

# Collaborating With Tribes and Integrating Indigenous Ecological Knowledge

## Kelp Forest & Eelgrass Meadow Conservation

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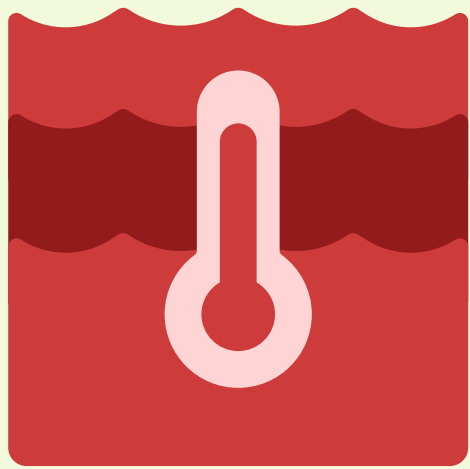


Figure 1: Kelp forest. Photo credit:  
sea-quest-kayak.com



Figure 2: Eelgrass bed. Photo credit:  
Suzanna Anderson eopugetsound.org

## Background

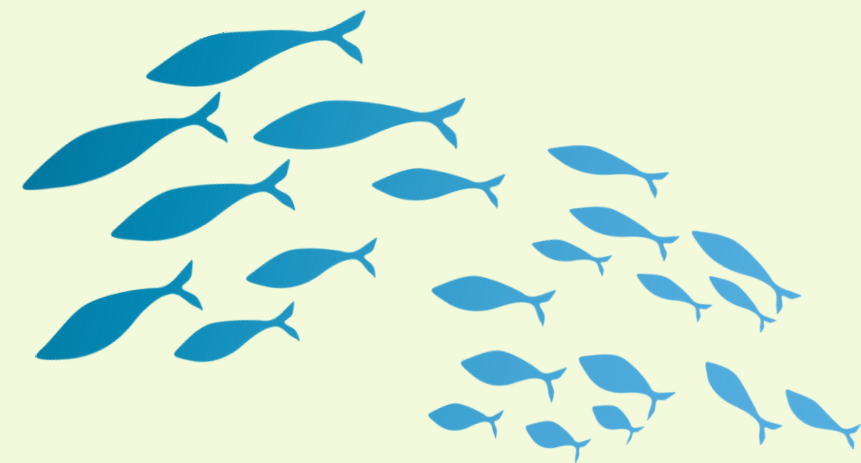


Kelp and eelgrass are marine species that are at risk due to rising sea temperature

90% decline of bull kelp in 150 years

Healthy marine ecosystems depend on kelp and eelgrass habitats

Many marine species are central to Tribal subsistence fishing and harvesting



Participation in marine habitat conservation for these species falls under Tribal treaty fishing rights

Respectful use of Indigenous ecological knowledge and collaborating with Tribes is essential for successful conservation

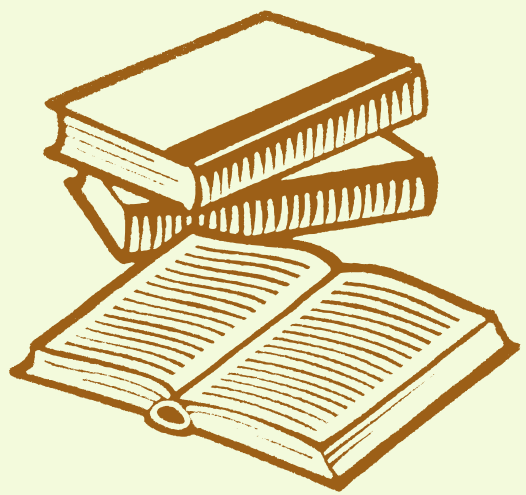
Dept. of Natural Resources [DNR] kelp and conservation plan will designate 10,000 acres of kelp and eelgrass conservation sites by 2040

## Research Question



What key strategies can be used for effective collaboration with Tribes on planning and management of kelp and eelgrass conservation?

## Internship & Methods



- Reviewed the current DNR Tribal engagement plan (see figure 3).
- Reviewed literature on conservation co-management methods & use of Indigenous ecological knowledge.

- Conducted case studies of two marine conservation areas in Hawaii and Nunavut, Canada.
- Identified collaboration strategies from research.
- Synthesized research in a report with recommendations for DNR.



Figure 3: Washington Dept. of Natural Resources Tribal engagement plan for the Statewide Kelp Forest and Eelgrass Meadow Health and Conservation plan

## Results: Key Strategies

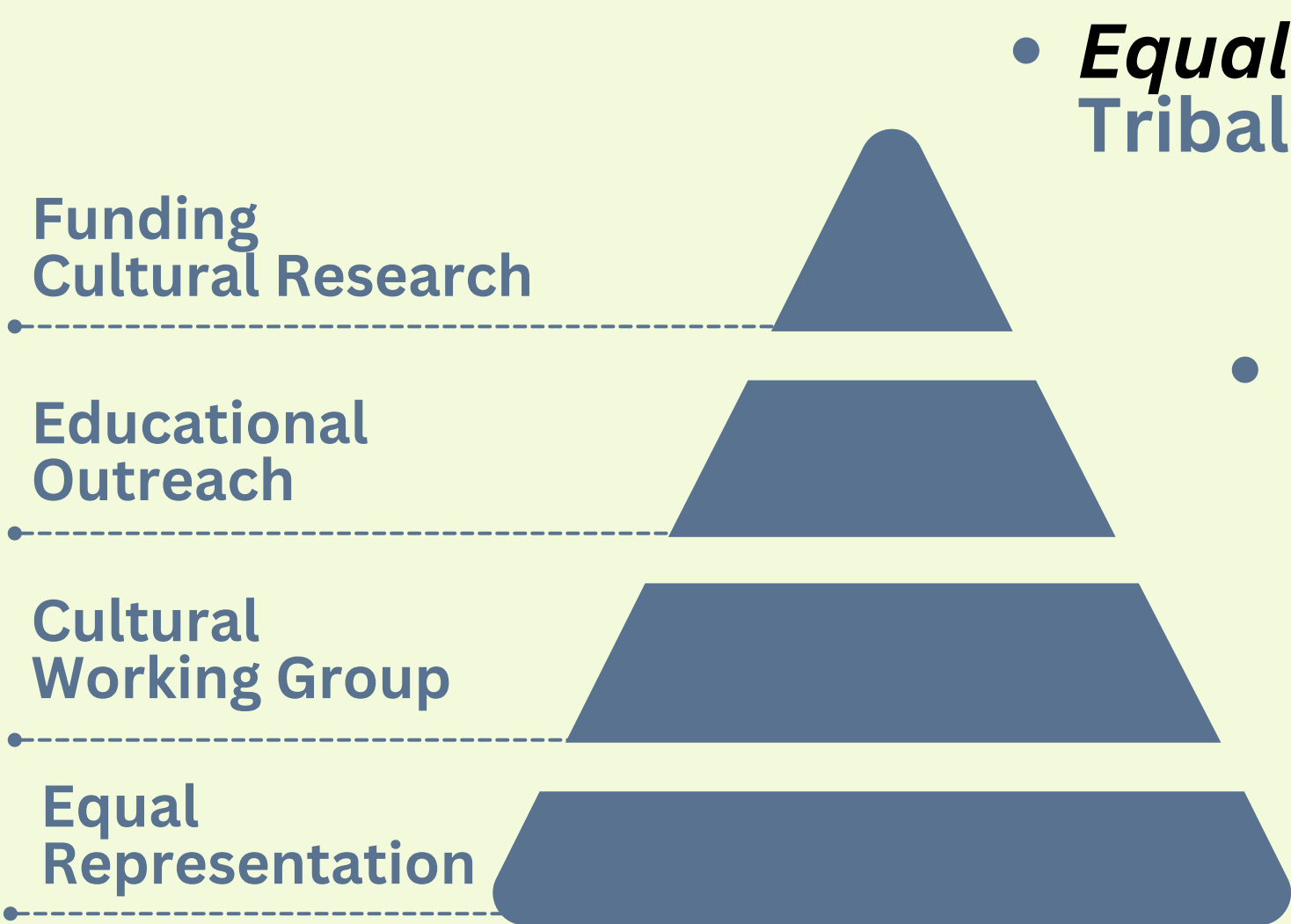


Figure 5: Key components of strategies for collaborating with Tribes on conservation projects that were identified during research

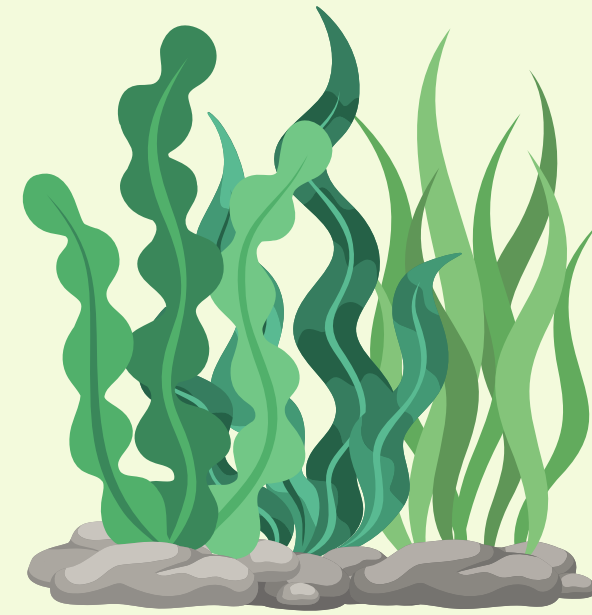
- Equal representation** from both State and Tribal governments ensured that both State and Tribal interests were being considered in implementation of conservation methods.

- The **establishment of a cultural working group** for consultation on both cultural and ecological affairs, management, and decision making ensures cultural needs are met and knowledge is effectively exchanged.

- Educational outreach** also encourages Tribal involvement, passing down and preserving ecological knowledge through educating youth.

- Funding for both ecological and cultural research** encourages Tribal involvement, perpetuates Tribal cultural activities, preserves knowledge.

## Significance



- Provides opportunities for funding cultural research.
- Preserves and perpetuates Indigenous cultural subsistence practices.
- Intimate knowledge on local ecosystems (see figure 4) is beneficial to conservation.
- Inherited observational and experiential knowledge preserved by local Tribes is beneficial to conservation (see figure 4).
- Collaborating on conservation can strengthen government-to-government relationships between Tribal and State governments.



Figure 4: Sources of Indigenous ecological knowledge most relevant and beneficial to kelp and eelgrass conservation

### Special Thanks:

My Site Supervisors Max and Csenka for their unwavering support throughout my research, and to my sister Serrein for her brutal honesty and subsequent words of encouragement