Title: Aquatic Vertebrate Population Study in Mack Creek, Andrews Experimental Forest, 1987 to present

Abstract:

Populations of West Slope cutthroat trout (Onchorhyncus clarki clarki) in two standard reaches of Mack Creek in the H.J. Andrews Experimental Forest have been monitored since 1987. Monitoring of Pacific Giant Salamanders, Dicamptodon tenebrosus began in 1993. The two standard reaches are in a section of clearcut forest (ca. 1963) and an upstream 500 year old coniferous forest. Sub-reaches are sampled with 2-pass electrofishing, and all captured vertebrates are measured and weighed. Additionally, a set of channel measurements are taken with each sampling. This study constitutes one of the longest continuous records of salmonid populations on record.

Keywords: Amphibians; Animal populations; Aquatic habitats; Biomass; Demography; Disturbance; Ecology; Fish; Fish habitat; Fish populations; Floods; Herpefauna; Population dynamics; Resistance and resilience; Stream ecology; Streams; Timber harvesting; Trout; Vertebrates; Populations; habitats; populations; demography; ecology; stream ecology; population dynamics; floods; biomass; resistance and resilience; disturbance; timber harvest; aquatic ecosystems; streams; animals; vertebrates; amphibians; fishes; trout; reptiles;

Date data commenced: 1987-10-06
Date data terminated: 2019-09-05
Principal Investigator: Ivan Arismendi

List of Entities:
1. Vertebrate numbers and size
2. Habitat dimensions

### I. Vertebrate numbers and size

Annual survey of aquatic vertebrates, numbers, sizes

**Attribute List:**

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Sampled dates range from 10/6/1987 to 9/5/2019.
### Habitat dimensions

Measurements of channel units within vertebrate sampling area

**Attribute List:**

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Attributes Definitions:

CLIP
Fin clip type (Onchoryhncus recaptures only). Ended in 2006.

DBCODE
Database Code

DEPTH1
Depth 1 along width1 transect

DEPTH10
Depth 2 along width3 transect

DEPTH11
Depth 3 along width3 transect

DEPTH12
Maximum depth along width3 transect

DEPTH13
Depth 1 along width4 transect

DEPTH14
Depth 2 along width4 transect

DEPTH15
Depth 3 along width4 transect

DEPTH16
Maximum depth along width4 transect

DEPTH17
Depth 1 along width5 transect

DEPTH18
Depth 2 along width5 transect

DEPTH19
Depth 3 along width5 transect

DEPTH2
Depth 2 along width1 transect
DEPTH20
Maximum depth along width5 transect

DEPTH3
Depth 3 along width1 transect

DEPTH4
Maximum depth along width1 transect

DEPTH5
Depth 1 along width2 transect

DEPTH6
Depth 2 along width2 transect

DEPTH7
Depth 3 along width2 transect

DEPTH8
Maximum depth along width2 transect

DEPTH9
Depth 1 along width3 transect

ENTITY
Entity number

LENGTH
Channel unit length

LENGTH1
Length type 1 (total or snout-fork length for Onchorhyncus, snout-vent for Dicamptodon). See supplemental information in metadata.

LENGTH2
Length type 2 (Dicamptodon only--snout-tail)

MAXDEPTH
Maximum depth channel unit

NOTES
Comments

PASS
Electoshocking pass number

PITNUMBER
Unique pit tag number; tag is embedded in vertibrate. Began in 2007.

REACH
Reach sampled (in 50 m distances)

SAMPLEDATE
Date sampled

SECTION
Location of sampling section

SITECODE
Coded name of sample area

SPECIES
Vertebrate species sampled

UNITNUM
Channel unit number (sequential)

UNITTYPE
Channel unit classification type

VERT_INDEX
Unique numerical index of vertibrates measured (for creating key field)

WEIGHT
Weight of individual organism (not taken after 1999)

WIDTH1
Wetted width of channel unit -- transect 1

WIDTH2
Wetted width of channel unit -- transect 2

WIDTH3
Wetted width of channel unit -- transect 3

WIDTH4
Wetted width of channel unit - transect 4

WIDTH5
Wetted width of channel unit - transect 5

YEAR
Year of Survey

Enumerated Domains:

Enumerated Domain for Attribute: CLIP
LV Left ventral fin
LVRV Left and right ventral fins
RV Right ventral fin
NONE No ventral fin clip

Enumerated Domain for Attribute: DBCODE
AS006 FSDB database code AS006

Enumerated Domain for Attribute: REACH
L Lower reach of section, 0-50 m
M Middle reach of section, 50-100 m
U Upper reach of section, 100-150 m
Enumerated Domain for Attribute: SECTION
AL Above Lava Falls, in old-growth forest (1996 only)
CC Cleacut
OG Old Growth

Enumerated Domain for Attribute: UNITTYPE
C Cascade
I Riffle
IP Isolated Pools --not connected to main channel
P Pool
R Rapid
S Step (small falls)
SC Side Channel
NA Not sampled by unit

Enumerated Domain for Attribute: DBCODE
AS006 FSDB database code AS006

Enumerated Domain for Attribute: REACH
L Lower reach of section, 0-50 m
M Middle reach of section, 50-100 m
U Upper reach of section, 100-150 m

Enumerated Domain for Attribute: SECTION
AL Above Lava Falls, in old-growth forest (1996 only)
CC Cleacut
OG Old Growth

Enumerated Domain for Attribute: UNITTYPE
C Cascade
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