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Northwest Power and Conservation Council

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December 8, 2015

MEMORANDUM

TO: Fish and Wildlife Committee members

FROM: Jim Ruff – Manager, Mainstem Passage and River Operations

SUBJECT: Proposal for a predator management science review by the ISAB

BACKGROUND:

Presenter: Jim Ruff

Summary: The Council's 2014 Columbia River Basin Fish and Wildlife Program calls on the federal action agencies, in cooperation with the Council, state and federal fish and wildlife agencies, tribes, mid-Columbia PUDs, and others, to convene a technical work group to: a) determine the effectiveness of predator management actions; and b) develop a common metric to measure the effects of predation on salmonids, such as salmon adult equivalents, to facilitate comparison and evaluation against other limiting factors. This issue has been discussed at several recent Fish and Wildlife Committee meetings, as well as with the fish and wildlife managers during the recent Regional Coordination Forum. The potential for a future science review of the effectiveness of predator management actions was also discussed at the October 16th and December 4th Independent Scientific Advisory Board (ISAB) meetings. Staff recommends deferring formation of a technical work group to address predator management issues until after the ISAB has completed its science review on this topic, which would help inform the technical work group's deliberations and efforts. In the attached draft letter for your review and approval, staff is recommending that the Council formally request the ISAB to conduct a review of the effectiveness of the various predator management programs and the feasibility of developing a common metric to measure the effects of predation on

salmonids. Note that an ISAB science review of predation will also need to be approved by the ISAB Administrative Oversight Panel, i.e., by NOAA Fisheries and the region's tribes.

Relevance: One of the Council's emerging high priorities addresses "preserving program effectiveness by supporting expanded management of predators." (See p. 116 of the Council's 2014 Fish and Wildlife Program.) This priority action was recommended by numerous state, tribal and regional entities during the 2013-14 program amendment process and subsequently adopted by the Council into the program.

Work plan: This presentation addresses Council work plan item 2.B, which promotes regional fish and wildlife recovery by prioritizing and implementing 2014 Fish and Wildlife Program actions.

Background: During the 2013-14 program amendment process, it was recommended that the revised program should explicitly address the overall effects of predation on native fish. This is also consistent with an earlier ISAB recommendation that identified predation as one of the threats to sustainability. Fish managers and tribes recommended expanding the northern pikeminnow dam angling removal program to other dams on the lower Columbia River. NOAA Fisheries also specifically recommended the program should strive to measure the overall effects of predation on native fishes, particularly salmonids, and express the effects in a common term such as salmon adult equivalents. Developing and agreeing to use a common metric for predation would facilitate comparison and evaluation of predation against other limiting factors. Consistent with the 2014 Fish and Wildlife Program, one way to accomplish this task is to convene a regional technical work group to address these issues.

More Info: While some support was expressed during the Regional Coordination Forum to form a technical work group to address predator management, others expressed concerns about a shortage of staff resources needed to participate in another technical forum and the amount of time and effort it will take to address the complex issues associated with predator management. Accordingly, staff recommends deferring formation of a technical work group to address predator management issues until after the ISAB has completed a science review on this topic. The ISAB's science review of predation will help inform a future technical work group's deliberations.

Attachment: Draft letter to ISAB on conducting a science review of predator management in the Columbia River Basin.

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DRAFT
December 4, 2015

Dr. Greg Ruggerone, ISAB Chair
Natural Resources Consultants
4039 21st Ave West, Suite 404
Seattle, WA 98199

Dear Dr. Greg Ruggerone,

One of the Council's emerging high priorities addresses "preserving program effectiveness by supporting expanded management of predators."¹ This priority action was recommended by numerous state, tribal and regional entities during the 2013-14 program amendment process and subsequently adopted by the Council into the 2014 Columbia River Basin Fish and Wildlife Program² (the program).

Accordingly, the program calls on the federal action agencies -- in cooperation with the Council, state and federal fish and wildlife agencies, tribes, mid-Columbia PUDs, and others -- to convene a technical work group to: a) determine the effectiveness of predator management actions and b) develop a common metric to measure the effects of predation on salmonids, such as salmon adult equivalents, to facilitate comparison and evaluation against other limiting factors. This issue was discussed at several recent Fish and Wildlife Committee meetings, as well as with the fish and wildlife managers during the recent Regional Coordination Forum.

Based on these discussions, and because a more comprehensive approach may be needed to address predator management in the Columbia River Basin, the Council is requesting the ISAB to conduct a science review of the overall effectiveness of the various predator management programs and evaluate the feasibility of developing a common metric to measure the effects of predation on salmonids, among other questions related to predation. Accordingly, the Council has also recommended

¹ See p. 116 of the Council's 2014 Columbia River Basin Fish and Wildlife Program. Available: http://www.nwcouncil.org/fw/program/2014-12/program/partsix_implementation/ii_investment_strategy/

² The Program's Predator Management Strategy is available: http://www.nwcouncil.org/fw/program/2014-12/program/partsix_implementation/ii_investment_strategy/

deferring formation of a technical work group to address predator management issues until the science review is completed on this topic.

The Council believes an ISAB science review of predator management in the Columbia River Basin will help inform a future technical work group's deliberations and efforts. The Council also understands that an ISAB science review of predation will also need to be approved by the ISAB Administrative Oversight Panel, i.e., by NOAA Fisheries and the region's tribes (as represented by the Columbia River Inter-Tribal Fish Commission).

The Council recommends the following issues and questions be addressed by the ISAB during its science review of predation³ in the Columbia Basin.

- What are the overall effects of predation on native fish in the Columbia River Basin, particularly the effects of predation on salmonids?
 - What steps and information are needed to develop a common metric to measure and communicate the overall effects of predation? Specifically, could a salmon adult equivalents metric be developed to convey salmon predation⁴? Could a similar metric be developed to evaluate the effectiveness of predation on resident fish in the blocked areas of the Columbia Basin?
- Is the approach used to implement the program's predator management strategy a sustainable and effective approach to meet the Program's recovery and mitigation goals? Are there alternative strategies that could improve the effectiveness?
 - More specifically, how effective is the northern pikeminnow program in reducing predation on salmonids and improving salmonid population abundance and viability? Should the northern pikeminnow dam angling removal program be expanded to other mainstem dams on the lower Columbia River?
 - Ken Tiffan (USGS) and Billy Connor (USFWS) have reported the results of a study of smallmouth bass predation on Snake River fall Chinook juveniles. What does this information mean on a region-wide scale? Can the results be extrapolated to other river reaches? Study is available at: <https://pisces.bpa.gov/release/documents/DocumentViewer.aspx?doc=P143039>
 - How effective are predator management efforts in the blocked areas at achieving state/tribal fish management and conservation objectives, such as lake trout, brook trout, walleye, and northern pike suppression efforts?⁵
 - How effective are avian predator management efforts?
 - How effective are marine mammal predator control efforts?

³ This science review should include predation by native and non-native fish, birds and marine mammals.

⁴ Development of a common metric would facilitate comparison and evaluation of: a) various ongoing predator management actions; and b) other limiting factors.

⁵ State and tribal fishery managers routinely use fishing regulations and rules, e.g., fisheries management, to achieve desired population outcomes, such as fish abundance, size structure, etc.

- Is it feasible to design a study with adequate precision to evaluate the extent of marine mammal predation on salmonids, sturgeon and lamprey from the mouth of the Columbia River to Bonneville Dam?
- Are estimated predator management benefits appropriately considering and accounting for compensatory mortality?
 - Are other compensatory responses occurring that could reduce predator management benefits?
- What is currently being achieved in terms of systemwide predator management benefits? What is the relative contribution of predator management actions to improvements in salmon life-cycle survival (e.g., SARs)?
- What level of effort in managing predators would provide a meaningful benefit? What percentage increase in survival (e.g., improvement in SARs) is needed to justify implementing increased predator management efforts?
- What do we know about systemwide predation on lamprey?
- Is it possible to identify which predators are impacting specific populations of salmon and steelhead?
- What is the role of shad, if any, in predation management?
- ***Other questions from the region's tribes or NOAA Fisheries?***

The Council understands that some of these predator issues have already been addressed in previous ISAB reports. Accordingly, the Council requests that the ISAB's predation science review be completed by July 28, 2016. The Council also understands the states and tribes have statutory authority to manage resources and does not intend for the ISAB to develop recommendations that question or usurp this authority.

The Council appreciates your assistance in this effort and depends on the expert scientific knowledge of the panel. Your review will help inform the future efforts of a regional technical work group on predator management.

Sincerely,

Phil Rockefeller, Chair

cc: John Stein-NOAA Fisheries
Paul Lumley-CRITFC