

# CRRC Wetland Program





Port Graham



Chenega



Seward (Qutekcak)



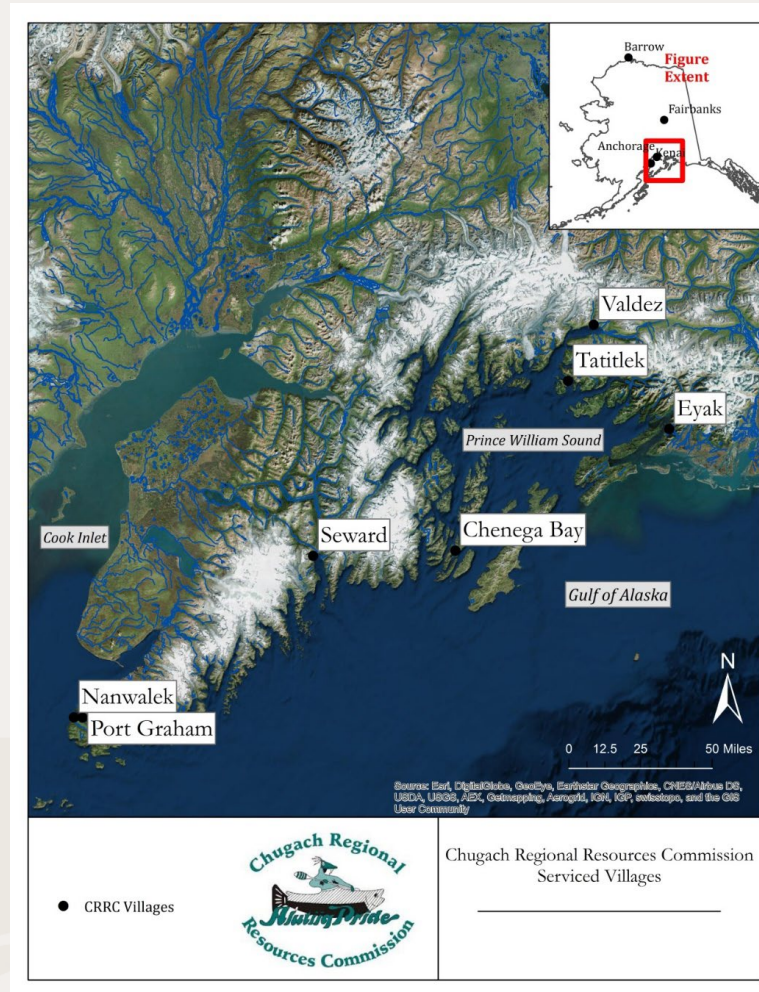
Valdez



Nanwalek



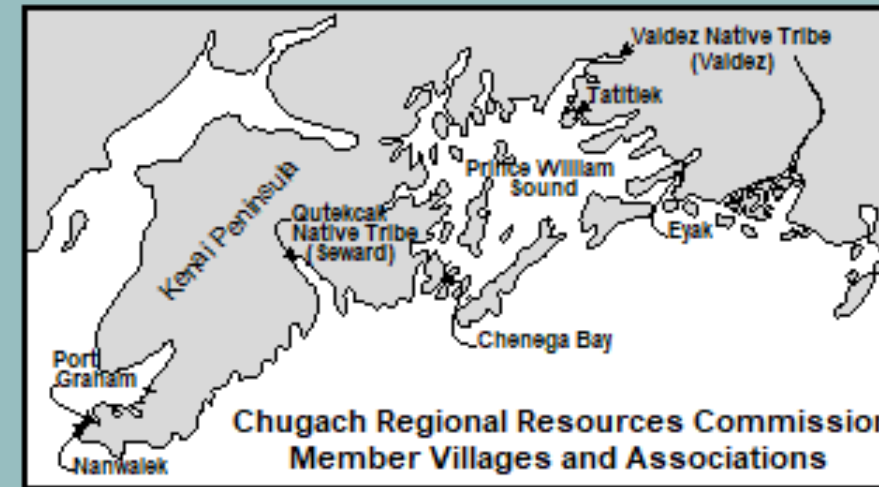
Tatitlek



Cordova (Eyak)

# Chugach Region Wetland History

- 1999 & 2002 - watershed and water quality evaluation for Port Graham, Nanwalek, Chenega, and Tatitlek
- Analysis and water quality evaluation on watersheds and streams identified as potential drinking water sources

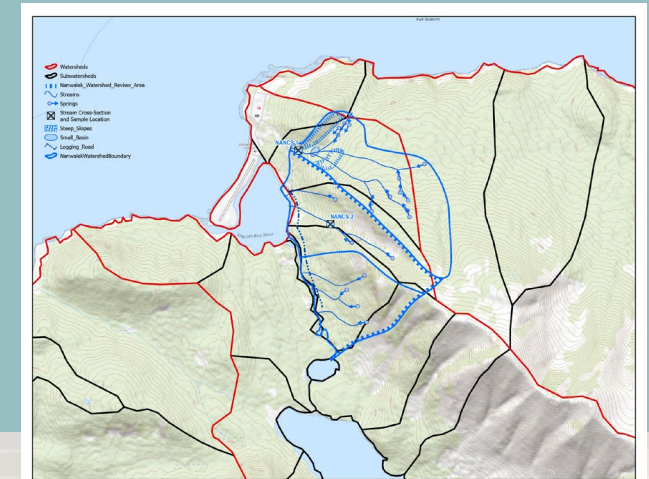
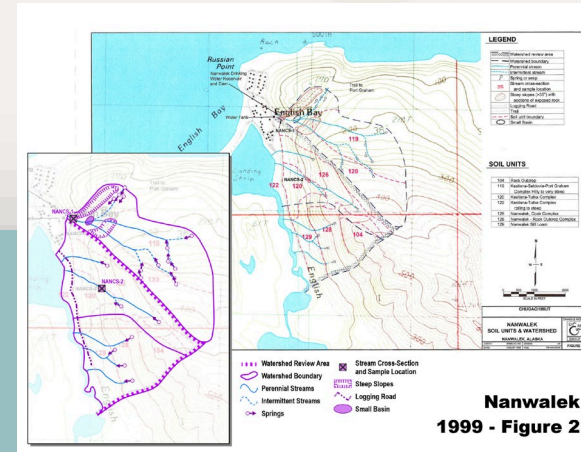
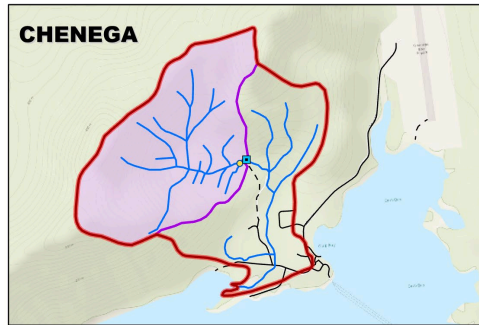
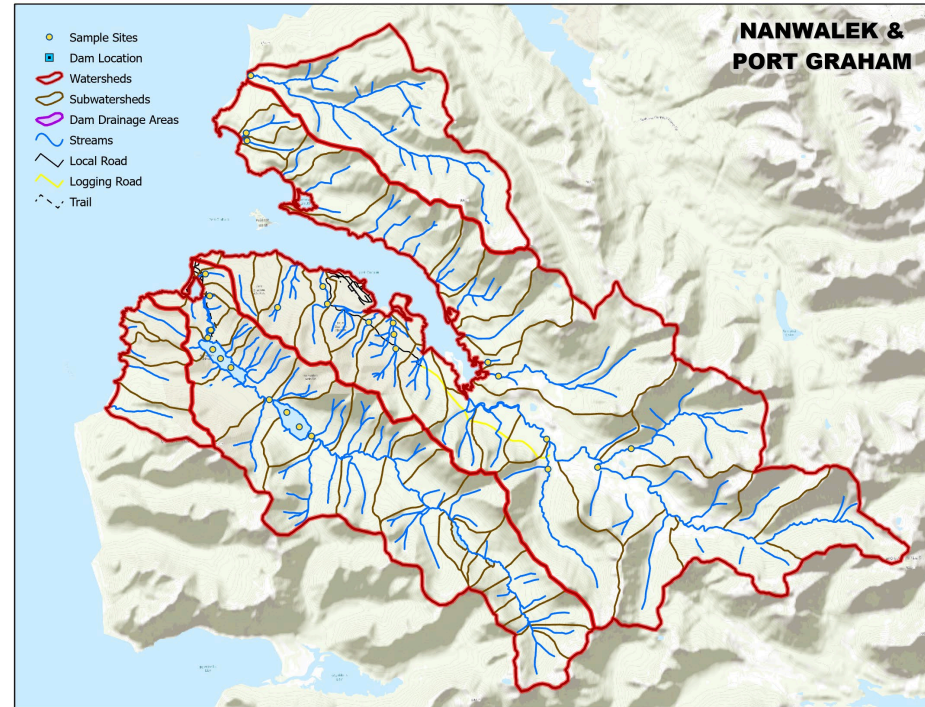




# 1999 & 2022 Wetland Project

## Chugach Regional Resources Commission DATA OVERVIEW MAP

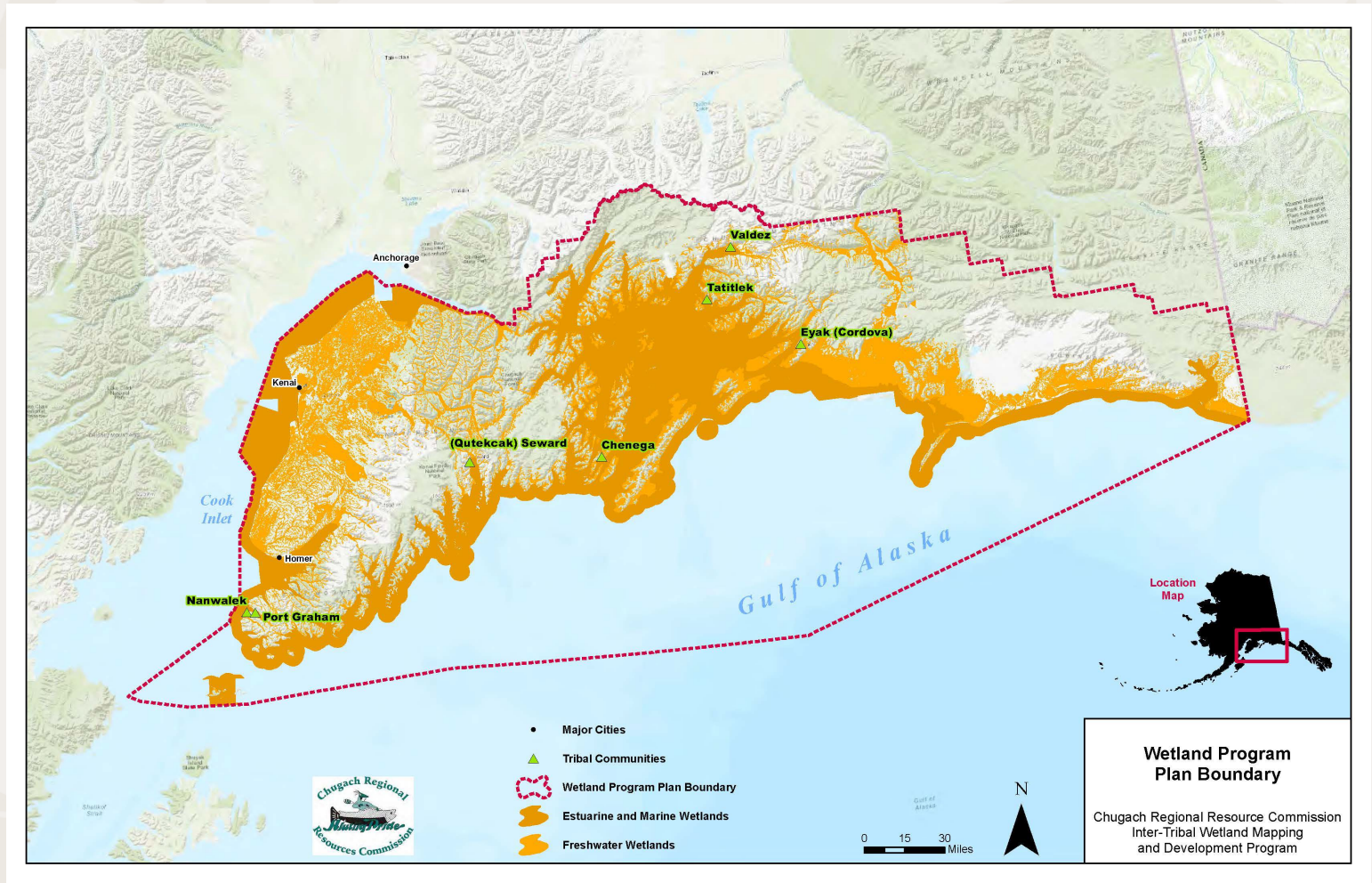
This data was extracted from report figures completed by varying entities spanning from 1999-2002. The data has been provided in a file geodatabase format to CRRC from Aurora GIS, September 2021.





# Wetland Mapping

The Wetland Program Plan details the implementation of effective wetland conservation, restoration, and management. This plan will put in place action items and a procedure for the mapping of wetlands in the Chugach region (specific to CRRC tribes only). In addition to the wetland program plan development, we have money to map existing wetlands in the region using geographic information systems (GIS).



# CRRC Wetland Survey

- Created a comprehensive survey on Google Forms to gain input from CRRC communities on their goals and desires for wetland protection/restoration
- Used the EPA core elements as a guideline to streamline translating community need into EPA language for the WPP
- Asked both multiple choice and open-ended questions

## Chugach Regional Resources Commission Wetland Survey

We want feedback from YOU on the wetlands in your region. CRRC was awarded a grant from the EPA to outline our objectives as an organization to protect wetland resources in the Chugach Region. The objectives of this plan depends on feedback from you and your community, so let us know!



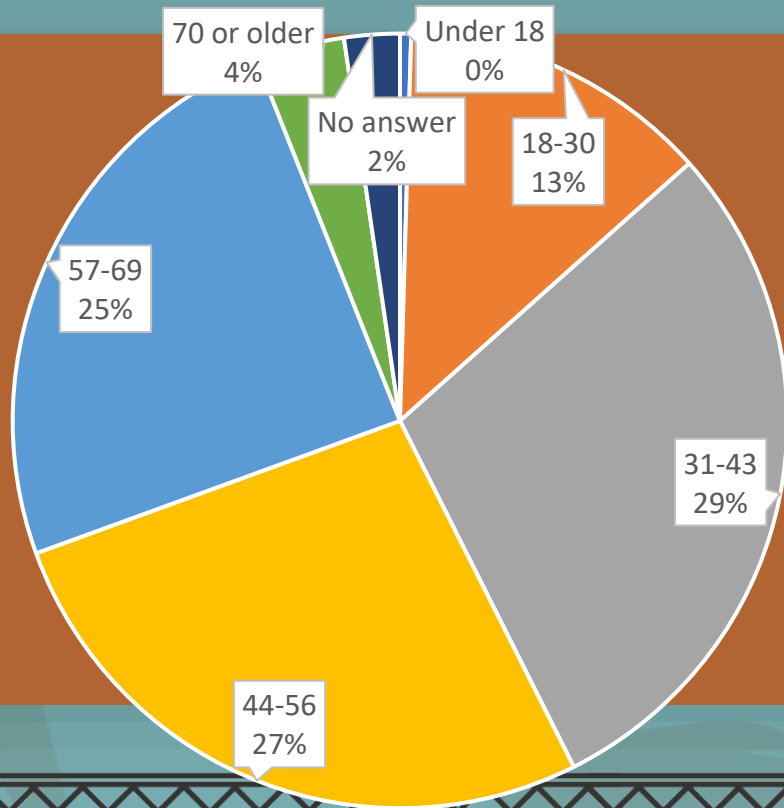
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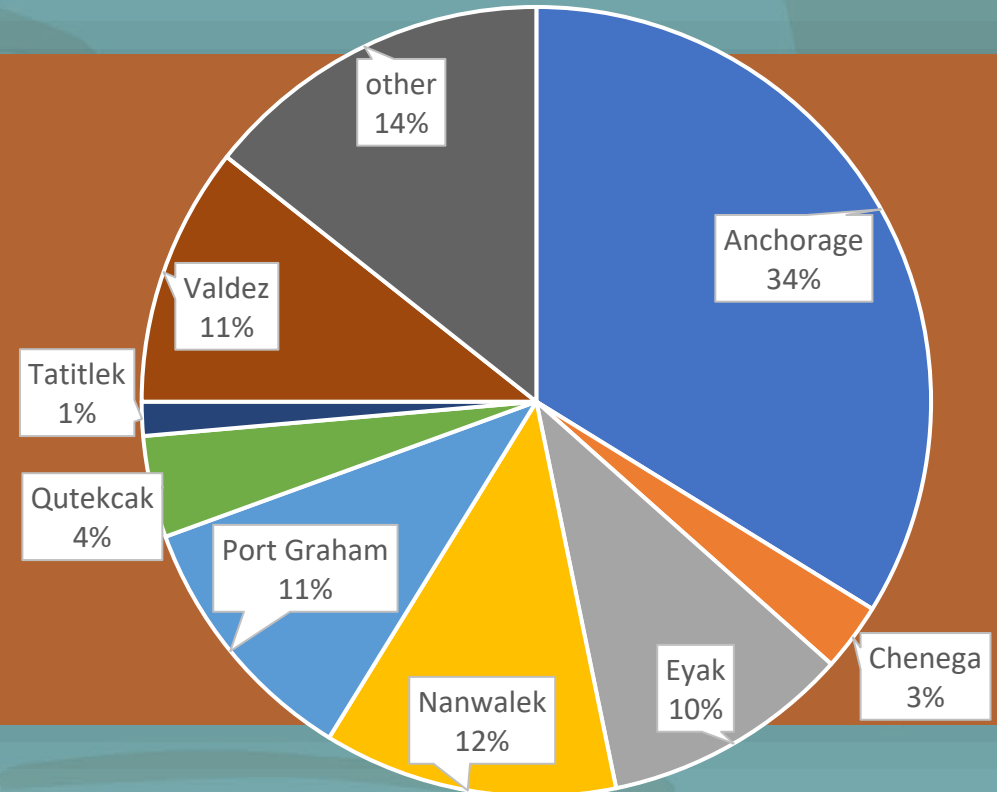
# Participants

## Demographic

### Age of Participants



### Current Residency



■ Under 18 
 ■ 18-30 
 ■ 31-43 
 ■ 44-56 
 ■ 57-69 
 ■ 70 or older 
 ■ No answer

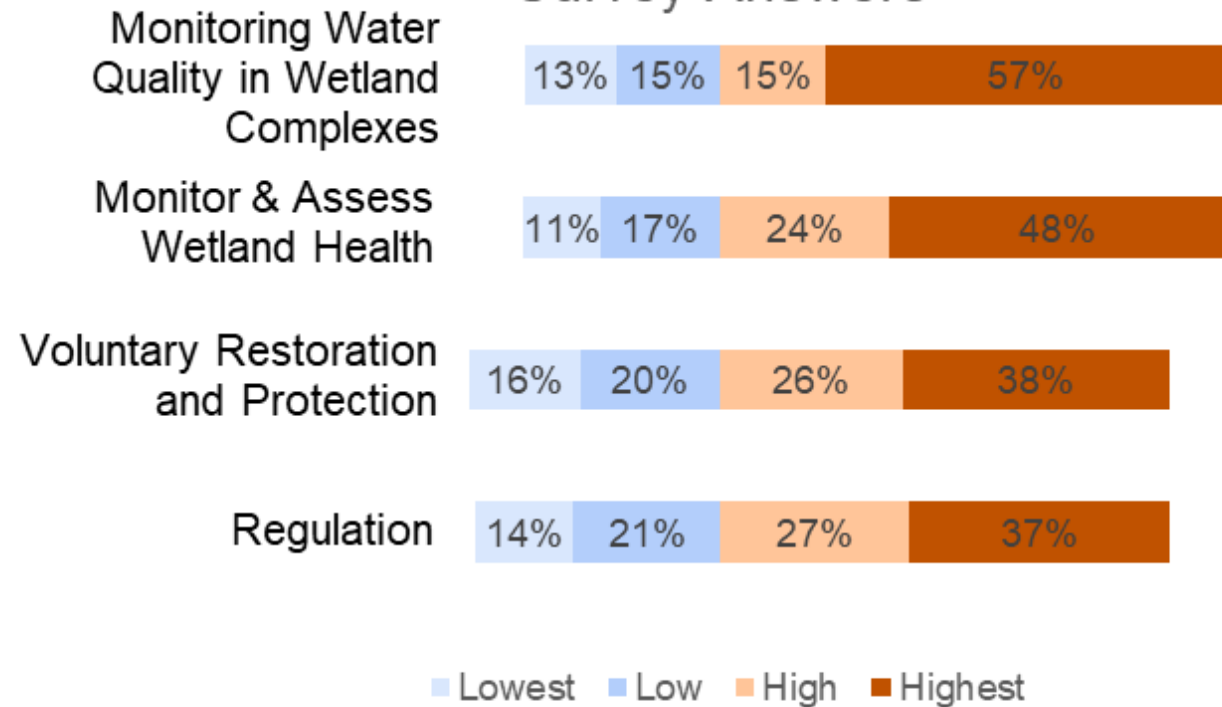
■ Anchorage 
 ■ Chenega 
 ■ Eyak 
 ■ Nanwalek 
 ■ Port Graham 
 ■ Qutekcak 
 ■ Tatitlek 
 ■ Valdez 
 ■ other

# Survey Results

## Prioritization of activities to protect wetlands in your region (1 being highest)

- Water Quality Standards (1)
- Monitoring & Assessment (2)
- Voluntary Restoration & Protection (3)
- Regulation (4)

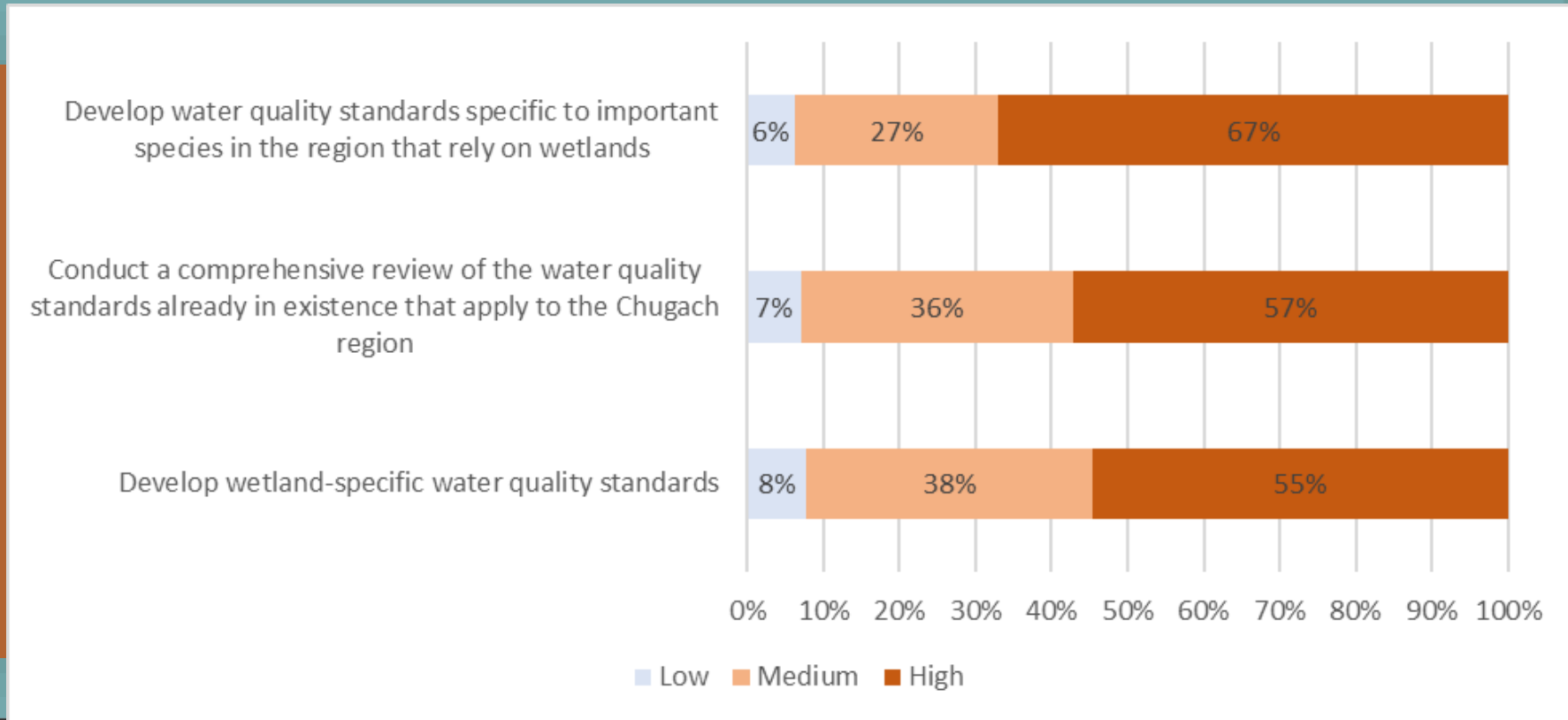
### Prioritization of EPA Core Elements based on Survey Answers





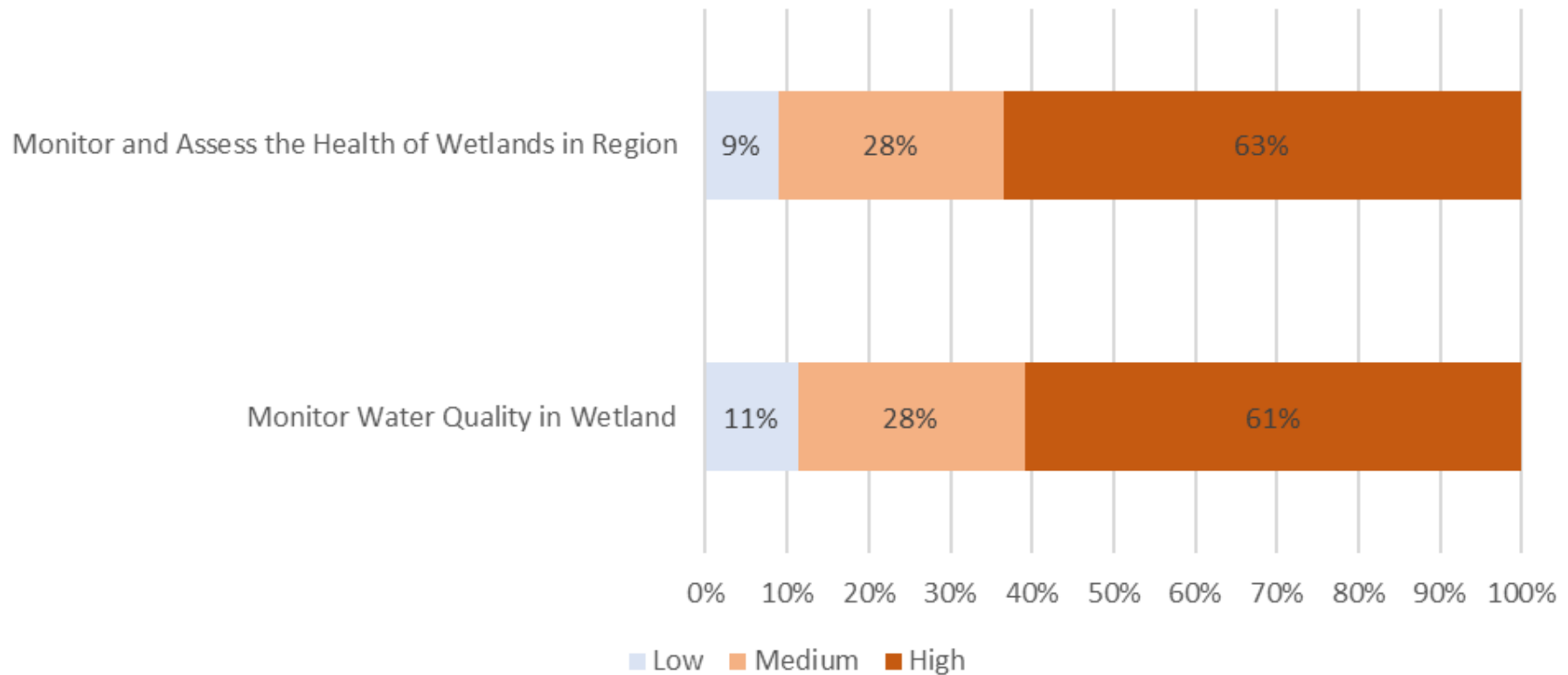
# Survey Results

## Water Quality Priorities



# Survey Results

## Monitor & Assess Priorities

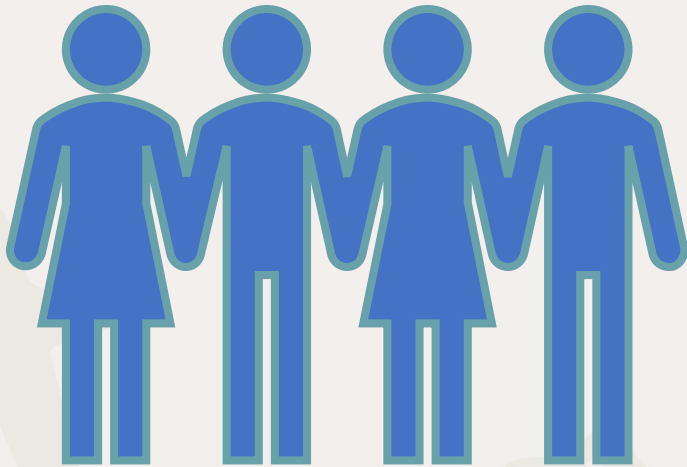


# Chugach Regional Ocean Monitoring Program

## COMMUNITY SAMPLING



One community member at each of the seven villages works with APMI as a field sampler. Samples are collected on a weekly basis.



Phytoplankton Tows

Microscopic ID Onsite

qPCR for Molecular Species ID

Seawater Chemistry Samples

Seawater Carbonate Chemistry

Nutrient Analyses

Shellfish Sample (Blue Mussels)

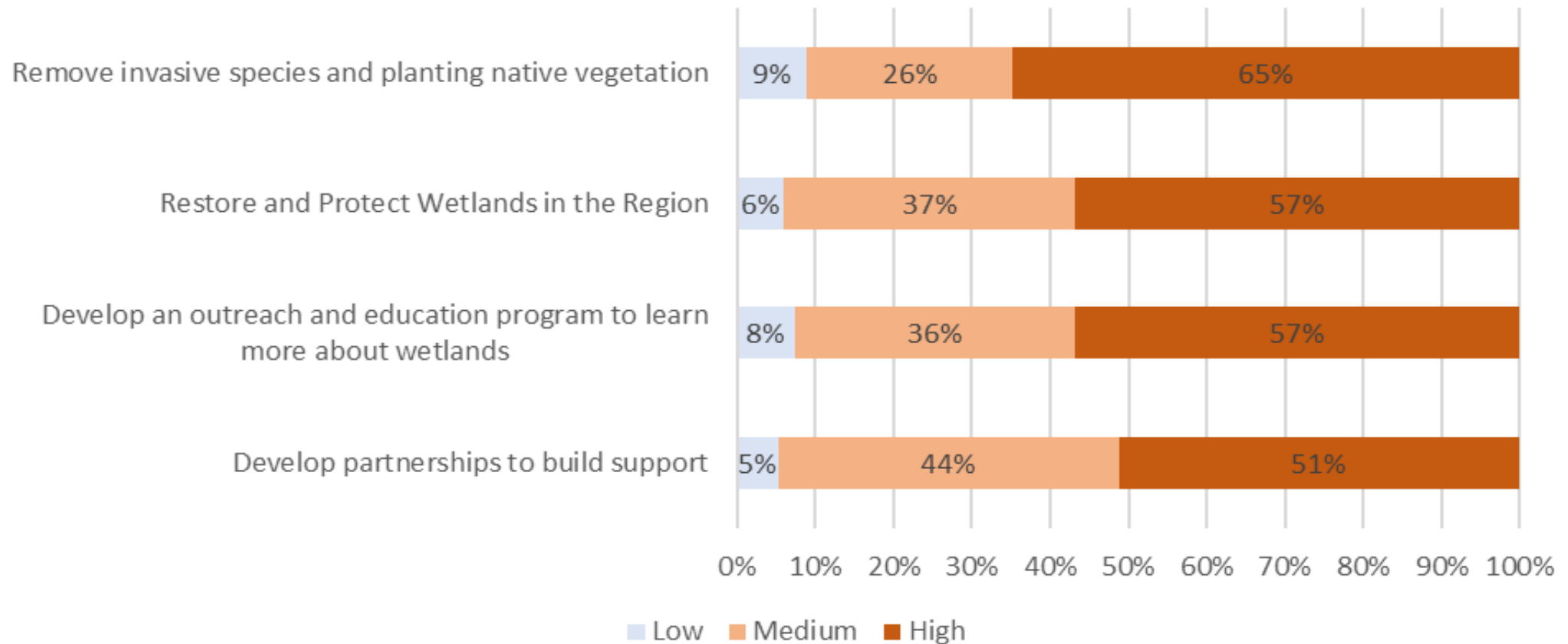
Biotoxin Analysis (ELISA, RBA)

Environmental Data (+PurpleAir)



# Survey Results

## Volunteer Restoration & Protection Priorities



# Tribal Conservation District

## Chugach Region TCD Vision

Enhance Alaska Native economic well-being by providing local employment, business, and economic opportunities, enhance subsistence and environmental management capabilities, and support self-determination to Alaska Native village residents through natural resource programs, education and local economic development.

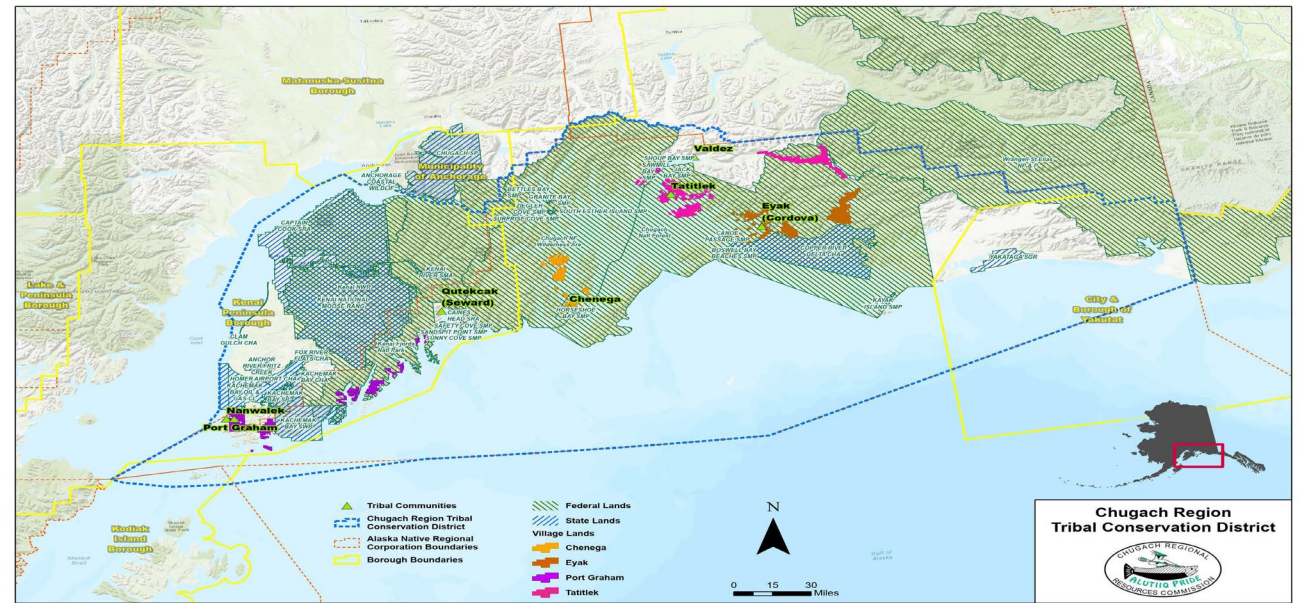


Special Projects  
Coordinator  
Brooke Mallory

Oversees grant & other funding requests. Provides problem solving support to programs.

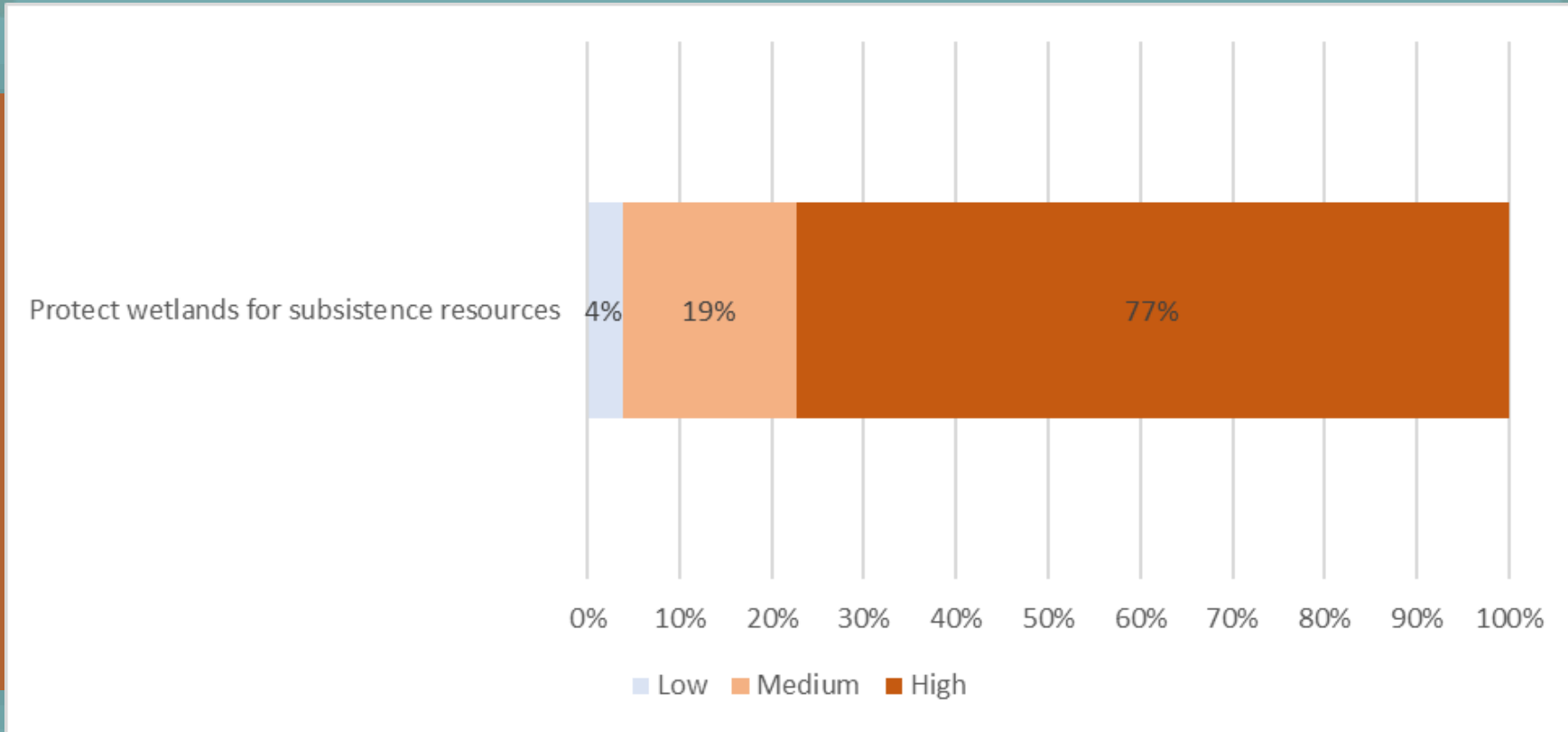
### What is a Tribal Conservation District?

- It is a Tribal entity focusing on supporting Tribal efforts to care for lands and natural resources, provide for the utilization, protection, conservation and restoration of Tribal lands for the benefit of the community in a partnership with the USDA.
- Serves as a locally led voice in leadership efforts to address and prioritize natural resource concerns within a defined area.
- Provides equal access to federal conservation programs and provides assistance to manage lands
- Makes technical, financial and educational assistance available to address resource needs of communities served.



# Survey Results

## Regulation Priorities







## 2023 Introduction to the Board of Game and Southcentral Regional Advisory Committee Training

### Advocates Testify to Protect Subsistence Way of Life Direct, Tribal Advocate Testimony

Tribal leader and advocates commitment during the session was impressive. They listened diligently, read through lengthy proposal documents, and prepared written and oral testimony, all in their effort to protect their traditional way of life. Their commitment, time and energy made a difference at the BoG meeting; their voices, stories, and testimony helped ensure traditional hunting practices remained protected.



# Survey Results

## Open-Ended



**How does wetland or watershed health in your region impact you?**

Coastal community health

Affects wildlife and thus subsistence food supply

Community revolves around wetlands

Environment health relating directly to physical/mental/emotional health of the people



**How would you like to see your wetlands protected?**

Increased education

Protection from erosion

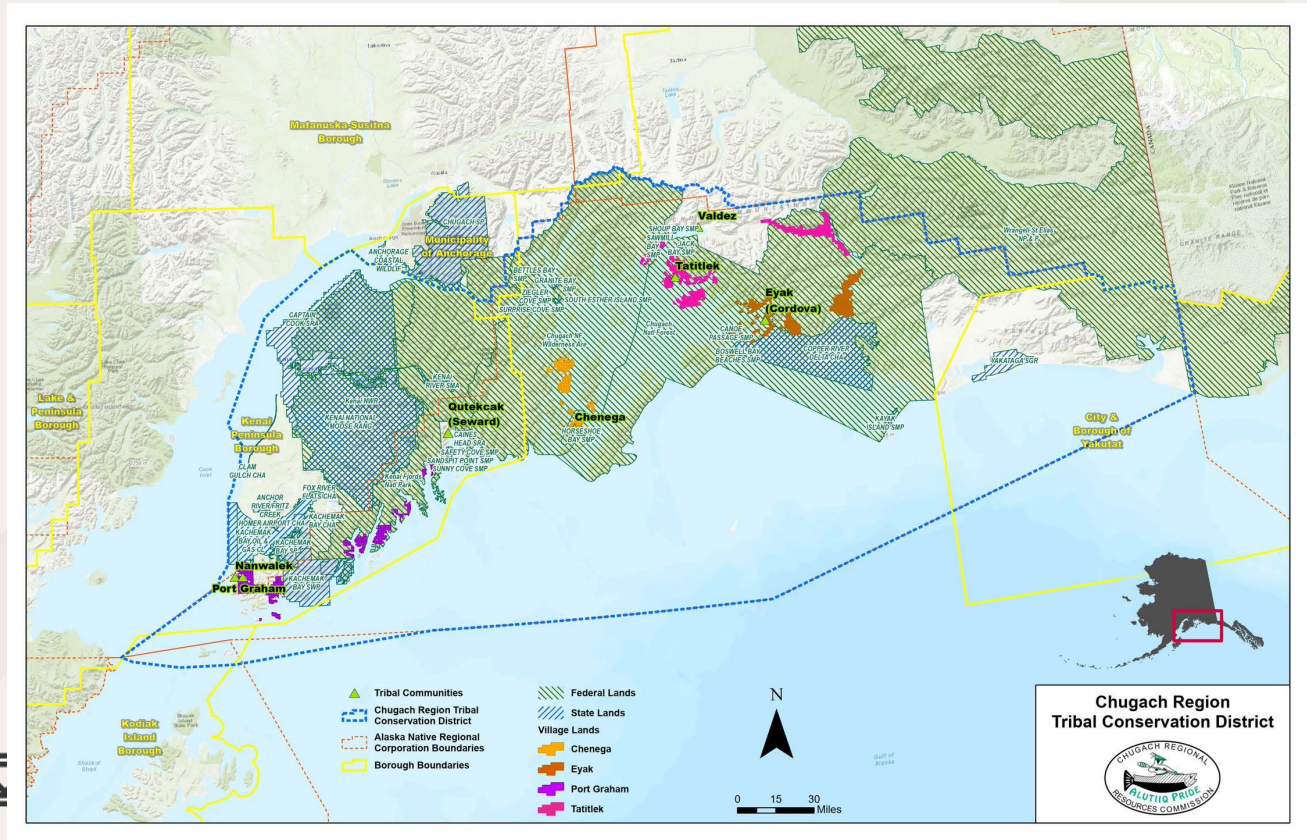
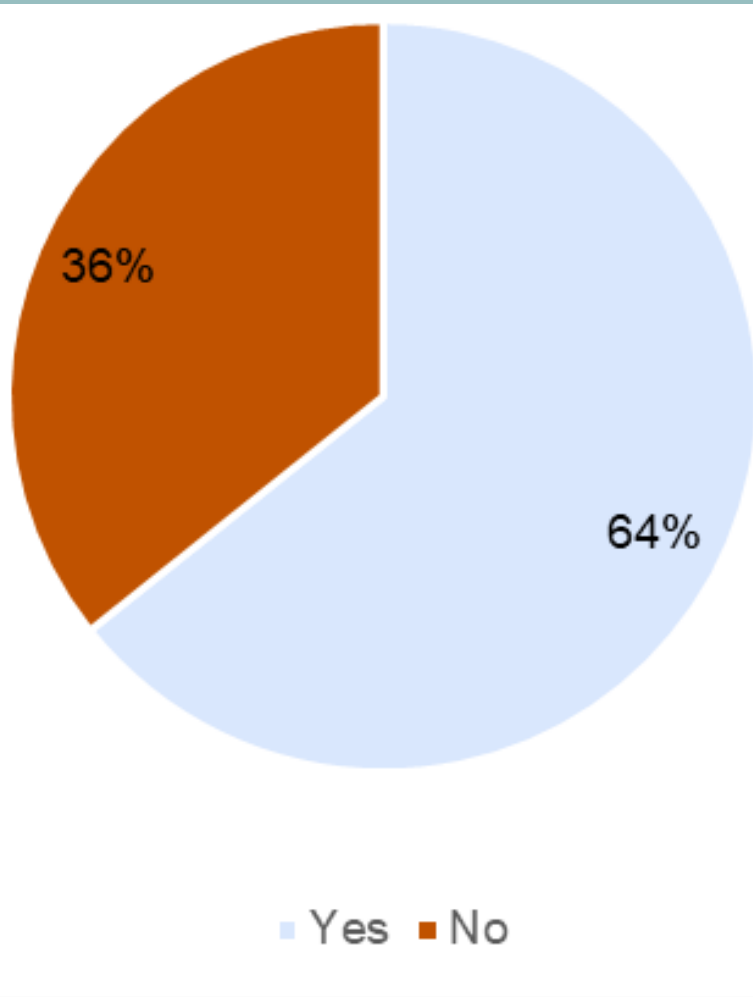
Monitoring and regulation

Subsistence use but no other use/development



# Statewide Mapping & Data Needs

“Do you need more resources to better understand where wetlands exist in your region?”







# Applying the Survey Results

## What can CRRC do with this information?

1

1) Promote and support tribal management and the development of tribal natural resource management programs

2

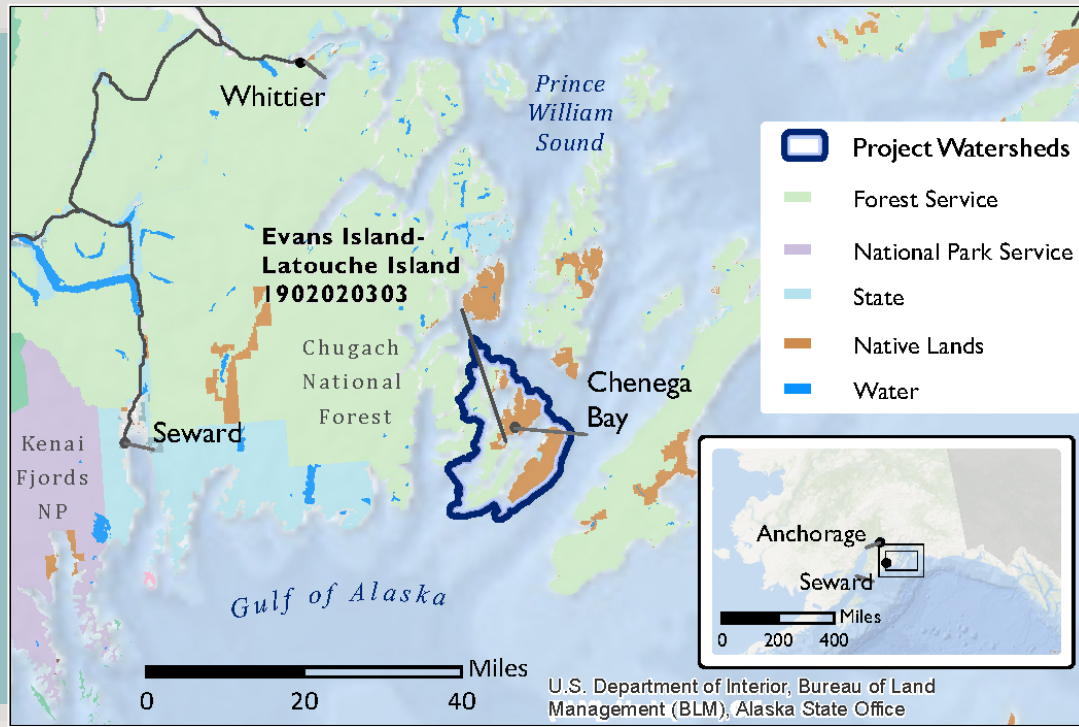
2) Advocate cooperation with private, state and federal resource management agencies

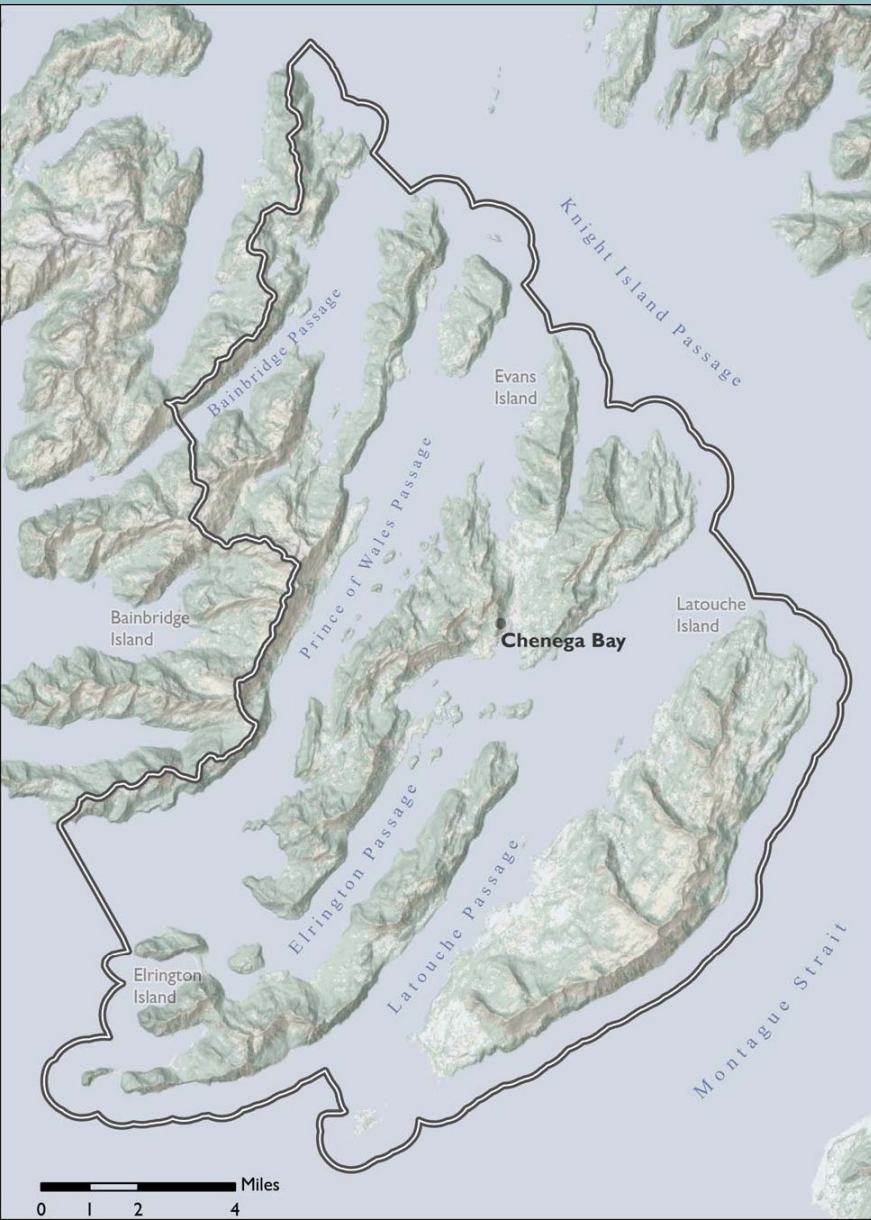
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3) Develop and enhance natural resource management education and training

# CRRC Wetland Mapping Project

Improving wetland conservation and management through comprehensive mapping and assessment in the Chenega Region, Alaska.





# CRRC Wetland Mapping Project

- **Develop subsistence use summaries for the wetland and deepwater habitat types present in the Evans Island-Latouche Island watershed**
- **Describe the typical plant (or algal) community for each habitat type and the subsistence activities**
- **Patterns of subsistence will be displayed geospatially through connection to the National Wetlands Inventory**



# Mountain Hemlock/Deer Cabbage-Tufted Bulrush Peatland



A large-patch, common and widespread peatland developing in depressions and on slopes up to 35°. Manifests as a mosaic with islands of dwarfed mountain hemlock (*Tsuga mertensiana*) skirted by the low shrubs (*Vaccinium ovalifolium*, *Menziesia furigana*, *Sorbus sitchensis*) interspersed in a larger matrix of deer cabbage (*Nephrophyllidium crista-galli*) and tufted bulrush (*Trichophorum caespitosum*) with minor contributions of long-awned sedge (*Carex macrochaeta*), and *Sphagnum* moss species. Drier microsites support the ericaceous dwarf shrub, crowberry (*Empetrum nigrum*) whereas wetter microsites support tall cottongrass (*Eriophorum angustifolium*) and carnivorous species such as roundleaf sundew (*Drosera rotundifolia*) and common butterwort (*Pinguicula vulgaris*). Despite the drainage afforded by terrain, this type is maintained by abundant precipitation and shallow bedrock, which retards infiltration.

## Plant Species Harvested Alutiig name (common name, scientific name):

Allcig (Mountain Hemlock, *Tsuga mertensiana*) No documented use

Quawak (Early Blueberry, *Vaccinium ovalifolium*) berries used to make jams, jellies, and deserts, and often added to akutaq, preserved in oil or frozen water used to make a purplish-red dye

Esqnaq (Sitka Mountain Ash, *Sorbus sitchensis*) for the treatment of arthritis, childbirth, colds/flu, coughs/chest congestion, fever, hair problems, sore throat, pneumonia, stomach trouble, tuberculosis; administered as a chew, infusion/decoction, switch. Infusion: simmer leaves (summer use) and/or cambium (winter use) for approximately one hour. Chew: raw berries. Switch: a flexible plant shoot used to gently whip the body, most frequently during steam baths

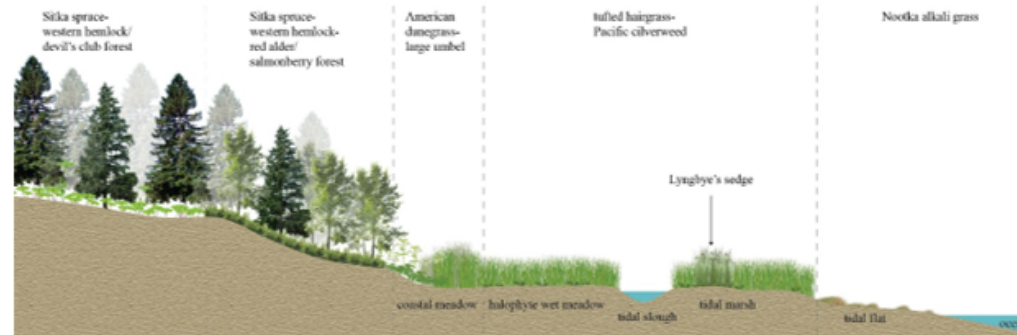
Culuguat Weg'et (*Cottongrass, Eriophorum angustifolium*) tufts placed in the outer ear to treat an infection. In a steam bath, a hot poultice of tufts are placed on the ear to release the plant's natural, healing oils and melt ear wax; stems can be twisted to make a wick for a stone oil lamp

Augvag (Crowberry, *Empetrum nigrum*) used in mashed potato akutaq and eaten with fish, included in jams, jellies, and desserts, stored in containers of oil, tea made from crowberry stems facilitates menstruation, smoke from burning crowberry plants used as a fumigant to cleanse homes and visitors of diseases and evil spirits, berries used to make a purplish-red dye

Urug (*Sphagnum* moss) used to treat pneumonia in the steam bath; dried for use in diapering babies, as toilet paper, and as absorbent material for menstruating women, as insulation for houses and clothing, material for camp bedding, camouflage for snares and traps, to cover graves, to remove the hair from seal skins, to fill leather balls for laptuuk, and as a wick for an oil lamp.

## Animal Species Supported

- Sitka Black-tailed Deer (*Odocoileus hemionus* ssp. *sitkensis*) Example text on relation to the habitat and subsistence use.
- Black Bear (*Ursus americanus*) Example text on relation to the habitat and subsistence use.



## Ecological Function

Over flat to gently sloping terrain, peatlands develop through the vertical accretion of organic matter. The principal water source for flat peatlands is precipitation, while water loss is by saturation overland flow and seepage to underlying ground water. On slopes, peatlands develop where there is a discharge of ground water to the land surface. The principal water sources for sloped peatlands are usually ground water return flow and interflow from surrounding uplands, as well as precipitation; due to high terrain slopes, sloped peatlands are not able to store water. Hydrodynamics are dominated by downslope unidirectional water flow. Sloped peatlands lose water primarily by saturation subsurface and surface flows and by evapotranspiration.

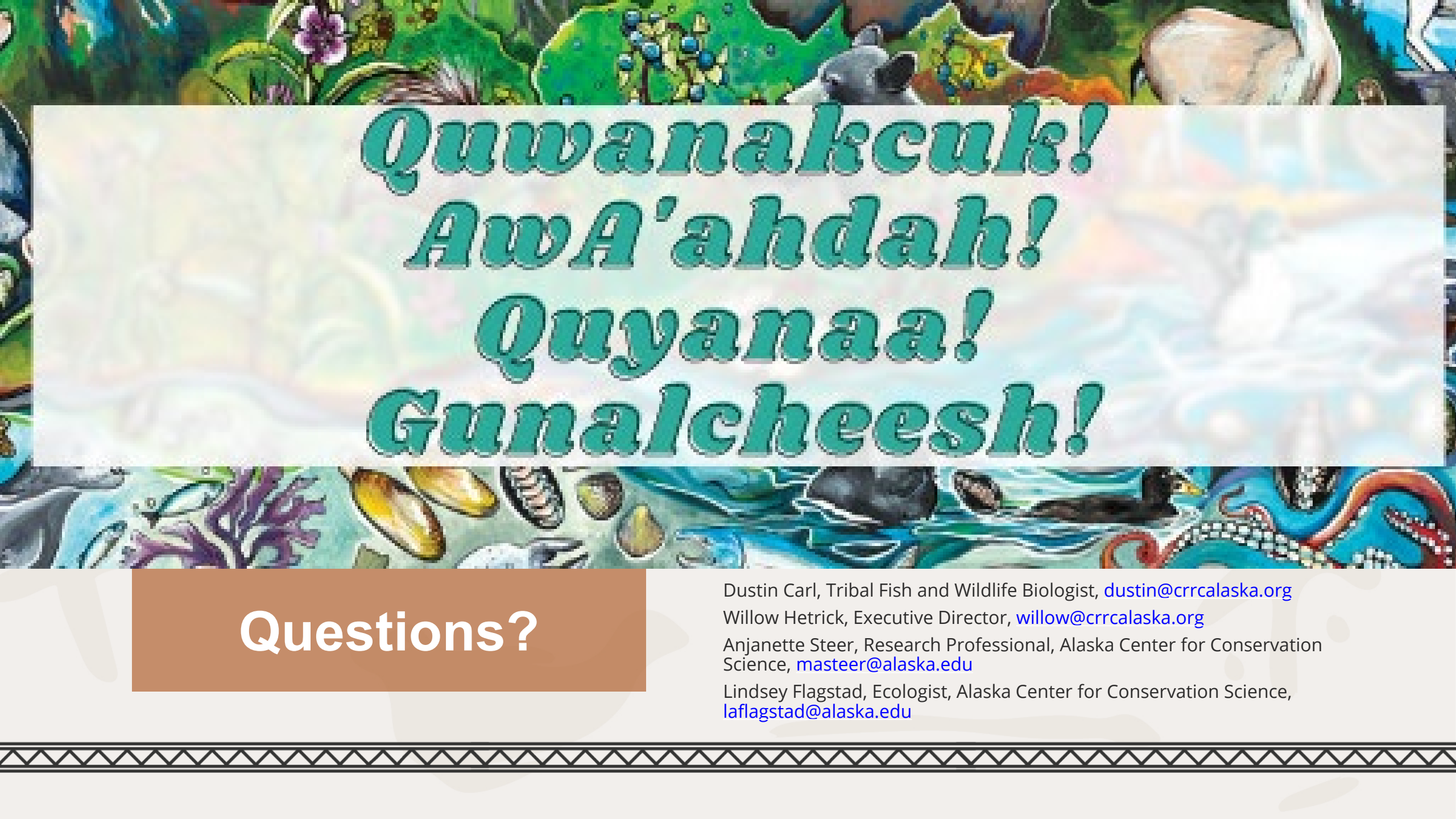
## Learn More:

[Alutiig Museum](#)

[Medicinal Flora of the Alaska Natives](#)

# CRRC Wetland Mapping Project

## Connecting Subsistence Use and Wetland Habitat in the Chenega Region of Prince William Sound, Alaska



***Quwanakcuk!  
Awa'ahdah!  
Quyanaa!  
Gunalcheesh!***

**Questions?**

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