



# 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

<b>1. Federal Grant Number</b>	PA-00J912-01	<b>*2a. Reporting Period Start Date:</b>	4/1/2018	<b>*2b. Reporting Period End Date:</b>	9/30/2018
<b>3. Subaward Organization (Name and complete address including zip code)</b> Name: Stillaguamish Tribe of Indians Address 1: P.O. Box 277 Address 2: City: Arlington State: WA Zip Code: 98223-			<b>4. Subaward Project Manager Contact Information</b> Name: Ragina Gray Phone: (360) 722-5643 Ext: Fax: ( ) - Email: ggray@stillaguamish.com		
<b>5a. EPA Program</b>  <b>LO - Tribal</b>	<b>5b. Subaward Project Title and Contract No.</b>  Stillaguamish Tribe 2014 Restoration and Protection Priorities / 15EPA PSP434	<b>*6. Collaborating Organizations/Partners</b>			

<p><b><u>Subawardee Submission Instructions:</u></b></p> <p>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.</p>	<p><b>LO Project Manager:</b> Dani Madrone  <b>LO:</b> NWIFC  <b>Phone:</b> 360.528.4318  <b>email:</b> dmadrone@nwifc.org</p> <p><b>LO Program Coordinator:</b>  <b>LO:</b>  <b>Phone:</b>  <b>email:</b></p> <p><b>EPA Project Officer:</b> Lisa Chang</p>	<b>*7a. Name/Title of Person Submitting Report</b>	<p>Ragina Gray Director of Natural Resources</p>
		<b>*7b. Date Report Submitted</b>	<p>10/30/2018</p>

## 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:	\$96,169.61	*10. Amount Reimbursed To-Date:	\$96,169.61
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	\$23,396.42		\$23,396.42
Fringe Benefits	\$9,264.25	\$0.00	\$9,264.25	\$8,091.54		\$8,091.54
Travel	\$3,000.00	\$0.00	\$3,000.00	\$2,440.72		\$2,440.72
Equipment	\$1,682.58	\$0.00	\$1,682.58	\$0.00		\$ 0.00
Supplies	\$12,500.00	\$0.00	\$12,500.00	\$1,682.65		\$1,682.65
Contracts	\$42,500.00	\$0.00	\$42,500.00	\$47,655.32		\$47,655.32
Other	\$180.00	\$0.00	\$ 180.00	\$110.00		\$ 110.00
<b>TOTAL DIRECT CHARGES</b>	<b>\$96,374.63</b>	<b>\$0.00</b>	<b>\$96,374.63</b>	<b>\$83,376.65</b>		<b>\$83,376.65</b>
Indirect Charges	\$15,825.36	\$0.00	\$15,825.36	\$12,792.96		\$12,792.96
<b>TOTAL</b>	<b>\$112,200.00</b>	<b>\$0.00</b>	<b>\$112,200.00</b>	<b>\$96,169.61</b>		<b>\$96,169.61</b>
*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	40
TASK 1 - Water quality data collection and dispensation	records	7200	0
TASK 2 - Consumption advisory written	document	1	0
TASK 3 - Permits submitted for raft installation	permits	3	0
TASK 3 - Raft built and installed	events	2	0
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.

<b>23a. Subaward Work Plan Component/Task:</b> Stillaguamish Tribe Marine Water Quality Monitoring					
<b>23b. 2012 Action Agenda Near-Term Action(s) Supported:</b> C7.5 NTA 2 Expand Biotoxin Monitoring.					
<b>*23c. Estimated Costs:</b> \$44,075.00					
<b>Actual Costs to Date:</b> (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.	09/30/18	CURRENT	Identification of HAB species and concentrations present in the localized area of Port Susan seasonally; Phytoplankton observations uploaded into the Sound Toxins	Spring bloom has begun starting with diatom Thalalssosira. No toxic blooms in Pt Susan this past summer, though very high counts of Pseudonitzchia in June.

				database and Tribal public website weekly.	
1.3	Continue to perform monthly maintenance and calibration of water quality monitoring buoy and probe	09/30/18	CURRENT	Successful acquisition of water quality data	Two sensors were replaced in April. A second EXO2 sonde was acquired in July with different grant money, to help prevent data gaps when equipment is in need of maintenance.
1.4	Download and analyze data for proper probe performance; process data and make available for public access	09/30/18	CURRENT	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.
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**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	09/30/18	COMPLETED	Evaluate PCBs and mercury from tissue samples	Tissue samples have been collected and submitted for analysis, but analysis has not yet occurred.
2.4	Summarize shellfish toxin data and analyze for human health. Because	09/30/18	CURRENT	Summary of sampling results and Human	The literature research portain of this sub-task is complete.

	<p>Tribal members are not currently harvesting from Port Susan, we would 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>			<p>Health Assessment and Tribal Shellfish Consumption Advisory.</p>	<p>Analysis of toxin data in relation to human health will commence once lab results are processed. Contract with USGS was extended to December 29, 2018 for completion of this work.</p>
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<p><b>23a. Subaward Work Plan Component/Task:</b> Port Susan Mussel Rafts Phase 1</p>					
<p><b>23b. 2012 Action Agenda Near-Term Action(s) Supported:</b> C7.3.2 Areas Suitable for Future Shellfish Aquaculture</p>					
<p><b>*23c. Estimated Costs:</b> \$22,333.00  <b>Actual Costs to Date:</b>  <b>(If required to report – contact your Project Manager)</b></p>					
23d. Sub-Task No.	23e. Sub-Task Description (include due date)	*23f. Date of Status	*23g. Status	23h. Outputs/Deliverables	*23i. Remarks
3.1	<p>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</p>	09/30/18	CURRENT	<p>Suitable site locations. Mussel raft designs complete. Integration with Port Susan Delta Consortium Researchers in terms of communication, meetings attended, etc</p>	<p>Over the past several years we have successfully connected with researchers in Pt Susan from USGS and the Nature Conservancy, and aquaculture experts in Washington and British Columbia, BC. After visiting three shellfish farms this summer and consulting with several aquaculture experts, we will apply for a permit modification for a longline, attached to our current mooring location and infrastructure.</p>
3.2	<p>Acquire landowner permissions, if applicable and apply for permits to grow floating mussel rafts in Port Susan (WDFW, DNR, ACOE, SEPA, etc). June 2017</p>	09/30/18	CURRENT	<p>Landowner permissions attained if needed, and permit applications submitted</p>	<p>Landowner permissions are not applicable, and we have our permit modification about ready to submit.</p>
3.3	<p>Acquire supplies for and build mussel rafts. June 2017</p>	09/30/18	CURRENT	<p>Built or purchase rafts</p>	<p>We are acquiring quotes and have begun ordering the supplies necessary to set up an experimental longline.</p>

3.4	Design an implementation, research and monitoring plan. June 2017	09/30/18	CURRENT	Completed research and monitoring plan for Phase 2	We have determined a schedule of activities that need to happen in order to implement phase 2 of this project, the exact timing of which depend in part on the permitting process and weather.
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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	no challenges at this time	
Task 3 Port Susan Mussel Rafts Phase 1	a little behind schedule	we requested and received a grant extension through June 2019

### HIGHLIGHTS/LESSONS LEARNED/REFLECTIONS

<p><b>*25.</b>  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 Susaan 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 it 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 enhancement. Preliminary oyster and clam larval recruitment assessments failed due to excess sedimentation at the locations selected for study. In the event</p>
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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.