**Coordinated Assessments**

**Data Exchange Standard Development Team (DDT) Charter**

May 4, 2021

**Background**

This Charter describes the functions of the Coordinated Assessments Partnership (CAP) Data Exchange Standard Development Team (DDT) and the processes used, including convening task-specific ad hoc work groups as needed. CAP is a collaboration of StreamNet and the Pacific Northwest Aquatic Monitoring Partnership (PNAMP) to share standardized fish and habitat data within the Pacific Northwest. StreamNet is responsible for the Coordinated Assessments Data Exchange (CAX) system that receives and houses these shared standardized high level indicators (HLIs), and for making these HLIs publicly available through online query tools. The source data informing the CAX are maintained in multiple state, tribal, federal, and other partners' data management systems, and are converted by the data owners to the appropriate DES. These data are submitted to the CAX with relevant metadata to ensure usability for regional assessments, various reporting needs, and other interests.

The CAP DDT determines the data exchange standards (DESs) for sharing the HLIs. A DES is the set of formal rules for the structure of data elements for a data category, such as "the smolt to adult return rate DES" or "the fish monitoring data DES". These rules document agreements on the representation, format, definition, structuring, tagging, transmission, manipulation, use, and management of data in which data are shared with the CAP's CAX. The CAX DESs specify and define categories of data to be exchanged, the scale of those data, the tables and fields used to transfer those data, and business rules.

The CAP DDT implements the decisions made by the StreamNet Executive Committee on which high level indicator data categories to exchange. The Five Year Plan for Coordinated Assessments Partnership provides details on how these decisions are to be implemented. Some of the tasks in the Plan include steps that need to occur, such as further scoping by biologists, before a task can be implemented by the CAP DDT. The process applied by the CAP DDT for these tasks follows this Charter's Team Operating Guidelines (see below) and the steps described for DES development and revisions (see Data Exchange Standard Development and Revision Procedure).

The CAP DDT is a team serving under the StreamNet Steering Committee. It consists mainly of the data-contributing partners' biologists who calculate the HLIs and metrics, and data management professionals. It focuses on the exchange of data for the priority high level indicators and metrics identified by the StreamNet Executive Committee in the Five-Year Work Plan for the Coordinated Assessments Partnership. The CAP DDT also coordinates, as needed, with the StreamNet Technical Team and the StreamNet DDT.

Information about CAP events and background documents is found at https://www.pnamp.org/project/coordinated-assessments-for-salmon-and-steelhead. Information on the process and data exchange standards is found at www.streamnet.org.

**Purposes of the CAP DDT**

The main purpose of the CAP DDT is to develop and revise the DESs that guide the flow of standardized data into the CAX. A second purpose of the CAP DDT is to collaborate with the Executive Committee and Technical team to determine how these data should be presented and made available via online query systems. The ultimate goals are to improve the consistency in structure and quality of data provided by the CAX, and ease finding needed data, thereby facilitating assessments and reporting for fisheries mitigation, recovery, and management.

**Goals and Objectives of the CAP DDT**

* Develop DESs for new population-scale fish HLIs and metrics included in the Five Year Plan for Coordinated Assessments, and for other data categories as needed.
* Refine existing DESs to improve the quality of data provided.
* Implement additions and changes to DESs in a manner that considers efficiency for data providers and StreamNet regional staff, and utility for data end users.
* Reduce duplication of effort by data providers by leveraging content from other regional data systems to provide metadata and other supporting content for submitted data.
* Achieve efficiencies in data flow processes from partners' data management systems to the CAX system.

**Membership**

The CAP DDT is organized and facilitated by StreamNet regional staff, with the StreamNet Regional Fishery Biologist / Database Administrator serving as Chair. CAP DDT members are biologists, data stewards, data managers, and IT technical staff representatives from the primary federal, tribal, state, and regional organizations submitting and consuming data. The CAP DDT will invite additional subject matter experts and data managers to contribute to the work group's task(s), as necessary. Membership of the CAP DDT can be found on the StreamNet website.

Most member organizations (see Appendix 1) will have more than one individual participating in the CAP DDT. Organizations are requested to identify up to two Primary Representatives who will contribute to discussions during formal DDT meetings. At least one should be a subject matter expert, data management expert, or have relevant data needs. It is the responsibility of each organization to select their representatives. Additional participants from represented organizations may participate as observers during meetings.

The CAP Co-Leads (StreamNet Program Manager and PNAMP Coordinator) participate as needed to provide contextual input as related to the Five Year Plan for Coordinated Assessments Partnership, and also to convey information from the StreamNet Executive Committee, StreamNet Steering Committee, CAP Core Team, and PNAMP Fish Monitoring Work Group (FMWG).

**Roles and Responsibilities of CAP DDT Members**

* Primary Representatives
	+ Engage in discussions during DDT meetings.
	+ Contribute to development of options for new and revised DESs.
	+ Ensure data from their organization can meet proposed DES additions/revisions. Identify unforeseen issues related to implementation of new/modified tables, fields, and business rules and bring them to the DDT for further discussion.
	+ For data consuming DDT members, identify needed improvements to facilitate access, proper use of data, and issues related to unclear or missing fields or other aspects that hinder their assessments and reporting needs.
	+ Select which Primary Representative will serve as the DDT Co-Chair and, as needed, who will serve as work group leader (see below).
	+ Support the Chair in convening ad hoc work groups when needed to address specific DES challenges, and serve in work groups when their expertise is required.
* Observers
	+ Engage in a listen-only role during CAP DDT meetings.
	+ Submit input and questions, preferably through their Primary Representatives to provide a coordinated input from their organization. Third party observers submit input through their funders, or through the Chair / Co-Chair.
	+ Support their Primary Representatives in development of input and products. When their expertise is required, engage in ad hoc work groups as requested by their Primary Representatives.
* Chair
	+ Manage the CAP DDT process to propose, discuss, review, and adopt changes to DESs.
		- Participate in the FMWG as needed to ensure DES proposals are realistic and clearly defined.
		- Initiate, develop, and track proposals via email and phone calls in preparation for full CAP DDT consideration.
		- Convene ad hoc work groups as needed to address specific DES tasks requiring specific expertise.
		- Draft meeting agendas with the Co-Chair based on input from the Primary Representatives.
		- Organize and facilitate meetings.
		- Synthesize input from Primary Representatives, work groups, and technical staff and generate options to be discussed by the full CAP DDT, with assistance from the Co-Chair.
	+ Assist ad hoc work group leaders (see below) as needed, and with conveying each work group's products or recommendations back to the CAP DDT.
	+ Keep the StreamNet DDT members and CAP Co-Leads informed of proposals and gather relevant feedback.
	+ Preserve and host current and past versions of official DES documents; make these accessible by email and on the StreamNet website.
	+ Conduct outreach with the Co-Chair to data providers not directly funded by the StreamNet Program, including leveraging existing meetings and forums where they participate.
* Co-Chair
	+ Serves for two years. This can be adjusted to align with the duration of a major DES version if that continuity is deemed beneficial by the CAP DDT.
	+ Participate in the FMWG as needed to ensure DES proposals are realistic and clearly defined.
	+ Work with the Chair to convene CAP DDT meetings including preparation, keeping momentum among members when developing products, and assisting the Chair in synthesis and development of options.
	+ Assist the Chair with convening ad hoc work groups and conveying products/recommendations from work groups to the CAP DDT members.
	+ Work with the Chair to develop specific DES table structures and field definition language.
	+ Support, as needed, preproduction testing.
	+ Conduct outreach with the Chair to data providers, both those directly and not directly funded by the StreamNet Program, including leveraging existing meetings and forums where they participate.
* Work group leader
	+ Assist the Chair and Co-Chair in recruiting individuals with required expertise to participate in the ad hoc work group. These individuals can be CAP DDT members or other individuals with the required expertise, including individuals that participate in the FMWG.
	+ Lead ad hoc work group participants in discussion of DES needs assigned to the group and develop options to address these.
	+ Ensure work group products and recommendations are produced in a timely manner.
	+ Report work group products and recommendations to the Chair and Co-Chair and assist with presenting these to the CAP DDT.

**Team Operating Guidelines**

* Meetings
	+ Will take place twice per year during spring (April/May) and fall (October/November) to, at a minimum, discuss status, progress, and challenges.
	+ Primary Representatives, Chair, and Co-Chair are encouraged to use web-cameras to facilitate dialogue.
	+ Additional meetings will be scheduled as needed to make timely progress on new or revised DESs.
	+ The Chair and Co-Chair will keep CAP DDT members informed of meeting dates, agendas, and notes via email.
* Meeting agendas
	+ Agenda topics will focus on tasks related to developing and revising DESs. Topics may also include implementation processes, DES release schedules, and development of related tools (such as query systems) used in data submittal/extraction.
	+ Topics can be submitted by a CAP DDT Primary Representative, the Chair or Co-Chair, or a CAP Co-Lead.
	+ Agenda topics, and potential resolution options, are conveyed to the Chair and Co-Chair in advance of the meeting.
* Process for development of a new DES and revisions to an existing DES
	+ The Chair, in consultation with the Co-Chair, will analyze each request received for impact and implications and determine whether the request triggers the process for a new DES, a major revision, or a minor revision.
	+ Processes to develop a new DES and revise an existing DES are detailed in the document Data Exchange Standard Development and Revision Procedures available on the StreamNet website.
* Issues discussion and resolution process
	+ The Primary Representatives will discuss each issue and provide verbal or written input on options to resolve the issue to the Chair and Co-Chair.
	+ The Chair and Co-Chair will synthesize the input and formulate options to be considered by the members during the next meeting. The synthesis and input will be shared with the DDT members at least one week in advance of the meeting. In order to minimize the number and length of meetings, pre and post meeting communications, such as by email and telephone, will be used as much as possible to clarify and resolve issues.
	+ If needed, further development of preferred options will be undertaken by the Chair and Co-Chair.
	+ When deemed necessary, an ad hoc work group will be convened by the Chair with support of the Primary Representatives to address a specific task. The DDT Primary Representatives will assist in clearly defining the issues to be addressed and identify which of the Primary Representatives will serve as the work group leader.
	+ If the Chair and Primary Representatives determine that an issue requires further input from decision makers or topic experts (e.g., biologists) before the CAP DDT can reach a decision, the Chair can request assistance from an appropriate group to further develop the issue to inform a decision. Such groups may be the StreamNet Steering Committee, StreamNet Executive Committee, CAP Core Team, FMWG, etc.
* Decisions
	+ Decisions will be made by consensus -- i.e., there is general agreement and no objections.
	+ A partner who does not agree has an obligation to help craft solutions to reach consensus.
	+ If a decision will have repercussions on the ability of a partner to submit data, an alternative approach will be identified and implemented for this partner so that data flow from all partners will continue without disruption.
* DES document version releases
	+ Each officially adopted DES document version will be released by the Chair. An annotated DES document will be released concurrently, highlighting modifications from the previous version to facilitate data providers adjusting their work processes to be in compliance.
	+ Adopted new or revised DES documents will be posted on the StreamNet website, following best practices for version control. Data entry templates in Microsoft Access and Excel formats will be included.
	+ A lead time of at least two months will be provided from when a new or revised DES document is approved to when it is enforced.
		- If enforcement must occur without a two-month lead time, regional StreamNet staff will contact all affected data providers and determine what must be done to avoid disruption to data submittal, such as continuing to support the previous DES document version or other options, so that all partners have the opportunity to transition within their available resources (staff/funding) to the updated version.
	+ Companion PNAMP web pages will direct users to the appropriate StreamNet web pages to avoid confusion about DES versions.
	+ Final products developed by the CAP DDT will be posted on the StreamNet website. DES document drafts and other deliberative materials developed to inform decisions by the CAP DDT members are considered informal and will be circulated among CAP DDT members but not posted on the website.
* Data validation rules implementation
	+ New data submission validation rules will be implemented on the effective date of a new DES to reflect and enforce the business rules contained in the new DES.
	+ If a validation rule is coded incorrectly or overlooked on the effective date of a new DES document, then the following approach will be used depending on whether the rule is deemed to be "critical" or "non-critical".
		- "Critical" validation rules prevent 1) serious data quality or integrity errors, or 2) data that would be of no use to end users. An example is a rule that prevents orphan records in a child table.
			* If an incorrect or overlooked validation rule is critical it will be corrected immediately.
			* Data providing organizations (but not every individual) will be informed before and again immediately after the change is implemented.
		- "Non-critical" validation rules are those which, if violated, still allow for useful data if the rule is violated. An example is a confidence limit that does not include an alpha level.
			* Incorrect or overlooked validation rules that are not critical will be corrected on a quarterly schedule if no objectives are voiced by the members.
			* The update schedule will be selected to align with data submission schedules so that submissions at the end of each quarter are not impeded.
			* Data providing organizations (but not every individual) will be informed of the validation change to occur and the correction date as soon as the error is found, and at least one month before implementation.
	+ Communication will be done via EMAIL to all data providers and during StreamNet committee and team meetings. CAP DDT members, StreamNet Steering Committee members, and CAP Core Team members will be responsible for informing data providers within their organization.

**Funding and Support**

The CAP DDT relies on in-kind support from member organizations. StreamNet funded members can allocate their BPA funding to participate in the CAP DDT. PNAMP and StreamNet will continue to explore additional funding opportunities to support CAP activities.

**Charter Amendments**

Any Primary Representative can request an amendment to the Charter at any time. The request will be discussed with the CAP DDT. Amendments will be adopted by consensus (i.e., there are no objections).

Updates to Primary Representatives serving on the CAP DDT can occur at any time with notice to the Chair.

This charter does not expire and will be reviewed at least every five years.

**APPENDIX**

**Acronyms used in this document.**

CAP Coordinated Assessments Partnership.

CAX Coordinated Assessments Data Exchange.

DES Data Exchange Standard.

The set of formal rules for the structure of data elements for a data category, such as "the smolt to adult return rate DES" or "the fish monitoring data DES". These rules document agreements on the representation, format, definition, structuring, tagging, transmission, manipulation, use, and management of data in which data are shared.

DDT Data Exchange Standard Development Team.

FMWG PNAMP Fish Monitoring Work Group.

HLI High level indicator.

An HLI may be defined by the NW Power and Conservation Council or other entity.

PNAMP Pacific Northwest Aquatic Monitoring Partnership.