EPA Puget Sound Financial and Ecosystem Accounting Tracking System (FEATS)

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

PROJECT INFORMATION

1. Federal Grant Number	PA-00J322-01	*2a. Reporting Period Start Date:	3/31/2015	*2b. Reporting Period End Date:	9/30/2015

3. Recipient Organization (Name and complete address including zip code)	4. 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) 722-6543 Ext: Fax: (360) 435-3605 Email: ggray@stillaguamish.com

5a. Program (RFP)	5b. Project Title	*6. Collaborating Organizations/Partners
Tribal Projects	Studies on the Sources and Potential Treatment of Land-Based Pollutant Runoff	☐ **Subawardee**

Submission Instructions: EPA fills in the white boxes. Grantee fills in the yellow boxes (boxes with asterisks). Refer to guidance document for how to fill out the boxes. After completing the form, save and e-mail it to the Project Officer and cc: the Technical Monitor.	**Project Officer:** Lisa Chang **U.S. Environmental Protection Agency** **Email:** chang.lisa@epa.gov **Technical Monitor:** Daniel Steinborn **U.S. Environmental Protection Agency** **Email:** steinborn.daniel@epa.gov

*7a. Name/Title of Person Submitting Report	Ragina Gray Director-In-Training
*7b. Date Report Submitted	10/30/2015

FUNDING/COST ANALYSIS

8a. Total EPA Assistance Amount Awarded:	$255,373.00	**8b. Funding Year (Federal Fiscal Year Funds Appropriated)**	FY 2011 ---------- ---------- ----------	***9. Total EPA Amount Expended To-Date:**	$234,759.55	***10. Funds Drawn Down from EPA To-Date:**	$215,290.26
11. Match Amount Required	$0.00	***12. Total Match Amount Expended and Documented To-Date:**	$0.00	***13. Have you experienced any cost overruns or high unit costs?**	no		
***14. What issues or questions do you need the EPA Project Officer or Technical Monitor to respond to?**	none						

BUDGET UPDATE

	15a. APPROVED BUDGET			*15b. SPENT TO-DATE		
	EPA	MATCH	TOTAL	EPA	MATCH	TOTAL
Personnel	$74,798.00		$74,798.00	$77,613.49		$77,613.49
Fringe Benefits	$28,274.00		$28,274.00	$29,006.82		$29,006.82
Travel	$0.00		$ 0.00	$0.00		$ 0.00
Equipment	$6,881.00		$6,881.00	$9,962.38		$9,962.38
Supplies	$31,700.00		$31,700.00	$31,210.29		$31,210.29
Contracts	$70,450.00		$70,450.00	$42,939.40		$42,939.40
Other	$2,468.00		$2,468.00	$3,577.51		$3,577.51
TOTAL DIRECT CHARGES	$214,572.00		$214,572.00	$194,309.89		$194,309.89
Indirect Charges	$40,801.00		$40,801.00	$40,449.66		$40,449.66
TOTAL	$255,373.00		$255,373.00	$234,759.55		$234,759.55
***Explain Any Discrepancies:**	"Contract" line is "Professional Services" in the original budget. "Other" line is "Communications / Utilities" in the original budget.					

ECOSYSTEM GOALS ADDRESSED

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

DIRECT THREATS ADDRESSED

17a. Primary Threat	Surface Water Loading/Runoff from the Built Env
17b. Secondary Threat(s)	Invasive Species - Terrestrial ---------- ----------

LINKAGES TO PUGET SOUND ACTION AGENDA

18a. Strategic Priorities Employed	**Priority A Priority B Priority C Priority D ----------**
18b. Near-Term Actions Supported	
18c. Other Actions Supported	

LINKAGES TO EPA PUGET SOUND MEASURES

19. Measure(s)	Habitat Restored/Protected ---------- ----------

LINKAGES TO PUGET SOUND DASHBOARD INDICATORS

20a. Primary Indicator	Freshwater Quality Index
20b. Additional Indicators	---------- ---------- ---------- ---------- ----------

PROJECT LOCATION

21a. Latitude	48.209575	**21b. Longitude**	-122.285414
21c. Hydrologic Unit Code	17110008 - Stillaguamish	----------	----------
21d. Action Area	Whidbey	----------	----------

MEASURES OF SUCCESS (Key Grant 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 - Collection of stormwater samples at various outfal locations in cooperation with Cities of Arlington and Stanwood	samples	20	3
Task 1 - Development of plans to implement a project directed at reducing stormwater pollutants to freshwater	Stormwater BMP project	1	1
Task 2 - Mycogardens planted	gardens	2	2
Task 3 - Control invasive weeds, plant and maintain riparian vegetation	acres	20	20

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. Work Plan Component/Task: Stormwater Outfall Monitoring and BMP Implementation

23b. Action Agenda Action(s) Addressed: A.3, C.2, D.5 Monitor stormwater outfalls for pollutants to identify sources for the goals of protecting freshwater resources, improving rules and regulations compliance, and develop better management and monitoring systems for toxics

***23c. Estimated Costs:** $65,814.00
Actual Costs to Date: $45,850.39
(If required by PO)

23d. Sub-Task No.	23e. Sub-Task Description	*23f. Date	*23g. Status	23h. Outputs/Deliverables	*23i. Remarks
1.1	Develop a Quality Assurance Project Plan Addendum	3/31/13	COMPLETED	EPA approved QAPP Addendum	QAPP Addendum has been completed.
1.2	Continue to coordinate and dialog with local governments on stormwater monitoring and implementation of appropriate BMP's.	3/31/15	COMPLETED	Increased cooperation and partnership with local city governments; Notes from meetings with city of Arlington and/or Stanwood.	We are currently working with WSDOT and the City of Arlington on stormwater designs drafted by Anchor QEA, LLC., the contractor we hired for the design. Meetings will be held in May 2015.
1.3	Continue to monitor an estimate of five stormwater conveyances using ISCO	9/30/14	COMPLETED	QA/QC'd data summarizing	This was modified. Instead of collecting samples to test for

	samplers and Hydrolab multi-probe meter.			concentrations of pollutants from stormwater discharge systems within the Stillaguamish Watershed	pollutants in the stormwater we collected water elevation data that was imperative for the development of the bioswale designs. The data we collected was from data loggers we purchased that recorded water elevation in the infiltration trench and Portage Creek in 15 minute intervals. The data show how frequently the infiltration trench became overwhelmed with stormwater and
1.4	Implement a BMP/restoration project.	9/30/15	CANCELLED	A project implemented directed at reducing pollutants from stormwater into freshwater.	As mentioned in the previous semi-annual, we found out that costs to implement a project were quite high ($400-800,000). We focused mainly on completing designs that would satisfy requirements from WSDOT and the City of Arlington. As a result we canceled the implementation of a project and completed designs that will be brought to WSDOT and City of Arlington to discuss how to fund implementation.
1.5	Develop a final project report outlining the results of the monitoring (pre and post BMP implementation), describing the type of BMP implemented, reasons for doing so, and successes and failures associated with the project as a whole.	9/30/15	COMPLETED	Final Project Report.	We have completed a final project report with attached design plans and water level data.

23a. Work Plan Component/Task: Mycofiltration Gardens for Land-based Runoff Treatment

23b. Action Agenda Action(s) Addressed: C.2 Install mycofiltration gardens to treat polluted land-based runoff brior to entering conveyance systems

***23c. Estimated Costs:** $25,690.00
Actual Costs to Date: $21,970.40
(If required by PO)

23d. Sub-Task No.	23e. Sub-Task Description	*23f. Date	*23g. Status	23h. Outputs/Deliverables	*23i. Remarks
2.1	Develop a Quality Assurance Project Plan Addendum	6/30/13	COMPLETED	EPA approved QAPP Addendum	QAPP addendum approved
2.2	Determine on-site locations for installing fungal gardenand collecting water and soil samples. Conduct preliminary soil and water testing to identify the presence of fecal coliform and excess nutrients. Confirm most suitable on-site location after results reviewed.	3/31/15	COMPLETED	Detailed plans and site preparation for further mycoremediation installations on local farms to complete water / soil sample regimes.	Garden site selected and preliminary water testing was done by Ecology as part of a different study, but drove our decision to place one here.
2.3	Determine if current fungal garden should be continued after reviewing results.	3/31/15	COMPLETED	Review sampling results and overall productiity of currently installed gardens.	Garden #2 left to nature and was not sampleable, garden #3 failed due to unusually hot weather and bags may have to be removed from ditch.
2.4	Order mycobags, native vegetation, straw, and other necessary supplies. Prepare land and install myco-gardens.	3/31/15	COMPLETED	Up to two fungal gardens planted	Supplies ordered and third garden installed.
2.5	Monitor growth of fungal garden. Continue monitor testing on monthly intervals of upslope and down slope water and soil conditions. Conduct additional testing once a month during rain events, as costs allow.	3/31/15	COMPLETED	QA/QC'd data outlining concentrations of pollutants above and below fungal gardens	Garden monitored through summer and early autumn, but conditions were too dry for water sampling.
2.6	Present outcome of project activities, including cost-benefit analysis, with local stakeholder groups: Stillaguamish Watershed Council, Marine Resources Committee, Clean Water District	3/31/15	PLANNED	Outreach of project outcome will be provided to watershed stakeholders	Final report will be made available to stakeholders.
2.7	Develop final project report	3/31/15	PLANNED	Final project report	Set for December 2015

23a. Work Plan Component/Task: Riparian Planting of Native Vegetation and Eliminate Invasive and Non-native Weeds in the Stillaguamish Watershed

23b. Action Agenda Action(s) Addressed: A.5, B.1 Implementing a targeted and strategic effort to eradicate invasive species that impair a priority freshwater riparian ecosystem.

***23c. Estimated Costs:** $163,869.00
Actual Costs to Date: $166,938.76
(If required by PO)

23d. Sub-Task No.	23e. Sub-Task Description	*23f. Date	*23g. Status	23h. Outputs/Deliverables	*23i. Remarks
3.1	Control invasive and/or noxious weeds within a 20 acre work area utilizing a combination of mechanical efforts and herbicide application	10/30/12	COMPLETED	Weed control (20 acres)	Initial weed control completed (20 acres)
3.2	Plant native vegetation within the 20-acre work area. to enhance riparian vegetation communities.	9/30/13	COMPLETED	Floodplain riparian planting (20 acres)	Riparian planting completed (20 acres) with 9,920 native plants
3.3	Conduct maintenance activities, including weed control and construction of exclusion fencing, where necessary, to promote plant establishment.	9/30/13	COMPLETED	Fencing (up to 1000 linear feet)	Exclusion fencing complete (1000 feet)

23a. Work Plan Component/Task:

23b. Action Agenda Action(s) Addressed:

***23c. Estimated Costs:**
Actual Costs to Date:
(If required by PO)

23d. Sub-Task No.	23e. Sub-Task Description	*23f. Date	*23g. Status	23h. Outputs/Deliverables	*23i. Remarks
			----------		

23a. Work Plan Component/Task:
23b. Action Agenda Action(s) Addressed:
***23c. Estimated Costs:** **Actual Costs to Date:** **(If required by PO)**

23d. Sub-Task No.	23e. Sub-Task Description	*23f. Date	*23g. Status	23h. Outputs/Deliverables	*23i. Remarks
			----------		

CHALLENGES AND SOLUTIONS (specific to reporting period)

*24a. Task No., Sub-Task No.	*24b. Challenge	*24c. Solution
1.4 Implement a BMP/restoration project.	This was discussed in the previous report, but the issue remains that we were not able to implement a project despite our desire to do so. We grossly underestimated costs to do so in the development of the funding request. We did however develop design plans in which we encountered challenges with getting approval from both the WSDOT and City of Arlington.	We had a meeting on July 9, 2015 with representatives from WSDOT, City of Arlington, the Tribe, and Anchor QEA to discuss the concerns all parties had on the draft designs. The concerns from the WSDOT and COA were taken into consideration in the second version of the designs.
2.misc	The challenge this quarter was that once we installed the mycogarden, we had no rain.	We installed a rain barrel drip system to keep the garden hydrated. However, this proved insufficient, as water was not evenly distributed and the mycobags both rotted out and grew a different species of fungus.

HIGHLIGHTS/LESSONS LEARNED/REFLECTIONS

***25.**

Task 1. It turned out that our water level data collection was valuable in the development of bioswale designs. It helped show how frequently the infiltration trench could not support storm flows, which was imperative for the designs. Also, the designs developed for this project are stated as preliminary (or 30% design), however, Anchor QEA has stated that they are more like 90% desgin.

Task 2. The mycogardens require very specific conditions to thrive. Outside of a natural setting where they may become integrated with the local ecosystem, they are not self-sustaining.