Title: Improving Lamprey Passage at Mainstem Hydro Dams

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Abstract:  As part of on-going efforts to increase Pacific Lamprey fish passage efficiency at USACE Dams we have added one key hole entrance,  two new LPSs, and developed plans to completely replace Bonneville Dam’s flow control section of the Washington shore fishway (aka the serpentine weirs). At Bradford Island’s B-Branch the entrance was modified by adding a variable width weir (key hole entrance) which keeps attraction velocities high for salmon in the upper water column, and lower for lamprey deeper in the water column.  Flow disrupting bollards have been added to the fishway floor to help lamprey stay inside the fishway. These bollards lead to a new LPS placed to remove lamprey from the fish ladder before they run into turn around points higher up.   At The Dalles Dam a two ramp LPS has been built at the East ladder junction pool to retain lamprey at that turn around point.  Back at Bonneville Dam, a large fishway modification has been planned – the replacement of the Washington Shore serpentine weirs.  A location that has high velocities and turbulence causing salmon to slow down and some lamprey to fall back out of the fish ladder. These modification should improve lamprey passage at mainstem hydro dams and allow more lamprey to climb further into the upper watersheds. Importantly, USACE continues to provide access to lamprey for the Tribal Translocation Program, for movement around dams.