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MEMORANDUM

TO: Fish and Wildlife Committee

FROM: Nancy Leonard

SUBJECT: Proposed Format of Annual Report on Monitoring and Evaluation

This agenda item is to promote a discussion of the draft information content for the Annual Fish and Wildlife Program Report on Monitoring and Evaluation to Congress. The draft report format consists of several sections providing: background information on the Fish and Wildlife Program; data describing the status of fish, wildlife, and ecosystem resources in the Columbia River basin; vignettes to attract the readers' interest; and more in-depth coverage of a selected topic of the year (Attachment 1 - separate Booklet). In this draft only place holders are used, there is **no actual information or data included**. Additionally, the draft is in a reduced booklet size but the final report will be full size.

The section currently needing discussion is the data describing the status of fish, wildlife, and ecosystem resources in the Columbia River basin. Specifically, discussion on which management topics to include in the report is needed, which will in turn identify the data to be included. To facilitate discussion I have included in the draft report some management topics that are based mostly on the high level indicators. To encourage consideration of other management topics of interest to the Council, Governors, and Congress I've included three sections under Attachment 2 that consists of management statements derived from the draft Amended Fish and Wildlife Program, all the current high level indicators, and additional topics for considerations.

Attachment 1: Draft Format for the Annual Fish and Wildlife Program Report on Monitoring and Evaluation to Congress

The draft report format is in a reduced booklet size to visually portray the sections, relative amount of space dedicated to each section, and suggested management topics on which to report to Congress.

The draft booklet is a separate item included with the hardcopy of the packet. Additional copies will be available at the meeting.

Attachment 2: Potential Management Topics to Include in the Annual Fish and Wildlife Program Report on Monitoring and Evaluation to Congress

Purpose: This attachment provides additional information on management topics that may be included in the Annual Fish and Wildlife Program Report to Congress. Management topics currently included in the draft report (Attachment 1) are only a suggestion to foster discussion.

The final selection of management topics to be reported should serve to assess overall Program progress and congressional interests. Hence, it is important to select topics that can convey the most information while limiting the total number selected. The goal is to keep the report under 20-pages and light in the amount of text used.

Below there are three sections containing information that may assist in deriving the management topics for the report. The first section consists of draft management statements derived from the draft Amended Fish and Wildlife Program. The second section consists of the draft list of high level indicators. The third section lists additional questions that may be of interest.

Section 1: Draft Management Statements Based on Draft Amended Fish and Wildlife Program Sections

The below statements may contribute to the:

1. Development of management questions to fulfill the Council's Fish & Wildlife program needs for projects.
2. Guide the information content to communicate the Program's progress to Congress.

Note: the page numbers located in parenthesis match the page numbering in the draft amended Program. The page numbers may change in the final version of the Program.

Biological Objectives

- Restore and preserve functional links among ecosystem elements to allow for healthy ecosystems and watersheds that support a diversity of species (Pg.19).
- Expand habitat and ecosystem functions to support resident fish abundance, productivity and life history diversity that occurred prior to the development and operation of the hydrosystem (Pg.19).
- Achieve by 2109 mitigation for losses of resident fish that is representative of resident fish species population characteristics (Pg.19).
- Mitigate for initial and secondary loss of wildlife associated with construction and operation of the hydrosystem (Pg.19-20).
- Basin-wide environmental characteristics needed to support a healthier ecosystem within the Columbia River basin should be promoted (Pg.21).

Basinwide Strategies

- Establish criteria for identifying stronghold areas within the Columbia River Basin (Pg.26).

- Evaluate the potential impacts of climate change on habitat improvements and respond as needed (Pg.28-29).
- Identify toxic contaminant sources, conduct long-term monitoring of priority toxic contaminants, and enhance understanding of contaminant uptake by fish and wildlife (Pg.28-29).
- Conduct long-term monitoring of known toxins to determine trends in contaminant levels and locations (Pg.28-29).
- Assess harvest levels and stock composition of salmonids harvested in freshwater and ocean environment (Pg.36).
- Current status of harvested salmonid stocks (Pg.36).
- Monitor selected fish, wildlife and ecosystem elements to cost-effectively assess management needs (Pg.43).
- Identify, research, and report on key uncertainties on Columbia River basin fish, wildlife and ecosystem (Pg.43).

Ocean

- Identify the impact of Columbia River plume and ocean conditions on salmon survival (Pg.53-54).

The Columbia River Estuary

- Protect, enhance and restore critical spawning and rearing habitats in the estuary and lower Columbia River (Pg.55).

Mainstem Strategies

- Increase understanding of relationships between fish survival and various dam operations (Pg.69).
- Evaluate impact of predation and harvest operations on smolt-to-adult return ratios (Pg.69).
- Protect, restore, and enhance habitat in mainstem reaches (Pg.72).
- Identify mainstem habitat protection and improvement needs for recovering bull trout populations (Pg.72).
- Improve fish foraging and rearing habitat along shores of Lake Roosevelt (Pg.72).
- Identify actions needed for stabilizing and improving white sturgeon, Kootenai River, and burbot populations (Pg.72).
- Improve juvenile and adult Pacific lamprey passage and migration survival through mainstem hydroelectric projects (Pg.72).
- Implement water quality measures to enhance juvenile and adult fish survival and mainstem spawning and rearing habitat (Pg.73).
- Improve inriver migration conditions for juvenile salmonids (Pg.75).
- Evaluate and improve passage methods for salmonids while spilling less water (Pg.78).
- Increase knowledge on pathogens infecting salmonids migrating through the hydrosystem (Pg.79).
- Improve adult salmonid passage through the hydrosystem (Pg.80).
- Improve adult and juvenile Pacific lamprey passage survival and reduce migration delays (Pg.81).
- Improve white sturgeon passage survival (Pg.81).

- Assess the impact of climate change on the Columbia River ecosystem and potential mitigation actions (Pg.89).
- Develop and implement an annual smolt monitoring program, Fish Passage Center (Pg.96-97).
- Collect and make available fish passage information database, Fish Passage Center (Pg.96-97).
- Assess feasibility of efforts to reintroduce Pacific salmon and steelhead into blocked areas of Columbia River basin (Pg.101).
- Implement strategies to reduce non-native piscivorous predation on salmonids (Pg.90).
- Implement strategies to reduce avian predation on salmonids (Pg.90).
- Implement strategies to reduce marine mammal predation on salmonids (Pg.90-91).
- Implement strategies to prevent, control spread, and mitigate impacts of non-native species on hydrosystem and native species (Pg.92).

Implementation Provisions

- Develop multi-year implementation plans to implement needed measures for non-Accord and non-BiOps areas and species that are within the F&W Program scope (Pg.106).
- Prioritize efforts in areas with the highest proportion of unmitigated wildlife losses (Pg.109).
- Pursue water right acquisitions in subbasins where water quantity has been identified as a primary limiting factor (Pg.109-110).
- Pursue land acquisitions to protect watershed functions (Pg.110).
- Coordinate with on-going fish, wildlife and ecosystem monitoring efforts at the local, basin, and northwest regional scale (Pg.112).

Section 2: Draft High Level Indicators

These draft high level indicators, which connect to several of the above Program’s management statements, may contribute to:

1. Guide the information content to communicate the Program’s progress to Congress.

Abundance

- Total adult salmon and steelhead returns to the Columbia River Basin.
- Total lamprey returns to the Columbia River Basin.
- Total adult fish in the Council’s Program.

Evolutionary Significant Units (ESUs)

- Fish population status and trends for each ESU, especially listed ESUs.
- Life-cycle mortality.
- Life stage survival estimates for representative populations of Chinook and steelhead.

Harvest and Hatcheries

- Harvest number and rate.
- Harvest of hatchery fish in the Council's Program.
- Relative fitness of supplemented stocks from hatcheries in the Council's Program.

Hydro survival

- Survival rates through the hydrosystem for adult and juvenile fish passing in-river and barged.

Habitat

- Productivity of wild fish in select watersheds targeted by Council program.

Wildlife

- Wildlife habitat units by dam: lost and acquired.

Passage Barriers

- Instream passage improvement. Additional habitat made accessible.

Water

- Water conservation and irrigation practices and water transactions.
- Additional water available for fish, anadromous and resident.

Land

- Land acquisition/conservation easement. Additional land acquired or leased for fish habitat.

Improvement

- Riparian habitat improved.

Screens

- Installed fish screens.

Predators

- Number of juvenile salmon saved from all predators.

Watershed Health Indicator

- Number and percentage of targeted watersheds that provide adequate fish habitat.

Section 3: Additional Topics of Interest

Additional topics to consider in selecting information content to communicate the Program's progress to Congress.

- Current landuse distribution within the Columbia River basin? Are we gaining in the amount of land protected and restored or losing more than we are protecting and restoring?
- Number of hatchery origin versus the number of natural origin among spawning fish?
- How well are we addressing limiting factors in each subbasin? Or basinwide?
- Budget amount allocated or number of projects by a given category of work being done, such as hatchery?
- Others?