



March 11, 2016

Mr. Tony Grover
Fish and Wildlife Division Director
Northwest Power and Conservation Council
851 SW 6th Ave, Ste 1100
Portland, OR 97204

RE: COMMENTS ON ISAB/ISRP CRITICAL UNCERTAINTIES REPORT (2016-1)

Dear Mr. Grover:

On behalf of the Columbia Basin Water Transactions Program (CBWTP), I would like to thank you for the opportunity to provide comments on the Independent Scientific Advisory Board (ISAB) and the Independent Scientific Review Panel's (ISRP) Critical Uncertainties Report (Report). As the lead entity for the implementation of the CBWTP, and its work under Project 2002-01-301, the National Fish and Wildlife Foundation recognizes the importance of identifying and addressing uncertainties regarding investments made under the Northwest Power and Conservation Council's (Council) Fish and Wildlife Program (Program) and their associated impacts on the productivity of fish and wildlife in the Columbia Basin.

Created in 2002, the CBWTP focuses on enhancing streamflows to benefit fish, wildlife and the communities that depend on them. The CBWTP provides financial and technical support for partnerships with nonprofit organizations, state water agencies and tribes to work with ranchers, farmers, municipalities and irrigation districts on voluntary, market-based approaches to bring water use into balance with the needs of fish and wildlife. Since inception, the CBWTP has successfully implemented over 450 water transactions, restoring over 850 cubic feet per second (cfs) of streamflow to over 150 rivers and streams across the Columbia Basin.

The focus of these comments relate specifically to the Report's questions regarding the CBWTP's efforts to document the effectiveness of restoring instream flows through voluntary water transactions. Based on the comments in the Report, it appears that the ISAB and ISRP may not have had the opportunity to review the CBWTP Flow Restoration Accounting Framework (Framework), which serves as the programmatic monitoring protocol for CBWTP. The Framework was developed by CBWTP, in part, as a response to the Council's Independent Scientific Review Panel Funding Qualification (2010). First implemented in 2014, an updated version was published at MonitoringMethods.org in August of 2015

and can be found within the Resources section at the CBWTP's website:

(http://www.cbwtp.org/jsp/cbwtp/library/show_all_section_items.jsp?section_id=21).

The goal of the Framework is to create and implement an accounting methodology that uses well-defined measures of progress to track the compliance, implementation, and effectiveness of flow restoration as a tool to improve aquatic habitat conditions for targeted fish populations. To support this goal, the Framework follows a discrete logic path that tracks four categories of monitoring of a flow transaction. Monitoring requirements within each subsequent tier increase in both complexity and effort, providing a progressively greater amount of data and information on the outcomes of instream flow transactions. The tiers are sequenced to support general inferences between each level and to produce a complete suite of metrics that can capture outcomes across the CBWTP.

All active transactions completed within the CBWTP are subject to the monitoring requirements outlined under the Framework. Each active transaction is placed within one of the four monitoring tiers by the pertinent qualified local entities (QLEs), using a defined set of criteria based on the level of investment, the scale of focus, and stream dynamics. All transactions completed with the CBWTP are required to confirm compliance with the terms of the contract under the first tier. Depending on the type of transaction, compliance may be confirmed at the initial implementation of the transaction or on an ongoing annual basis. Beyond the first tier, however, the level of impact and investment of the transaction guides the subsequent amount of monitoring required, with progressively fewer transactions placed in ensuing tiers.

Tier 1 - Contractual Compliance – Requirements for Tier 1 ensure that the legal terms of the contract between the QLE and water user are fulfilled. All transactions are included within Tier 1 and must fulfill reporting requirements as defined by the transaction type (e.g., lease, purchase, split-season). Each type of deal has a specified set of monitoring criteria, and depending on the type of transaction, may require demonstration of compliance once (at implementation) or annually (if more consistent tracking and monitoring is necessary). Tier 1 can also account for flow added to the protected stream reach at the POD for transactions that rely upon flow as part of the contract, as is the case for minimum flow agreements. In this case, flow is monitored in order to implement the transaction. However, flow monitoring in this tier is not intended to track the degree to which flow targets or goals are reached. That type of flow monitoring is part of Tier 2 and does not focus on the evaluation of whether the terms of the contract were sufficiently met.

Tier 2 – Flow Accounting – Tier 2 accounts for the flow added to the protected stream reach from the POD along the specified length of the protected reach before, during, and after the period of ecological significance, as defined by the objective of the transaction in addressing the key limiting factor of flow for identified and targeted species. Monitoring under Tier 2 can also be used to track progress towards flow goals and/or targets (and to help confirm minimum flow transactions have been satisfied).

Tier 3 - Aquatic Habitat Response – Transactions that fall within this tier must track changes in flow-related limiting factors by accounting for aquatic habitat metrics along a specified section of the protected reach during the period of ecological significance. This period is defined by the objective of the transaction in addressing key limiting factors that are unique to the location and purpose of the transaction. A monitoring and accounting strategy will be required for each transaction placed within this tier.

Tier 4 – Ecological Function – This tier integrates transaction and flow-specific monitoring data gathered in Tiers 1, 2, and 3 with broader monitoring efforts in priority regions throughout the Columbia Basin. Monitoring efforts in this tier will be structured in specific basins where CBWTP transaction and other local monitoring efforts overlap to evaluate changes in flow-related habitat characteristics that are examined within the context of broader-scale biological conditions and, where possible, fish population dynamics.

In addition to reviewing the CBWTP Flow Monitoring and Accounting Framework, subsequent efforts to update the Program’s research plan should consider the following information regarding the CBWTP’s efforts to monitor and account for water transaction outcomes.

Identification of Limiting Factors – Based on evaluation criteria developed in coordination with the ISRP, the CBWTP relies on Subbasin Plans developed in coordination with the Council and recovery plans adopted by NOAA Fisheries and the US Fish and Wildlife Service to identify limiting factors for fish productivity. Between these two sources, CBWTP believes that the limiting factors information used by CBWTP to inform funding decisions is accurate and consistent with Program priorities. A recent study of investments in conservation investments in the Pacific Northwest and the frequency in which they correlate to documented ecosystem and fish population needs found that instream flow projects had one of the highest rates of correlation (99%) of any restoration type included in the study¹.

Documenting Increased Productivity – Results are dependent from project to project, but many of the CBWTP funded restoration projects improve survival through enhancing over-summering conditions (i.e. increase habitat area, habitat diversity, and enhance habitat quality through reduction of streamflow temperatures) for adult holding and juvenile rearing fish, as well as improving distribution through tributary access for spawning and juvenile recruitment back to the main-stems in project watersheds. Fish survival and abundance has not been studied specifically by the CBWTP due to lack of monitoring resources, although CBWTP attempts to leverage monitoring data when and where it is collected by other agencies in relevant geographies. Whenever possible, this information is reported in the CBWTP’s annual Research, Monitoring, and Evaluation Habitat Monitoring Reports (RM&E Report).

¹ Barnas, K. A., S. L. Katz, D. E. Hamm, M. C. Diaz, and C. E. Jordan. 2015. Is habitat restoration targeting relevant ecological needs for endangered species? Using Pacific Salmon as a case study. *Ecosphere* 6(7):110. <http://dx.doi.org/10.1890/ES14-00466.1>

Efficacy of Social Engagement and Economic Incentives – Since inception in 2002, the CBWTP has successfully completed over 450 water transactions, cumulatively restoring approximately 850 cubic feet per second to over 1,000 stream miles in 2015. Given the program’s track record of successfully completed transactions, CBWTP believes that it has demonstrated the efficacy of voluntary, incentive-based flow transactions within the context of the Columbia Basin.

Feasibility of Improving Ecological Functions – Several recent examples of improved ecological function in targeted stream reaches through instream flow enhancement can be found in the CBWTP’s most recent RM&E Report, including the Teanaway River in Washington (weighted usable area and critical riffle/passage), Little Springs Creek in Idaho (passage), and Whychus Creek in Oregon (stream temperature and benthic macro invertebrates). While this list is by no means comprehensive, it provides a sampling of the type of data that is being collected and reported as a part of the CBWTP’s monitoring program.

Short Term vs. Long Term – The CBWTP emphasizes permanence when prioritizing water transaction funding decisions. Longer term transactions receive a higher ranking in CBWTP’s funding criteria, and as a result, over half of the CBWTP’s total protected flow in 2015 - over 85,000 acre-feet - is secured on a permanent basis. Additionally, short-to-medium term water transactions provide an important entry point into longer term transactions as they help build trust with water right holders and allow the buyer to better understand the ecological value of the water right before committing larger sums of money to a permanent acquisition. A recent analysis of the CBWTP’s transaction portfolio found that over the first eleven years of the program (2003-2013), over half of the temporary transactions funded eventually transitioned into longer term deals.

Accounting for Instream Flows and Data Sharing – The CBWTP is required, as a component of its cooperative agreement with the Bonneville Power Administration, to provide several reports on an annual basis, all of which are made available to partner organizations. The table below summarizes the reports and the information that is provided.

Report Name	Purpose	Summary	Location
Compliance Monitoring Report	Document contractual compliance	Provides an overview of compliance monitoring methods and sites, compiles field data collected by QLEs, and summarizes the compliance status of all monitored sites.	PISCES database, as attachment to BPA project 2002-0013-01 with CBWTP.

RM&E Report	Document available habitat and biological monitoring data.	Compiles habitat and biological monitoring conducted by partner agencies and organizations that are relevant to stream reaches where flow restoration actions are occurring. Collected metrics include redd counts, PIT tag counts, snorkel surveys, macro invertebrate sampling, water quality sampling, and PHABSIM analysis.	www.CBWTP.org on Resources page: http://cbwtp.org/jsp/cbwtp/library/show_all_section_items.jsp?section_id=21 Also located in PISCES database, as attachment to BPA project 2002-103-01 with CBWTP.
Habitat Restoration Progress Report	Report accomplishments and work completed under the cooperative agreement with BPA	Provides detailed information on the status of the CBWTP's accomplishments under its work plan with BPA. Data includes location and reach information for funded transactions, volume and rate summary data by deal, benefitted species, transaction cost summaries, cost share data, and adaptive management questions and considerations.	PISCES database, as attachment to BPA project 2002-0013-01 with CBWTP.
Program Report	Provide high level metrics and outcomes	Includes narrative stories highlighting program successes, summary spending figures, and overview metrics of newly funded transactions	www.CBWTP.org on Resources page: http://cbwtp.org/jsp/cbwtp/library/show_all_section_items.jsp?section_id=21 Also located in PISCES database, as attachment to BPA project 2002-103-01 with CBWTP.

The CBWTP is primarily an implementation based program, not an RM&E program. As a program focused on implementation, the CBWTP utilizes a majority of its available monitoring resources to ensure contractual compliance and to monitor for protected instream flows. However, the CBWTP Flow Restoration and Accounting Framework creates a systematic approach with consistent standards and protocols through which CBWTP can engage in habitat and biological monitoring as partnership

opportunities arise and resources are made available. In short, the CBWTP continues to advance the breadth and efficacy of its monitoring work while constrained by the availability of funding to support it.

The CBWTP looks forward to working with the Council and the members of the ISAB and ISRP as efforts continue to ensure that implementation of the Fish and Wildlife Program is efficient and effective.

Please contact me if you have questions or would like additional information about the Columbia Basin Water Transactions Program and its monitoring efforts.

Sincerely,

Scott McCaulou
Program Director
National Fish and Wildlife Foundation