Project Name: WDFW EPA Grant: Coordinated Assessments

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Final Report

*(URL links updated to new StreamNet website version 2021)*

The Coordinated Assessments (CA) project had its origins in a series of sub-regional and regional workshops held in 2009, the Columbia Basin Anadromous Salmonid Monitoring Workshops. From those workshops the draft Anadromous Salmonid Monitoring Strategy emerged and agreements were made among federal action agencies and the state and tribal co-managers for monitoring to collect data to answer key management questions related to Viable Salmonid Population (VSP) parameters. **The key business need identified in this strategy was the need to improve the process for obtaining and combining VSP data from the various collectors of this data.**

As described below, the EPA funded Salmonid Coordinated Assessments Data Exchange (CAX) project improved the ability of partners to manage, exchange, access and use these data in support of improved local and regional environmental management decisions. While this report summarizes the accomplishments achieved under that grant, the CA project will continue through multiple funding sources.

**STATEMENT OF WORK/TASKS/DELIVERABLES COMPLETED UNDER THIS CONTRACT**

**Deliverable:** Project management and coordination, including facilitation and support of the respective project teams, coordination with other relevant regional projects/programs.

During the project period, the Coordinated Assessments Core Team (CACT) met on a bi-monthly basis to manage the project and ensure progress on deliverables. The Coordinated Assessments Planning Group (CAPG) met approximately every six months to provide oversight and guidance for the project and the larger Coordinated Assessments Work Group held annual workshops with the region to present updates to the Data Exchange Standard (DES) and receive feedback on its implementation. Two subgroups were created to the CAPG, the DES Development Team (DDT) to maintain and provide updates to the DET and the Exchange Configuration Team (XCT) to develop the EPA Exchange Network virtual node for the CAX. The project provided outreach and support for tribal participation and provided support for state fish and wildlife agency participation in the data exchange. Project management was shared between staff at the Pacific Northwest Aquatic Monitoring Partnership (PNAMP), the StreamNet project, Washington Department of Fish and Wildlife (WDFW), Bonneville Power Administration (BPA) and an independent contractor TKI Natural Resource Consulting.

The CA project stayed on schedule and within budget through the conclusion of the contract and met all stated deliverables. The one exception is the tribes’ decision not to build a tribal data sharing application, instead the tribes focused their efforts on developing individual corporate data systems within each of the individual tribes.

Funding for continued implementation of the CA Project will now shift to each organization’s own organizational funding, BPA(StreamNet), and the 2016 EPA grant for some of the tribal participation.

**Deliverable**: Support for negotiation of initial high level Trading Partner Agreement used to guide flow design.

The final Trading Partner Agreement was completed on December 31, 2014 and is included in the Flow Configuration Documents on the StreamNet website at: <http://www.streamnet.org/cap>

**Deliverable**: Final Data Exchange Template/Standard for four initial VSP indicators.

The DDT continues to improve the DES and make annual adjustments as necessary. The latest version of the Data Exchange Standard (DES) was distributed to the CA Work Group on May 27, 2016 and is posted on the StreamNet website at: <http://www.streamnet.org/developers>

**Deliverable**: XML Schema development based on DET/DES including addition of geo-spatial reference information.

Partner data providers are programming consistent with the DES for sharing data with the CAX. Current XML Schema documents are available on the StreamNet website at: <http://www.streamnet.org/cap>

**Deliverable**: Flow Configuration Document specification of exchange and query web services, and data routes and flow procedures.

A final Flow Configuration Document was completed on December 31, 2014 and is available on the StreamNet website at: <http://www.streamnet.org/cap>. The FCD was instrumental in support of registering the CAX virtual node on the EPA Exchange Network.

**Deliverable**: Assessment of Tribal EN implementation needs and determination of implementation approach.

The individual Columbia basin tribes currently represent different stages of data base development and a wide range of capabilities for participating in the SCADE – now known as the Coordinated Assessments data exchange (CAX). The final report describes the needs for each participating tribe to fully engage in data sharing with the CAX based on their capability to share data, their involvement in priority populations and indicators, and availability of their data. The Tribal Needs Assessment was completed on December 31, 2014 and is available on the PNAMP website at: <http://www.pnamp.org/sites/default/files/catribalneedsassessmentfinal1_20141231.pdf>

**Deliverable**: Development of hosted software tool for management and exchange of CAX data.

StreamNet provides a REST API tool as the primary programming interface to the CA tables. Also provided on the website is script for populating a Coordinated Assessments database in SQL Server. The information for all the software tools that support the CAX are available at: <http://www.streamnet.org/cap>

**Deliverable**: State database modifications needed to exchange data per CAX schema.

Washington Department of Fish and Wildlife (WDFW), Oregon Department of Fish and Wildlife (ODFW), Idaho Fish and Game (IDFG), and the Colville Confederated Tribe (CCT) developed unique modifications to their corporate data systems to provide automated data flow to the CAX. The Confederated Tribes of the Umatilla Indian Reservation are also providing data to the CAX.

**Deliverable**: Implement Tribal Management System, support for Tribal capacity development including data organization/entry, application adoption and training.

The partner tribes decided early in the project not to build a tribal data sharing application, instead the tribes focused their efforts on developing individual corporate data systems within each of the individual tribes. Although each of the tribes are on a different timeline for contributing data to the CAX, all are still tracking the CA Project and intend to contribute data as their data systems become capable to do so. The project provided funding to the CCT, Nez Perce Tribe, and the Yakama Nation Fisheries to assist with their development of internal data management systems. The other tribes continue making progress on development of their data systems through other funding sources.

The CTUIR delivered automated data to the CAX. The Columbia River Inter-Tribal Fish Commission was awarded an EPA grant for 2016 to further develop tribal data systems in support of fish and habitat data contributions for regional data exchange and sharing objectives. The 2016 tribal grant will be used to continue the CA priorities established under the 2014 EPA grant, for each of the participating tribes.

The CA database at StreamNet is receiving data from all three states and the Colville and Umatilla Tribes as well as CRITFC.

**Deliverable**: Mapping of data to CAX schema. Implementation of local EN client, or configuration of virtual client.

The CA database at StreamNet is receiving data and testing data flow with all partners. As revealed in practice, improvements and technical fixes are being completed. Partners are now providing data in substantial quantities. StreamNet staff developed new data validation procedures to improve the QA/QC process.

**Deliverable**: Develop inbound web services to receive Tribal/State Data, per Flow Configuration Document.

StreamNet provides a REST API tool as the primary programming interface to the CA tables. In order to actively use the API, for testing or production, you will need an API Key. You can get an API key by contacting StreamNet. Also provided is script for populating a Coordinated Assessments database in SQL Server. The information for all the software tools that support the CAX are available at: <http://www.streamnet.org/cap>

**Deliverable**: Finalize TPA specifying data security and access, and usage agreements.

The final FCD, which includes trading partner agreements, has been posted to the StreamNet website and the CAX is registered on the EPA exchange network as a virtual node. StreamNet staff completed final registration of the EPA node on October 4, 2016.

**Deliverable**: Configuration of Virtual Node EN web services to support and 24/7 data publishing. Includes testing, and registration in ENDS.

The Coordinated Assessments state and tribal partners have all implemented an automated or semi-automated flow of data to the main CAX database using the StreamNet REST API. All agencies have submitted some or all of their available production CAX data sets. All valid data are live and available via the node.

All currently participating agencies have described their internal data QA/QC and data flow processes. These processes have been documented and included in the Partner Data Flows document included with the Node Submission Package. PSMFC staff completed final registration of the EPA node on October 4, 2016.

The CAX node was created using the Exchange Network’s Virtual Exchange Service cloud node environment. This allows the data delivery methods to be published in the new cloud environment and available on the EN Browser website. This virtual node is connected in real-time to the CAX database at PSMFC. Any data updates submitted by partner agencies are immediately available via the node.

The required node Flow Configuration, Date Exchange Template, XML Schemas, and other supporting documentation were compiled into the Node Submission Package. This package was submitted, vetted through the Exchange review process, revised multiple times, and accepted. All of these products form the node package and description that is now live on the EPA Exchange Network located here: <http://www.exchangenetwork.net/data-exchange/columbia-river-basin-coordinated-assessment/>

**Deliverable**: Development/integration where possible of shared client for CAX, JMX, WQX and PNWWQX flows. Integration of CAX data into StreamNet query tool.

StreamNet staff designed a query tool for CA data for use on the StreamNet website consistent with other PSMFC data sets. The query tool will be maintained in this location for the CAX.