



# 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> | 4/1/2018  | <b>*2b. Reporting Period End Date:</b> | 9/30/2018 |
| <b>3. Subaward Organization (Name and complete address including zip code)</b><br>Name: Tulalip Tribes<br>Address 1: 6404 Marine Drive<br>Address 2:<br>City: Tulalip State: WA Zip Code: 98271- |   |  | <b>4. Subaward Project Manager Contact Information</b><br>Name: Todd Zackey<br>Phone: (360) 716-4636 Ext:<br>Fax: ( ) -<br>Email: tzackey@tulaliptribes-nsn.gov |  |           |
| <b>5a. EPA Program</b><br><br>LO - Tribal  | <b>5b. Subaward Project Title and Contract No.</b><br><br>FY 2017 Noncompetitive Tribal Projects for Restoration and Protection of Puget Sound / 17EPA PSP440 |  | <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<br/> <b>LO:</b> Northwest Indian Fisheries Commission<br/> <b>Phone:</b> 360.528.4318<br/> <b>email:</b> dmadrone@nwifc.org</p> <p><b>LO Program Coordinator:</b><br/> <b>LO:</b><br/> <b>Phone:</b><br/> <b>email:</b></p> <p><b>EPA Project Officer:</b> Lisa Chang</p> | <b>*7a. Name/Title of Person Submitting Report</b> | Todd Zackey<br>Program Manager |
|   |  | <b>*7b. Date Report Submitted</b>                  | 10/31/2018                     |

## FUNDING/COST ANALYSIS

|   |              |   |                                    |   |             |                                 |   |
|---|--------------|---|------------------------------------|---|-------------|---------------------------------|---|
| 8a. Total Assistance Amount Awarded:  | \$182,250.00 | 8b. Funding Year (Federal Fiscal Year Funds Appropriated) | FY 2017<br>-----<br>-----<br>----- | *9. Amount Spent To-Date:                                       | \$67,445.05 | *10. Amount Reimbursed To-Date: | 0 |
| 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                   | \$54,176.00          |       | \$54,176.00  | \$27,844.31         |       | \$27,844.31 |
| Fringe Benefits             | \$12,083.00          |       | \$12,083.00  | \$6,711.53          |       | \$6,711.53  |
| Travel                      | \$0.00               |       | \$ 0.00      |                     |       | \$ 0.00     |
| Equipment                   | \$11,500.00          |       | \$11,500.00  |                     |       | \$ 0.00     |
| Supplies                    | \$15,563.00          |       | \$15,563.00  | \$1,143.15          |       | \$1,143.15  |
| Contracts                   | \$69,405.00          |       | \$69,405.00  | \$24,210.00         |       | \$24,210.00 |
| Other                       | \$0.00               |       | \$ 0.00      |                     |       | \$ 0.00     |
| <b>TOTAL DIRECT CHARGES</b> | \$162,727.00         |       | \$162,727.00 | 59908.99            |       | \$59,908.99 |
| Indirect Charges            | \$19,523.00          |       | \$19,523.00  | 7536.06             |       | \$7,536.06  |
| <b>TOTAL</b>                | \$182,250.00         |       | \$182,250.00 | \$67,445.05         |       | \$67,445.50 |
| *Explain Any Discrepancies: |                      |       |              |                     |       |             |

## ECOSYSTEM GOALS ADDRESSED

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

## 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.1.1    A.1.2    A.6.1    A.6.3    A.6.4    B.2.2    B.5.3    D.4.2    D.4.1.1    A.7.1 |
| 18c. Near-Term Actions Supported  |  |

## LINKAGES TO EPA PUGET SOUND PERFORMANCE MEASURES

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

## LINKAGES TO PUGET SOUND DASHBOARD INDICATORS

|                           |  |
|---------------------------|--|
| 20a. Primary Indicator    | Estuaries  |
| 20b. Secondary Indicators | Wild Chinook Salmon    Floodplains    Freshwater Quality    Stream Flows |

## PROJECT LOCATION

|                           |                      |                |          |
|---------------------------|----------------------|----------------|----------|
| 21a. Latitude             | 48°01'N              | 21b. Longitude | 122°09'W |
| 21c. Hydrologic Unit Code | 17110011 - Snohomish | -----          | -----    |
| 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”) |
|---|----------------------------|---------------------------------|--|
|   |                            |                                 |  |
|   |                            |                                 |  |
|   |                            |                                 |  |
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|   |                            |                                 |  |

## 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> Monitoring ecosystem response to the Qwuloolt restoration Project and climate change in the Snohomish River estuary and Whidbey Basin drainage |   |                      |              |  |                                       |
|---|---|----------------------|--------------|--|---------------------------------------|
| <b>23b. 2012 Action Agenda Near-Term Action(s) Supported:</b>   |   |                      |              |  |                                       |
| <b>*23c. Estimated Costs:</b><br><b>Actual Costs to Date:</b><br><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   | Engage in project management including, project reporting, grant budget management, and assuring all grant requirements are met. The Principle Investigator (PI) will be responsible for managing and coordinating the subcontract, the monitoring effort, ensuring QA/QC procedures are met, and the final project report. | 9/30/2018            | CURRENT      | Outputs: Reporting on project updates, budgets, and task accomplishment.<br><br>Deliverables: FEATS reports and updates. | two FEATS reports have been completed |

|     |   |           |           |   |  |
|-----|---|-----------|-----------|---|--|
| 1.2 | Develop QAPP Addendum if required   | 9/30/2018 | COMPLETED | <p>Outputs: Continued development of a monitoring plan for the Snohomish Estuary and Whidbey Basin drainage.</p> <p>Deliverables: NWIFC approved QAPP.</p>  | Using existing QAPP this will be the last year we are able to use the current QAPP and it will have to be updated next year  |
| 1.3 | <p>Continue developing a cooperative and coordinated effort, pooling resources from all Snohomish estuary stakeholders and project proponents. The aim of the coordination is to conduct effective and relevant monitoring efforts, fill data gaps, implement adaptive management in light of changing climatic conditions, and seek further support to continue the necessary monitoring needs of the Snohomish estuary.</p>   | 9/30/2018 | CURRENT   | <p>Outputs: Expand and formalize collaboration on monitoring across restoration projects and throughout the rest of the estuary.</p> <p>Deliverables: Estuary Working Group presentation on monitoring results, strategies and collaborative opportunities.</p>   | We worked with NOAA NWFSC and Snohomish County Surface Water Management Dept staff to conduct monitoring effort in Snohomish River Estuary in 2018. We   |
| 1.4 | <p>Data will be collected to assess the current conditions across the Snohomish Estuary system, the biological, physical, and water chemistry changes at the Qwuloolt estuary restoration project and long-term monitoring sites will be assessed to track long-term changes in the estuary. Across the estuary, biological data will be collected for fish assemblages residing in the estuary. If determined to fall within scope of the STORET database, applicable data will be uploaded.</p> | 9/30/2018 | CURRENT   | <p>Outputs: Completion of 2018 restoration project and system-wide monitoring efforts as well as long-term monitoring efforts. 2018 system-wide fish sampling data file (assemblage composition, abundance, distribution). 2018 bird surveys of the Qwuloolt restoration site and reference sites. One Qwuloolt site specific bathymetric surveys and Snohomish Estuary-wide bathymetry. Applicable data will be uploaded to STORET determined to</p> | <p>Data collection utilizing FY2017 funds began in March 2018 when previous FY 2016 funds had been expended for data collection in the estuary. The intensive fish sampling effort ended in August 2018. We have reduced our fish monitoring effort to 1 day a month for the Qwuloolt site. Bird surveys have been conducted once every two months and at least one more bird survey is set for 2018. Most of the fish data has been entered into a database and is currently being QA/QCd. Current monitoring efforts in the fall include reading sediment accretion rates from Sediment Elevation Tables and vegetation surveys of the Qwuloolt site</p> |

|     |   |           |         |  |   |
|-----|---|-----------|---------|--|---|
|     |   |           |         | be within the scope of the database.   |   |
| 1.5 | Report on conditions and trends of Snohomish Estuary habitats and restoration projects, with analysis and write-up primarily focused on Snohomish Estuary fish monitoring | 9/30/2018 | PLANNED | <p>Outputs: Data to assess estuary-wide and restoration including specific changes to bathymetry, fish catch numbers and lengths by species, bird species and counts, and water chemistry data.</p> <p>Deliverables: Completion of Snohomish Estuary monitoring report for the 2018.</p> | We will begin the data analysis and write up once the data has been QA/QCd. |

| <b>23a. Subaward Work Plan Component/Task:</b> Monitoring water resources on the Tulalip Reservation |  |                      |              |  |  |
|--|--|----------------------|--------------|--|--|
| <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  |
| 2.1  | Engage in project management, including project reporting, grant budget management, and assuring all grant requirements are met  | 9/30/2018            | COMPLETED    | <p>Outputs: Reporting on project updates, budgets, and task accomplishment.</p> <p>Deliverables: FEATS reports and updates.</p>  | This is the 2nd FEATS report for this task   |
| 2.2  | Continue the USGS subcontract to operate the four stream gauges located on two streams on the Tulalip Reservation: Tulalip Creek (EF, WF, and mainstem) and Mission (Battle) Creek | 9/30/2018            | COMPLETED    | <p>Outputs: Continued stream gauging on the Tulalip Reservation. Continuous, precise, quantifiable records of maximum, minimum, and mean daily discharge available by telemetry from the four stream gauges and made readily available using standard USGS protocols (e.g. real-time flow conditions). Gauging data can be downloaded from the USGS National Water</p> | The portion of the hydrologic monitoring of reservation streams funded by this grant have been completed all of the data from the stream gauges can be |

|   |  |  |   |  |
|---|--|--|---|--|
| <p>(mainstem). Use these gauge data to preserve, maintain, and archive critical baseline surface water flow data on the Tulalip Reservation for the management and preservation of adequate water supplies that meet the needs of fish, wildlife, plants and their habitats on the Tulalip Reservation. Flow data collected from the five stream gauges will be uploaded to STORET either by USGS staff or by Tulalip Tribes staff through the assistance of the NWIFC.</p> |  |  | <p>Information System for Washington State webpage, <a href="https://waterdata.usgs.gov/WA/nwis/current/?type=flow">https://waterdata.usgs.gov/WA/nwis/current/?type=flow</a></p> | <p>viewed on the USGS's washington state streamflow website.</p> |
|---|--|--|---|--|

**23a. Subaward Work Plan Component/Task:** Monitoring of chemical and morphological changes to soils in post-breach estuary restoration sites

**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   |
|-------------------|--|----------------------|--------------|--|---|
| 4.1               | <p>Identify vegetation, dig pits, classify soil, and install sensors at three sites: Review existing QAPP and provided addendum to any changes in methods that are required. Obtain elevation data using high-accuracy post-processed or RTK GLONASS enabled GPS. Survey vegetation Excavate a soil pit and complete a UDSA-NRCS Pedon Description Sheet</p> | 9/30/18              | PLANNED      | <p>-Approved QAPP addendum, if required.<br/>           -Centimeter-accuracy data relating to the elevation at which the soil sensors are to be installed.<br/>           -Vegetative survey data that directly correlate with soil data and Completed vegetation datasheet, identifying species</p> | <p>The initial collaborator, Snohomish County, denied permission to install sensors at the Smith Island Restoration Site due to political concerns resulting in a distinct desire to not collect data relating to soil conductivity/salinity. Some equipment was procured before access was denied, but additional purchases were</p> |

|     |  |           |         |   |   |
|-----|--|-----------|---------|---|---|
|     | <p>Collect constant-volume samples and take soil salinity/moisture/temperature measurements from each discernable horizon or every 40 centimeters NRCS Pedon Description Sheet</p> <p>Install data loggers and continuous soil salinity/moisture/temperature sensors at five depths.</p> |           |         | <p>presence, abundance, and vigor.</p> <p>-Soil Pedon descriptions following US standards for Soil Surveys &amp; Completed USDA-NRCS Soil Pedon Description Sheet</p> <p>-Discrete measurements of soil salinity, moisture, temperature, and bulk density for each soil horizon or every 40 centimeters. Completed datasheet recording discrete soil salinity, moisture, temperature, and bulk density for each sample depth.</p> <p>-Soil salinity/moisture/temperature instrumentation deployed. Initial readings of soil salinity, moisture, and temperature at five depths.</p> | <p>delayed until this issue could be resolved.</p> <p>The Smith Island dike was breached on August 10, 2018 causing the site to no longer be a desirable option for this study.</p> <p>We are now working with the project administrators for the Port of Everett's Blue Heron Slough Restoration Site in an attempt to obtain permission to continue our project at this location.</p> |
| 4.2 | <p>Return every 3 months to download sensor data and verify that sensors and loggers are functioning properly. Annually repeat vegetation survey for established pits.</p>   | 9/30/2018 | PLANNED | <p>Downloaded data for review and analysis. Soil salinity, moisture, and temperature data from two existing sensor pits at the Qwuloolt site as well as newly established monitoring locations. Vegetative survey data that directly correlate with soil data. Completed vegetation datasheet, identifying species presence, abundance, and vigor. Compatible data will be stored publicly in STORET database.</p> <p>Deliverable: Sediment data that is compatible with STORET will be uploaded.</p>   | <p>Since no pits were able to be installed under this grant in 2018, there is no data to be downloaded. Data downloads from the pits installed at the Qwuloolt site in 2017 were downloaded on a regular basis and discussed in more detail in the FY16 FEATS. The continued success of the sensors installed at Qwuloolt make us optimistic for future projects.</p>                   |



|     |  |           |         |   |   |
|-----|--|-----------|---------|---|---|
| 4.3 | Two reports will be written as products of this grant. The first report will compile and review soils and vegetation data collected during pit excavation. This is discrete data, collected at a single moment in time, but provides us with important baseline information to compare sites and change over time. This will include data collected from the four pre-breach pits at the Qwuloolt site. The second report will compile and review data downloaded from soil sensor data loggers. This continuous data will be reviewed to identify trends over time for each soil sensor pit as well as trends across sensor pits. | 3/31/2018 | PLANNED | <p>Compilation, review, and analysis of all discrete data collected. Compilation, review, and analysis of all continuous data collected.</p> <p>Deliverables: A final report presenting the results and conclusions drawn during the review and analysis process. A report presenting the results and conclusions drawn during the review and analysis process.</p> | <p>Since no pits were able to be installed under this grant in 2018, there is no data from which to write these reports. Reports will be written for the pits installed at the Qwuloolt as outlined in more detail in the FY16 FEATS.</p> |
|-----|--|-----------|---------|---|---|

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

| *24a. Task No., Sub-Task No. | *24b. Challenge | *24c. Solution |
|------------------------------|-----------------|----------------|
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**HIGHLIGHTS/LESSONS LEARNED/REFLECTIONS**

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| *25. |
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