

WESTERN RIVER LAMPREY (*Lampetra ayresii*)



Larval Western River Lamprey resemble earthworms in body shape and size. Unlike larvae, juveniles possess eyes and sharp teeth in their jawless mouths. Juveniles display silver, and white coloration with gray on their backs. All lampreys are cryptic. In freshwater, lampreys reside within the substrate of streams or concealed within structure and they are most active at night. Western River Lamprey can be found with their prey near the surface of large estuaries and nearshore ocean.

OVERVIEW

- **Oregon Conservation Strategy Species**
- **Size:** Up to about 12 inches long
- **Weight:** Less than 1 pound
- **Lifespan:** Up to 10 years
- **Key Strategy Habitats:** Nearshore, Estuaries, Coast Range, Willamette Valley, Columbia Plateau
- **Similar Species:** Other lampreys, including about 10 species in Oregon. Two lampreys commonly co-occur with Western River Lamprey, including the Pacific Lamprey and Western Brook Lamprey.

RANGE AND DISTRIBUTION

In Oregon: Western River Lamprey can occasionally be found in large estuaries and the nearshore ocean of Oregon, and freshwater rivers along the coast, and into the mainstem Columbia River.

Everywhere Else: Pacific Coast of North America, from southern California north into Alaska.

FUN FACTS

Favorite Food: Fishes and whales.

- Lampreys are eel-like fishes that lack jaws and bones.
- As a group, ancient lampreys arose a few hundred million years ago, making them older than the dinosaurs.
- Western River Lamprey is a parasite.
- Western River Lamprey grow to their maximum body size in large estuaries and the nearshore ocean and migrate into freshwater to spawn and die.
- Lamprey hatch from tiny eggs and develop as eyeless, filter-feeding larvae that burrow in the soft sediment of river bottoms.

LIFE HISTORY AND ECOLOGY

Western River Lamprey feed as parasites in large estuaries and the nearshore ocean, and migrate back into freshwater to spawn and die. Females can produce approximately 11,000 to 37,000 eggs that are fertilized externally by males in saucer-shaped nests. Spawning occurs in the spring, typically in gravel substrate. The young hatch within a few weeks and settle downstream into the soft substrate

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of slow-moving habitats. At this stage, the less than one inch long larvae burrow into the substrate and filter feed at the substrate surface on algae and micro-organisms. After up to eight years of rearing in streams, the larvae undergo a significant transformation from eyeless individuals adapted to filter feeding into eyed juveniles ready for parasitic feeding in the ocean. Transformation and outmigration occurs during the fall, in preparation for winter freshets that will move the juveniles to the ocean.

DIET AND FORAGING

Western River Lamprey feed on at least 14 different species of fishes

HABITAT CHARACTERISTICS

Larval Western River Lamprey can be found buried in the soft sediment of slow-moving habitats of freshwater streams that have access to the ocean. Recently transformed juveniles may be found in larger substrate. Juveniles feeding in the estuary and nearshore ocean occur in surface waters where they commonly co-occur with their prey.

CONSERVATION AND MANAGEMENT

Limiting factors: The five most common limiting factors in freshwater are: artificial barriers to upstream and downstream migrations, water quantity, habitat degradation, poor water quality, and predation by other species. In the ocean, the three limiting factors are thought to be predation and bycatch, the availability of host species to feed on, and the contaminant loads of these hosts.

Threats: Threats include: pollution, climate change, unfavorable oceanographic conditions, and the effects of interactions between climate change and oceanographic conditions, and land use relative to human population growth.

Conservation and management: Western River Lamprey is not a target species of commercial fisheries. The Oregon Department of Fish and Wildlife has created a conservation plan that targets Western Lamprey and other lamprey species.

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