



EPA Puget Sound Financial and Ecosystem Accounting Tracking System (FEATS) v. September 2012 for Lead Organization Subawardees

Photo by Rebecca Pirtle, Editor, Kingston Community News (Doe-Kag-Wats Estuary of the Suquamish Tribe)

PROJECT INFORMATION

1. Federal Grant Number	PA-00J912-01	*2a. Reporting Period Start Date:	10/1/2018	*2b. Reporting Period End Date:	03/31/2019
3. Subaward Organization (Name and complete address including zip code)			4. Subaward Project Manager Contact Information		
Name: Stillaguamish Tribe of Indians Address 1: P.O. Box 277 Address 2: City: Arlington State: WA Zip Code: 98223-			Name: Ragina Gray Phone: (360) 722-5643 Ext: Fax: () - Email: ggray@stillaguamish.com		
5a. EPA Program		5b. Subaward Project Title and Contract No.		*6. Collaborating Organizations/Partners	
LO - Tribal		Stillaguamish Tribe 2014 Restoration and Protection Priorities / 15EPA PSP434			

<u>Subawardee Submission Instructions:</u> LO fills in the white boxes. Subawardee fills in the yellow boxes (boxes with asterisks). Refer to guidance document for how to fill out the boxes. After filling out the yellow boxes, save and e-mail it to your LO Project Manager for approval. LO will roll up the information and submit to EPA for approval.	LO Project Manager: Dani Madrone LO: NWIFC Phone: 360.528.4318 email: dmadrone@nwifc.org LO Program Coordinator: LO: Phone: email: EPA Project Officer: Lisa Chang	*7a. Name/Title of Person Submitting Report	Ragina Gray Director of Natural Resources
		*7b. Date Report Submitted	4/30/2019

FUNDING/COST ANALYSIS

8a. Total Assistance Amount Awarded:	\$112,200.00	8b. Funding Year (Federal Fiscal Year Funds Appropriated)	FY 2015 ----- ----- -----	*9. Amount Spent To-Date:	\$111,590.34	*10. Amount Reimbursed To-Date:	\$111,590.34
11. Match Amount Required	\$0.00	*12. Total Match Amount Spent and Documented To-Date:		*13. Have you experienced any cost overruns or high unit costs?			
*14. What issues or questions do you need the LO Project Manager to respond to?							

BUDGET UPDATE

	15a. APPROVED BUDGET			*15b. SPENT TO-DATE		
	LO (EPA) Funds	MATCH	TOTAL	LO (EPA) Funds	MATCH	TOTAL
Personnel	\$27,247.80	\$0.00	\$27,247.80	\$27,846.33		\$27,724.93
Fringe Benefits	\$9,264.25	\$0.00	\$9,264.25	\$9,531.90		\$9,531.90
Travel	\$3,000.00	\$0.00	\$3,000.00	\$301.56		\$ 301.56
Equipment	\$1,682.58	\$0.00	\$1,682.58	\$0.00		\$ 0.00
Supplies	\$12,500.00	\$0.00	\$12,500.00	\$6,145.83		\$6,145.83
Contracts	\$42,500.00	\$0.00	\$42,500.00	\$48,231.32		\$48,231.32
Other	\$180.00	\$0.00	\$ 180.00	\$3,387.22		\$3,387.22
TOTAL DIRECT CHARGES	\$96,374.63	\$0.00	\$96,374.63	\$95,444.16		\$95,444.16
Indirect Charges	\$15,825.36	\$0.00	\$15,825.36	\$16,146.18		\$16,146.18
TOTAL	\$112,200.00	\$0.00	\$112,200.00	\$111,590.34		\$111,590.34
*Explain Any Discrepancies:						

ECOSYSTEM GOALS ADDRESSED

16a. Primary Goal	Water Quality
16b. Additional Goals	Healthy Habitat Healthy Species ----- ----- ----- -----

DIRECT THREATS ADDRESSED

17a. Primary Threat	Invasive Species - Terrestrial
17b. Secondary Threat(s)	-----

LINKAGES TO PUGET SOUND ACTION AGENDA (Version Adopted August 2012)

18a. Primary Strategic Initiative	Tribal Habitat Priorities
18b. Sub-Strategies Employed	C.1.1 C.7.5 B.1.2
18c. Near-Term Actions Supported	C1.1.6

LINKAGES TO EPA PUGET SOUND PERFORMANCE MEASURES

19. Measure(s)	Shellfish Beds Habitat Restored/Protected -----
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LINKAGES TO PUGET SOUND DASHBOARD INDICATORS

20a. Primary Indicator	Marine Water Quality
20b. Secondary Indicators	Shellfish Beds Floodplains Freshwater Quality

PROJECT LOCATION

21a. Latitude	48.215923	21b. Longitude	-122.184978
21c. Hydrologic Unit Code	17110008 - Stillaguamish	-----	-----
21d. Action Area	Whidbey	-----	-----

MEASURES OF SUCCESS (Key Outputs)

*22a. Description (e.g., “shellfish beds reopened”)	*22b. Unit (e.g., “acres”)	*22c. Project Target (“number”)	*22d. Project Measure To-Date (“number”)
TASK 1 - Phytoplankton monitoring	events	40	52
TASK 1 - Water quality data collection and dispensation	records	7200	14164
TASK 2 - Consumption advisory written	document	1	1
TASK 3 - Permits submitted for raft installation	permits	3	3
TASK 3 - Raft built and installed	events	2	1
TASK 3 - Shellfish successfully grown	event	1	1

PROJECT MILESTONES

Instructions: In the tables below, please explain your progress toward meeting agreed outputs for the period, **reasons for slippages**, and any additional information including **reflections, lessons learned, and/or thoughtful analysis**. When appropriate, include analysis and information of **cost overruns or high unit costs**, and changes to work plan or budget not requiring prior approval from EPA. We encourage photo documentation - please attach to the report as a separate document.

23a. Subaward Work Plan Component/Task: Stillaguamish Tribe Marine Water Quality Monitoring					
23b. 2012 Action Agenda Near-Term Action(s) Supported: C7.5 NTA 2 Expand Biotoxin Monitoring.					
*23c. Estimated Costs: \$44,075.00					
Actual Costs to Date: (If required to report – contact your Project Manager)					
23d. Sub-Task No.	23e. Sub-Task Description (include due date)	*23f. Date of Status	*23g. Status	23h. Outputs/Deliverables	*23i. Remarks
1.1	Complete a Quality Assurance Project Plan.	9/30/17	COMPLETED	QAPP completed. Sampling readiness.	completed by 9/30/16
1.2	Begin monitoring for HABs, bi-weekly November through March, and weekly April through October.	03/31/19	COMPLETED	Identification of HAB species and concentrations present in the localized area of Port Susan seasonally; Phytoplankton observations uploaded into the Sound Toxins	No toxic blooms during this period.

				database and Tribal public website weekly.	
1.3	Continue to perform monthly maintenance and calibration of water quality monitoring buoy and probe	03/31/19	COMPLETED	Successful acquisition of water quality data	Data continues to be collected successfully. Buoy was out for maintenance between Oct. 22 2018 and redeployed Jan 25, 2019.
1.4	Download and analyze data for proper probe performance; process data and make available for public access	03/31/19	COMPLETED	Marine water quality data available to scientists and the general public by request; Hydrolab data also uploaded to STORET.	Data continues to be collected successfully and is available upon request to colleagues. Some of the data may be presented in the 2019 PSEMP Marine Water Quality Report.

23a. Subaward Work Plan Component/Task: Conduct a Human Health Assessment and a create Stillaguamish Tribal Shellfish Consumption Advisory based on testing samples of locally harvested shellfish for a suite of toxins.

23b. 2012 Action Agenda Near-Term Action(s) Supported: C 6.2. Shellfish and fish advisory and monitoring programs

***23c. Estimated Costs:** \$45,991.00
Actual Costs to Date:
(If required to report – contact your Project Manager)

23d. Sub-Task No.	23e. Sub-Task Description (include due date)	*23f. Date of Status	*23g. Status	23h. Outputs/Deliverables	*23i. Remarks
2.1	Write a Quality Assurance Project Plan Addendum. Nov 2016	9/30/17	COMPLETED	New QAPP written and completed. Sampling readiness.	completed Nov 2016
2.2	Update the existing Joint Working Agreement with the U.S. Geological Survey for shellfish sample analysis in estuarine habitat. Determine sampling locations and attain permission to sample shellfish from private and public tidelands. March 2016.	9/30/17	COMPLETED	A signed agreement between both agencies with a finalized workplan, field schedule and data dissemination plan.	Initial agreement completed March 2016. Agreement updated September 2017.
2.3	Collect shellfish and salmon samples from selected areas. July 2017	03/31/19	COMPLETED	Evaluate PCBs and mercury from tissue samples	Tissue samples analyzed.
2.4	Summarize shellfish toxin data and analyze for human health. Because Tribal members are not currently harvesting from Port Susan, we would	03/31/19	CURRENT	Summary of sampling results and Human Health Assessment and	The literature research portion of this sub-task is complete. Advisory is in draft form.

	<p>like to establish what is a safe amount to consume based on what is actually in the shellfish growing there now.</p> <p>Write up Human Health Assessment and Shellfish Advisory. Nov. 2017</p>			Tribal Shellfish Consumption Advisory.	
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23a. Subaward Work Plan Component/Task: Port Susan Mussel Rafts Phase 1

23b. 2012 Action Agenda Near-Term Action(s) Supported: C7.3.2 Areas Suitable for Future Shellfish Aquaculture

***23c. Estimated Costs:** \$22,333.00
Actual Costs to Date:
(If required to report – contact your Project Manager)

23d. Sub-Task No.	23e. Sub-Task Description (include due date)	*23f. Date of Status	*23g. Status	23h. Outputs/Deliverables	*23i. Remarks
3.1	Determine suitable locations for and suitable sized mussel rafts. Determine best type of mussel raft for desired purpose. Connect with Delta Consortium researchers in Port Susan and Penn Cove shellfish growers. March 2017	03/31/19	COMPLETED	Suitable site locations. Mussel raft designs complete. Integration with Port Susan Delta Consortium Researchers in terms of communication, meetings attended, etc	Working relationships with relevant agencies established and maintained.
3.2	Acquire landowner permissions, if applicable and apply for permits to grow floating mussel rafts in Port Susan (WDFW, DNR, ACOE, SEPA, etc). June 2017	03/31/19	COMPLETED	Landowner permissions attained if needed, and permit applications submitted	Landowner permissions are not applicable. DNR, WDFW, and CORPS permits were submitted. DNR permit and WDFW HPA were approved. ACOE permit was withdrawn due to change in Tribal leadership direction.
3.3	Acquire supplies for and build mussel rafts. June 2017	03/31/19	COMPLETED	Built or purchase rafts	Project was shifted to longline, because this was deemed more suitable in the Port Susan environment. Supplies acquired for longline installation.
3.4	Design an implementation, research and monitoring plan. June 2017	03/31/19	COMPLETED	Completed research and monitoring plan for Phase 2	Initial growth experiments were very successful, with oysters and mussels and even clams growing rapidly from the original mooring. In January the oysters appear to

					have been stolen. Phase 2 of the project is currently on hold pending legal developments between Stillaguamish and neighboring tribes.
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CHALLENGES AND SOLUTIONS (specific to reporting period)

*24a. Task No., Sub-Task No.	*24b. Challenge	*24c. Solution
Task 1 Marine Water Quality Monitoring	no challenges at this time	
Task 2 Human Health Assessment	final advisory behind schedule by partner agencies, in part due to government shut down.	Continue working to complete project.
Task 3 Port Susan Mussel Rafts Phase 1	Phase 1 complete. At the end of the period, oysters appear to have been stolen prior to final measurement and harvest.	No solution, but is a lesson regarding the political environment in Port Susan.

HIGHLIGHTS/LESSONS LEARNED/REFLECTIONS

<p>*25. 10/1/16 - 3/31/17: Task 3, sub 3.2, applying for permits. The Tribe has been informally speaking with Tulalip Tribe staff about whether they would oppose a second mooring for this project in Port Susan. We have received indication that they might. Also Stillaguamish has filed for a Usual and Accustomed Area expansion, which may further deter our Tribal neighbor's willingness to support a second mooring in the bay. This may ultimately result in a change in project scope. An alternative that staff are already investigating is shoreline oyster seeding. Staff will be taking the first step this spring by conducting an oyster recruitment assessment.</p> <p>4/1/17 - 9/30/17: Task 1.2. Though operating under previous funding round, we had a successful period of data collection in the bay as well as phytoplankton monitoring events. In September we observed the dinoflagellate Alexandrium, one of the four primary Harmful Algal Bloom producers. This observation was followed up in October by staff collecting mussel tissue for toxin analysis. This September and early October nearly the entire northern Puget Sound was closed due to biotoxins. This was the first year it has ever been observed in Port Susan.</p> <p>Task 2.3 Collecting samples. This summer we were able to attain Chinook tissue from adult Chinook salmon returned to both Tulalip Bay and the Stillaguamish River. We have also successfully collected eastern softshell clams for analysis. We expect that all sample collection is complete.</p> <p>Task 3.1 and 3.2. We have not yet selected a location for permit application for the experiment. We expect we will choose a spot by the end of the next reporting period. In part, we continue to lack sufficient data from Port Susan water at mid-depths during the winter months. This year we acquired a probe that can perform depth profiling, as well as access to marine vessel that can handle working in winter weather. It is important that we select a location that will not be too fresh from river outflow. The river has shifted the bulk of its flow south and west of its former primary outflow channel in recent years and we would like to find the area of the mid-depth waters in the bay with the highest average salinities to place our mooring. This has led to a delay in permit applications, but has allowed us to further test the political waters of implementing this project. Simultaneously, we are exploring onshore sites for possible clam and oyster</p>

enhancement. Preliminary oyster and clam larval recruitment assessments failed due to excess sedimentation at the locations selected for study. In the event the suspended aquaculture project fails to move forward, we may still apply for a scope change to direct funds towards surveying and enhancing shellfish beaches in the area that are not subject to excess river sedimentation.

10/1/17 - 03/31/18:

Task 1.2. Due to observed toxic dinoflagellate Alexandrium, mussel tissue sampling in Pt Susan continued for several weeks. By the end of the year, Port Susan ranked number one in highest toxin levels in Washington State for 2017. The success of the early warning system for biotoxins as occurred in Port Susan was highlighted at several meetings throughout the state.

04/1/18 - 09/30/18

Task 1.3 Remote water quality monitoring.

We finally realized the best way to maximize successful collection of data was by having a second sonde for the project. So with additional grant money we purchased another probe that we swap monthly on the buoy. We can then take the one that was most recently in the field back to the lab for careful cleaning, calibration, and data download without the pressure of performing maintenance on the boat in a narrow window of time. This helps prevent human error and permits thoughtful troubleshooting. We had observed through our colleague network this is what other researchers do as well for long-term instrument deployments.

Task 3.1 Determine best type of raft for growing shellfish.

After a good deal of consultation and research, we are applying to install a small longline rather than a raft. These systems are known to hold up better in high energy environments, which Pt Susan can be in winter. A longline can grow both oysters and mussels, and we have successfully grown both from our current buoy location.

10/01/18 - 03/31/19

Task 1.3. Remote water quality monitoring.

Buoy mooring was breaking and entire buoy was removed for repair in late October. It was ready for redeployment by mid-November, but we had three redeployment trips cancelled due to high winds. As ever, timing staff availability, which must be scheduled out at least a week and usually two, with the weather, prevented continuous data collection. To solve this problem, we purchased a second buoy which is currently being outfitted with hardware. With this system, we will be able to schedule buoy swaps each year and be able to perform maintenance without losing data collection.

Task 2.4 Write up Human Health Assessment and Shellfish Advisory.

Advisory is in draft form. This project is a little behind schedule in part due to the government shut down in December 2018 and January 2019. Otherwise, it is on track for completion this spring.

Task 3.4. Design an implementation, research and monitoring plan.

We had been growing and measuring oysters beneath the buoy during 2018 as the last part of Phase 1. Growth was rapid and survival high after initial lessons with crowding. We also had a natural set of scallops on our gear which was a pleasant surprise. We were scheduled to pull the oysters for a final measurement and harvest in January 2019, but the bag containing the baskets was missing. At that time, the oyster baskets were connected to a surface float by a carabeener and were easily accessible by boaters (as opposed to hanging beneath the navigational buoy which was out for maintenance, under which they were hidden beneath the large structure and beneath four feet of water). We suspect they were stolen or intentionally released from the float. Thus ended phase 1 of the experiment.

The Tribe recently decided to postpone Phase 2, expanding the experiment to a longline. Two permits were acquired and the CORPS permit was in process. The Tribe made this decision after receiving notice in March 2019 from the Justice system that the US District Court in Seattle will hear the Tribe's Request for Determination for expanding their marine Usual and Accustomed Area. Suspended aquaculture efforts could be considered "poking the bear", and the recent theft is also an indicator of the types of challenges Stillaguamish might face in the current political environment.

