Northwest **Power** and **Conservation** Council

June 5, 2018

MEMORANDUM

TO: **Fish and Wildlife Committee Members**

FROM: **Staff**

SUBJECT: **Update on Emerging Priorities Implementation**

BACKGROUND:

Presenters: Fish and Wildlife Division staff

Summary: Staff will summarize significant developments regarding implementation of measures associated with the Fish and Wildlife Program's emerging priorities.

Relevance: This item addresses implementation of the Council's 2014 Columbia River Basin Fish and Wildlife Program emerging priorities.

Emerging Priorities:

The Council identified seven emerging priority areas in its 2014 Fish and Wildlife Program. These are:

1. *Provide for funding long-term maintenance of the assets that have been created by prior program investments*
2. *Implement adaptive management (including prioritized research on critical uncertainties) throughout the program by assessing the effectiveness of ongoing projects, developing program objectives when appropriate and taking into account the effects of climate change*

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3. *Preserve program effectiveness by supporting: (1) expanded management of predators; (2) mapping and determining hotspots for toxic contaminants; and (3) aggressively addressing non-native and invasive species*
4. *Investigate blocked area mitigation options through reintroduction, passage and habitat improvement, and implement if warranted*
5. *Implement additional sturgeon and lamprey measures (passage and research)*
6. *Update the subbasin plans most in need of updates*
7. *Continue efforts to improve floodplain habitats*

Staff will update the Fish and Wildlife Committee on activities to implement measures associated with these Fish and Wildlife Program (program) priorities and provide an opportunity to hear from the Committee members if they have any concerns or questions.

- **EP-1:** *Long term maintenance*. Since the adoption of the 2014 F&W Program the Council and Bonneville have been working with the O&M Subcommittee to (1) implement annual funding commitments for priority maintenance needs and, (2) develop a long-term Asset Management Strategic Plan to address non-routine maintenance needs to ensure the longevity and integrity of the Program's past investments made for the benefit of fish and wildlife through the development of a prioritized assessment for non-routine maintenance and securing a monetary mechanism for implementation

  Through the work of an O&M subcommittee, led by member Booth, the Asset Management Strategic Plan is intended to achieve a long-term maintenance, rehabilitation, and replacement system for Program investments associated with hatcheries, fish screens, and lands .These plans include asset inventories, condition assessments, prioritization and strategic planning and funding.

  Mapping tools to support long term O&M have been completed for program funded artificial production programs and fish screens. A mapping tool for program funded wildlife lands and lands credited with fish mitigation functions was demonstrated at the May 2018 Committee meeting. M. Fritsch

- **EP-2:** *Implement adaptive management.* The Council adopted and on June 15, 2017, published an updated Research Plan for the program. Staff recently completed an inventory of research projects and components in the program and is now beginning a research project status review of the 28 projects that are focused primarily on research. (See project review memo include in this Committee packet.)

  Staff are compiling objectives for nine species of resident and other anadromous fish. The Council may consider these objectives, and the previously identified natural origin salmon and steelhead objectives, for inclusion into the next fish and wildlife program. In February of 2015 the Council agreed to merge the Council's compilation effort of natural origin salmon and steelhead objectives with NOAA Fisheries Columbia Basin Partnership process, which is expected to produce proposed objectives by early October of 2018.

Taking into account the effects of climate change. Most program funded habitat restoration work that returns water to streams, enhances riparian cover and restores floodplain functions has a positive effect by reducing water temperatures. Additional examples of work that takes climate change into account are:

- EPA, Oregon DEQ, the USACOE and LCEP are collaborating to compile a report and map of cooler-water areas along the mainstem Columbia used by salmon and steelhead.
- Selective water temperature withdrawal technologies were implemented in 2015 at fish ladders and their exits at Lower Granite Dam by the COE.
- The COE is also designing water temperature control structures for some high head Willamette subbasin dams.

- **EP-3:** *Preserve program effectiveness by supporting: (1) expanded management of predators*. While understanding the natural process of predation, the Council is active in predation management efforts around the Basin for native focal fish species that are impacted by avian, pinniped, and pisciverous fish predation. For example, the Council is supportive of federal legislation intended to reduce sea lion predation in the lower Columbia River below Bonneville Dam, and recently provided a letter of support for both the current House and Senate bills. The northern pike minnow sport reward fishery program, begun in 1990, is a long-running predator management project that the Council has continued to support, most recently in September 2016. And starting in 2015, the Council has shown support for the removal and suppression of Northern Pike in Lake Roosevelt (also see this Council agenda for a recommendation by the Committee to implement proposal 2017-004-00, *Northern Pike Suppression and Monitoring)*. And the program continued to encourage aggressive efforts by the Army Corps of Engineers on their avian predations work within AFEP (Anadromous Fish Evaluation Program). L. Robinson and M. Fritsch

  Mapping toxics. The toxics workgroup gathered data for an example story map using PAH data. T Grover

  Aggressively addressing invasive and non-native species. The Council supported aggressive watercraft inspections on the periphery of the Columbia basin designed to detect and prevent the establishment of quagga or zebra mussels anywhere within the basin. At the Council's and the region's urging, Congress has appropriated funds, $4 MM in 2018 and $5 MM in 2019, through the Army Corps of Engineers to partner with states to strengthen the network of watercraft inspections stations. See: Economic Risk of Zebra and Quagga Mussels in the Columbia River Basin. L Bach

- **EP-4:** *Investigate blocked area mitigation:* The 2014 Program has a strategy for anadromous fish mitigation in blocked areas, including investigation of reintroduction of salmon and steelhead above Chief Joseph and Grand Coulee dams. This work is to be conducted in a phased approach. In 2016, as part of phase one, staff completed an inventory and summary of fish passage

technologies used at high head dams. Additionally, the Spokane Tribe of Indians received Bonneville funding to conduct a habitat assessment for salmon and steelhead upstream of Chief Joseph Dam to the Canadian border. This work, along with efforts by the Colville Tribe and state and federal partners, is nearing completion. The Council can expect a report on the Spokane Tribes' findings soon. L Robinson

The Willamette BiOp requires the action agencies to implement fish passage at several high head dams in the Willamette basin, which the Program is supportive of. The current actions include:

- Downstream fish passage at Detroit
- Downstream fish passage improvement at Foster with an upgraded fish weir
- Downstream fish passage at Cougar
- Upgraded adult fish facility (AFF) at Fall Creek
- Continued deep winter drawdown for downstream fish passage at Fall Creek
- Continued review of potential fish passage approaches in the Middle Fork, in consultation with NOAA Fisheries.
- Hatchery fish management changes

- **EP-5**: *Implement additional sturgeon measures*. At the June, 2017 Council meeting, the Council recommended that Bonneville fund three sturgeon proposals that expand existing sturgeon projects. The timeline for this work will be through FY 2019. One proposal will be funded with existing Accord funds ($150,000 for FY 2018-19), and the other two by funding identified by through the Cost Saving Workgroup (CSW) totaling $283,000 for FY2018 and $233,000 for FY2019. The Fish and Wildlife Committee recommended this body of sturgeon work for funding based on the sponsors' proposals and responses to the Council's clarifying questions; and with the condition that Bonneville and sponsors develop objectives, deliverables and timelines specific for this work, implementation is consistent with the Council's proposed final research plan, and sponsors submit an annual report in 2018 and final findings report in 2019.

  A well-attended Columbia River White Sturgeon workshop was held in November 2017 L. Palensky

  Implement additional lamprey *measures*. The program has supported five lamprey projects for several years. Most recently the Project #2017-005-00, Pacific Lamprey Conservation Initiative, was approved by the Council at the March 2018 meeting. The Project implements three new lamprey actions funded through the use of cost-savings funds in FY 2018: adult passage improvement in lower Yakima River, $40,000, translocating adult lamprey past lower Snake River dams, $30,000 and the lower South Fork McKenzie River floodplain enhancement project, $150,000. This work was proposed through the Pacific Lamprey Conservation Initiative. The Pacific Lamprey Conservation Initiative is a collaborative effort among the U. S. Fish and Wildlife Service, Alaska, California, Idaho, Oregon, Washington and Native American Tribes.

In addition, the Council recently received a Master Plan, associated with three of the ongoing lamprey projects, titled Pacific Lamprey Artificial Propagation, Translocation, Restoration, and Research. The plan recently received a favorable ISRP review and Council staff is anticipating bring this to the F&W Committee in July.

Also on November 16, 2017, the Council received a submittal: *Synthesis of Threats, Critical Uncertainties, and Limiting Factors in Relation to Past, Present and Future Priority Restoration Actions for Pacific Lamprey in the Columbia River Basin*. On February 9, 2018, based on the ISRP review, the Council found that the synthesis provided a "comprehensive" summary of the current understanding of Pacific lamprey in the basin and has addressed previous questions and concerns. M Fritsch

- **EP-6**: *Update the **subbasin plans** most in need of updates.* No tribal, state or federal fish managers have recommended updating any subbasin plan. Staff.

- **EP-7**: Continue efforts to **improve floodplain habitats**: Habitat actions, as off-site mitigation in the Columbia River tributaries, has been a major part of the Program since the early 1980's. In 2016, direct expenditures in the habitat restoration and protection category (from the Council's Columbia River Basin Fish and Wildlife Program Costs Reports) were nearly $118,000,000. Most habitat work under the program occurs in the tributaries, and provides benefits to both instream and floodplain habitats. The work is primarily intended to benefit focal anadromous and resident salmonids, however other native aquatic species often benefit from habitat actions either directly, through the intended scope of a project, or indirectly, as a result of the fish-focused project. Habitat work is implemented in all four states, from the estuary to the upper reaches of the Columbia River tributaries. Staff.

  Sponsored the 2016 Technical Sessions of the Future of Our Salmon Conference, "***Healthy Floodplains, Living Rivers***"

2014 Program Emerging Priorities

What they are and what progress has been made within each priority.

June 2018

The Council identified seven emerging priority areas in its 2014 Program

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3. *Preserve program effectiveness by supporting: (1) expanded management of predators; (2) mapping and determining hotspots for toxic contaminants; and (3) aggressively addressing non-native and invasive species*
4. *Investigate blocked area mitigation options through reintroduction, passage and habitat improvement, and implement if warranted*
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6. *Update the subbasin plans most in need of updates*
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EP-1: Long term maintenance.

- Actions to address priority needs of Program hatcheries and fish screens has been initiated through the use of cost savings funds.

- The majority of the mission critical O&M needs at program hatcheries have been addressed or are in process of being addressed. To continue progress, the O&M Subcommittee requested identification of priority needs of the essential maintenance elements from the hatchery managers for FY2019 - 2020. Essential Maintenance and Improvements are items considered important for the facility to continue to perform the mission that was originally identified. See the map of artificial production programs on the Council's website.

- Fish screen O&M needs were defined as part of the asset management framework of the long-term O&M Strategic Plan. Council and Bonneville staff have been working with the Program's fish screen managers and project sponsors over the past 3 years to identify priority needs. These fish screen needs are being identified and developed in a similar fashion as the hatchery mission-critical elements, for FY2019 and 2020. See the map of fish screen programs on the Council's website.

- Lands currently under assessment. Map of lands will be on website soon.

EP-2: Implement adaptive management (including prioritized research on critical uncertainties).

The Council adopted a Columbia River Basin Fish and Wildlife Program Research Plan in June 2017. The purpose of this research plan is to help the Council, Bonneville, project sponsors and the independent science panels:

1) continue to improve organization of research conducted under the Program and reporting of results and conclusions;
2) organize critical uncertainties for the Program;
3) identify priority areas of current and future research;
4) inform adaptive management; and
5) along with other considerations, guide funding recommendations.

The 2017 Research Plan is available on the Council's website.

Staff recently completed an inventory of research projects and components in the program and is now beginning a research project status review of the 28 projects that are focused primarily on research.

EP-2: Develop program objectives.

The Council has been working with numerous entities in the Basin to identify, collect, organize and make accessible existing quantitative objectives for a subset of focal species and their habitat. This inventory is large, consisting of different types and scales of objectives, and may assist the Council and region in the upcoming program amendment process in determining what type and scale of objectives and related indicators are best suited for assessing and reporting on the Council's Program's progress.

Natural origin salmon and steelhead objectives are mapped and available for exploring in detail on the Council's website. Additional focal species, such as bull trout, sturgeon, lamprey, etc. will be added to the fish objective mapping tool when the vetting process with fish managers and the Council is complete.

EP-2: Taking into account the effects of climate change.

- EPA, Oregon DEQ, the USACOE and LCEP are collaborating to compile a report and map of cooler-water areas along the mainstem Columbia used by salmon and steelhead.
- Selective water temperature withdrawal technologies were implemented in 2015 at fish ladders and their exits at Lower Granite Dam by the COE.
- The COE is also designing water temperature control structures for some high head Willamette subbasin dams.

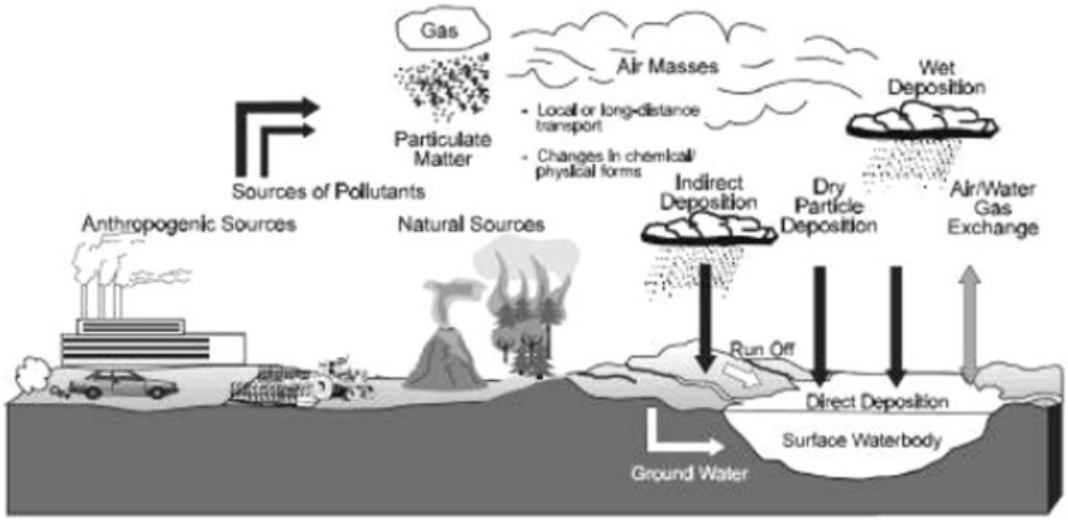
EP-3: Expanded management of predators.

The Council is supportive of federal legislation intended to effectively reduce the predation of salmon and steelhead by sea lions in the Lower Columbia River downstream of Bonneville Dam.

The Council has continued to support the northern pike minnow sport reward fisheries, most recently through support of a BOG request in September 2016.

The Council has supported assessment and control actions focused on Northern Pike in Lake Roosevelt since 2015.

EP-3: mapping and determining hotspots for toxic contaminants.



Source: U.S. EPA 2000

The Toxic contaminants workgroup gathered data from around the Columbia Basin for Polycyclic Aromatic Hydrocarbons (PAHs) and an example story map of PAH data.

EP-3: Invasive and non-native species.

The Council supported aggressive watercraft inspections on the periphery of the Columbia basin designed to detect and prevent the establishment of quagga or zebra mussels anywhere within the basin. At the Council's and the region's urging, Congress has appropriated funds, $4 MM in 2018 and $5 MM in 2019, through the Army Corps of Engineers to partner with states to strengthen the network of watercraft inspections stations. See: Economic Risk of Zebra and Quagga Mussels in the Columbia River Basin.

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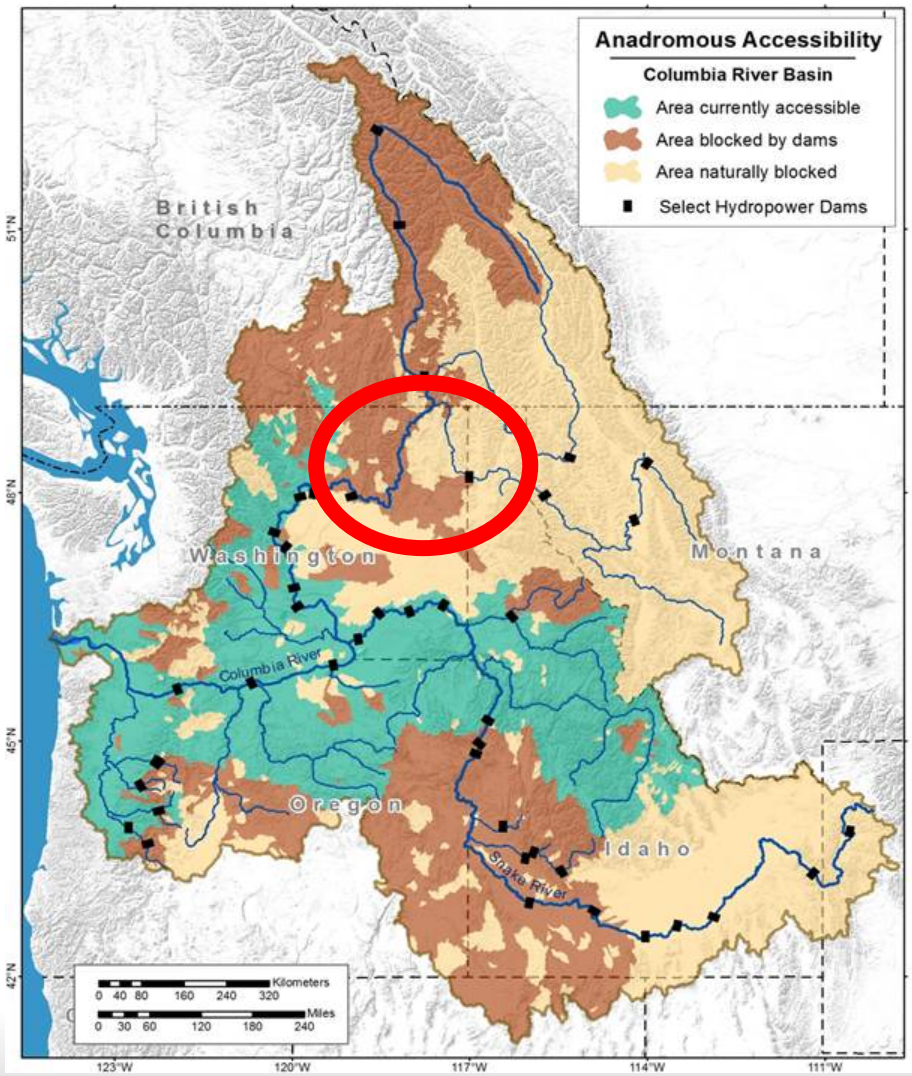

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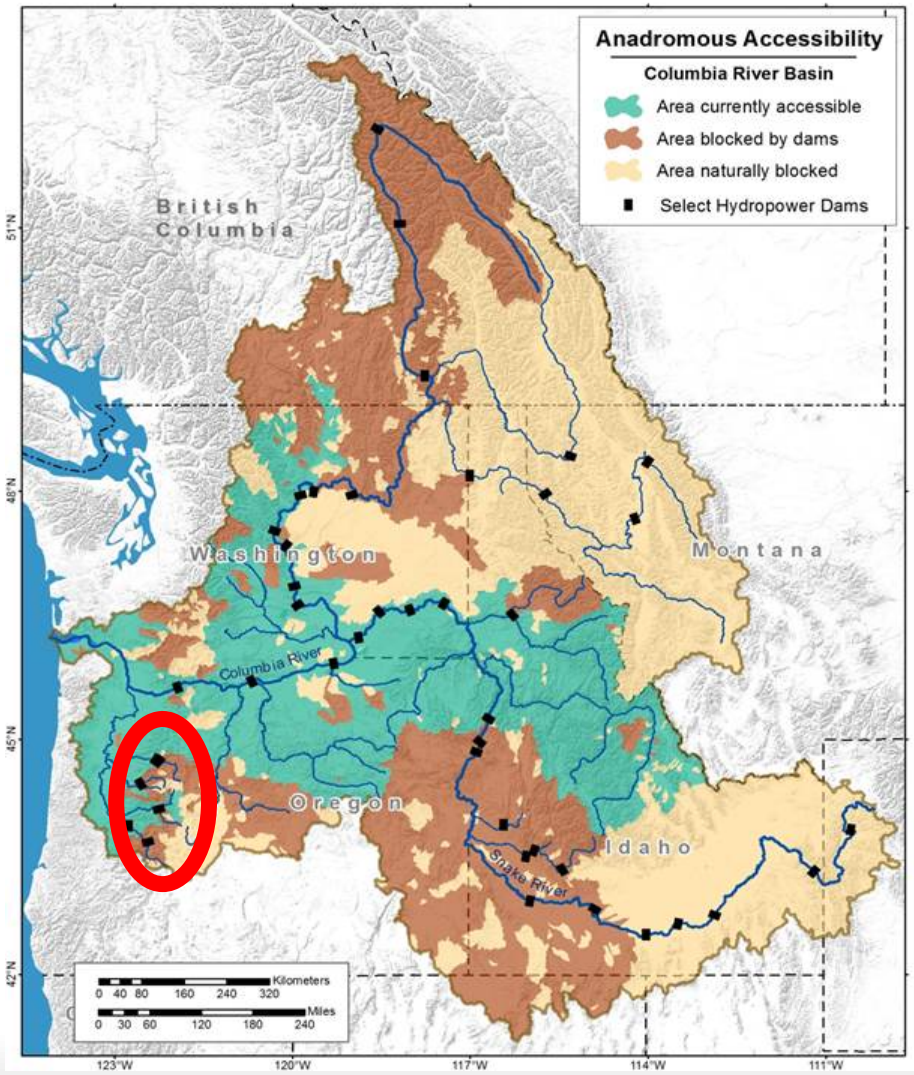

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EP-5: Implement additional Lamprey measures

At the March 2018 Council meeting funded a new Project, funding through the use of cost-savings funds in FY 2018, that will implement the following three actions: adult passage improvement in lower Yakima River, $40,000, translocating adult lamprey past lower Snake River dams, $30,000 and the lower South Fork McKenzie River floodplain enhancement project, $150,000. Sponsors will report to the Council in November 2018.

This work was proposed through the Pacific Lamprey Conservation Initiative. Council and Bonneville staff worked with lamprey managers and partners to develop opportunities for the use of cost savings funds to support on-the-ground lamprey work. See this Lamprey presentation which provides further details about the Pacific Lamprey Conservation Initiative.

EP-6: Update the subbasin plans most in need of updates

No tribal, state or federal fish managers have recommended updating any subbasin plan.

EP-7: Continue efforts to improve floodplain habitats

Habitat actions, as off-site mitigation in the Columbia River tributaries, has been a major part of the Program since the early 1980's. In 2016, direct expenditures in the habitat restoration and protection category (from the Council's Columbia River Basin Fish and Wildlife Program Costs Reports) were nearly $118,000,000. Most habitat work under the program occurs in the tributaries, and provides benefits to both instream and floodplain habitats. The work is primarily intended to benefit focal anadromous and resident salmonids, however other native aquatic species often benefit from habitat actions either directly, through the intended scope of a project, or indirectly, as a result of the fish-focused project. Habitat work is implemented in all four states, from the estuary to the upper reaches of the Columbia River tributaries.

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