

WDFW & Ecology 2008: HSI Coho Spawning Depth

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Species Information

Common Name: Coho Salmon
Genus: *Oncorhynchus kisutch*

Stressor Details

Stressor Name: Depth
Units: m
Metric: Water Depth (total depth at redd)
Scale: linear
Function Type: continuous
Vital Rate/Process: Habitat Suitability Index

Life Stage & Context

Life Stages: Spawners
Geography: Quinault River tributary, Washington
Activity: spawning
Season: Fall-early winter (spawning season)

Descriptions

Overview

Recommended spawning depth preference curve for Coho Salmon used in Washington PHABSIM/IFIM instream flow studies. Suitability is 0 below ~0.14 m, rises to optimum at ~0.62 m, and declines to near zero (0.01) by ~1.0–1.2 m. Plotted depths converted from feet to metres; the source's 99 ft terminal value (0.01) is omitted, so the last value (0.01 at 1.22 m) should be held for deeper water.

Stressor-response relationship data sourced from: FIGURE 4a. Coho Salmon (*O. kisutch*) Spawning Depth Preference, Dewatto River and Fletcher Canyon Creek (Quinault tributary) (2 studies, 30 redds) - Recommended depth preference curve (p. 44).

Function Derivation

Recommended (smoothed, expert-adjusted) curve derived from observed redd depth use relative to availability.

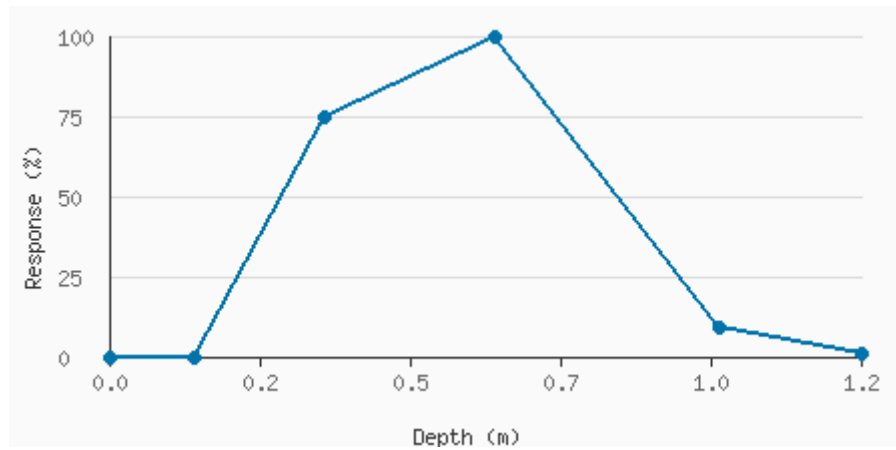
Transferability of Function

Developed for western Washington coastal streams; consult WDFW/Ecology before local application.

Source of Stressor Data

Redd microhabitat measurements (2 studies, 30 redds) compared with available habitat, following WDFW–Ecology instream flow study guidelines.

Stressor Response Data



Raw Stressor Values	Scaled Response Values 0 to 100	SD	low.limit	up.limit
0	0	0	0	100
0.137	0	0	0	100
0.351	75	0	0	100
0.625	100	0	0	100
0.991	9	0	0	100
1.219	1	0	0	100

Citations

Washington Department of Fish and Wildlife & Washington Department of Ecology. (2008). Instream flow study guidelines: Technical and habitat suitability issues including fish preference curves (Publication No. 04-11-007; updated April 5, 2004; error correction update February 12, 2008). Washington Department of Fish and Wildlife.

References

Beecher et al., 2002 - <https://wdfw.wa.gov/sites/default/files/publications/00574/wdfw00574.pdf>