Generic Substrate and Salmon Spawning

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Species Information

Common Name: Salmon (generalized)

Stressor Details

Stressor Name: Substrate
Units: (see notes)
Metric: Substrate Class Categorical
Scale: linear
Function Type: step
Vital Rate/Process: HSI

Life Stage & Context

Life Stages: Spawners
Geography: Washington
Activity: Spawning

Descriptions

Overview

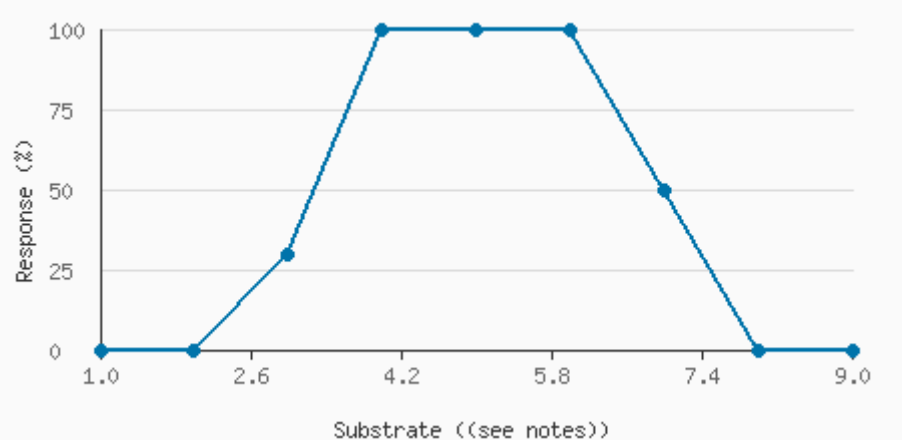
WDFW and Ecology recommended Habitat Suitability Criteria (HSC) or preference codes and values for instream flow modeling using PHABSIM or RHABSIM models. These values are based on habitat suitability studies. WDFW and/or Ecology staff (or individuals following WDFW-Ecology study guidelines) recorded the depth, velocity, substrate, and cover used by fish in a study reach.

Recommended Preferences do not always accurately reflect local conditions. Therefore, these preference values should only be used after consultation with and written agreement of WDFW and/or Ecology instream flow biologists. HSI preference curves are being revised continually as new data are obtained and analyzed. Please contact the Department of Ecology or WDFW for the most recent preference curves for salmon, trout, and other game fishes.

Cover Classes
1 - silt, clay, or organic
2 - sand
3 - sm gravel (0.1-.5")
4 - med gravel (.5-1.5")
5 - lrg gravel (1.5-3")
6 - sm cobble (3-6")
7 - lrg cobble (6-12")
8 - boulder (>12')
9 - bedrock

Source: See TABLE 1. Generic Cover/Substrate Codes and Preference Value

Stressor Response Data



Raw Stressor Values	Scaled Response Values 0 to 100	SD	low.limit	up.limit
1	0	0	0	100
2	0	0	0	100
3	30	0	0	100
4	100	0	0	100
5	100	0	0	100
6	100	0	0	100
7	50	0	0	100
8	0	0	0	100
9	0	0	0	100

Citations

Beecher, H., Caldwell, B. (2022). INSTREAM FLOW STUDY GUIDELINES. Technical and Habitat Suitability Issues Including Fish Preference Curves. UPDATED, January 25, 2022. 04-11-007

References

(Beecher and Caldwell 2022) - https://apps.ecology.wa.gov/publications/documents/0411007.pdf