

Distribution of Pacific lamprey (*Entosphenus tridentatus*) in the Klickitat River Basin

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ABSTRACT:

Declining Pacific lamprey populations are a major concern to the Confederated Tribes and Bands of the Yakama Nation. At one time this fish was a principal food throughout the Yakama Nation Ceded Lands^[1] and present at ceremonies, but today lamprey is often absent due to lack of availability. This study was spearheaded by the Yakama Nation Lamprey Project in cooperation with Bonneville Power Administration under the Columbia Basin Fish Accords. Project goals in 2009 were to evaluate spatial patterns of larval lamprey presence by 1) collecting and reporting critical information to evaluate status, abundance and distribution from historical archives and literature reviews, 2) assess information from traditional ecological knowledge (TEK) participants of tribal elders, tribal fishers and families, state and federal natural resources workers, and sports fishers, 3) develop sampling strategies and protocols similar to those of other basin tribes, and 4) develop a database for spatial distribution and habitat associations. Preliminary historical accounts and TEK was assessed to help identify baseline information. Information on any of the life history strategies for the Pacific lamprey, River lamprey (*Lampetra ayersi*), or Western Brook lamprey (*Lampetra richardsoni*) in the Klickitat River was sparse. To help answer questions about species composition and distribution we examined equally spatial sites from the confluence with the Columbia River to upper tributaries from aerial photographs. We compiled historical information to help identify the current status of lampreys in the Klickitat Subbasin. We sampled 56 longitudinal margin sites. The proportion of samples containing larvae within individual sites was low throughout the survey over 94 river kilometers (RK). Our catch data shows the distribution of larval Pacific lamprey were found up to RK 70. Sizes of ammocoetes ranged from 20 to 125 mm (n = 686). We did not find any River lamprey in the system at this time, though we did find Western Brook larvae and adults residing in the Little Klickitat River at RK 26, 28, 30 (n=43). As a result from this study we have identified presence of lampreys in the Klickitat subbasin.

^[1] The Yakama Nation recognizes that the structure of Pacific lamprey population(s) remains largely unknown within its range and within the Columbia River Basin.

Comment [LU1]: Not sure what this means

Comment [LU2]: How can you address species composition from aerial photos?

Comment [LU3]: How can you determine current status from historical info? Does he mean compare to?

Comment [LU4]: Which?

Comment [LU5]: Does he mean Pacific or at all?

Comment [LU6]: This footnote seems out of place to me.

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