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September 5, 2018

### MEMORANDUM

**TO: Fish and Wildlife Committee Members**

**FROM: Staff**

**SUBJECT: Discussion on potential science and economics review of predation**

### BACKGROUND:

**Presenter:** Laura Robinson, Erik Merrill, and Tony Grover

**Summary:** The Independent Scientific Advisory Board's (ISAB) draft 2019 Work Plan includes a potential review of predation management effectiveness to inform the 2014 Fish and Wildlife Program's measure to "determine the effectiveness of predator-management actions." Additionally, the northern pike coordinating group of the Pacific Northwest Economic Region (PNWER) has requested an economic review of the impact of northern pike in the Columbia River Basin, considering where they can be found now and their potential to spread downstream of Grand Coulee and Chief Joseph dams. Council members have shown interest in a science review of predation impacts in the Basin and some members have shown support for a northern pike-focused economic review. At the September Fish and Wildlife Committee Meeting, staff will discuss two options for the scope of topics covered in a review and three options for the organization of science and economics experts to conduct a review. Staff recommends that the Council consider a science review of predation management in the Basin with a focus on predatory fish and an economics component specific to the threat of northern pike.

**Relevance:** One of the Council’s emerging priorities from the 2014 Fish and Wildlife Program addresses “preserving program effectiveness by supporting expanded management of predators.” In addition, the 2014 Program calls for an evaluation to “determine the effectiveness of predator-management actions.”

**Workplan:** Addresses the updated 2018 Fish and Wildlife Division Workplan.

**Background: Scope of the review:** The proposed science and economic review could provide the Council and the region a greater understanding of the costs and biologic impacts throughout the Basin of both the predator management efforts already in place as well as the impacts of not managing incoming predators. In 2016, the ISAB completed a [Predation Metrics Report](#) which reviewed and recommended alternative metrics to evaluate the consequences of predation on the Basin’s salmonid populations. To complete the report, the ISAB conducted a literature review and received a series of technical briefings on all aspects of predation by experts in the Basin. The 2016 report would be a building block for the proposed science and economics review. Additionally, the impact of other non-native predatory species in the Basin, such as American shad, walleye, and smallmouth bass, is unknown, yet they exist without Fish and Wildlife Program-supported suppression efforts.

Therefore, staff sees two possible approaches to this review:

1. Focus the review on the imminent threat of northern pike
  2. Consider all predators in the Basin (birds, marine mammals, and piscivorous fish) but prioritize time and effort on fish, and specifically focus the economics evaluation on northern pike
- **Staff recommendation for scope:** Staff recommends that the committee consider **option 2** for the scope of the review. Staff also recommends that the science and economic review be **completed by mid-March 2019**, to be most useful as the Council develops a draft amendment to the Fish and Wildlife program.

**Structure of the review group:** The Independent Economic Analysis Board (IEAB) has not been given a Council task since 2015, and the charter for the IEAB lapsed in early 2018. Staff believes that two or more economists will be needed for this review (for the purposes of this memo, we’ll refer to this group as ISAB+). Therefore, staff recommends the Council consider the following three options for the makeup of the ISAB+:

1. ISAB enlisting ad hoc members that have economic expertise.
2. ISAB with a qualified natural resource economist contracted separately by the Council. This alternative would require a targeted Request for proposals (RFP) or Council-identified economist(s) with a natural resources background.
3. ISAB collaborating with a reinstated IEAB.

- **Staff recommendation for review group:** Staff recommends **option 1** for the arrangement of the ISAB+; though, there are logistical and financial benefits to each option which staff will describe at the Committee meeting.

**Committee recommendation:** Staff advises that the committee develop a recommendation on both the scope of the review and the arrangement of the review team to be presented to the full Council for a decision in October, with concurrent ISAB Administrative Oversight Panel discussion and approval. As part of Council approval, staff will develop a letter to the ISAB+ with questions to guide the review. These questions will be circulated to state and central staff and the ISAB ex-officios at the Council, NOAA, and CRITFC before coming to the committee, Council, and ISAB Administrative Oversight Panel for final approval of a review request letter to the ISAB+.

**More Info:** Currently, BPA, through the Council's Fish and Wildlife Program, is providing funds for predator monitoring, suppression, and management efforts throughout the Basin. Avian predation on juvenile salmonids is monitored and suppressed in the ocean, estuary, and lower river (see [project 1997-024-00](#)). Non-lethal hazing of sea lions is conducted in the estuary and lower river (see project [2008-004-00](#)). Northern pikeminnow, a native predatory species, are suppressed via a rewards fishery in the lower and mid- Columbia River (see project [1990-077-00](#)). And In the upper Columbia, a variety of predator management efforts are underway concerning, for example, northern pike (see project [1994-043-00](#) and proposed project [2017-004-00](#)) and non-native trout (see projects [199700400](#), [199404700](#), [199101903](#), and [199101901](#)).