



**Independent Scientific Review Panel**

for the Northwest Power & Conservation Council  
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**Memorandum (ISRP 2009-24)**

**June 24, 2009**

**To:** W. Bill Booth, Council Chair  
**From:** Eric Loudenslager, ISRP Chair  
**Subject:** Review of Accord Proposal, Pacific Lamprey Passage Design (2008-524-00)

**Background**

At the Council's June 9, 2009 request the ISRP reviewed the Columbia River Inter-Tribal Fish Commission's Accord proposal titled Pacific Lamprey Passage Design (2008-524-00). This project intends to improve adult and juvenile Pacific lamprey passage through mainstem and tributary blockages. It also will provide information and actions to reduce uncertainties with respect to mainstem lamprey distribution and abundance, habitat quality, habitat use and genetic characteristics. The project proponent states that the project is a key element to successfully implement objectives 1, 2, 4 and 5 of the Tribal Pacific Lamprey Restoration Plan for the Columbia River Basin.

This proposal is one of four new lamprey projects submitted to implement the Columbia River Fish Accords. Other lamprey proposals include the Warm Springs Tribes' lamprey monitoring project in the Fifteenmile Creek and Hood River Basins (2007-007-00); the Yakama Nation Lamprey Program (2008-470-00); and the Warm Springs Tribes' Willamette Falls Lamprey Escapement Estimate proposal (2008-308-00).

**ISRP Recommendation**

*Meets Scientific Review Criteria – In Part*

This is a proposal to implement four objectives of the *Tribal Pacific Lamprey Restoration Plan for the Columbia River Basin*. To accomplish this, ten general sub-objectives are identified in this proposal. One task is to finalize the draft lamprey restoration plan. The ISRP believes strongly this objective should be given a priority. Development of the overall tribal lamprey recovery program, including a prioritized list of actions and studies, should precede implementation of field work.

The information in the proposal describing the methodology to undertake the remaining sub-objectives (and associated tasks) is too general to serve as a basis for scientific review. These sub-objectives need a response with additional details.

When viewed as a research and restoration plan, or part of a plan, the proposal could serve as a basis for designing meaningful project components. The proponents need to develop each specific objective from the *Tribal Pacific Lamprey Restoration Plan for the Columbia River Basin* with the sub-objectives, addressing each of the major elements. As the proposal now stands, it is simply too general. It lacks specific, detailed methodology and study design to be considered scientifically justifiable. The proponents should give serious consideration to prioritizing (with rationale) the myriad of conceivable projects that could fall under the broad “plan” as outlined in the present proposal. It would be helpful if the proponents culled those sub-objectives that would not be funded directly by this project and provided more details on the methods that will be used to address lamprey passage and distribution questions.

## **ISRP Comments**

### **1. Technical Justification, Program Significance and Consistency, and Project Relationships (sections B-D)**

Until there is a better understanding of the limiting factors for lamprey throughout the life cycle it will be difficult to develop a comprehensive plan for their recovery/rehabilitation. Both marine and freshwater survival trends in lamprey must be tracked. Interspecific relationships such as any correlations with trends in salmon abundance also need investigation. A comprehensive study is required to understand why lampreys have declined coastwide (ISAB 2008-5<sup>1</sup>).

The proponents describe the problem of lamprey decline and clearly justify the need for projects that increase understanding of lamprey life history and habitat use in the Columbia Basin. The proposed project is ambitious and addresses multiple aspects of lamprey life history in many locations throughout the Basin. A good literature summary is presented, but much of the text is very similar to the 1995 BPA-supported review by Close et al. This project is titled “Pacific Lamprey Passage Design”; however, a significant portion of the background material describes potential causes of lamprey declines that were not related directly to mainstem or tributary passage design issues.

### **2. Objectives, Work Elements, and Methods (section F)**

The objectives are very broad and general. Few specific methods are given for accomplishing each objective. The proposal is more of a research plan rather than a specific scientific proposal and could best serve as a basis for developing focused individual proposals, each with specific objectives and detailed methods and approaches

One key task is to finalize the draft Tribal Pacific Lamprey Restoration Plan for the Columbia River Basin. The Panel believes strongly this objective should be given a priority. Development of the overall tribal lamprey recovery program, including a prioritized list of actions and studies, should precede implementation of field work.

Many of the other sub-objectives could be improved by inclusion of additional technical and engineering information.

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<sup>1</sup> ISAB 2008-5 Snake River Spill-Transport Review: [www.nwcouncil.org/library/isab/isab2008-5.htm](http://www.nwcouncil.org/library/isab/isab2008-5.htm)

The break out of the sub-objectives under the various topics could be clarified in several instances. For example, the 2009-2010 Willamette River Adult Lamprey Passage/Migration/Habitat Study gives sub-objectives 2,3,4, but sub-objective 4 deals with water quality, which is not mentioned in this section (unless temperature is considered the water quality issue).

The proponents want to tag 150 adults but without background on how many usually pass the dam it is difficult to say if this target (as well as the other agencies' targets; total n=420) will be met. What is the contingency if insufficient numbers of adult lamprey show up? The proposal would be improved by an explanation for why the releases are being divided up among 3 investigators (i.e. the proponents, PGE contractors, and Grande Ronde Tribe) and how the data will be shared.

Monitoring lamprey at stream mouths could be an important strategy, but perhaps other reaches are important. Inclusion of the preliminary radio-tagging work by Clemens et al. (2006) would be useful to help the ISRP review the proposal. Details on how the tributary mouths will be chosen would improve the proposal – only 12-14 tributary junctions can be monitored but 27 streams are given. An explanation of the statement: “CRITFC will review those sites for appropriateness” would be useful.

The proposal would be improved by detail on how data will be shared and reviewed among the various agencies. The statement is made “OSU/USGS will lead and coordinate report writing between the other collaborators, and where appropriate, will cite fish passage information acquired by Portland General Electric and described in their separate Willamette Falls Hydroelectric Project passage report. CRITFC will provide technical review of all reports”

Two other studies are included in the proposal: genetic studies and investigations of the impacts of irrigation. While these may be desirable projects, detailed objectives for them are needed in the proposal, or it may be more appropriate to submit these studies as separate projects.

As stated above, the sub-objectives are very general, perhaps reflecting the more general lamprey recovery plan that is being developed, and many of the work elements, methods, and metrics are not described in sufficient detail for scientific review. Perhaps those elements of the lamprey recovery program pertaining directly to passage problems and radio telemetry (an apparent emphasis during the proposed first year of field work) should be described in greater detail in this proposal, or the project title should be changed to reflect a broader spectrum of issues.

### 3. M&E (section G, and F)

M&E is mentioned but no specific monitoring program is set forth. The proposal would be improved by further details on data archiving, quality assurance/quality control (QA/QC) and other aspects of M&E. The proponents do mention that this work will result in a peer-reviewed scientific journal report, in collaboration with all participating parties. However, it would be helpful to have the raw data available to others – perhaps a lamprey data bank on a publicly-available website needs to be developed. Having the more general recovery program in place would encourage the necessary data archiving and management aspect of the project.

#### 4. Overall Comments

All of the objectives in this proposal (and the information gained from them) are relevant to lamprey restoration. The proposal, however, suffers from a lack of individual, project-specific objectives and methods. This proposal conceivably could encompass many different individual research and restoration projects, all of which are folded into one broad plan. Most, if not all, of the proposed work, if properly conducted, could benefit lamprey, but the important details of methodology are lacking. If the broad topical emphasis of the project is retained, the title should be changed to reflect a more general lamprey restoration program. Conversely, if lamprey passage is the primary focus, non-passage related topics should be removed from this particular proposal and developed separately or included as part of a larger umbrella project.