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November 6, 2018

### MEMORANDUM

**TO:** Fish and Wildlife Committee members

**FROM:** Nancy Leonard

**SUBJECT:** Update on the draft mapping tool and query tool developed to display existing goals and objectives for seven resident and two anadromous fish species

### BACKGROUND:

**Presenter:** Nancy Leonard

**Summary:** Council staff will present the initial version of the objectives mapping tool and online query tool for the remaining 2 anadromous and 7 resident fish species which include 3 sub-species of cutthroat trout. This version of the objectives mapping tool incorporates input received from a subset of fish managers during Spring 2018, but currently limits the user to exploring existing goals and objectives by subbasin. The accompanying online query tool allows the user to sort objectives by other options, e.g., management units, and to download the entire content into an Excel file. This version of the mapping and query tool will be posted on the Council's website after the Council's November meeting to (i) make the compiled information available to the region during the Program amendment process, and, (ii) facilitate discussions with fish managers about needed modifications and desired refinements to the tool content and functionalities.

**Relevance:** This work supports implementation of the 2014 Program task for refining program goals and quantitative objectives (Program Part 3, Section III.A.1), as well as the adaptive management emerging Program priority (Program Part 6, Section II). The salmon and steelhead objectives component of this work informs the NOAA Columbia Partnership Task Force effort.

**Background:** Since the adoption of the 2014 F&W Program in October 2014, Council staff has been working with fish and wildlife managers, regional partnerships, and consultants to compile and organize existing fish objectives and advance habitat objectives to inform refinement of Program objectives. To facilitate communicating and understanding these objectives staff has displayed the objectives and related contextual information using story maps similar to those developed for the Program's fish hatcheries, fish screens, and wildlife lands long-term maintenance needs (see existing Program story maps).

The general process for compiling, organizing and displaying existing fish objectives on a story map tool to inform refinement of Program goals and objectives involves:

- Council staff lead effort to search and compile existing objectives from Columbia River Basin documents, including ESA recovery plans, state and tribal management plans, subbasin documents spanning about a 10 to 15-year time period.
- Fish managers assisting Council staff in confirming that all relevant documents are captured and verifying that the relevant goals and objectives statements are extracted from these documents.
- Council staff and QW Consulting proposing a draft structure, with alternatives, to organize and display objectives on a story map.
- Seeking input from managers and Council members to inform development of the draft story map tool, including requested functionalities such as being able to view content by subbasin or populations, addition of contextual content, link to other information, and search/filtering options.
- Testing the functional story map tool with managers and Council members to inform further modifications to the story map.
- Posting on the Council's Resource Tools and Map webpage the story map tool and complementary online query tool for downloading content.
- Developing staff data entry tool to facilitate update and maintenance of objectives content of the story map tool.
- Subsequent Council staff updates to the content of the fish objective story map tools follows specific update process that is included as a hyperlink to all fish objectives story map tools.

Summarized below is the status for: (1) objectives for adult salmon and steelhead; (2) other anadromous and resident fish objectives; and, (3) ecosystem function, habitat, and hydrosystem objectives.

(1) Objectives for adult salmon and steelhead

*Status: completed story map and query tool are on Council website.*

- Council staff worked with fish managers and the Fish and Wildlife Committee members between 2015 and 2017 to finalize compilation and the story map tool for existing salmon and steelhead adult abundance objectives for Chum, Coho, Sockeye, Chinook, and Steelhead.
- After the February 2017 Council meeting, the story map tool and online query tool for salmon and steelhead were posted on the Council's Program Resources Tools and Map webpage.
- Council staff maintains the objective content, making corrections and additions to the objectives following the specified update process, and continues to support the NOAA Columbia Basin Task Force Partnership effort.

(2) Other anadromous and resident fish objectives

*Status: first version of mapping tool planned for November 2018*

- During 2017, Council staff with QW Consulting completed an initial mining of existing objectives for seven-fish species: bull trout, three sub-species of cutthroat trout, redband trout, kokanee, Pacific lamprey, white sturgeon, and eulachon resulting in the extraction of 1162 goals and objectives statements.
- To request the assistance from fish managers in vetting the initial compilation of existing objectives for these seven-fish species Council staff held several meetings with fish managers (in-person meeting on April 12, 2017, conference call on February 5, 2018, and nine individual phone calls between February 14 and 28, 2018). These meetings were attended by fish managers from 7 federal (USACE, USBLM, USBR, USFWS, USFS, USGS, NOAA), 4 states (IDFG, MTFWP, ODFW, WDFW) , and 8 tribal agencies (CdA, CTGR, CTUIR, CTWS, KTOI, STOI, Shoshone-Paiute Tribes, YN), as well as representatives of 5 other organizations (CRITFC, UCUT, USRT, OSU, Mid-Columbia Fisheries Enhancement Group). Additions and modifications to this initial compilation were made per the fish managers' input. Also, per fish managers' requests, existing goals and objectives for Oregon chub and Burbot were added to the compilation. Addition of these two-fish species resulted in an additional 130 statements resulting in a total of 1292 compiled statements for the 9-fish species.
- Between April and May 2018, Council staff and QW Consulting met with fish managers from 2 states (IDFG, MTFWP) and 10 tribes (NPT, KT, CCT, STOI, CDAT, CTWS, CTUIR, CTGR, YN, BPT) through a

series of in-person meetings, to discuss a draft organization for displaying these fish objectives on a story map tool.

- To inform the program amendment process, Council staff and QW Consulting will use the input from fish managers and the Fish and Wildlife Committee to develop an initial, functional, objectives story map tool and online query tool for these nine-fish species to be shared in November 2018. The online query tool and this initial functional site will provide access to the compiled objectives for these nine-fish species in advance of the December 13<sup>th</sup> program recommendation submittal deadline and subsequent public comment period. Discussion about additional functionalities, such as viewing objectives by management unit, and other needed refinements will be explored through discussions with fish managers and the Fish and Wildlife Committee after the November 2018 version is released.

(3) Ecosystem function, habitat, and hydrosystem objectives

*Status: Habitat portion in-development*

- During the April 2015 Pacific Northwest Aquatic Monitoring Partnership (PNAMP) Steering Committee meeting PNAMP partners and the Northwest Power and Conservation Council staff agreed to collaborate to identify regional habitat questions, indicators, and objectives of common interest that could be informed by existing monitoring, specifically water flow, water temperature, water quality index, and macroinvertebrates.
- Work is ongoing through the collaborative PNAMP regional habitat indicator project (RHIP) facilitated by project team Nancy Leonard (Council staff) and Amy Puls (PNAMP staff). RHIP efforts are currently focused on understanding data accessibility and compatibility for the selected management questions and their indicators.

**More Info:**

Existing Council Program Resource [Tools and Maps](#) include Operations and Maintenance maps and Fish Objectives maps.

Summary of objectives related workshops and updates to Council Members:

[October 9, 2018](#) update to the Fish and Wildlife Committee members on status of compiling and displaying existing goals and objectives for the remaining 2 anadromous and 7 resident fish species.

[February 13, 2018 update](#) to the Fish and Wildlife Committee members on the Status of the Fish and Wildlife Program's Story Maps, including fish objectives and Program operation and maintenance maps.

[February 5, 2018 meeting](#) with fish managers about existing objectives for bull trout, redband trout, cutthroat trout, kokanee, Pacific lamprey, white sturgeon and eulachon.

[April 12, 2017 workshop](#) with fish managers about bull trout objectives.

[February 14, 2017 update to](#) the Fish and Wildlife Committee on Natural Origin Salmon and Steelhead Adult Objective Mapping Tool.

[December 13, 2016 presentation](#) to the Fish and Wildlife Committee on the Objectives Mapping Tool (salmon and steelhead objectives).

[August 9, 2016 work-session](#) with fish and wildlife managers to provide input on PNAMP's Regional Habitat Indicator Project.

[May 11, 2016 Technical Work Session](#) for Objective Mapper Content to clarify and refine with fish managers the objective information in the Council's Objective Mapping Tool related to abundance for salmon and steelhead populations.

[December 15, 2015 presentation](#) to the Fish and Wildlife Committee on a basic mapping tool to facilitate viewing natural origin salmon and steelhead abundance objectives within a subbasin.

[June 2015, regional meeting](#) for the Refinement Process for Program Goals and Objectives Salmon and Steelhead.

[2015-ongoing, Regional habitat indicator project](#) (RHIP) led by PNAMP that supports the 2014 Program task related to Ecosystem function, habitat and hydrosystem objectives. The RHIP is a pilot project to develop recommendations for regional habitat indicators. The pilot will focus on management questions, indicators, and objectives for water quality index, macroinvertebrates, water temperature, and flow.

- [April 16, 2015](#) PNAMP Steering Committee meeting PNAMP partners and the Northwest Power and Conservation Council staff agreed to collaborate to identify regional habitat questions, indicators, and objectives of common interest that could be informed by existing monitoring, specifically water flow, water temperature, water quality index, and macroinvertebrates ([see more here](#)).
- [March 16, 2016](#) first meeting of the regional habitat indicator project (RHIP) facilitated by PNAMP's project team Nancy Leonard (Council staff) and Amy Puls (PNAMP staff).
- [July 20, 2016](#) RHIP combined indicators work to discuss progress made on identifying aquatic habitat management questions of greatest common interest
- [November 9, 2016](#) RHIP workshop #1 to vet recommendations for management questions and related indicators
- [September 19, 2017](#), [December 14, 2017](#), and [February 15, 2018](#), check-in meetings on progress made by the RHIP sub-groups on indicators for the management questions.
- [March 22, 2018](#), RHIP workshop #2, focus on improving data accessibility and compatibility for the selected management questions and their indicators.