**DRAFT Programmatic Issue:**

**Pacific Lamprey**

**Issue:** The Program currently supports both ongoing and new work. Currently, all the projects being supported for implementation are Columbia Basin Fish Accord projects. The goals and objectives associated with this group of projects are focused on determining status and limiting factors to assist in restoring this species. The Columbia River Inter-Tribal Fish Commission (CRITFC) project ultimate goal is to implement the objectives of the draft *Tribal Pacific Lamprey Restoration Plan for the Columbia River Basin.* The primary issue appears to be are these efforts coordinated in a way that we have a comprehensive implementation and monitoring program that addresses the critical data gaps for lamprey and that data and results are being shared among sponsors in a way to adaptively manage future work.

**Background and Staff comments:** In the Council Program’s Basin-level Biological Objectives we state that our lamprey objective is to “Restore lamprey passage and habitat in the mainstem and tributaries that historically supported spawning lamprey populations. Attain self-sustaining and harvestable populations of lamprey throughout their historical range. Mitigate for lost lamprey production in areas where restoration of habitat or passage is not feasible.”

The region has been slow to react to the decline in lamprey and it seems that this species appear to be heading toward ESA-listing potential. If the species becomes listed under ESA, the potential for further operational changes to the hydrosystem looms. Several program projects attempt to address our lack of information on lamprey (e.g., passage, habitat and water quality), through as ISRP notes, one has gone on for several years and provided some valuable information. In addition, the Corps of Engineers is also funding and implementing five lamprey dam passage-related projects at up to $5 million per year under the Tribes’ Fish Accords. (Not included in table, but see attachment for AFEP projects)

**ISRP Comments:** The ISRP reviewed two lamprey restoration projects (1994-02600) for the Umatilla River (proponents National Oceanic and Atmospheric Administration (NOAA), Umatilla Confederated Tribes (CTUIR)) and 2002-01600 for the Deschutes River (proponents Confederated Tribes of Warm Springs). There are also projects underway in Fifteenmile Creek and Hood, Willamette, Klickitat and Yakima Rivers. In addition CRITFC is working on a Master Plan (i.e., Project #2008-524-00, *Implement Tribal Pacific Lamprey Restoration Plan*) for all tribal lamprey research in the Basin and there are major USACE projects at the mainstem Columbia River dams dealing with lamprey passage issues under the AFEP program.

The ISRP recognizes the significant progress being made by studies on the little-known Pacific lamprey, a key anadromous species from a tribal cultural point of view and also possibly an important species for bringing marine-derived nutrients to tributary ecosystems (ISAB 2009-3). However, the ISRP is concerned that we were unable to get an overall synthesis of results from all the lamprey restoration projects in the Basin. Some of them were started over a decade ago, and a summary of results should be available and is required to guide future lamprey restoration efforts. Justifiably, the proponents in the RM&E review concluded that this was not their task as their mandate was restricted to their particular subbasin. Some of the key questions that need to be addressed in the synthesis are:

* What are the general conclusions of the studies to date? Are lamprey recovering in the Basin?
* What has emerged as primary limiting factors for lamprey basinwide? The ISRP noted that lamprey are declining coast wide, suggesting that ocean factors may be affecting survival, but no studies are being conducted in the marine environment. Lamprey are also likely very susceptible to toxic contaminant effects but very limited work is being done on this issue. Most proponents are focusing on key limiting factors in tributary habitat but the ISRP, as well as ISAB (2009-3) has pointed out this approach is too restrictive for anadromous lamprey. A comparison of lamprey stocks in various rivers might be useful, including those outside the Columbia River Basin.
* What are the major impediments to implementation of recovery plans? Will Mainstem passage problems be resolved to enable sufficient numbers of adults to migrate into tributaries to initiate recovery in synchrony with translocation and habitat improvements such as ramps on low head dams and irrigation screens?
* Is the draft lamprey Master Plan (i.e., Project #2008-524-00, *Implement Tribal Pacific Lamprey Restoration Plan*) working to guide recovery efforts completed?
* Are study designs and sampling methods coordinated among projects? Some proponents noted that key technical issues, such as sampling efficiency for juvenile lamprey during instream trapping, as well as our inability to tag juvenile life stage lamprey to obtain travel time and survival information, have yet to be resolved. Others did not, suggesting increased communication among groups is needed. The ISRP is therefore concerned that data may not be comparable between projects, or that critical information is lacking, e.g., juvenile travel time and survival.
* What are the escapement goals for lamprey, recognizing that development of these metrics is difficult because of lack of historical information?
* What is the status of lamprey in various subbasins and can a comparison of their status inform an analysis of limiting factors?
* Comparative data on the non-anadromous brook lamprey might help determine if limiting factors in the ocean are important for the Pacific lamprey.

**ISRP Suggestions:**

The ISRP suggests that the Inter-Agency Lamprey Technical Working Group (i.e., Columbia River Basin Lamprey Technical Working Group) would be a possible group of experts that could write a basinwide synthesis including major conclusions that could be drawn at this point with supporting evidence, status and trends, and a candid evaluation of whether tributary habitat projects are improving lamprey returns or whether mainstem dam passage is a key limiting factor. A draft outline could be developed based on comments from this RM&E review, other project reviews, and ISAB suggestions (ISAB 2009-3). The ISAB should review the synthesis.

**Possible Options:**

* On August 18, 2010 the Council recommended for Project #2008-524-00, *Implement Tribal Pacific Lamprey Restoration Plan*, Objective 1 (i.e.,Finalize the Tribal Pacific Lamprey Restoration Plan for the Columbia River Basin)needs to be completed. It would seem appropriate that this plan should represent a synthesis report to the needs and prioritized action for lamprey in the Columbia River Basin.
* Pacific Lamprey Monitoring Strategy (PLMS) - The PLMS serves to fulfill a component of the Implementation Strategy for the NPCC’s Draft MERR Plan. This effort may proved a starting point and/or be complementary to the collaborative and comprehensive strategic plan for lamprey in the Columbia River Basin.
* U.S. Fish and Wildlife Service’s Rangewide Conservation Plan for Pacific Lampreys - In 2004 and 2008, the treaty tribes held Summits that included the executives from federal agencies who have authority and/or legal obligations for managing fish and aquatic habitats within the basin. At these Summits, tribal leaders communicated the urgency to begin implementing protective measures and restoration of Pacific lampreys using their authorities and funding. The executives agreed to implement the Tribal Plan and various agency actions are currently underway, including incorporation of the Tribal Plan into the U.S. Fish and Wildlife Service’s Rangewide Conservation Plan for Pacific Lampreys. For aquatic restoration actions on federally-managed lands, the primary emphasis is to improve tributary habitat for salmonids. While these aquatic strategies are consistent with meeting the needs of Pacific lamprey, changes made to a project for protection of salmon or other ESA- listed aquatic species should incorporate additional adjustments to prevent direct adverse effects to individual lampreys or populations of Pacific lamprey residing in the affected areas. These adjustments should be made at the project design phase to accommodate lamprey passage, lamprey spawning periods, existence of nests, upstream and downstream movement, and avoid direct mortality to ammocoetes burrowed in the substrate.
* Best Management Practices for Pacific lamprey (April 2010) - The purpose of this document is to provide information on Best Management Practices for Pacific lamprey that can be incorporated into any stream disturbing activity (e.g., aquatic habitat restoration, prescribed fire, recreational development, grazing, gravel extraction/mining, water diversions, etc.) on lands managed by the Forest Service and Bureau of Land Management throughout the range of Pacific lamprey. In addition, this information can help other federal, state, tribal and private land managers with implementing stream disturbing activities that also afford protection for individual lamprey and lamprey populations.

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**Projects included in this programmatic issue:**

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| --- | --- | --- | --- | --- |
| **Project #** | **Project Title** | **Sponsors** | **Accord** | **Funding Req. Annual** |
| 2008-  524-00 | Implement Tribal Pacific Lamprey  Restoration Plan | CRITFC | X | $619,212 (FY 2012) |
| 1994-  026-00 | Pacific Lamprey Research and  Restoration Project | CTUIR, NOAA | *X* | *$536,000* |
| 2002-  016-00 | Evaluate the Status of Pacific Lamprey in the Lower Deschutes River | Confederated  Tribes Of  Warm Spring | *X* | *$197,406 (FY2011)* |
| *2007-*  *007-00* | *Determine Status and Limiting Factors of Pacific Lamprey in Fifteenmile Creek and Hood River subbasins, Oregon* | *Confederated*  *Tribes of*  *Warm Springs* | *X* | *$251,992(FY 2012)* |
| *2008-*  *308-00* | *Willamette Falls Lamprey Escapement Estimate* | *Confederated Tribes of the Warm Springs* | *X* | *$176,344* |
| *2008-*  *470-00* | *Yakama Nation Ceded Lands Lamprey Evaluation and Restoration* | *Yakama Nation* | *X* | *$256,250 (FY 2011)* |
|  | ***TOTAL*** |  |  |  |

* OWEB committed a lamprey funding total of $7.3M over 2008-2010, PGE is committing a total of $32 million, and EWEB is committing an unspecified amount toward lamprey RME under its FERC relicensing process.

Following are the Corps-funded lamprey passage projects under AFEP for FY 2011:

1. Improving Adult Pacific Lamprey Passage and Survival at Lower Columbia River Dams; COE study code LMP-08-1; total study cost is $567,000; implementing agencies are NMFS and U. of Idaho.
2. Evaluation of Adult Pacific Lamprey Behavior and Fate in Columbia River Reservoirs Using Acoustic Telemetry; COE study code LMP-08-1; study cost is $224,000; implementing agency is U. of Idaho.
3. Juvenile Lamprey Run Timing and Sources of Mortality at Columbia Basin Hydropower Dams; COE study code LMP-08-02; literature review only cost is $55,000; implementing agency will be NMFS, but study is on hold for now pending final FY 2011 CRFM budget.
4. Development of Standard Protocols for Tagging Juvenile Lampreys with PIT or other tags; COE study code LMP-08-2; study cost is $110,000; implementing agency is USGS.
5. Use of Non-Invasive Methods to Evaluate Pacific Lamprey Counts and Passage Behavior in the Lower Columbia River; COE study code LMP-08-1; study cost is $223,000; implementing agency is U. of Idaho, CRITFC and UC-Davis.

**Preliminary Recommendations:**

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1. Though all projects are at some stage being implemented some needs to address conditions prior to full implementation. [↑](#footnote-ref-1)