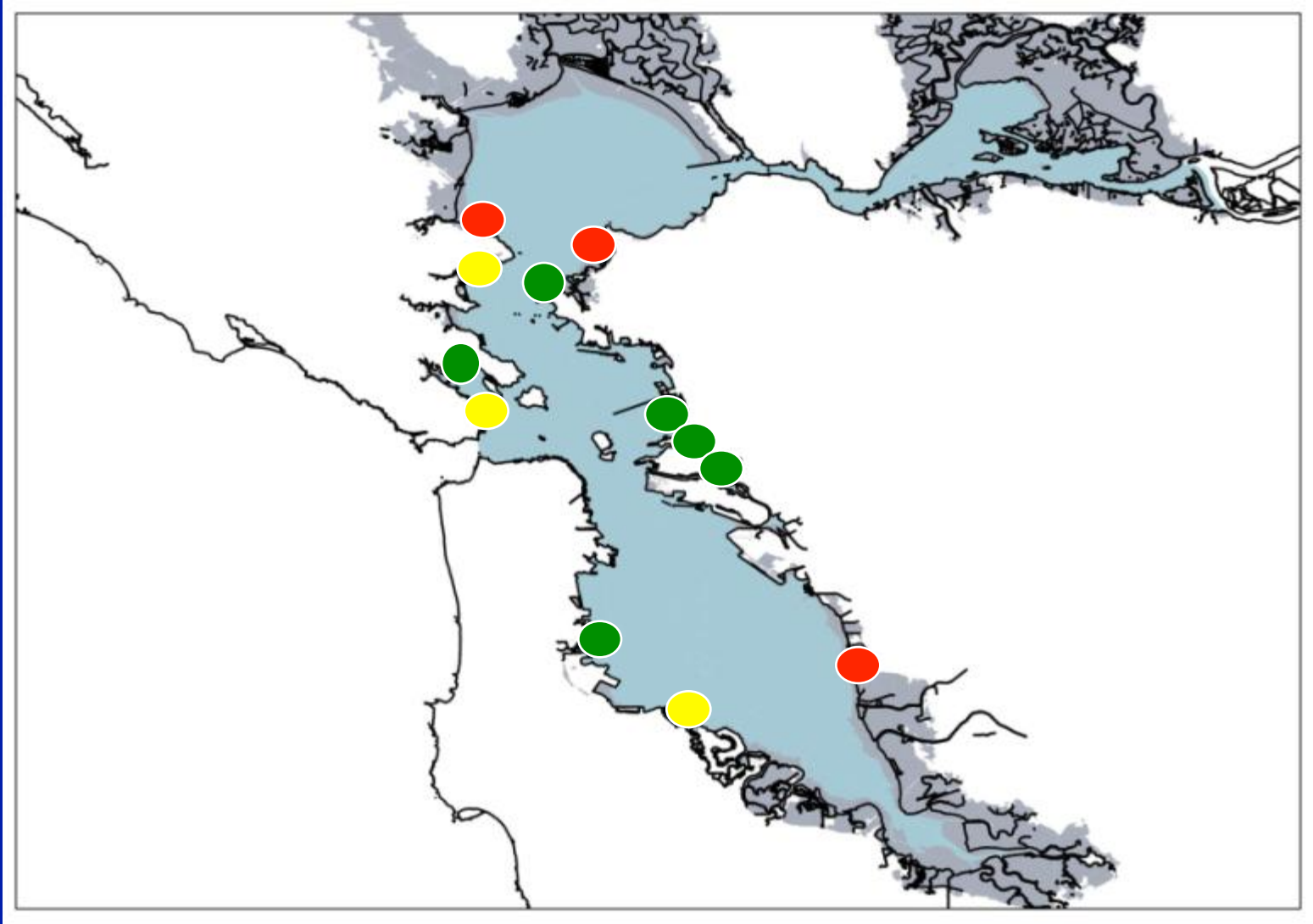
SITE	OYSTER RESTORATION SUITABILITY SCORE	OYSTER ATTRIBUTES		STRESSORS			
		Adult density nearby	Recruitment rate	Freshwater exposure	Hypoxia frequency	Sedimentation	Invasive cover
China Camp	High	High	High	Medium	Low	Low	Medium
Port Orient	Low	Low	Low	High	Medium	High	High
Loch Lomond	Medium	Low	Medium	High	Medium	Low	Low
Port Pinole	Medium	Medium	Low	Medium	Low	Medium	Low
Brickyard Cove	Low	Low	Low	High	High	High	High
Sausalito	High	Medium	High	Low	Low	Medium	Low
Berkeley	High	High	Medium	Low	Low	Low	Medium
Arambaru Island	Medium	Medium	Medium	Medium	High	Medium	Low
Oyster Point	Medium	Low	High	Medium	Medium	Medium	Medium
Coyote Point	Low	Low	Low	High	Medium	High	High
Eden Landing	High	High	Medium	Low	Low	Medium	Low

# *Site evaluations*

## **Description of end-product:**

-- or could summarize site assessment on map

# Site evaluations



# *Site evaluations*

**Which questions would this product apply to?**

**Where:** summaries show which of the 18 sites have most critical existing populations OR best restoration potential



# Site evaluations

Based on your past experience with similar products or your anticipated future needs...

**How valuable would this type of product be for applying new science to your needs ?**



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**Regional maps**

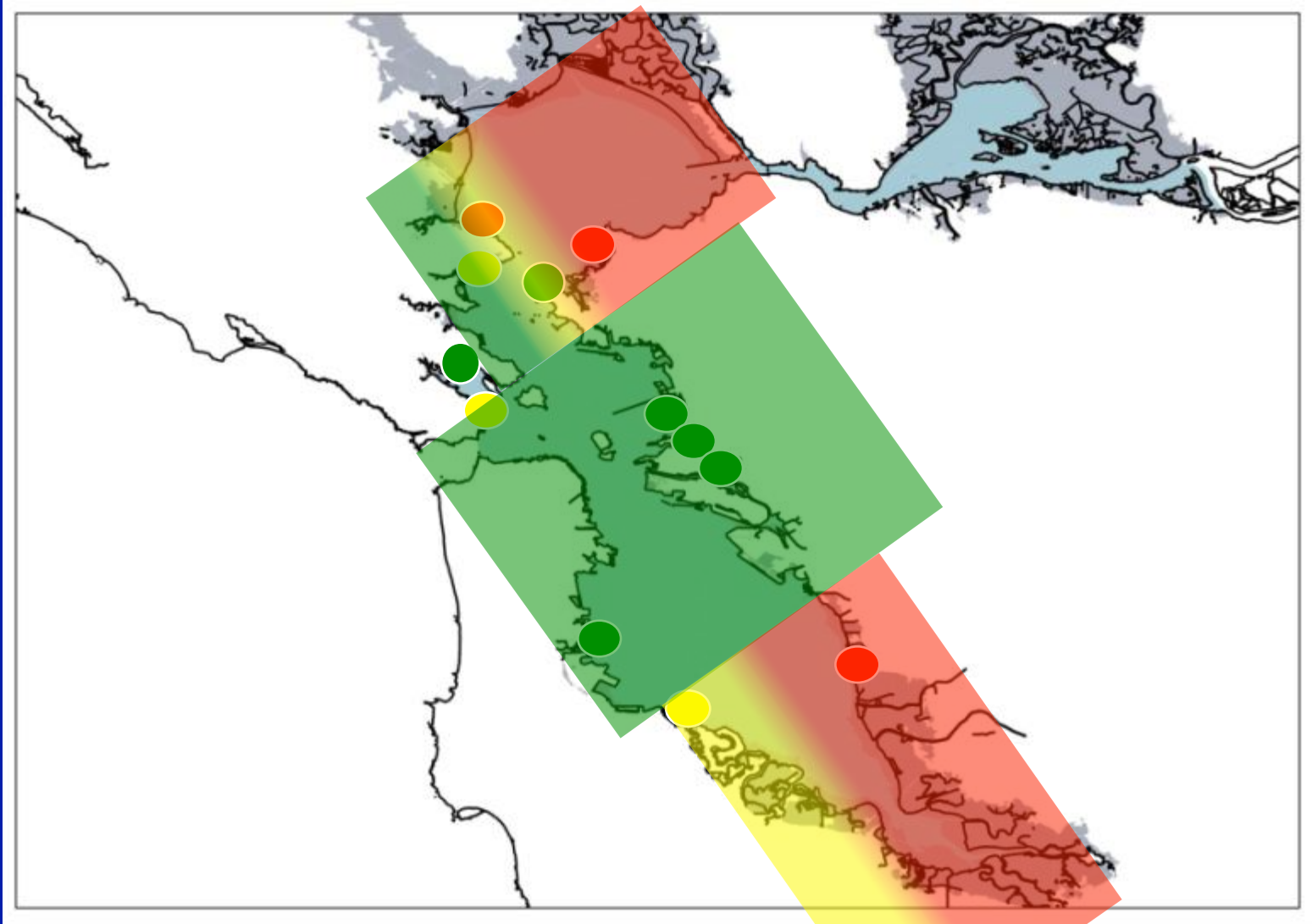
Site selection tools

# *Regional maps*

## **Description of end-product:**

- maps of San Francisco Bay and Elkhorn Slough
- GIS used to interpolate between our 18+ sampled stations: moderate uncertainty
- assessment of suitability of regions based only on factors that vary as a continuous gradient

# *Regional maps*



# *Regional maps*

**Which questions would this product apply to?**

**Where:** maps show which regions have most critical existing populations OR best restoration potential

# Regional maps

Based on your past experience with similar products or your anticipated future needs...

**How valuable would this type of product be for applying new science to your needs ?**



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**Regional maps**

**Site selection tools**

# *Site selection tools*

## **Description of end-product:**

- formal “decision-support tools,” employing software to create tailored products
- allows assessment of sites other than the 18+ we studied
- end-user inputs data and obtains assessment of whether this is appropriate restoration site



# Site selection tools

## Example: Interactive site “report card”

You enter information about your site....

SITE	OYSTER ATTRIBUTES		STRESSORS			
	Adult density nearby	Recruitment rate	Fresh-water exposure	Hypoxia frequency	Sedimentation	Invasive cover
Site X	High	High	Medium	Low	Low	Medium
Site Y	Low	Low	High	Medium	High	High
Site Z	Low	Medium	High	Medium	Low	Low

# Site selection tools

...and the tool calculates a restoration score

SITE	OYSTER RESTORATION SUITABILITY SCORE	OYSTER ATTRIBUTES		STRESSORS			
		Adult density nearby	Recruitment rate	Fresh-water exposure	Hypoxia frequency	Sedimentation	Invasive cover
Site X	High	High	High	Medium	Low	Low	Medium
Site Y	Low	Low	Low	High	Medium	High	High
Site Z	Medium	Low	Medium	High	Medium	Low	Low

# *Site selection tools*

**Which questions would this product apply to?**

**Where:** interactive tools help managers evaluate sites for conservation/restoration

# Site selection tools

Based on your past experience with similar products or your anticipated future needs...

**How valuable would this type of product be for applying new science to your needs ?**



# DISCUSSION OF END-USER PRODUCTS

*--Are there any other end-user products we missed?*

*--Reflections about how you use products?*



*Working together, we will apply the new science towards **conserving and restoring Olympia oysters!***

