



## 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>	10/1/2016	<b>*2b. Reporting Period End Date:</b>	3/31/2017
<b>3. Subaward Organization (Name and complete address including zip code)</b>			<b>4. Subaward Project Manager Contact Information</b>		
Name: Muckleshoot Indian tribe Address 1: 39015 172 <sup>nd</sup> Avenue S.E. Address 2: City: Auburn State: WA Zip Code: 98092-			Name: Allison Laird Phone: (253) 876-3114 Ext: Fax: (253) 939-5311 Email: allison.laird@muckleshoot.nsn.us		
<b>5a. EPA Program</b>		<b>5b. Subaward Project Title and Contract No.</b>		<b>*6. Collaborating Organizations/Partners</b>	
LO - Tribal		Soos Creek Juvenile Salmonid Outmigration Monitoring / 14EPA PSP410		Washington Department of Fish and Wildlife	

<b><u>Subawardee Submission Instructions:</u></b>  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.	<b>LO Project Manager:</b> Dani Madrone <b>LO:</b> Northwest Indian Fisheries Commission <b>Phone:</b> 360.528.4318 <b>email:</b> dmadrone@nwifc.org  <b>LO Program Coordinator:</b> <b>LO:</b> <b>Phone:</b> <b>email:</b>  <b>EPA Project Officer:</b> Lisa Chang	<b>*7a. Name/Title of Person Submitting Report</b>	Mike Mahovlich Manager, Harvest Management
		<b>*7b. Date Report Submitted</b>	4/30/2017

## FUNDING/COST ANALYSIS

8a. Total Assistance Amount Awarded:	\$112,450.00	8b. Funding Year (Federal Fiscal Year Funds Appropriated)	FY 2014 ----- ----- -----	*9. Amount Spent To-Date:	\$98,819.60	*10. Amount Reimbursed To-Date:	\$99,641.23
11. Match Amount Required	\$0.00	*12. Total Match Amount Spent and Documented To-Date:	\$0.00	*13. Have you experienced any cost overruns or high unit costs?	N/A		
*14. What issues or questions do you need the LO Project Manager to respond to?		None at this time.					

## BUDGET UPDATE

	15a. APPROVED BUDGET			*15b. SPENT TO-DATE		
	LO (EPA) Funds	MATCH	TOTAL	LO (EPA) Funds	MATCH	TOTAL
Personnel	\$87,424.00	\$0.00	\$87,424.00	\$79,065.32	\$0.00	\$79,065.32
Fringe Benefits	\$21,987.00	\$0.00	\$21,987.00	\$17,792.40	\$0.00	\$17,792.40
Travel	\$2,039.00	\$0.00	\$2,039.00	\$952.90	\$0.00	\$ 952.90
Equipment	\$0.00	\$0.00	\$ 0.00	\$0.00	\$0.00	\$ 0.00
Supplies	\$200.00	\$0.00	\$ 200.00	\$633.98	\$0.00	\$ 633.98
Contracts	\$0.00	\$0.00	\$ 0.00	\$0.00	\$0.00	\$ 0.00
Other	\$800.00	\$0.00	\$ 800.00	\$375.00	\$0.00	\$ 375.00
<b>TOTAL DIRECT CHARGES</b>	\$112,450.00	\$0.00	\$112,450.00	\$98,819.60	\$0.00	\$98,819.60
Indirect Charges	\$0.00	\$0.00	\$ 0.00	\$0.00	\$0.00	\$ 0.00
<b>TOTAL</b>	\$112,450.00	\$0.00	\$112,450.00	\$98,819.60	\$0.00	\$98,819.60
*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	A.1 A.6 D.4
18c. Near-Term Actions Supported	

## LINKAGES TO EPA PUGET SOUND PERFORMANCE MEASURES

19. Measure(s)	-----
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## LINKAGES TO PUGET SOUND DASHBOARD INDICATORS

20a. Primary Indicator	Wild Chinook Salmon
20b. Secondary Indicators	-----

## PROJECT LOCATION

21a. Latitude	47.31156	21b. Longitude	-122.16692
21c. Hydrologic Unit Code	17110013 - Duwamish	-----	-----
21d. Action Area	South Central Puget Sound	-----	-----

## 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")
Successful sub-yearling Chinook efficiency trials	Efficiency trials		11
Successful sub-yearling coho efficiency trials	Efficiency trials		6
Successful yearling coho efficiency trials	Efficiency trials		2

## 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> Soos Creek Juvenile Salmonid Outmigration Monitoring / 14EPA PSP410					
<b>23b. 2012 Action Agenda Near-Term Action(s) Supported:</b>					
*23c. Estimated Costs: \$112,450.00 Actual Costs to Date: \$98,819.60 (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	Develop QAPP	4/16/2015	COMPLETED	EPA Approved QAPP	QAPP approved by EPA 04/16/2015
1.2	Prepare for and manage project	1/2015-07/2015	COMPLETED	Coordination with WDFW's Soos Creek Hatchery, staffing, purchase and/or assembling supplies, vehicle scheduling, technician training, and supervision	Began January 2015, and pulled trap May 26, 2015 due to low water.

1.3	Install floating rotary screw trap, and check and maintain trap, including but not limited to biological sampling, recording data, and conducting trap efficiency trials.	1/2015-6/2015	COMPLETED	Catch and mark-recapture data for population estimation and other biological data	Began January 2015, and pulled trap May 26 due to low water.
1.4	Remove trap and on-site facilities to restore site to pre-project conditions	7/01/2015	COMPLETED	Compliance with provisions outlined in the projects Hydrolic Project Approval permit issued by WDFW.	All provisions in HPA were followed including site restoration following trap removal at the end of the trapping season
1.5	Perform error checks and analyze daily catch data and mark-recapture rates.	3/2015-12/2015	COMPLETED	Calculated annual juvenile population estimates and egg-to-emigrant survival; Data applied to calculate a Fulton-type condition factor and enumerate fish with visible health defects.	QA/QC and analysis of data completed December 2015
1.6	Prepare final report	8/2015-06/2017	CURRENT	A draft and final report that describes the data collected, methods, juvenile out-migrant and egg-to-emigrant survival estimates. The report will be distributed to local, state, and federal agencies and the WRIA 9 Technical Committee.	Work on this task is ongoing.

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

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

## HIGHLIGHTS/LESSONS LEARNED/REFLECTIONS

\*25.

A rotary screw trap was placed in Soos Creek to sample out-migrating juvenile salmonids in 2015 throughout the duration of the juvenile Chinook out-migration period, and pulled out of the water on May 24, 2015 due to low flows. An estimated 76,037 ( $\pm 16,223$ ) sub-yearling Chinook and 8,963 ( $\pm 1,824$ ) yearling coho emigrated from the Soos Creek Basin from January 8 to May 24, 2015. Egg-to-emigrant survival rates are estimated at 23% for sub-yearling Chinook and 0.3% for yearling coho (assumes all coho from Brood Year 2013 reared for 1 year upstream of screw trap before emigrating as yearling coho). BY13 Yearling coho egg-to-emigrant survival rates are the lowest since trapping Soos Creek in 2012.

Low survival might correlate with the increase of fish caught with visible external abnormalities common with *Nanophyetus* in Soos Creek in 2015. Fish with visible Impairments common with *Nanophyetus* were documented upon catch to compare infection rates through time. During the 2015 out-migration season 0.04% of the Sub-yearling Chinook and coho showed impairments common with *Nanophyetus*, whereas 9.5% of the Yearling coho showed signs of infection. Yearling coho captured in January show visible abnormalities common with *N. salmincola* infection (saprolegnia, hemorrhage on fins and eyes, bulging eyes, and fin erosion), while sub-yearling Chinook and coho didn't show signs until early April. *N. salmincola* is known to have a spring and fall pulse when the juga snail sheds the cercariae, which has been theorized to be related to water temperature and duration of daylight. Based on the data yearling coho are showing signs much earlier than the sub-yearlings, pointing towards infection from the fall pulse from the previous year, whereas sub-yearling salmonids are susceptible to the spring pulse which seems to occur in early April based on the data obtained in 2013-2016. The majority (90% + of emigrants) of sub-yearling Chinook, chum, and pink salmon emigrate from Soos basin before the spring pulse of the shed cercariae, increasing their chances of survival on their seaward migration from this parasite. This juvenile life history strategy of emigrating from Soos Basin as sub-yearlings should increase freshwater survival opposed to salmonids that rear in Soos basin for at least a year (coho, and steelhead).

A draft and final report is currently being prepared.