



SQUAXIN ISLAND TRIBE

RESOLUTION NO. 17- 71

of the

SQUAXIN ISLAND TRIBAL COUNCIL

WHEREAS, the Squaxin Island Tribal Council is the Governing Body of the Squaxin Island Tribe, its members, its lands, its enterprises and its agencies by the authority of the Constitution and Bylaws of the Squaxin Island Tribe, as approved and adopted by the General Body and the Secretary of the Interior on July 8, 1965; and

WHEREAS, under the Constitution, Bylaws and inherent sovereignty of the Tribe, the Squaxin Island Tribal Council is charged with the duty of protecting the health, security, education and general welfare of tribal members, and of protecting and managing the lands and treaty resources and rights of the Tribe; and

WHEREAS, the Tribe is a federally-recognized Indian Tribe possessing reserved powers, including the powers of self-government; and

WHEREAS, the Squaxin Island Tribal Council is empowered to acquire, manage, lease, or use Tribal real property under its Constitution, Article III, Section 1(b), and its inherent authority; and

WHEREAS, the Squaxin Island Tribal Council has the goal of making the Squaxin Island Reservation an economic, social, cultural and political land base for the Squaxin Island Tribe; and,

WHEREAS, the Squaxin Island Tribe is a Tribal government entity receiving more than \$35 million in direct Federal funding each year with an indirect cost rate of 40.24%. We submit our indirect cost rate proposals to our cognizant agency. A copy of our most recently approved rate agreement/certification is attached.

WHEREAS, the Squaxin Island Tribe seeks a funding opportunity through U.S. Fish and Wildlife Service National Wildlife Refuge System Division of Natural Resources and Conservation Planning, Partners for Fish and Wildlife Catalog of Federal Domestic Assistance (CFDA) Number: 15.631 Notice of Funding Opportunity – F17AS00015.

NOW THEREFORE BE IT RESOLVED, the Squaxin Island Tribal Council approves and authorizes the application for U.S. Fish and Wildlife Service National Wildlife Refuge System Division of Natural Resources and Conservation Planning, Partners for Fish and Wildlife Catalog of Federal Domestic Assistance (CFDA) Number: 15.631 Notice of Funding Opportunity – F17AS00015;

NOW THEREFORE BE IT FURTHER RESOLVED, the Squaxin Island Tribal Council authorizes Jeff Dickson the Squaxin Island Tribe Natural Resources Assistant Director to execute the application for funding, and to do all things necessary and incidental to obtaining the grant.

CERTIFICATION

The Squaxin Island Tribal Council hereby certifies that the foregoing Resolution was adopted at a meeting of the Squaxin Island Tribal Council, held on this 29th day of September, 2017, at which time a quorum was present and was passed by a vote of 6 for and 0 against, with 0 abstentions.



Arnold Cooper, Chairman

Attested by: 

Steven Dorland, Secretary



Charlene Krise, Vice Chairman



Squaxin Island Tribe

Application for Funding

FY 2017 Rights Protection Implementation- Climate Change

Project Title:

Assessment of Climate Change Related Impacts and Adaptation Planning

Project Leader:

**Candace Penn
Climate Change Ecologist**

cpenn@squaxin.us

360.432.3898

Project Type:

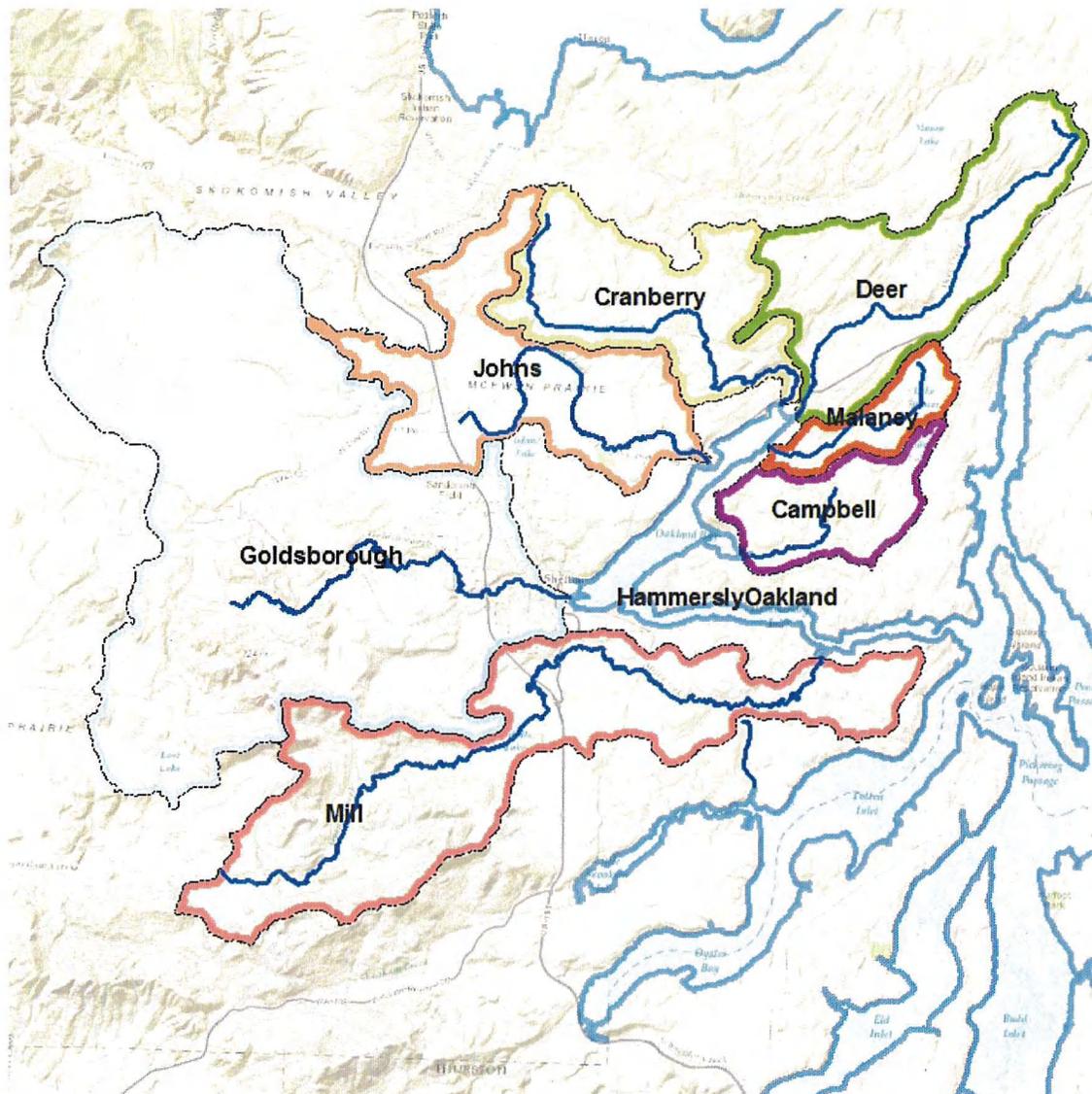
The Squaxin Island Tribe is concerned about climate change impacts to salmon and shellfish resources in Oakland Bay (See figure 1.3), one of the richest natural shellfish growing areas in the world, which is also home to numerous salmon bearing streams. Salmon and shellfish are cultural and subsistence resources that are traditionally gathered by The Squaxin Island Tribe. We are proposing to assess the vulnerability of shellfish and salmon to ocean acidification, and to explore adaptation planning/actions to mitigate the threat of changing ocean conditions toward sustainable harvests.

Goal/Purpose:

The Squaxin Island Tribe is requesting \$150,000 to assess fresh waters, marine waters, and nutrient inputs to marine waters as they relate to ocean acidification. This Proposal builds off of a successful pilot program begun in 2015 to identify and reduce nutrient inputs into Oakland Bay of South Puget Sound. As a result, the SIT intends to initiate a long term nitrogen, dissolved oxygen and pH monitoring program to track local hypoxia and respiratory acidification. As a result of our work, a climate change strategy will be developed to sustain and increase the salmon and shellfish resource that the Tribe depends on for subsistence. This program is an integral part of the Tribe's climate change adaptation plan.

Introduction/Background:

Oakland Bay is located at the southernmost head of Puget Sound (See figure 1.1). In the midst of a diversity of natural resources, it hosts a rich shellfish and salmon economy that are extremely important to the Squaxin Island Tribe. Tribal ancestors lived and prospered in Sa-He-Wa-Mish (Oakland Bay) for millennia. Finfish, shellfish and water have always been and will forever be central to Tribal cultural traditions and existence, and shellfish digging and salmon harvest are a principle means of economic vitality for many Tribal members. The Tribe retains a vested interest in factors that affect water and habitat and, consequently, the continued production of resources throughout the Treaty Fishing Area.



Watersheds of Oakland Bay

0 1.25 2.5 5 Miles
 Map Created by Squaxin Island Tribe
 8/11/17

Figure 1.1

Watershed Characterization/Project Need: the Oakland Bay Watershed (~150 mi²) is located in South Sound near Shelton, Washington and is noted for producing about 10% of the state's shellfish economy. Over 3 million pounds/year of manila clams are harvested—that includes 40% of the nation's supply. Nearly 2 million high value oysters/year for the half shell market are pulled from centrally located Chapman Cove. About 2000 recreational harvesters/year frequent public tidelands. Total value of the shellfish harvest exceeds \$10 million/year. In addition to the local economy, these shellfish and the nearby salmon resources have sustained the Squaxin Island Indian Tribe (SIT) for millennia.

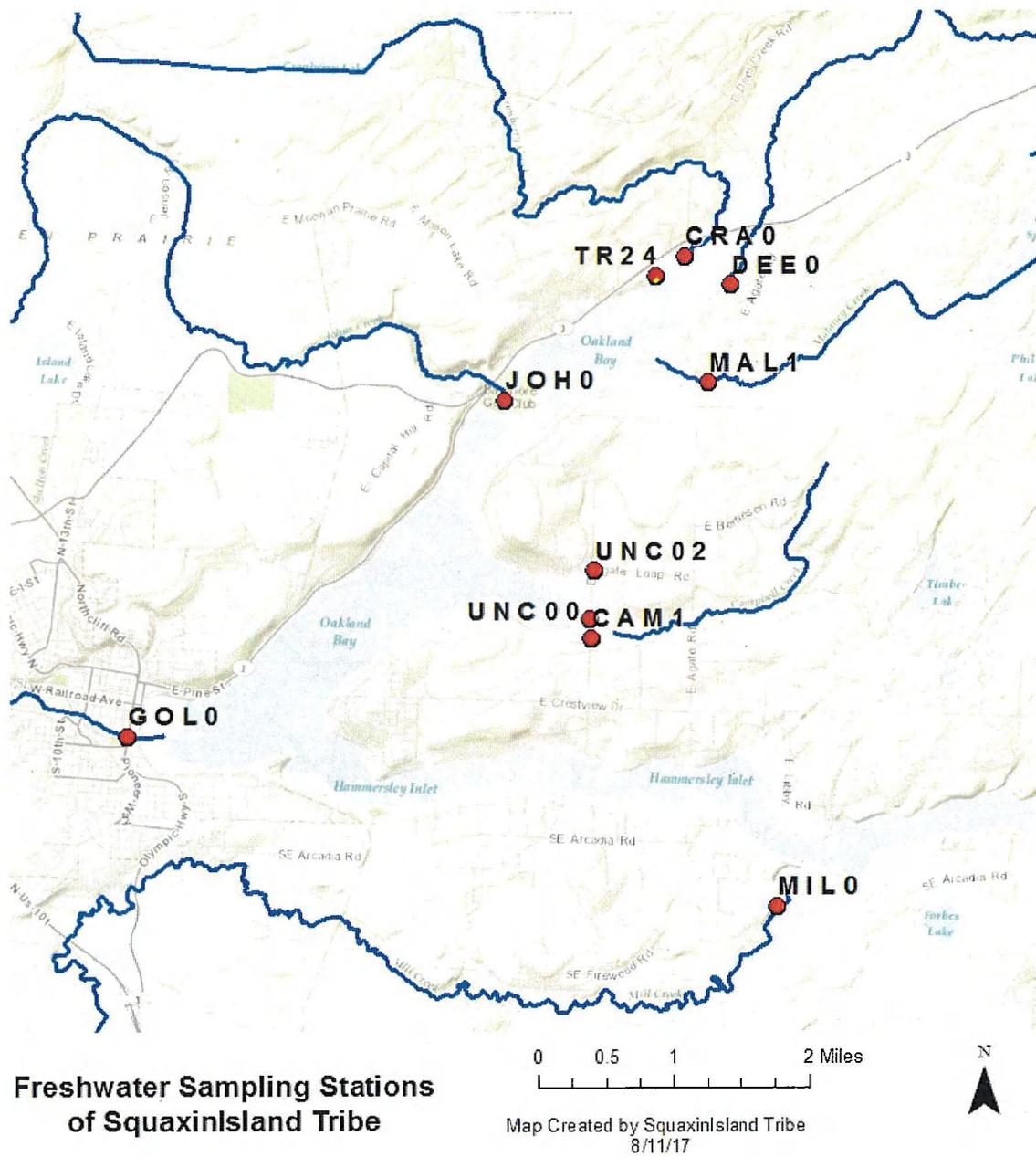


Figure 1.2

Eight major freshwater catchments surround the marine water and lie in the glacial plain of the Puget Sound lowlands. With little topographic relief, rain-fed streams begin in numerous, depressional lakes and wetlands, and often increase in gradient and flow as they cut down through the underlying hydrostratigraphic units to discharge into the sound. These small, cool stream systems and their estuaries form very important refugia for numerous resident and migrant fish and wildlife species (including a very unique run of South Sound summer chum and several ESA listed or candidate species like steelhead, orca, coho and spotted frogs).

Shellfish and finfish harvest in Oakland Bay are threatened by pathogens, harmful algal blooms, decreased supply of oxygen, and acidification – all of which can be related to increased nitrogen loading. Nitrogen drives algal growth, and the added respiration increases carbon dioxide, thereby acidifying the water. In addition, to the common (Cyanobacteria) Blue green algae that causes Harmful Algal Blooms (HAB) there are other genera of algae (Chaetoceros) that are threatening salmon populations by attaching to their gills which can physically clog and damage fish gills, leading to the death of salmon and other species. We are working closely with Sounds Toxins to develop an algae program as first responders to the department of health for HABs. SIT has began monitoring algae year round with increased sampling during hot summer months.

The Washington State Blue Ribbon Panel on Ocean Acidification identifies shellfish as particularly vulnerable to acidification. (http://www.ecy.wa.gov/water/marine/oa/2012report_summary.pdf_pg. 5) For oysters, scallops and other shellfish, lower pH means less calcium carbonate, which they rely on to build their essential shells. As acidity increases, shells become thinner, growth slows down and death rates rise. Bill Dewey, Director of Taylor Shellfish Farms said, “This is the first place these deep corrosive waters are coming to the surface. And we're an industry that relies on calcifiers, so we're the first to see the effects and to scream about it”.

Significant regional factors affecting shellfish and salmon populations include runoff of nutrients and organic carbon from upland sources. Acidification has been linked to decrease in size of shellfish, reduced predator avoidance and reduced homing ability in salmon populations. Vital Signs produced by the Puget Sound Partnership the regional body tasked with Puget Sound recovery, likely to be affected by climate-related impacts include marine water quality, shellfish beds, quality of life, commercial fisheries harvest, and estuary productivity. (<http://www.psp.wa.gov/vitalsigns/>)

Another environmental issue that contributes to nutrient loading in Oakland Bay is Fecal Coliform from mammals' impacts. Fecal coliform is a bacteria that can enter surface water from failing septic systems and animal waste. High levels of fecal coliform in the water can affect the public health, economy, and cultural quality of a community. High bacterial counts are an indicator of high nutrient loading. The consumption of these nutrients by microbes eventually results in increased carbon dioxide and depleted oxygen in the water that is needed by fish and other aquatic animals. This affects the natural acidic/alkaline (pH) balance of water. The Department of Ecology bacteria criteria for surface water quality standards for primary contact recreation states; Fecal coliform organism levels must not exceed a geometric mean value of 100 colonies /100 mL, with not more than 10 percent of all samples (or any single sample when less than ten sample points exist) obtained for calculating the geometric mean value exceeding 200 colonies /100 mL (See Table 1.0).

Table 1.0 was created by the Squaxin Island Tribe (SIT) and includes fecal coliform (FC) testing results for all creeks that enter Oakland Bay 2004-2014. FC highlighted in red indicated sites fail state water quality standards for primary contact recreation (Geometric mean of 90th percentile data).

Site	Geometric Mean				90th Percentile				
	2004-2012	2013	2014	2015	2012	2013	2014	2015	
Campbell 1	CAM1	22	15	31	28	142	54	107	116
Cranberry 0/1	CRA0/1	38	12	10	26	157	85	52	129
Deer 1	DEE0	22	21	20	26	113	102	93	95
Goldsborough 0	GOLO	27	29	26	25	120	100	88	101
Johns 0/1	JOH 0/1	14	9	15	23	59	31	44	70
Malaney 1	MAL1	28	17	21	26	172	131	128	101
Mill 0	MIL0	17	12	32	32	70	25	152	72
Shelton 1	SHE1	71	63	53	88	449	340	140	235
TR24	TR24	69	25	28	116	1012	261	372	854
Uncle Johns 0	UNCO0	55	21	42	82	324	72	181	450
Uncle Johns 2	UNCO2		17	36	76		65	125	299

Category	Bacteria Indicator
Primary Contact Recreation (http://www.ecy.wa.gov)	Fecal coliform organism levels must not exceed a geometric mean value of 100 colonies /100 mL , with not more than 10 percent of all samples (or any single sample when less than ten sample points exist) obtained for calculating the geometric mean value exceeding 200 colonies /100 mL .

Protecting the opportunity to harvest shellfish and salmon in Oakland bay is Squaxin’s highest priority. About 3 million pounds of clams and 2 million individual oysters along with a small amount of mussels are harvested each year from 1550 certified acres of Oakland Bay. If the water quality becomes so poor that it can’t sustain shellfish/finfish habitat it will damage the economic and cultural value. Losing Oakland Bay to pollution is not an option. Our tribal people cannot eat shellfish if it is contaminated. How will our next generation know the culturally significant harvest sites or traditional harvest techniques if there is only contaminated shellfish to harvest?

Projects in Oakland Bay:

Squaxin Island Tribe and Capitol Land Trust implemented a larger, strategic effort to conserve key marine nearshore and freshwater habitats and ecosystem function in the Oakland Bay watershed. We identified several large Oakland Bay coastal properties as essential conservation priorities. Now, Oakland Bay County Park (Malaney Creek estuary), Twin Rivers Ranch Preserve (Deer Creek and Cranberry Creek estuaries) and the Bayshore Preserve (John’s Creek estuary) are permanently conserved.

We are pleased to announce the kickoff of a project designed to restore the Goldsborough and Shelton Creek estuaries in Oakland Bay. When complete the project area and other high quality habitat in the bay will be placed into permanent protection. The project is large in scope and when complete will: remove 811 creosote pilings, ½ mile of armored shoreline, remove ¼ mile of inter-tidal dikes, restore 47 acres of salt marsh, and a ½ mile of shoreline riparian. Conserving 51 acres of tide lands and over 14 acres of riparian upland. The partners are currently in the permitting phase and anticipate construction to begin in the summer of 2017. To keep informed of the project status we have created a website sheltonharbor.org.

Project Description:

Methods: The project will be accomplished through the following tasks:

1. SIT will continue the current monitoring program, based on modifications from the 2015 plan, to ensure we are collecting the highest quality and most informative data that we can achieve.
2. Purchase equipment necessary to supplement the Tribe's continuous monitoring program and existing apparatus.
3. The SIT will provide our in-house Satlantic SUNA UV Nitrate Sensor, YSI 6920 V2 Sonde, and streamflow measuring equipment.
4. Gather and coordinate existing data through; Sound Toxins, Taylor Shellfish®, and Department of Health.
5. A) Freshwater Monitoring: Continue to sample established creek mouth stations, and sample monthly for another 12 months : Use of in-house YSI meter for point measurements of temperature, conductivity, pH, dissolved oxygen. Monthly grab lab water samples for fecal coliform. Monthly stream discharge measurements. Continuous measurement with temperature loggers and water level loggers.
B) At one site, we will install the SUNA nitrate meter and instream turbidity sensor to collect continuous measurements for a year. We will pair this with an ISCO sampler to collect nitrate and suspended sediment grab samples for quality control.
6. Saltwater Monitoring: Marine station sampling for part of South Sound Marine Survival Study includes using YSI 6920 V2 Sonde water sampler for vertical profiles measuring depth, temperature, conductivity/salinity, pH, dissolved oxygen, and Chlorophyll.
7. Continue to develop baseline for pH and nutrient input to Oakland Bay to track acidification trends. Calculate nitrogen and suspended sediment loads from continuously monitored stream locations.
8. Distribute findings to tribal council and decisions makers through presentations and reports.

Project Leader: Candace Penn, (360)-432-3898 cpenn@squaxin.us

Start and End Date: August, FY 2017 – August FY 2018

Outcomes and Expected Benefits:

Immediate Goal 1) The goal of the community is to work to restore and sustain the biological health of the Oakland Bay Watershed. Achievement will protect human health and public safety, improve quality of life, increase recreation opportunities, sustain the shellfish industry/rural economy and protect Squaxin Treaty rights (see figure 1.3). These are also the cultural resources that are subject to climate change-related stressors in the Squaxin Island Tribe usual and accustomed areas.

Long term Goal 2) The proposed project will allow us to assess the vulnerability of shellfish and salmon to climate-related impacts in Oakland Bay. With this information, the SIT Natural Resources Department can develop and prioritize adaptation and management actions to reduce nutrients at the source and protect vital marine resources. This proposal will lay the foundation for a climate change adaption plan to be developed. By continuing to establishing a current baseline of water quality conditions (nitrogen contributors, suspended sediment, etc.) the Tribe will position itself to best assess climate-related changes that are increasing ocean acidification.

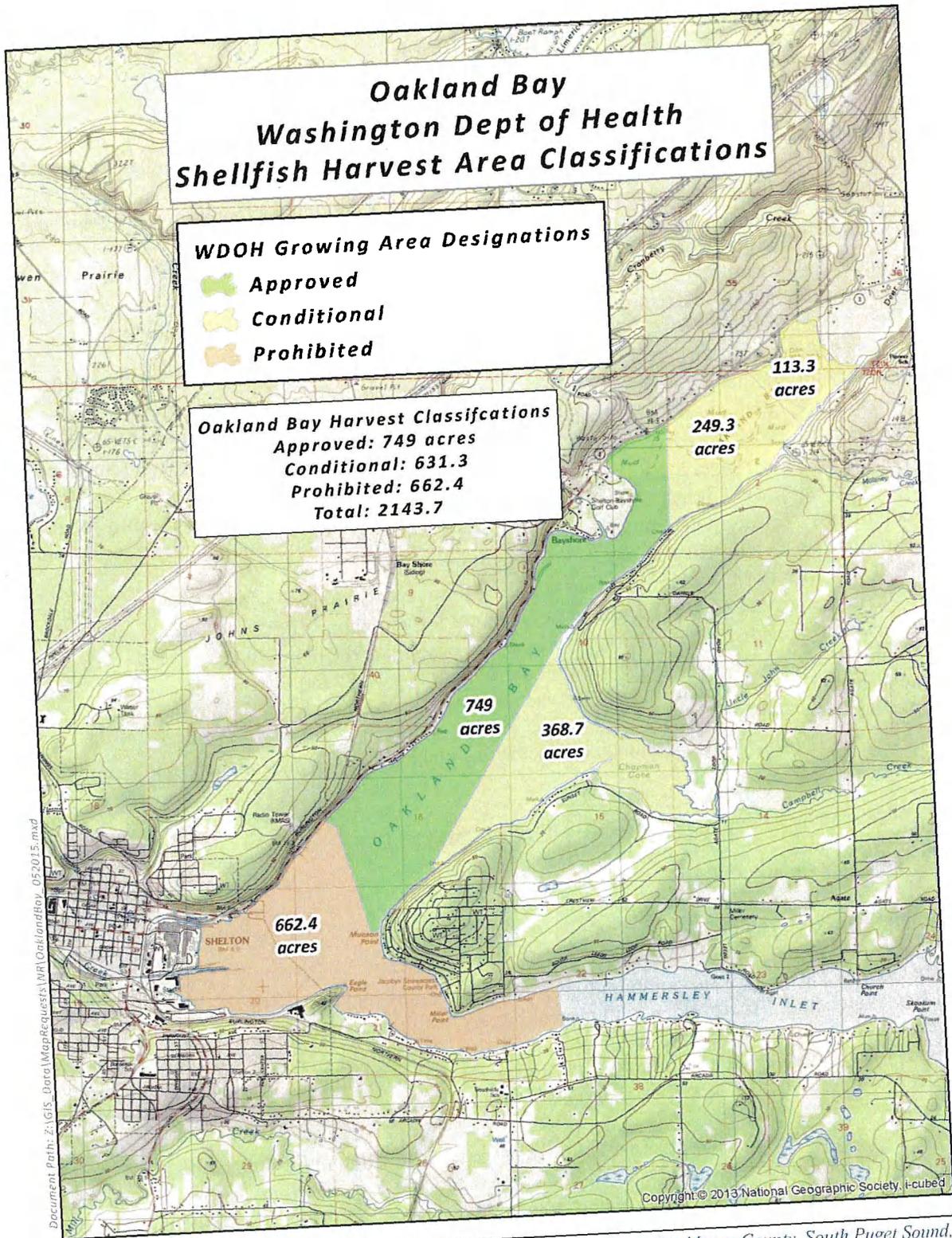


Figure 1.3 Geographic Location: Oakland Bay and Hammersley Inlet are located in Mason County, South Puget Sound, Washington State. Lat/long 47.222645°, -123.063178° 2,143.7 acres of shellfish growing area, 749 acres of approved shellfish growing area, 631.3 acres of conditional growing area, and 662.4 acres of prohibited (potential conditional) shellfish growing area.

Total Project Costs:

2017 Climate Change BIA Proposal		Totals:
Salaries:		
Biologist - 1 FTE	\$ 49,712	
Technician	\$ 34,320	
Salary Total		\$ 84,032
Fringe @ 42 %		\$ 35,293
Non Cap Equipment:		
Aquacalc Proplus	\$ 2,475	
Misc Water Equipment	\$ 1,000	\$ 3,475
Travel / Training:		
Supplies:		\$ 1,700
Equipment - Maintenance		
Calibrate water meters		\$ 500
Contracts:		
DOE - Water Testing	\$ 8,500	
Energy Audit	\$ 12,000	
Adaptation plan	\$ 4,500	\$ 25,000
Total Direct		\$ 150,000

2017-2018 Climate Change BIA Proposal		Totals:
Salaries:		
Biologist - 1 FTE	\$ 49,712	
Technician - 2 FTE	\$ 69,531	
Salary Total		\$ 119,243
Fringe @ 42 %		\$ 50,082
Non Cap Equipment:		
Aquacalc Proplus	\$ 2,475	
Misc Water Equipment	\$ 1,000	\$ 3,475
Travel / Training:		
Supplies:		\$ 1,700
Equipment - Maintenance		
Calibrate water meters		\$ 500
Contracts:		
DOE - Water Testing	\$ 8,500	
Energy Audit	\$ 12,000	
Adaptation plan	\$ 4,500	\$ 25,000
Total Direct		\$ 200,000



Mason Conservation District
450 W. Business Park Road ● Shelton, WA 98584
Phone: (360) 427-9436 ● FAX: (360) 427-4396
www.masoncd.org

August 15, 2017

Candace Penn
Squaxin Island Tribe
10 SE Squaxin Lane
Shelton, WA 98584

Re: Assessment of Climate-Related Impacts and Adaptation Planning

Dear Ms. Penn:

The Mason Conservation District enthusiastically supports the Squaxin Island Tribe's Bureau of Indian Affairs Rights Protection Implementation funding proposal titled Assessment of Climate Change-Related Impacts and Adaptation Planning.

Besides providing critical shellfish resources to the tribe, Puget Sound is a key growing area for many small and large private shellfish companies. Oakland Bay is one of the most significant shellfish producing bays in Washington and in the country.

Oakland Bay's shellfish production supports hundreds of local jobs our farms, in the processing plant, in distribution and sales in restaurants and markets throughout the World. We are very interested and supportive of this proposal by the Squaxin Island Tribe.

Sincerely,

John Bolender, District Manager



4405 7th Ave SE, Ste 306
Lacey, WA 98503

360.943.3012
CapitolLandTrust.org

Connecting People, Conserving Land

August 15, 2017

Candace Penn
Squaxin Island Tribe
10 SE Squaxin Lane
Shelton, WA 98584

Re: Assessment of Climate-Related Impacts and Adaptation Planning

Dear Candace:

Capitol Land Trust is pleased to offer our support for the Squaxin Island Tribe's Bureau of Indian Affairs Rights Protection Implementation funding proposal titled "Assessment of Climate Change-Related Impacts and Adaptation Planning."

Besides providing critical shellfish and salmon resources to the tribe, Puget Sound is a key shellfish growing area for many small and large shellfish companies. Of the four million pounds of Manila clams harvested annually in Washington State, 1.5 to two million pounds come from Oakland Bay, along with approximately 3.5 million Kumamoto oysters, making Oakland Bay one of the most significant shellfish producing bays in Washington and in the country.

Oakland Bay's shellfish production supports hundreds of jobs on farms, processing plants, and in distribution and sales in restaurants and markets both domestically and internationally. As a land conservation organization that has conserved over 250 acres directly on Oakland Bay, we are very interested and supportive of this proposal by the Squaxin Island Tribe and believe it will contribute to the recovery and protection of this vitally important body of water.

Sincerely,

Laurence H. Reeves
Conservation Director



August 14, 2017

Candace Penn
Squaxin Island Tribe
10 SE Squaxin Lane
Shelton, WA 98584

Dear Ms. Penn:

The City of Shelton is pleased to offer our support for the Squaxin Island Tribe's Bureau of Indian Affairs Rights Protection Implementation funding proposal.

Besides providing critical shellfish resources to the tribe, Puget Sound is a key growing area for many small and large shellfish companies. Annually we harvest approximately 4 million pounds of Manila clams of which 1.5 to 2 million pounds come from Oakland Bay along with approximately 3.5 million Kumamoto oysters. This is one of the most significant shellfish producing bays in Washington and in the country.

Oakland Bay's shellfish production supports hundreds of jobs our farms, in the processing plant, in distribution and sales in restaurants and markets throughout the world. We are very interested and supportive of this proposal by the Squaxin Island Tribe.

Sincerely,

A handwritten signature in blue ink that reads "Gary H. Cronce".

Gary Cronce
Mayor



Pacific
Shellfish
Institute

120 State Avenue NE #1056
Olympia, WA 98501
Tel: (360) 754-2741
Fax: (360) 754-2246
E-mail: psi@pacshell.org

August 10, 2017

Candace Penn
Squaxin Island Tribe
3110 Old Olympic Hwy
Shelton, WA 98584

Board of Directors

President:

Betsy Peabody
Puget Sound Restoration
Fund

Vice President:

Duane Fagergren
Puget Sound Partnership

Secretary:

Kelly Toy
Jamestown S'Klallam
Tribe

Treasurer:

Steve Bloomfield
Seattle Shellfish

Directors:

David Nisbet
Nisbet Oyster Company

Gerardo Chin-Leo
Evergreen State College

Joith Davis
Baywater, Inc.

Bill Dewey
Taylor Shellfish, Inc.

Ralph Elston
Aquatechnics

Pete Granger
Washington Sea Grant

Jerrold Davis
Wash. Dept. of Health

Christopher Langdon
Oregon State University

Rich Childers
Wash. Dept. of Fish &
Wildlife

Ex-Officio Members
Margaret Barrette
Pacific Coast Shellfish
Growers Association

Kenneth Chew
University of Washington

Executive Director
Bobbi Hudson

Dear Ms. Penn:

Pacific Shellfish Institute is once again pleased to offer our support for the Squaxin Island Tribe's Bureau of Indian affairs proposal titled: "*Assessment of Climate Related Impacts and Adaptation Planning*."

As you know, the Pacific Shellfish Institute (PSI) is a non-profit research institution based in Washington State. Our mission is: "Fostering sustainable shellfish resources and a healthy marine environment through research and education." To that end, we provide practical tools and information to the shellfish industry, resource managers and the general public. Our diverse research portfolio includes biological, oceanographic and social science projects surrounding shellfish production, restoration and water quality.

Your proposal would enable important information gathering to better understand the impacts of sea level rise regional resources. Puget Sound harvest of Manila clams currently stands at ~4 million pounds, supporting many small and large shellfish companies. The Oakland Bay growing region alone produces 1.5-2 million pounds of Manila clams, and 3.5 million Kumamoto oysters annually. This production supports hundreds of jobs on farms, as well in shellfish hatcheries and labs, and through distribution and sales to restaurants and markets around the world. Shellfish and forage fish are traditional subsistence resources of the Squaxin Island Tribe. Exploring adaptation actions to mitigate the threat of changing ocean conditions is critical, as is developing a strategy to sustain the shellfish habitat that the tribe depends on.

I recognize the importance of this vulnerability study and I strongly urge the Bureau of Indian affairs to fund your proposal. I wish you success with this proposal and I look forward to hearing the outcome. If I can offer anything further, please feel free to contact me at (360) 754-2741.

Sincerely,

Bobbi Hudson, Executive Director



August 7, 2017

Candace Penn
Squaxin Island Tribe
10 SE Squaxin Lane
Shelton, WA 98584

Re: Assessment of Climate-Related Impacts and Adaptation Planning

Dear Ms. Penn:

The Deschutes Estuary Restoration Team is pleased to offer our support for the Squaxin Island Tribe's Bureau of Indian Affairs Rights Protection Implementation funding proposal titled "Assessment of Climate Change-Related Impacts and Adaptation Planning."

Besides providing critical shellfish resources to the tribe, Puget Sound is a key growing area for many small and large shellfish companies. Annually, there are approximately 4 million pounds of Manila clams harvested of which 1.5 to 2 million pounds come from Oakland Bay along with approximately 3.5 million Kumamoto oysters. This is one of the most significant shellfish producing bays in Washington and in the country.

Oakland Bay's shellfish production supports hundreds of jobs on our farms, in the processing plant, in distribution and sales in restaurants and markets throughout the world. We are very interested and supportive of this proposal by the Squaxin Island Tribe.

Sincerely,

Sue Patnude, Executive Director
Deschutes Estuary Restoration Team
olydert@gmail.com