



## 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-00J276-01	<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: Sauk-Suiattle Indian Tribe Address 1: 5318 Chief Brown Lane Address 2: City: Darrington State: WA Zip Code: 98241-			<b>4. Subaward Project Manager Contact Information</b> Name: Scott Morris Phone: (360) 436-347 Ext: Fax: (360) 436-647 Email: smorris@sauk-suiattle.com		
<b>5a. EPA Program</b>  <b>LO - Tribal</b>	<b>5b. Subaward Project Title and Contract No.</b>  Sauk-Suiattle Restoration and Research / 16EPA PSP426	<b>*6. Collaborating Organizations/Partners</b>  Washington Conservation Corps (WCC) U.S. Geological Survey (USGS) Skagit Fisheries Enhancement Group (SFEG) Northwest Indian Fisheries Commission (NWIFC)			

<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> Northwest Indian Fisheries Commission  <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>	<b>*7a. Name/Title of Person Submitting Report</b>	Scott Morris Water Quality Coordinator
		<b>*7b. Date Report Submitted</b>	10/31/2018

	<b>EPA Project Officer:</b> Lisa Chang
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## FUNDING/COST ANALYSIS

<b>8a. Total Assistance Amount Awarded:</b>	\$184,100.00	<b>8b. Funding Year (Federal Fiscal Year Funds Appropriated)</b>	FY 2016 ----- ----- -----	<b>*9. Amount Spent To-Date:</b>	\$158,454.86	<b>*10. Amount Reimbursed To-Date:</b>	\$157,386.00
<b>11. Match Amount Required</b>	\$0.00	<b>*12. Total Match Amount Spent and Documented To-Date:</b>		<b>*13. Have you experienced any cost overruns or high unit costs?</b>	no.		
<b>*14. What issues or questions do you need the LO Project Manager to respond to?</b>	none so far.						

## BUDGET UPDATE

	15a. APPROVED BUDGET			*15b. SPENT TO-DATE		
	LO (EPA) Funds	MATCH	TOTAL	LO (EPA) Funds	MATCH	TOTAL
<b>Personnel</b>	\$11,493.00	\$0.00	\$11,493.00	\$10,980.87		\$10,980.87
<b>Fringe Benefits</b>	\$4,137.00	\$0.00	\$4,137.00	\$4,243.14		\$4,243.14
<b>Travel</b>	\$0.00	\$0.00	\$ 0.00			\$ 0.00
<b>Equipment</b>	\$0.00	\$0.00	\$ 0.00			\$ 0.00
<b>Supplies</b>	\$218.00	\$0.00	\$ 218.00			\$ 0.00
<b>Contracts</b>	\$161,607.00	\$0.00	\$161,607.00	\$136,939.75		\$136,939.75
<b>Other</b>	\$0.00	\$0.00	\$ 0.00			\$ 0.00
<b>TOTAL DIRECT CHARGES</b>	\$177,455.00	\$0.00	\$177,455.00			\$ 0.00
<b>Indirect Charges</b>	\$6,645.00	\$0.00	\$6,645.00	\$6,291.10		\$6,291.10
<b>TOTAL</b>	\$184,100.00	\$0.00	\$184,100.00	\$158,454.86		\$158,454.86
<b>*Explain Any Discrepancies:</b>						

## ECOSYSTEM GOALS ADDRESSED

<b>16a. Primary Goal</b>	Healthy Habitat
<b>16b. Additional Goals</b>	Healthy Species -----

## DIRECT THREATS ADDRESSED

<b>17a. Primary Threat</b>	Invasive Species - Terrestrial
<b>17b. Secondary Threat(s)</b>	Climate Change -----

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

<b>18a. Primary Strategic Initiative</b>	Tribal Habitat Priorities
<b>18b. Sub-Strategies Employed</b>	15.3 15.4 5.1 26.3 5.1 5.2
<b>18c. Near-Term Actions Supported</b>	

## LINKAGES TO EPA PUGET SOUND PERFORMANCE MEASURES

<b>19. Measure(s)</b>	Habitat Restored/Protected -----
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## LINKAGES TO PUGET SOUND DASHBOARD INDICATORS

<b>20a. Primary Indicator</b>	Floodplains
<b>20b. Secondary Indicators</b>	Freshwater Quality Wild Chinook Salmon -----

## PROJECT LOCATION

<b>21a. Latitude</b>	48.311740	<b>21b. Longitude</b>	-121.544622
<b>21c. Hydrologic Unit Code</b>	17110006 - Sauk	-----	-----
<b>21d. Action Area</b>	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")
Area surveyed for knotweed in Sauk and Suiattle watersheds (knotweed summer only)	acres	4500	4500
Percentage of knotweed patches in survey area determined "dead" (ie: no resurgence)	percent	80	93
Total area of land cleared of knotweed since beginning of project	square feet	250000	375,561
Calculate a sediment rating curve to predict total daily bedload transport as a function of discharge at Sauk River at Darrington reach	rating curve	1	0
Depth of scour at specific discharge on the Sauk River	sites with depth at discharge data	25	7
Calculate estimates for annual suspended sediment concentrations (SSC) for upper Suiattle + one sub-basin.	SSC	2	0

## 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> Eradicate knotweed from the Sauk and Suiattle watersheds					
<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	Develop a QAPP addendum to update management, personnel, timelines, goals and protocols, as necessary.	9/30/17	COMPLETED	Approved QAPP, if needed.	No new protocols, thus no QAPP addendum needed.
1.2	11 days (with 2 overnights) of GPS surveying and treatment of knotweed in the Sauk River floodplain from River	8/23/17	COMPLETED	Field data.	Previous reporting period: WCC crew worked for Sauk-Suiattle Indian Tribe (SSIT) from July 10

	Mile 15 down to Skagit River confluence (RM 0) access by raft.				through Aug. 23, which included covering all the lower Sauk by raft.
1.3	Five days of crew time for additional treatment accessing Sauk River floodplain on foot.	8/23/17	COMPLETED	Field data.	Previous reporting period: WCC crew accessed various areas on foot, as in past years.
1.4	Eight days combined landowner outreach and spraying of knotweed in and near the Town of Darrington, access by vehicle and foot.	9/30/17	COMPLETED	Field data.	Previous reporting period: Less time was spent in Darrington by the WCC crew, because forest fires called the crew away for a few days, so we prioritized the river for that crew. SSIT Field Coordinator Joe McConaughy and Water Quality Coordinator Scott Morris worked with landowners in Darrington and sprayed patches in and near town.
1.5	Four days of landowner outreach, geographic positioning system (GPS) survey and spraying of knotweed in the Sauk Prairie area, access by vehicle and foot.	9/30/17	CANCELLED	Field data.	Previous reporting period: A combination of factors conspired against treatment on Sauk Prairie in 2017. Landowners are highly resistant on much of the prairie, particularly where knotweed exists. Previous patches where landowners are more cooperative do not appear to have returned. And the WCC crew was diverted to a forest fire for a few days, forcing us to prioritize the river, where knotweed is typically more mobile.
1.6	During the off-season, SSIT Water Quality Coordinator and SSIT Field Coordinator will collaborate with SFEG, WCC, Snohomish County and the rest of the Skagit CWMA review and assess previous field season and data to plan the upcoming field season.	11/20/17	COMPLETED	The annual Skagit CWMA report detailing results, which include number of patches of knotweed identified, acres of knotweed sprayed and amount of pesticide used. The report also tracks resurgence of knotweed patches sprayed in previous years and updates GIS	This year's CWMA meeting was Nov. 20 at Padilla Bay. The SSIT Natural Resources Field Coordinator assessed the 2017 field data, compiled it into spreadsheets and mapped it using ArcGIS software to compare to previous years. Joe and Scott presented the results and some maps illustrating progress to the CWMA partners. Joe also participated in a subgroup of the CWMA dedicated to finding ways

				data and maps showing old and new patches.	to expand the work downstream on the mainstem Skagit River, using separate funding in summer 2018.
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**23a. Subaward Work Plan Component/Task:** Study sediment production from sub-basins of the Suiattle River

**23b. 2012 Action Agenda Near-Term Action(s) Supported:**

**\*23c. Estimated Costs:**  
**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	Develop a Quality Assurance Project Plan (QAPP) addendum to update management, personnel, timelines, goals and protocols, as necessary.	8/3/17	COMPLETED	Updated QAPP, if applicable	Protocols were the same, only updates were new sites, QAPP alteration form was turned in to NWIFC project officer.
2.2	Set up monitoring equipment to measure suspended sediment and flow at one nonglacial-sourced sub-basin in the Suiattle River watershed during the winter storm and spring freshet season.	4/30/18	COMPLETED	Continuous turbidity and flow data.	A DTS-12 turbidimeter and stage level logger were installed in Downey Creek just upstream of the Suiattle confluence.
2.3	SSIT and USGS crews will conduct weekly field inspections to verify sensor measurements, calibrate and maintain the field sensors, with technical support from USGS.	4/30/18	COMPLETED	Field notes, audit logs.	Regular field visits were made by SSIT crews, with occasional additional visits by USGS crews.
2.4	Set up monitoring equipment to measure suspended sediment and measure flow at one glacial-sourced sub-basin in the Suiattle River watershed during the summer season.	4/30/18	COMPLETED	Continuous turbidity data, plus at least three flow measurements (at installation, plus one calibration visit mid-summer and at retrieval.)	A DTS-12 turbidimeter and stage level logger were installed in the Suiattle River near the Pacific Crest Trail.

**23a. Subaward Work Plan Component/Task:** Determine the bedload transport rates and feasibility of using acoustic surrogate methods in the Sauk River

**23b. 2012 Action Agenda Near-Term Action(s) Supported:**

**\*23c. Estimated Costs:**

**Actual Costs to Date:**

**(If required to report – contact your Project Manager)**

<b>23d. Sub-Task No.</b>	<b>23e. Sub-Task Description (include due date)</b>	<b>*23f. Date of Status</b>	<b>*23g. Status</b>	<b>23h. Outputs/Deliverables</b>	<b>*23i. Remarks</b>
3.1	Develop a Quality Assurance Project Plan (QAPP) addendum to update management, personnel, timelines, goals and protocols, as necessary.	6/26/17	COMPLETED	Updated QAPP.	QAPP was revised to include this new bedload project.
3.2	Build and install hydrophone-based underwater sound recording systems at two potential bedload monitoring sites on the Sauk River.	9/30/17	COMPLETED	Field notes, audio recording data.	Hydrophones were installed by USGS and SSIT crews in September 2017 at four sites near the Sauk Prairie Road bridge on the Sauk River at the Hampton Lumber Mill.
3.3	Measure bedload transport at one study site during storm events.	9/30/17	CURRENT	Field notes, bedload transport data at range of particle sizes, streamflow discharge measurements	USGS and SSIT crews sampled from the Sauk River at Darrington site during a storm in February.
3.4	Download, post-process, and analyze data.	9/30/17	CURRENT	Continuous time series of SGN and estimated bedload transport rates, preliminary written summary of provisional data.	Some data to date has been downloaded and transferred to Matt Marineau of USGS, who has studied and graphed the signals to see if they track well with the hydrograph. Data so far appears to be usable, despite some hydrophones getting buried during storms.
3.5	Archive data and present summary of findings.	9/30/17	CURRENT	Archived acoustic and bedload data. Presentation of findings.	Still premature for this sub-task but data collection has proceeded on schedule (see 3.4.)

**23a. Subaward Work Plan Component/Task:** Determine the scour rates for salmon redds along the Sauk River

**23b. 2012 Action Agenda Near-Term Action(s) Supported:**



<b>*23c. Estimated Costs:</b>					
<b>Actual Costs to Date:</b>					
<b>(If required to report – contact your Project Manager)</b>					
<b>23d. Sub-Task No.</b>	<b>23e. Sub-Task Description (include due date)</b>	<b>*23f. Date of Status</b>	<b>*23g. Status</b>	<b>23h. Outputs/Deliverables</b>	<b>*23i. Remarks</b>
4.1	Develop a Quality Assurance Project Plan (QAPP) addendum to update management, personnel, timelines, goals and protocols, as necessary.	6/26/17	COMPLETED	Updated QAPP.	QAPP was revised to include this new redd scour project
4.2	Install 20 accelerometer scour monitors (ASM) near one of three USGS gages on the Sauk River.	8/30/17	COMPLETED	Field notes, GPS results for site locations and deployment elevations, map. Summary report of data.	Almost 20 accelerometers were installed near the Sauk above White Chuck gage, and another roughly 20 were installed downstream on the Sauk River near the mouth of Dan Creek.

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

<b>*24a. Task No., Sub-Task No.</b>	<b>*24b. Challenge</b>	<b>*24c. Solution</b>
4.2	Original idea in grant proposal was to install accelerometers at three sites (one per separate water years) on the Sauk River, but this was a miscommunication between SSIT and USGS. The actual, more efficient plan all along for USGS was to install full sets of accelerometers at two different sites simultaneously during the same water year, then remove them all the following late summer (2018).	We opted to follow Andy Gendaszek's advice to install all the accelerometers during the same water year, at two different sites. Methods and protocols are the same, nothing has changed regarding the QAPP. The only thing that has changed is correcting an error on SSIT's part assuming that data collection would be spread out over two water years, one year at each site. Instead, we will collect data simultaneously at two sites during the same year.
3.5	USGS crews were unable to sample as many storms as we would have liked, and thus are proposing to collect hydrophone data for one more storm season (ie: Oct thru May) to get a few more samples to improve the statistical significance of the eventual report.	Get landowner permission for another year of access for the hydrophones, include roughly \$10,000 additional funding in the next round of this grant for this extension of the project. USGS will fund the rest of the extra costs. If these don't come together, a report can still be completed, but the extension seems reasonable and likely.

**HIGHLIGHTS/LESSONS LEARNED/REFLECTIONS**

\*25.