

Embeddedness and Steelhead Fry Density

Downloaded on: 2026-04-13, From: <https://mjbayly.com/stressor-response/embeddedness-and-steelhead-fry-density>
Function Updated by stobias on Tue, 11/19/2024 - 22:09.

Species Information

Common Name: Steelhead Trout
Genus: *Oncorhynchus mykiss*

Stressor Details

Stressor Name: Sedimentation
Units: % of cobbles and boulders embedded by added fine sediment
Metric: Fine Sediment
Scale: linear
Function Type: continuous
Vital Rate/Process: Density

Life Stage & Context

Life Stages: Fry
Season: Summer

Descriptions

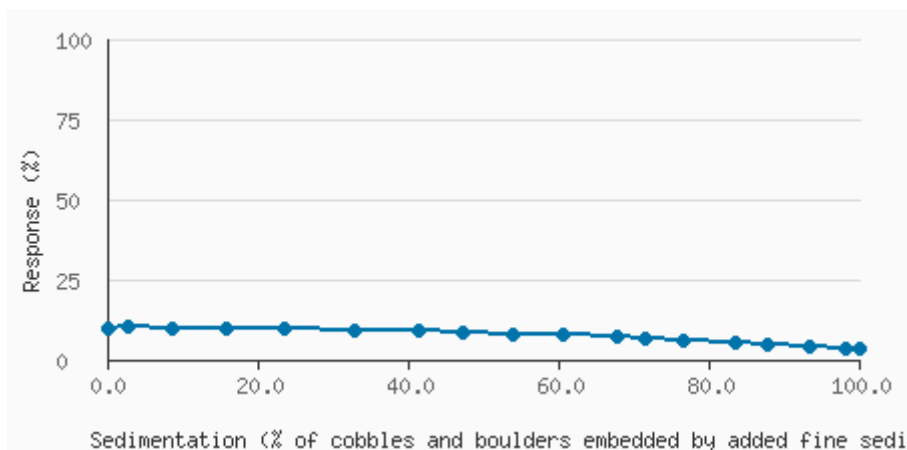
Overview

Densities of age 0 steelhead trout remaining in laboratory stream channels after 5 d during winter and summer tests to evaluate the effects of sedimentation. The channels had alternative pool-riffle configurations; fine sediments (

Function Derivation

laboratory experiment

Stressor Response Data



| Stressor (X) | Mean System Capacity (%) | SD | low.limit | up.limit |
|--------------|--------------------------|------|-----------|----------|
| 0.00 | 9.98 | 0.00 | 9.98 | 9.98 |
| 2.87 | 10.02 | 0.00 | 10.02 | 10.02 |
| 8.60 | 9.95 | 0.00 | 9.95 | 9.95 |
| 15.77 | 9.88 | 0.00 | 9.88 | 9.88 |
| 23.66 | 9.66 | 0.00 | 9.66 | 9.66 |

| | | | | |
|--------|------|------|------|------|
| 32.97 | 9.33 | 0.00 | 9.33 | 9.33 |
| 41.58 | 8.94 | 0.00 | 8.94 | 8.94 |
| 47.31 | 8.50 | 0.00 | 8.50 | 8.50 |
| 54.12 | 8.03 | 0.00 | 8.03 | 8.03 |
| 60.57 | 7.53 | 0.00 | 7.53 | 7.53 |
| 67.74 | 6.91 | 0.00 | 6.91 | 6.91 |
| 71.68 | 6.48 | 0.00 | 6.48 | 6.48 |
| 76.70 | 5.94 | 0.00 | 5.94 | 5.94 |
| 83.51 | 5.21 | 0.00 | 5.21 | 5.21 |
| 87.81 | 4.71 | 0.00 | 4.71 | 4.71 |
| 93.55 | 3.95 | 0.00 | 3.95 | 3.95 |
| 98.21 | 3.33 | 0.00 | 3.33 | 3.33 |
| 100.00 | 3.15 | 0.00 | 3.15 | 3.15 |

Citations

Bjornn, T. C., & Reiser, D. W. (1991). Habitat requirements of salmonids in streams. American Fisheries Society Special Publication, 19(837), 104.

References

https://www.for.gov.bc.ca/hfd/LIBRARY/FFIP/Bjornn_TC1991.pdf -
https://www.for.gov.bc.ca/hfd/LIBRARY/FFIP/Bjornn_TC1991.pdf