



Pacific Lamprey

Assessment and Template for Conservation Measures

October 2011



Adult Pacific lamprey (*Entosphenus tridentatus*)

Pacific Lamprey in Decline

The Pacific Lamprey was historically widespread along the West Coast of the United States but populations have declined in abundance and become restricted in distribution throughout California, Oregon, Washington, and Idaho. Threats to Pacific Lamprey may include dams, stream degradation, poor water quality and impacts of climate change, and these occur throughout the range of the species. The U.S. Fish and Wildlife Service recognizes the need for a comprehensive plan to conserve and restore Pacific Lamprey in collaboration with Native American tribes and other Federal, State, and local agencies. The Pacific Lamprey Conservation Initiative is the U.S. Fish and Wildlife Service's strategy to improve the status of Pacific Lamprey throughout their range by helping implement research and conservation actions.

Conservation Initiative Approach

The approach of the Pacific Lamprey Conservation Initiative is a three part process: assessment and template for conservation measures; conservation agreement; and regional implementation plans. This assessment identifies critical uncertainties regarding their life history and improves the scientific understanding of the importance of Pacific Lamprey in the ecosystems of the United States. In addition, the assessment tracks the current knowledge of Pacific Lamprey habitat requirements; abundance; historic and current distribution; describes threats and factors for decline; and identifies conservation actions and research, monitoring and evaluation needs.

Risk Assessment

To systematically characterize risk to Pacific Lamprey across the range, we conducted an assessment using a diagnostic tool from NatureServe. Our objective was to conduct a consistent evaluation across the range by using existing demographic and threat information. We collected this information through a series of regional meetings attended by our partners. We analyzed discrete geographic groupings to rank the relative risk to extirpation, and summarized this risk by regions. The risk results were used to identify and prioritize threats to Pacific Lamprey. We collected additional information to identify ongoing and needed conservation actions, and research, monitoring and evaluation. The integration of this regional information and the resulting risk analysis will be used to inform the priorities for recommended conservation actions.

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Conclusions

Pacific lamprey populations are declining in abundance and becoming restricted in distribution throughout California, Oregon, Washington, and Idaho. Threats such as mainstem and tributary obstacles to passage, flow management, stream and floodplain degradation, and water quality are impacting all freshwater life stages. We found that the majority of geographic units are at relatively high risk, with very few that are relatively secure.



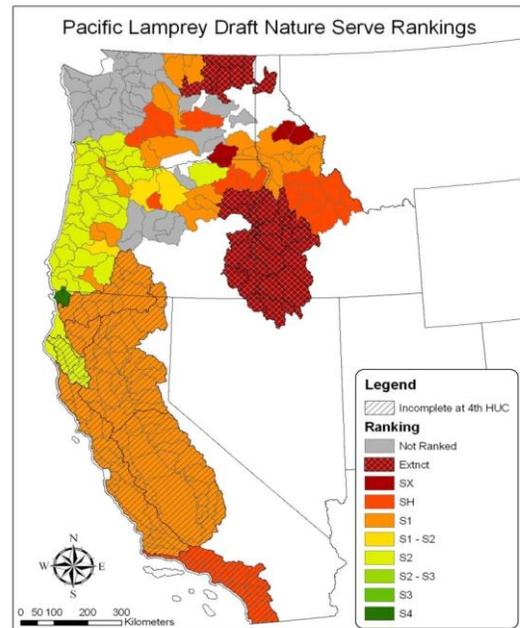
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Conservation Actions, Monitoring and Research

Conservation actions being implemented through existing plans include: modifying fish ladders and entranceways at dams, constructing lamprey passage structures at tributary barriers, restoring lamprey habitat, and consideration of lamprey during in-stream work. We recommend additional actions to address the threats that are not presently in ongoing plans. These would include targeted lamprey restoration projects, passage improvements and evaluation, development and implementation of water diversion screen criteria. We recommend that research, monitoring and evaluation should include more lamprey-specific surveys and species identification to improve

knowledge of distribution, and more fine-scale population structure studies.



Relative risk ranks for Pacific Lamprey. SX and SH = highest risk; S1 –S2 = medium risk; S3 and S4 = lowest

Next Steps

We are completing a finer geographic scale assessment for California in 2012. The next steps in the Conservation Initiative are:

- Complete the compilation of currently available data;
- Schedule meetings with regional policy- and decision- makers to present the assessment and determine best strategies for regional implementation;
- Develop a Conservation Agreement; and
- Develop step-down regional action plans for implementation.

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