

# Mull & Wilzback 2007: Coho Spawning Site Selection with Substrate

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## Species Information

**Common Name:** Coho Salmon

**Genus:** *Oncorhynchus kisutch*

## Stressor Details

**Stressor Name:** Substrate and Channel Unit

**Units:** %

**Metric:** Percent gravel-pebble

**Scale:** linear

**Function Type:** continuous

**Vital Rate/Process:** Site Selection Probability

## Life Stage & Context

**Life Stages:** Spawners

**Geography:** Northern California, Freshwater Creek

**Activity:** Spawning

**Season:** Spawning

## Descriptions

### Overview

Site selection probability for Coho Salmon spawning (spawning habitat suitability) based on percent gravel-pebble substrate coverage.

Model:

Spawning Site Selection Probability = [Percent gravel-pebble] \* [pool-riffle vs run-riffle] habitat \* [Redds nearby]

Data file from pool-riffle; PROX=1 (redds already nearby)

### Function Derivation

Regression model from field data.

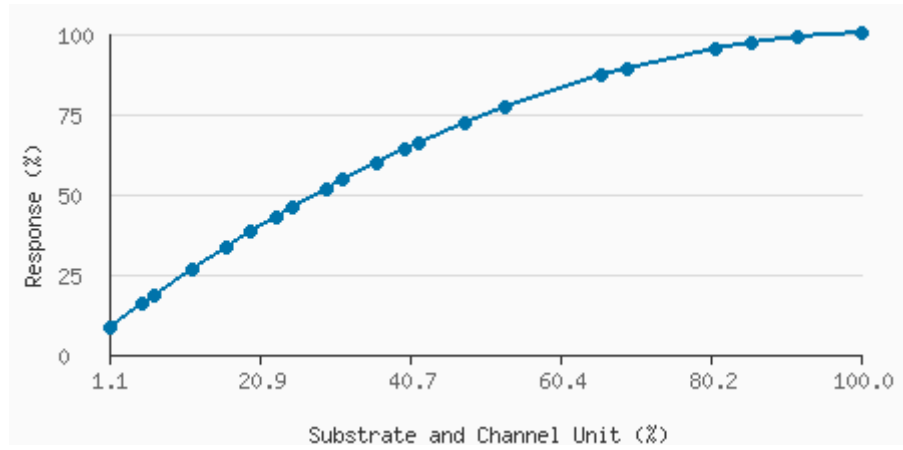
### Transferability of Function

Direction and magnitude likely transferable

### Source of Stressor Data

Field data

## Stressor Response Data



Stressor (X)	Mean System Capacity (%)	SD	low.limit	up.limit
1.1	8.4	0	14.93	14.93
5.5	16	0	16.42	16.42
7.1	18.7	0	19.4	19.4
12.1	26.7	0	24.63	24.63
16.5	33.4	0	29.85	29.85
19.8	38.2	0	35.82	35.82
23.1	42.9	0	39.55	39.55
25.3	45.9	0	44.78	44.78
29.7	51.7	0	49.25	49.25
31.9	54.4	0	54.48	54.48
36.3	59.7	0	58.21	58.21
40.1	64.1	0	64.18	64.18
41.8	65.9	0	68.66	68.66
47.8	72.1	0	74.63	74.63
53.3	77.2	0	79.1	79.1
65.9	87	0	88.81	88.81
69.2	89.1	0	90.3	90.3
80.8	95.2	0	95.52	95.52
85.7	97.1	0	96.27	96.27
91.8	98.9	0	97.76	97.76
100	100.3	0	98.51	98.51

## Citations

Mull, K. E., & Wilzbach, M. A. (2007). Selection of spawning sites by coho salmon in a northern California stream. *North American Journal of Fisheries Management*, 27(4), 1343-1354.

## References

Mull and Wilzbach 2007 - <https://www.humboldt.edu/sites/default/files/cuca/2024-08/mullwilzbach2007.pdf>