A PIT Tag Based Method for Investigating Survival of Juvenile Cowichan River Chinook During Their First Year of Life

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Acknowledgements
Key Problems

- The first year of life is believed to be critical to survival yet we have limited data.
- Estimates of mortality in marine habitats are difficult due to dispersion.
- Who are the survivors?
The Technology
The Approach
Study Area
Fish Capture
56,156 Tags Over 4 years

Tags Deployed (thousands)

~50% Hatchery in River
~20% Hatchery in Ocean
Tag Returns n=594

Return Year

Beach  Micro Troll  River  Purse

Detections

2015  2016  2017  2018

2015  2016  2017  2018

2015  2016  2017  2018
Survival – 2015 Cohort

Age 2-4 Return Rate

- River: 
  - Hatchery: 0.54%
  - Wild: 1.31%

- Beach: 
  - Hatchery: 0.62%
  - Wild: 1.59%

- Purse: 
  - Hatchery: 0.61%
  - Wild: 2.43%

- Micro Troll <300 mm: 
  - Hatchery: 6.51%
  - Wild: 2.57%
Wild vs. Hatchery Return Rate

Hatchery Return Rate vs. Wild Return Rate

- River
- Beach
- Purse
- Micro Troll

2015

Equation: $y = 0.3792x$

1:1 line
2015 Wild Purse

<table>
<thead>
<tr>
<th>Return Rate</th>
<th>Age 4</th>
<th>Age 3</th>
<th>Age 2</th>
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2015 Wild Purse Return

Proportion of Return

Size Bin (mm)

Age 2  n=40
Age 3  n=18
Age 4  n=20