



AQUATIC LANDS HABITAT CONSERVATION PLAN — Species Spotlight

Pacific Lamprey — *Lampetra tridentata*

Protection status: *State monitored in Washington state
(Status and distribution watched to prevent need of further protections)*

Pacific lampreys are one of the oldest of all the vertebrates, dating back 450 million years. Once very abundant throughout the basin, Pacific lamprey now appear to be present mostly in the mid and lower Columbia River.

Life history

Lamprey larvae (ammocoetes) hatch within about 20 days of spawning and burrow into silty substrates. They remain within the slow-moving reaches of streams and feed by filtering microscopic plants and animals out of the water.



The larvae remain in fresh water for 4 to 7 years and can grow up to 7 inches (17 cm) before transforming into their parasitic adult phase. This usually occurs July through November.

Adult lampreys spend one to three years in the ocean before returning to the streams in which they were born to spawn.

Upon returning to freshwater, Pacific lamprey end parasitic feeding and rely exclusively on stored carbohydrates, proteins, and lipids until they spawn.

Spawning occurs from February through July, with spawning in coastal streams occurring earlier than lampreys traveling further inland.

Habitat use

These ancient fish are anadromous, meaning they are born in fresh water, swim out to the ocean, mature, and return as adults to spawn in fresh water. Adult lampreys are parasitic on host organisms, such as marine fish and mammals. The species is the largest of the native lampreys, reaching a length of 30 inches (76 centimeters) and weighing up to a pound (450 grams).

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Washington State Department of Natural Resources • Aquatic Resources Division

FS-13-018 • 8/20/13

Why are Pacific lampreys included in the Aquatic Lands HCP?

The Aquatic Lands Habitat Conservation Plan (HCP) addresses 29 species of animals that depend on submerged or intertidal lands for either all or a significant portion of their life history. Specific threats that warrant protection of the Pacific lamprey include:

- Loss and modification of habitat.
- Poor water quality.
- Chemical treatments.
- Toxins in river-bottom sediment.
- Dredging operations.
- Dams, culverts, tide gates, weirs, and structures designed to divert water.



A juvenile Pacific lamprey (macrophthalmia). Lamprey larvae transform to macrophthalmia and then migrate to the ocean. Photo: USFWS.

The Aquatic Lands Habitat Conservation Plan

The Washington State Department of Natural Resources (DNR) is the steward of more than 2.6 million acres of state-owned aquatic lands beneath Washington's navigable lakes, rivers, marine waters, and estuaries. DNR sustainably manages these aquatic lands on behalf of the people of the state—to protect fish and wildlife and to provide opportunities for commerce, navigation, and public access.

The increased demand for the use of aquatic lands can be harmful to aquatic habitats and species. To encourage a balanced approach to managing and protecting these lands, DNR is developing an Aquatic Lands **Habitat Conservation Plan** (HCP). The HCP will provide a framework for managing the aquatic lands under DNR's stewardship to ensure the continued health of our state's marine and fresh waters and the species that inhabit them.

Learn more

For more information about DNR's Aquatic Lands HCP and the other species that are covered in the plan, visit: www.dnr.wa.gov/aquaticHCP.

More information about restoring Pacific lamprey:

- The Columbia River Inter-Tribal Fish Commission website:
<http://www.critfc.org/advocacy/lamprey-restoration/>
- The USFWS Pacific Lamprey Conservation Initiative:
<http://www.fws.gov/pacific/fisheries/sphabcon/lamprey/index.cfm>

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