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**2/92**

**Cutthroat Trout**

*Oncorhynchus clarki clarki*

Coastal Resident and Anadromous Cutthroat Trout

*Oncorhynchus clarki lewisi*

Westslope Cutthroat Trout

Range:

Cutthroat trout occur in North American generally west of the Rocky Mountains.

Washington Distribution:

The coastal cutthroat trout is widely distributed in the lower Columbia River, Coastal, and Puget Sound drainages, and wherever there is access to the ocean. Westslope cutthroat trout is present in the Cascade Mountains and in many waters of central and eastern Washington.

Habitat Requirements:

Two subspecies of *Oncorhynchus clarki* are recognized in Washington state. There are both anadromous (sea-run) and resident coastal cutthroat trout. However, the critical habitat requirements for these two species while in freshwater are generally thought to be similar.

Cutthroat trout habitat consists of gravelly coastal streams and lakes, inland alpine lakes, and small rivers and estuaries (Scott and Crossman 1973, Wydoski and Whitney 1979). They are frequently found in well oxygenated cool headwater of tributaries. Spawning occurs in fine gravel and eggs are deposited in redds in well oxygenated running water. Anadromous cutthroat favor spawning in the headwater tributaries to larger streams with summer low flows ranging from 4 cfs - 10 cfs (Johnston 1981). Anadromous juvenile cutthroat will remain in their spawning streams for one or more years before migrating to salt water. The primary diet consists of aquatic and terrestrial insects, planktonic crustaceans, crayfish, salmon eggs, and small fish.

Limiting Factors:

Stream temperatures which exceed the normal spawning range, a lack of spawning and rearing habitat, high sedimentation of spawning grounds, and/or a lack of preferred food items will also limit the population and range of cutthroat trout. Exposure to heavy metals and other pollutants during "smolting" can inhibit migratory behavior in anadromous cutthroat trout.

Management Recommendations:

The maintenance of riparian vegetation is essential for controlling stream temperature, providing cover, and protecting against lateral erosion. Removal of streamside vegetation lowers canopy density (shading) and increases sedimentation. Increases in solar radiation raise stream temperatures thereby negatively impacting spawning, hatching, and rearing survival. Increased

sedimentation contributes to the loss of spawning habitat and decreases the diversity of aquatic invertebrates and other food items (Newbold et al. 1980, Noss 1983, Heede 1985). Buffer zones along stream banks should be at least the width of the height of the tallest tree or 15.2 m (50 ft) whichever is larger. This vegetative buffer will provide erosion control, and maintain natural stream temperatures and the diversity of aquatic invertebrates (Meehan et al. 1977, Newbold et al. 1980). In Washington, this can range up to 60 m (200 ft.). This "zone of influence" (Meehan et al. 1977) should be maintained along stream banks which provide cutthroat trout habitat, and any other stream which directly or indirectly influences cutthroat trout. Road construction and maintenance activities should be avoided adjacent to streams with cutthroat trout. In-stream structures such as bridges, piers, boat ramps, or culverts must not impede the natural movements of cutthroat trout.

#### References:

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Scott, W.B. and E.J. Crossman. 1973. Freshwater fishes of Canada. Fish. Res. Bd. Canada. Bull. 14.

Wydoski, R.S. and R.R. Whitney. 1979. Inland fishes of Washington. Univ. of Wash. Press, Seattle, WA.

#### Key Points:

##### Habitat Requirements:

- Inhabit gravelly lowland coastal streams and lakes, inland alpine lakes, and small rivers and estuaries.
- Prefer cool, well oxygenated water in tributary headwaters.

- Spawn in redds on bottoms consisting of fine gravel in well oxygenated running water with summer low flows ranging from 5 cfs - 10 cfs.
- Newly hatched fry remain in their redds for several weeks. \*Anadromous juveniles migrate after one to two years.
- Feed on aquatic and terrestrial insects, planktonic crustaceans, crayfish, salmon eggs, and dead salmon.

Management Recommendations:

- Buffer zones of at least the width of the height of the tallest tree (or 15.2 m (50 ft) whichever is wider) should be maintained along stream banks which provide cutthroat trout habitat, and any other stream which directly or indirectly influences cutthroat trout habitat.
- Road construction and maintenance activities should be avoided adjacent to streams which provide cutthroat trout habitat.
- In-stream structures such as bridges, piers, boat ramps, or culverts must not impede the natural movements of cutthroat trout.
- Waters inhabited by anadromous cutthroat parr should not be treated with metal based herbicides during the period March 11 - June 15.