



First Foods, Climate Change and Community Health

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Swinomish Indian Tribal Community



Swinomish Indian Tribal Community



- ▶ Coast Salish people
- ▶ 1855 Treaty of Point Elliott: Sovereign nation
- ▶ Reservation: ~3,000 acres tidelands + ~7,000 acres uplands
 - ▶ Reservation 90% surrounded by water
- ▶ ~900 enrolled members
- ▶ First Foods:

***“When the tide is out,
the table is set.”***

Starting from a place of Indigenous health and well-being

A healthy community encompasses all aspects of tribal relationships and tribal priorities that affect a community. This includes physical, social, mental and spiritual health on individual, familial and community levels, as well as relations between people, the environment, and natural resources.

Swinomish Project Overview: Impacts to First Foods & Tribal Community Health and Well-being (2014-2017)

Using localized models of sea level rise and storm surge to predict impacts to nearshore clam, salmon, forage fish, and clam habitats and how those impacts may in turn impact the health of the community, which is so closely connected to those traditional natural resources.



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COMMUNITY CONNECTION

Work • Sharing • Relations

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RESILIENCE

Self-Esteem • Identity • Sustainability

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EDUCATION

The Teachings • Elders • Youth

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SELF-DETERMINATION

Healing & Restoration •
Development • Trust

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CULTURAL USE

Respect & Stewardship • Sense of
Place • Practice

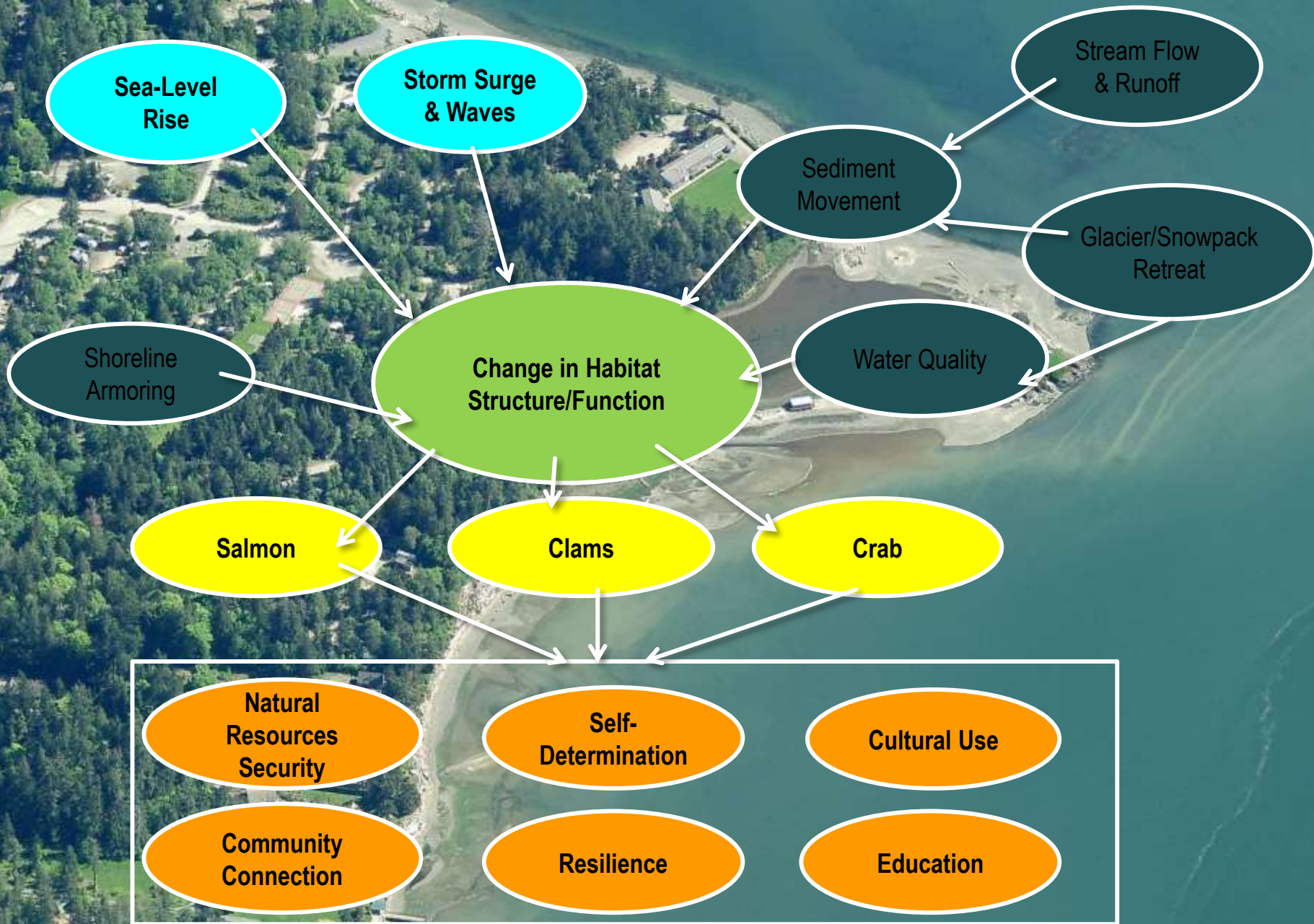
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NATURAL RESOURCE SECURITY

Quality • Access • Safety

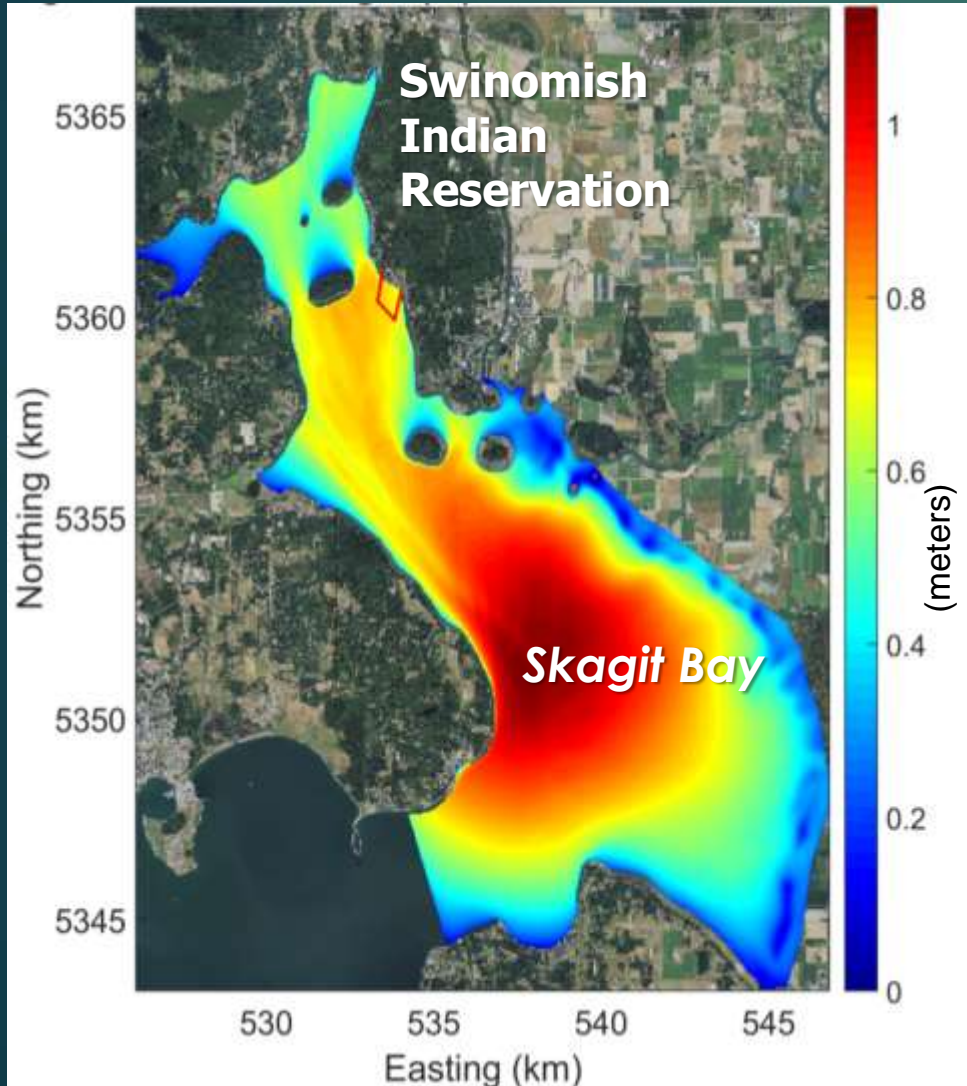


Coastal Climate Change Impacts to Swinomish First Foods and Indigenous Health Indicators

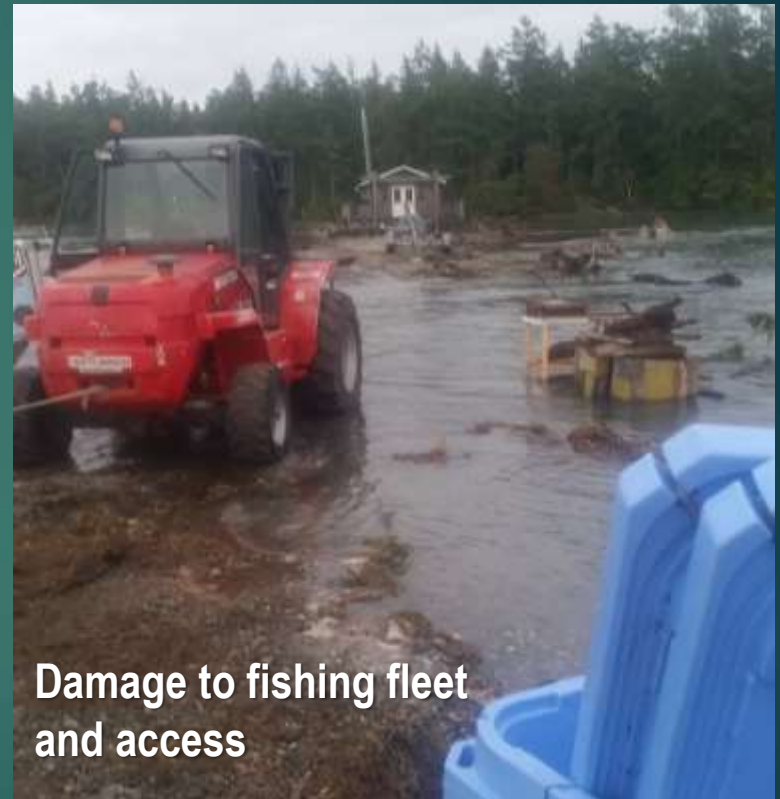


2015 Summer Storm

Forecasted wave heights (Aug. 29, 2015)



Lone Tree Lagoon, Swinomish



Damage to fishing fleet
and access

Impact to salmon habitat
(Lone Tree Pocket Estuary)

Study Sites

1. Similk Beach
2. Turner's Bay
3. Kukutali Preserve
4. Lone Tree
5. Snee-Oosh Beach
6. Martha's Beach



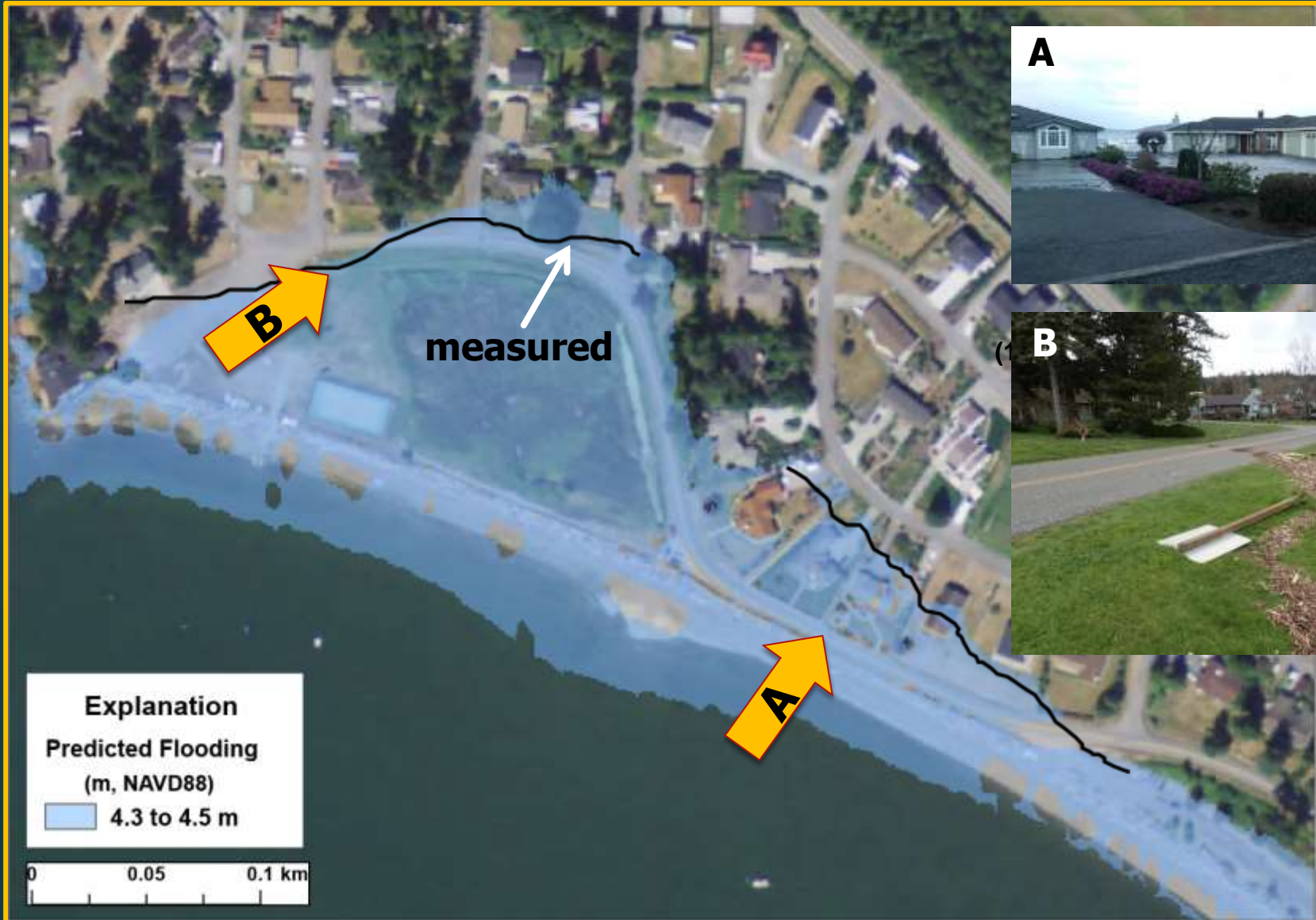
Figure 1: Map of Swinomish Indian Reservation highlighting the six project focus areas (in red).

Snee-Oosh Beach during storm, early 2016



Model vs Real Life Water Levels

Snee-Oosh: The 100-yr Storm Event More Often?



Specific Impact Assessment: The Tree

Salmon

- Rearing Habitat Area
- Food Availability
- Habitat Connectivity

Clams

- Suitable Beach Area
- Recruitment

Crab

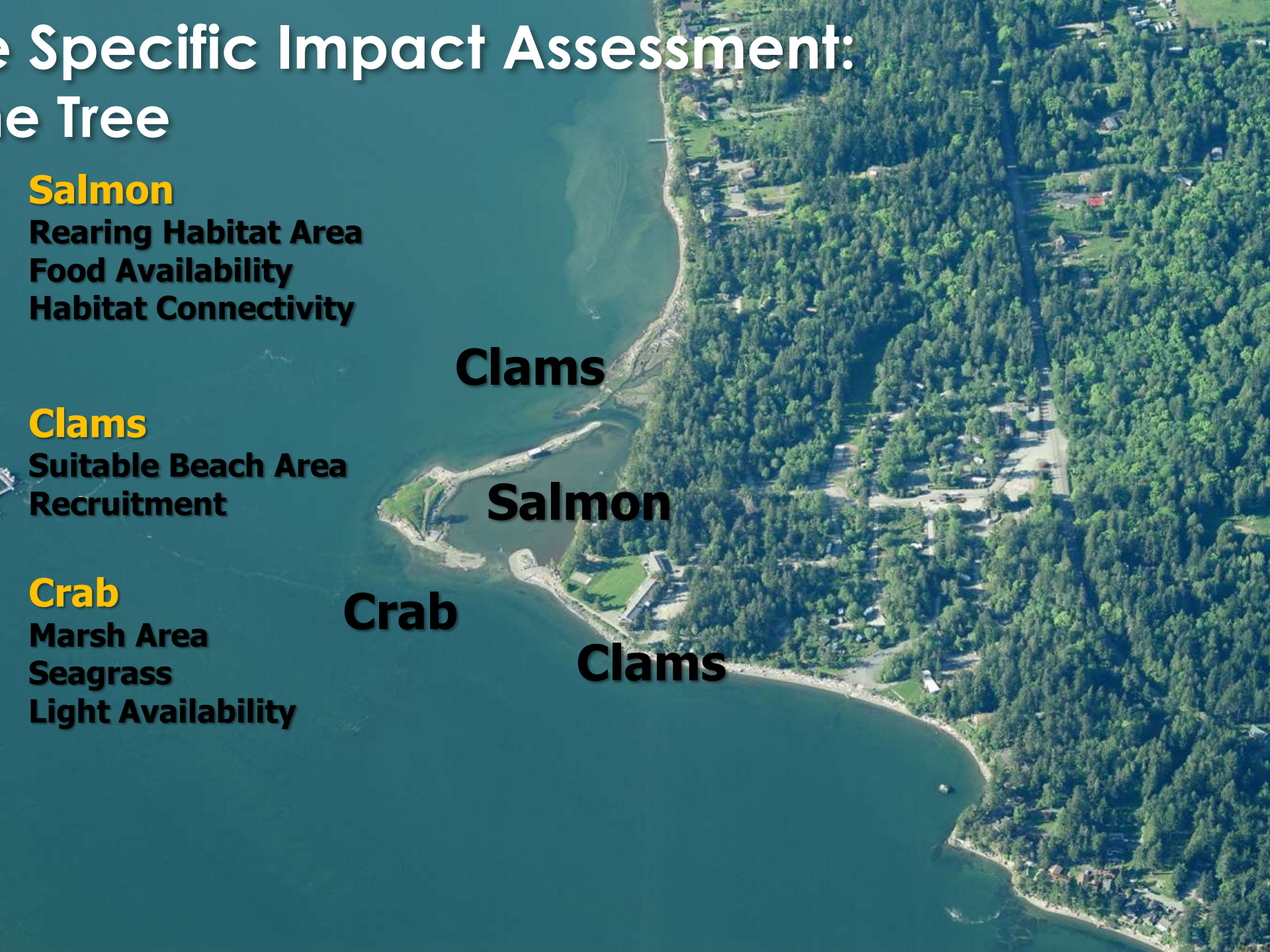
- Marsh Area
- Seagrass
- Light Availability

Clams

Salmon

Crab

Clams



Lone Tree

Clams

Salmon

Crab

Salmon

Crab

Clams

0 0.05 0.1 0.15 0.2 km

| FIRST FOOD | Lone Tree Lagoon | Risk Key |
|------------|------------------|-------------|
| Salmon | H | HIGH |
| Crabs | MH | MEDIUM HIGH |
| Clams | MH | MEDIUM |
| | | MEDIUM LOW |
| | | LOW |

Summary of Risk to First Foods

| FIRST FOOD | Similk Beach | Turners Bay | Kukutali Preserve | Lone Tree Lagoon | Snee-Oosh Beach | Martha's Beach |
|--------------|--------------|-------------|-------------------|------------------|-----------------|----------------|
| Salmon | M | M | MH | H | M | M |
| Crabs | MH | M | MH | MH | MH | ML |
| Clams | MH | M | M | MH | M | NA |
| Overall (15) | 11 | 9 | 11 | 13 | 10 | 6 |

Impact Assessment Approach: Workshops

Some things to consider:

- Magnitude
- Extent
- Duration and frequency
- Reversible or irreversible
- Context



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COMMUNITY CONNECTION

Work • Sharing • Relations

| Similk Beach | Turners Bay | Kukulali Preserve | Lone Tree | Snee - Oosh | Martha's Beach |
|--------------|-------------|-------------------|-----------|-------------|----------------|
| M | L | M | M-H | M-L | H |

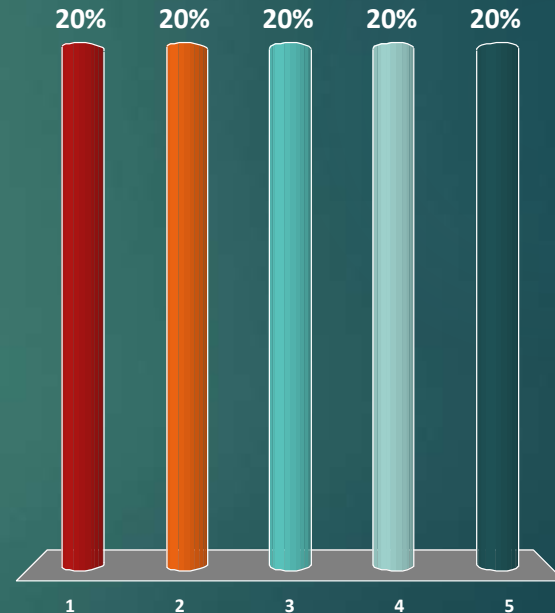


Description:

Rate Relative Impact of Climate Change to *Natural Resource Security* at Similk Beach

| | | | | | |
|--------------|-------------|-------------------|------------------|-----------------|----------------|
| Similk Beach | Turners Bay | KuKutali Preserve | Lone Tree Lagoon | Snee Oosh Beach | Martha's Beach |
|--------------|-------------|-------------------|------------------|-----------------|----------------|

1. Low
2. Medium Low
3. Medium
4. Medium High
5. High

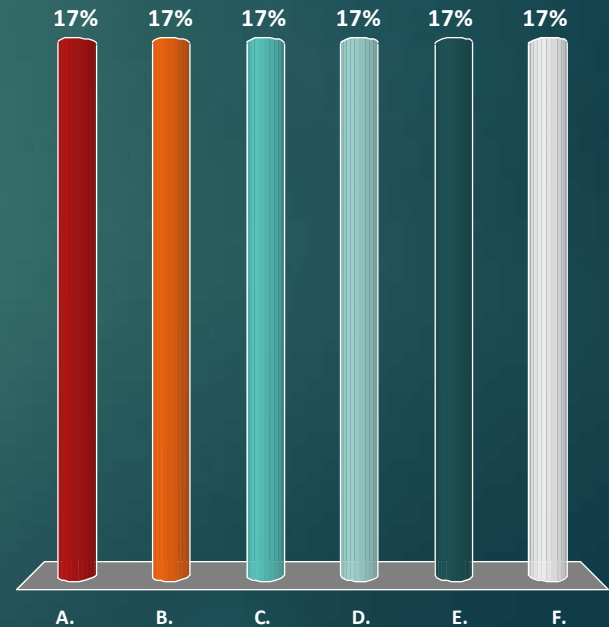


Rank the order of importance to protect from climate change impacts:

1 is most important (*press that one first*)

6 is least important (*press that one last*)

- A. Natural Resources
- B. Community Connections
- C. Cultural Use and Practices
- D. Self-Determination
- E. Resilience
- F. Education

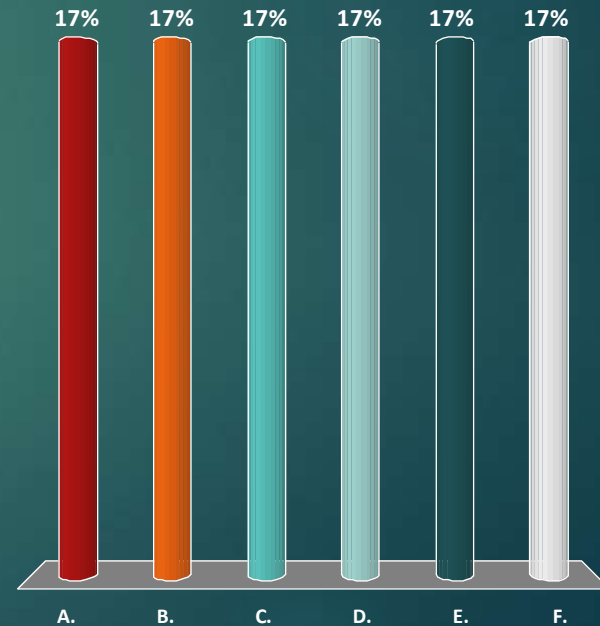


Rank the order of importance to protect from climate change impacts:

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- A. Similk Beach
- B. Turners Bay
- C. KuKutali Preserve
- D. Lone Tree
- E. Snee Oosh Beach
- F. Martha's Beach



Next Steps

- ▶ Workshops with community members to evaluate community health impacts, concerns and priorities in relation to first foods/ habitats impacts.
- ▶ Results will inform the Swinomish Climate Change Impact Assessment & Action Plan
- ▶ Communicating findings (education/ dissemination) within Swinomish Community and beyond

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Beach seining at Lone Tree.—Photo by: Tyler Long

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