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February 6, 2018

MEMORANDUM

TO: Fish and Wildlife Committee members

FROM: Patty O'Toole and Tony Grover

SUBJECT: Fish and Wildlife Amendment Update - possible amendment topics

BACKGROUND:

Presenter: Patty O'Toole, all staff

Summary: The staff and Fish and Wildlife Committee will continue discussion of high-level topics that could be included in the Council's request for recommendations to amend the Program.

Relevance: This task is related to the upcoming process to amend the Council's 2014 Columbia River Basin Fish and Wildlife Program.

Introduction

Under the Pacific Northwest Electric Power Planning and Conservation Act of 1980, Congress charged the Council with developing and periodically amending a fish and wildlife program for the Columbia River Basin to protect, mitigate, and enhance fish and wildlife affected by the development and operation of hydroelectric facilities while assuring the Pacific Northwest an adequate, efficient, economical, and reliable power supply. The Council's current Columbia River Basin Fish and Wildlife Program was last amended in 2014. Consistent with the Northwest Power Act, the Council will need to complete an amendment of its Fish and Wildlife Program prior to the review and revision of the 8th Power Plan.

In preparation for the amendment process, the Committee members should be aware of some upcoming events. First, on February 12th the Regional Coordination Forum will

meet in Portland. This is an opportunity for the Council staff to hear feedback from the regional fish and wildlife managers and coordinators about important topics related to the amendment process.

In March, the Council will receive a report from the Independent Scientific Advisory Board with the results of their review of the 2014 Fish and Wildlife Program. In the past, these reviews have been important for the Council, managers and others to consider in the amendment process.

The Council will request recommendations to amend the Fish and Wildlife Program with a formal letter to the region. The letter will contain information about the process including why the Council needs to amend the program (the Northwest Power Act) and instructions for how people should submit their recommendations to the Council.

The Council may, as it has in the past, wish to include guidance on topics in the Program that the Council would like the recommending entities to consider as they prepare their recommendations to the Council. The Council will address any recommendations it receives, but may suggest that recommendations focus on areas of the Program where changes are needed. The bulk of the Program, including its framework and most of its measures, have not changed substantially in recent amendment cycles. Most of the focus has been on a few new aspects of the Program, its implementation and Program priorities.

Background and Program context

Under the authority of the Northwest Power Act and the associated Columbia River Basin Fish and Wildlife Program, actions are funded and implemented to protect, mitigate and enhance fish and wildlife adversely affected by the development and operation of the Columbia River hydrosystem. These actions are of two different types. One consists of “on-site” efforts to improve the survival of anadromous fish through the mainstem hydrosystem, through improved water management, changes in reservoir operations, passage improvements, and spill. The other type consists of “off-site” enhancement actions, not directly aimed at reducing hydrosystem impacts. These actions are intended to compensate in some way for the remaining hydrosystem impacts not addressed on-site by addressing the survival, productivity and habitat capacity of anadromous fish in tributaries, the estuary and mainstem, or by producing fish in hatcheries.

Hatchery production of anadromous fish occurs under the Power Act, but a significant amount of the basin’s artificial production to address hydrosystem impacts occurs under laws passed by Congress prior to the Power Act, such as the Mitchell Act and Lower Snake River Compensation Act. To the extent that some of the species and runs of fish targeted are *also* listed as threatened or endangered under the federal Endangered Species Act, these hydrosystem protection, mitigation and enhancement actions are analyzed by NOAA Fisheries and US Fish and Wildlife Service and included in the Endangered Species Act review.

Current state of the Program

Thirty-five-years of program development and implementation has yielded:

- quantitative assessments of the loss of anadromous fish attributable to the development and operation of hydropower in the basin; quantitative assessments of wildlife losses;
- goals and objectives tied to these loss assessments intended to represent at least interim success at protection and mitigation;
- significant program planning over several decades to identify actions for implementation to help achieve the broader program goals;
- protection and mitigation actions implemented at the cost of hundreds of millions of dollars annually;
- many accomplishments, including improvement in habitat for anadromous and resident fish (see [High Level Indicators](#)); maintenance of investments in hatcheries, land protection and fish protection screens (see [Program Resource Maps](#)); and progress implementing the Wildlife Strategy, with some areas nearing full mitigation (*details under review*). For example, anadromous habitat accomplishments since 2008 include:
 - 977 miles of streamside habitat have been purchased or leased for the benefit of fish;
 - 3,485 miles of habitat have been made available through instream passage improvements such as removing old water diversions and by installing fish passage structures, and
 - 5,970 miles of habitat have been improved through efforts such as rebuilding stream channels and increasing instream complexity, building fences to exclude cattle, planting vegetation, and removing noxious weeds.
- improvement in abundance is observed for some anadromous fish populations, but overall numbers remain below Program's goal based on the hydrosystem loss, and some populations remain below the Program's goals for hydrosystem passage.

Recent developments

A number of recent developments that may influence the Program and its implementation include:

- A federal court order has required the federal agencies to implement a spill operation on the four lower Snake and four lower Columbia dams to the maximum spill level that meets, but does not exceed, the Total Dissolved Gas criteria allowed under state law. This is part of the broader question that has been asked in the basin for some time. After 35 years of water management and passage actions, are there additional hydrosystem protection actions that can increase salmon survival through the hydrosystem?

- Court decisions regarding the current Federal Columbia River Power System (FCRPS) Biological Opinion have raised issues about the certainty of benefits to anadromous fish that can be gained from habitat restoration actions, and how to quantify and assess those benefits. Council reviews of habitat projects and habitat monitoring and evaluation methods have identified similar issues.
- The federal agencies are working on a new FCRPS Biological Opinion to evaluate the impacts of the federal hydropower system on salmon and steelhead. This will be accompanied by a NEPA assessment that aims to consider the benefits from protection and mitigation actions, what more might be gained from a set of alternatives to those actions, and at what cost and effects? The entire process is to be completed by 2021.
- The Independent Scientific Advisory Board issued a report raising concerns about density dependence. Is there overcrowding that affects salmon survival in some subbasins and in other parts of the salmon life-cycle environment resulting from the total amount of natural and artificial production or from significantly reduced habitat availability?
- The Columbia Basin Partnership (CBP) Task Force, a special task force organized under NOAA Fisheries' Marine Fisheries Advisory Committee, will be making recommendations to NOAA on common goals for salmon and steelhead. The CBP Task Force will recommend a vision for Columbia Basin salmon and quantitative goals to meet conservation needs and provide harvest opportunities.
- The U.S. and Canada have established a collaborative modeling workgroup in order to prepare for Columbia River Treaty negotiations and provide a common base of information in order to analyze how the four treaty dams will balance flood risk management and hydropower operations with the needs of salmon and the river's ecosystem.

Suggested Discussion Topics:

Based on the background information provided above, there appear to be several key subject areas that are important to the future direction of the Fish and Wildlife Program and its implementation in the future. Staff suggests that the following subject areas and questions would benefit from further regional focus and discussion in the amendment process.

Anadromous Fish

- **On-site mitigation.** Are there practical additions or changes to mainstem water management, reservoir management and passage operations that would lead to an increase in fish survival?
 - Is there information indicating how much potential exists, if any, for additional gains in habitat and survival through further changes in mainstem water management, reservoir management and passage operations?
 - If so, is there a need for new or different actions, or are current measures adequate but require greater implementation?
 - If current information is not sufficient to answer these questions, how should the Council and the program go about developing this information?

- **Off-site mitigation.** How much potential exists in each subbasin, the mainstem, the estuary and across the basin as a whole, for further improvements in survival, productivity and capacity through additional off-site actions?
 - Do we need to shift or adjust our investment in habitat restoration actions to better meet program goals?
 - How can we better evaluate and document the collective benefit of off-site habitat actions?
 - How should we consider the density dependence effects on our ability to achieve our abundance and production goals?
 - What potential is there for additional habitat capacity in both currently accessible areas as well as non-accessible (blocked) areas? What key actions should be taken to realize this increased capacity?
 - How well are hatcheries contributing to Program goals and do we need to improve on monitoring and tracking their performance over time?
 - Does the information exist to answer these questions, and if not, how would the Council go about developing this information during implementation of the program?

- **Threats to Program effectiveness.** What impacts do warming temperatures, contaminants, predation, land use decisions and non-native species have on the ability to reach Program goals and objectives?
 - How should these threats be accounted for or addressed in the Program?
 - What can be done to increase the resiliency of salmon and steelhead to maximize their ability to survive in an altered ecosystem?
 - Does the information exist to answer these questions, and if not, how would the Council go about developing this information?

Wildlife

- **Wildlife losses and mitigation.** The staff is developing an assessment of progress made on the wildlife losses that were adopted into the Program in 1989. The draft assessment utilizes adopted Program policies such as how credit should be applied against losses (2000) and support for resolving operational losses through settlement agreements (2009 and 2014). This assessment, first discussed with the Committee last August, considers both direct accounting for Habitat Unit (HU) gains credited against losses as well as settlement of mitigation through agreements. Since August, staff refined the assessment, and received input from Bonneville. The next step is to share the [draft assessment](#) with the basin's wildlife managers to seek their input.
 - The upcoming amendment process provides an opportunity to update the Program's Wildlife Strategy with recent information on mitigation progress and to address remaining policy issues.

Cross cutting Program topics:

- In thinking about how the Program could address implementation in the next five years:
 - Should the Council adopt an action plan for Program measures?
 - Are there areas of the Program that are not being implemented that should be considered a Program priority?
 - Are there gaps in mitigation and what are practical steps to address them?
 - What are the potential implications for implementation if the Columbia Basin Fish Accords come to an end? And would the Program need specific changes or additions?
- In thinking about the relationship between the regional Northwest Power Act, the Fish and Wildlife program and the other regional processes, such as the Columbia River System Operations NEPA EIS process, how can we best integrate these efforts? We should consider that:
 - The federal action agencies have obligations toward fish and wildlife and the Council's Program under the Northwest Power Act.
 - As these agencies develop and study alternatives, the regional Fish and Wildlife Program and the Northwest Power Act obligations should form a baseline or foundation for any alternative studied.
 - The outcomes of these processes are uncertain and could result in a new biological opinion and potentially a revision to the regional Fish and Wildlife Program to capture the resulting NEPA analysis and any other accompanying processes.

More Info:

[January 2018 memo](#) to Committee members
[September 2017 memo](#) to Council member