



# 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-01J276-01	<b>*2a. Reporting Period Start Date:</b>	4/1/18	<b>*2b. Reporting Period End Date:</b>	9/30/18
<b>3. Subaward Organization (Name and complete address including zip code)</b> Name: Upper Skagit Indian Tribe Address 1: 25944 Community Plaza Way Address 2: City: Sedro-Woolley State: WA Zip Code: 98284-			<b>4. Subaward Project Manager Contact Information</b> Name: Jon-Paul Shannahan Phone: (360) 854-7089 Ext: Fax: (360) 854-7042 Email: jonpauls@upperskagit.com		
<b>5a. EPA Program</b>  <b>LO - Tribal</b>	<b>5b. Subaward Project Title and Contract No.</b>  Skagit River juvenile steelhead survival and residualization / 17EPA PSP442		<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>	Jon-Paul Shannahan Managing Biologist
		<b>*7b. Date Report Submitted</b>	10/31/18

## FUNDING/COST ANALYSIS

8a. Total Assistance Amount Awarded:	\$182,250.00	8b. Funding Year (Federal Fiscal Year Funds Appropriated)	----- FY 2017 ----- -----	*9. Amount Spent To-Date:	67699	*10. Amount Reimbursed To-Date:	45219.56
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	68829	\$0.00	\$68,829.00	30104		\$30,104.00
Fringe Benefits	\$17,207.00	\$0.00	\$17,207.00	8426		\$8,426.00
Travel	\$2,600.00	\$0.00	\$2,600.00	1232		\$1,232.00
Equipment	\$11,131.00	\$0.00	\$11,131.00	1916		\$1,916.01
Supplies	\$15,802.00	\$0.00	\$15,802.00	3739		\$3,739.00
Contracts	\$16,500.00	\$0.00	\$16,500.00	3828		\$3,828.00
Other	\$7,000.00	\$0.00	\$7,000.00	818		\$ 818.00
<b>TOTAL DIRECT CHARGES</b>	<b>\$139,069.00</b>	<b>\$0.00</b>	<b>\$139,069.00</b>	<b>50062</b>		<b>\$50,062.00</b>
Indirect Charges	\$43,181.00	\$0.00	\$43,181.00	17637		\$17,637.00
<b>TOTAL</b>	<b>\$182,250.00</b>		<b>\$182,250.00</b>	<b>67699</b>		<b>\$67,699.29</b>
*Explain Any Discrepancies:						

## ECOSYSTEM GOALS ADDRESSED

16a. Primary Goal	Healthy Species
16b. Additional Goals	-----

## DIRECT THREATS ADDRESSED

17a. Primary Threat	-----
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	6.4
18c. Near-Term Actions Supported	

## LINKAGES TO EPA PUGET SOUND PERFORMANCE MEASURES

19. Measure(s)	-----
----------------	-------

## LINKAGES TO PUGET SOUND DASHBOARD INDICATORS

20a. Primary Indicator	-----
20b. Secondary Indicators	-----

## PROJECT LOCATION

21a. Latitude	48.444147	21b. Longitude	-122.327628
21c. Hydrologic Unit Code	17110007 - Lower Skagit	-----	-----
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”)

## 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> Skagit River juvenile steelhead survival and residualization					
<b>23b. 2012 Action Agenda Near-Term Action(s) Supported:</b>					
<b>*23c. Estimated Costs:</b>					
<b>Actual Costs to Date:</b>					
<b>(If required to report – contact your Project Manager)</b>					
23d. Sub-Task No.	23e. Sub-Task Description (include due date)	*23f. Date of Status	*23g. Status	23h. Outputs/Deliverables	*23i. Remarks
1.1	Maintain ESA take permits and HPA requests	2/3/18	COMPLETED	Permits maintained	All permits and requests have been granted.
1.2	Project Management	9/30/18	CURRENT	FEATS reports	ongoing
1.3	Maintain PIT antenna arrays	9/30/18	CURRENT	PIT antennas currently exist in Hansen Creek and Illabot Creek and a PIT antenna will be installed in Diobsud Creek this winter as part of another contract.	Repairs were made on all PIT antennas, some parts were replaced.

				PIT antennas require regular maintenance such as replacing ratchet straps that secure antennas to stream bottom, repairing damaged wires and cables, removing debris, and maintaining batteries. PIT antennas also need to be inspected for moisture or leaks in electronic enclosures and repairing seals if necessary, maintaining batteries and constant power supply.	
1.4	Implement in-river survival and residualization surveys: Static Acoustic Receiver Detection Network	9/30/18	COMPLETED	Place 10 acoustic receiver lines that will require 15 Teknologic autonomous acoustic receivers within the Skagit Basin.	We installed 10 acoustic receiver lines, using 13 Teknologic autonomous acoustic receivers. During the field season we lost 1 receiver above Marblemount. All other receivers operated above expectations. Preliminary probability of detections estimates are well above the anticipated 30% (the lowest measured probability of detection was 45%) . Receivers also maintained at least a 100 m detection range throughout the study period where detection ranges were assessed during mobile acoustic surveys
1.5	Implement in-river survival and residualization surveys: Mobile Acoustic Surveys	9/30/18	COMPLETED	Conduct mobile surveys in 80 miles of the Skagit River (From Marblemount to Fir Island) twice monthly during the life of the tag (April-July).	Six in river surveys were conducted along approximately 80 km of the Skagit River (Diobsud Creek to Fir Island). These surveys began 4/2018 and completed in 7/2018. Preliminary review shows JSAT tagged fish were detected in-river. This information will inform residualization rates. We also evaluated detection efficiencies and

					detection range during the mobile work. Detection ranges decrease in the lower stretches of the river, this may be attributed to increased urban activity.
1.6	Implement tributary survival and residualization surveys: Mark and Recapture	9/30/18	COMPLETED	Fish collection for marking will consist of five 300 meter (m) reaches within each tributary that will be placed in areas representative of the available O. mykiss habitat within that tributary. Fish will be collected twice over the year in a mark/recapture survey using a backpack electrofisher during summer (July) and fall (September).	Mark Recapture surveys were adjusted in 2018 to accommodate stream conditions. Backpack electrofishing was conducted 7/2018 through 9/2018 using a three pass method. 347 O. mykiss were PIT tagged in Hansen Creek. 241 O. mykiss were tagged in Illabot Creek. Scale and tissue samples were taken from captured O. mykiss.
1.7	Implement tributary survival and residualization surveys: Resight and Recovery	9/30/18	COMPLETED	Mobile resights refers to method of using a mobile PIT antenna to observe marked fish without handling which will be conducted with a Biomark BP portable antenna in five reaches of the tributary.	USIT collaborated with the USFS to complete multiple mobile resight/recovery surveys in both tributaries between 5/2018 and 10/2018. These surveys were conducted both with Biomark BP portable antenna and a Biomark floating antenna. Detection efficiencies varied by method and stream condition, movement patterns and detection type (live/dead) are currently being assessed, 10/2018.
1.8	Estimate in-river survival and residualization	9/30/18	CURRENT	Depending on detection rates, we will estimate apparent survival or survival with residualization following methods describe by Melnychuk et al. (2013). Similar to the tributary output, we will build encounter	Data analysis began 10/2018

				<p>histories to estimate survival and residualization from a multi-state resight/recovery model (White et al. 2006). These rates will be compared to flow and temperature.</p>	
1.9	Estimate tributary abundance, survival and residualization	9/30/18	CURRENT	<p>We will estimate reach specific abundances with variance along five reaches in Hansen Creek and four reaches in Illabot Creek and five reaches in Diobsud Creek. Abundances will be estimated once (July or August) using mark-recapture techniques that will be corrected for capture efficiency. Overall watershed abundance will be estimate through spatial modeling techniques (Kriging) from the reach level data. Summertime survival will be estimated from both abundance estimates using a multi-state mark recapture model (White et al. 2006). During winter and spring, as flows permit, we will track tagged individuals using resight/recovery techniques to identify live and dead fish (see Bowerman and Budy et al. 2012). Resight/Recovery detections will be used</p>	Data finalization, review and analysis began 10/2018

				to estimate winter survival. Both techniques along with detections at PIT antennas will be used to develop an encounter history so to estimate survival and residualization.	
1.10	Develop final report and communicate findings	9/30/18	PLANNED	Outputs will be summarized in a technical report by December 2018; We will present findings to Cooperators in 2018, however as relevant and verified information becomes available we will communicate findings to Cooperators and to the Skagit River steelhead recovery team. We will also prepare manuscripts for submission to pertinent scientific journals (e.g. Transactions of American Fisheries Society, Environmental Biology of Fishes, Freshwater Ecology, Northwest Science).	Final Report will be written at the end of 2018.
1.11			-----		
1.12			-----		
1.13			-----		
1.14			-----		

**CHALLENGES AND SOLUTIONS (specific to reporting period)**

*24a. Task No., Sub-Task No.	*24b. Challenge	*24c. Solution




**HIGHLIGHTS/LESSONS LEARNED/REFLECTIONS**

\*25.