In Search of a Unique Juvenile Salmon in the Snoqualmie River

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Snoqualmie River Watershed

Spawning Areas

Rearing Areas

Snohomish Basin Estuary

Puget Sound

Photo: Wild Lands Inc.

Photo: Washington Nature
Snoqualmie River Watershed

Spawning Areas
- Fry: Days - Weeks
- Parr: Weeks - Months
- Yearling: Days - Months
- Year+: Days

Rearing Areas
- Days - Months

Snohomish Basin Estuary
- Days - Months

Puget Sound
- Days

Photo: Wild Lands Inc.
Photo: Washington Nature
Abundance (catch/hour)

Data provided by the Tulalip Tribes
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1. What is their distribution?

2. Which habitats do they use?

3. What are potential explanatory variables and habitat attributes?

4. Does distribution and habitat use change across months?
Cataract Electrofishing
What is their distribution?
February
February
Which habitats do they use?
Chinook Catch

Possible Feeding and Foraging

October

Armored Bank  Unarmored Bank  Bar  Mid-Channel Bar  Confluence  Backwater
Possible Overwintering
What are potential explanatory variables and habitat attributes?
Observed Chinook Catch

Variable A

Variable B

Variable C

Variable D
- Month
- Reach
- Habitat type
- Edge habitat width
- Edge habitat depth
- Substrate
- Temperature
- Large wood presence
• Month  
• Reach  
• Habitat type  
• Edge habitat width  
• Edge habitat depth  
• Substrate  
• Temperature  
• Large wood presence
Did they grow over winter?
The graph shows the distribution of fork lengths for different months:

- **October**: The distribution peaks around fork lengths of 94-98 units.
- **December**: The distribution peaks around fork lengths of 98-102 units.
- **February**: The distribution peaks around fork lengths of 98-102 units.

The x-axis represents fork lengths, and the y-axis represents frequency.
The diagram shows the frequency of fork lengths across different months:

- **October:** The distribution is broad with a peak around 98-102 fork lengths.
- **December:** The distribution is more concentrated with peaks around 92-94 fork lengths.
- **February:** The distribution is again broad but with a different pattern, with peaks around 102-106 fork lengths.

The x-axis represents fork lengths ranging from 35 to 123, and the y-axis represents frequency ranging from 0 to 15.
Does distribution and habitat use change across months?
Fall City Project Reach

SE19th Bank Repair

Upper Carlson Restoration
Fall City Project Reach

Armored Bank

Bar

Backwater

Bar

Unarmored Bank
Does distribution and habitat use change across months?
What are the life history patterns in the Snoqualmie?
Fry

Yearling

Feb - Mar

Apr - May

Jun - Jul

Fork Lengths

Frequency
Fork Lengths

Frequency

Feb - Mar

Apr - May

Jun - Jul

Fry

Parr

Yearling
Possible Future Yearling???
Chinook Catch

Armored Bank  Unarmored Bank  Bar  Mid-Channel Bar  Confluence  Back-water

Post Flood

October  December  February
Conclusions
1. What is their distribution?

Snoqualmie River supports year-round use

Chinook found throughout Snoqualmie River
1. What is their distribution?

2. Which habitats do they use?

- Diversity of habitats support Chinook
- Minimal growth during late-fall and winter
- Mainstem, floodplain, and tributaries
1. What is their distribution?

2. Which habitats do they use?

3. What are potential explanatory variables and habitat attributes?

- Ongoing classification/regression analysis
- Month, habitat type, depth, and substrate
- Potential break-out by month or reach
1. What is their distribution?

2. Which habitats do they use?

3. What are potential explanatory variables and habitat attributes?

4. Does distribution and habitat use change across months?

   - Habitat use shifts across seasons
   - Importance of conditions across seasons
   - Monitoring across habitats and seasons
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Questions

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