Continuous Deep Pool Length and Salish Sucker System Capacity

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Species Information

Common Name: Salish Sucker
Genus: Catostomus sp.

Stressor Details

Stressor Name: Length of continuous deep pool (%)
Units: (%)
Metric: Length of continuous deep pool (>70 cm depth) (%)
Scale: linear
Function Type: step
Vital Rate/Process: CPUE (yoy and adult)

Life Stage & Context

Life Stages: Adults, Juvenile
Geography: Lower Fraser Valley (British Columbia)
Activity: All activities
Season: All seasons

Descriptions

Overview

> We inferred a continuous linear response between the percent of a reach in excess of 70 cm water depth and a minimum 50m length based on the inferences made in Pearson (2004) and Fisheries and Oceans Canada (2019) i.e., a minimum of 50 m continuous pool with a water depth exceeding 70 cm under summer low flow conditions is required to support moderate to high densities of juvenile and adult Salish Sucker. See also the associated Salish Sucker SR function for habitat depth.

Function Derivation

> Based on data from Salish Sucker; Empirical data (correlative model); Published

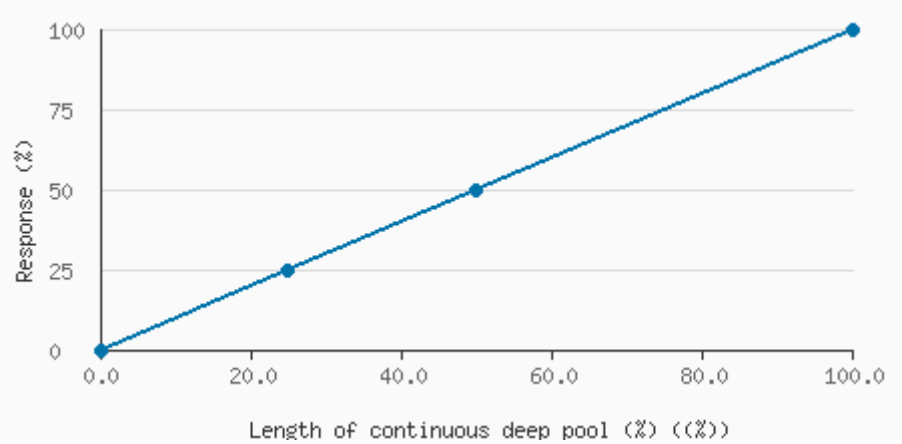
Transferability of Function

> As local adaptations are likely minimal among different Salish Sucker populations, we would not expect much variation in true tolerance among populations. This function should therefore be broadly applicable to all populations of the species.

Source of Stressor Data

> Data on length of reaches greater than 70cm deep is available for most (but not all) reaches in Bertrand, Pepin, Fishtrap Creeks, and the Salmon River, collected as part of Pearson (2004) and subsequent field work to define critical habitat for Salish sucker.

Stressor Response Data



percent reach length over 70cm deep for 50 m contiguous length	Mean System Capacity (%)	SD	low.limit	up.limit
0	0	0	0	100
25	25	0	0	100
50	50	0	0	100
100	100	0	0	100

Citations

Usoof, A.M. and Rosenfeld, J.S. 2024. Relationship between system capacity and length of continuous deep pool for Salish Sucker.

Fisheries and Oceans Canada. 2019. Recovery strategy for the Salish Sucker (Catostomus sp .) in Canada [Proposed]. 1st amendment. Species at Risk Act Recovery Strategy Series. Fisheries and Oceans Canada, Ottawa.

Rosenfeld, J., M. P. Pearson, J. Miners, and K. Zinn. 2021. Effects of landscape-scale hypoxia on Salish sucker and salmonid habitat associations?: implications for endangered 1233:1219–1233.