EFFECTS OF SPRING-FLOOD PULSE ON JUVENILE SALMONID COMPOSITION IN AN OFF CHANNEL HABITAT OF THE FRASER RIVER, HOPE, BRITISH COLUMBIA

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Outline
- Background
- Questions
- Methods
- Results
- Management Implications

Freshets, Fry, and the Fraser
Outline

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Chinook

V.S.

Coho
BCIT students have been studying juvenile salmon rearing in Delair Pond since 2008
Fall 2013 - Spring 2014
1. In Fall 2010 and Spring 2011 there were no new fish in the pond.
Real-Time Hydrometric Data Graph for FRASER RIVER AT HOPE (08MF005) [BC]

Station: 08MF005  Data Type: Real-Time

Apply
Fraser River Discharge from 2008 to 2014

Daily Average Discharge (m$^3$/s)

5950 m$^3$/s
Fall 2013 - Spring 2014
2. The species abundance of Delair Pond is consistently different each year.

Why?
Why?

- Adult escapement
- Climate
- Nutrient levels
- Temperature

*Spring freshet has effects on the abundance of juvenile salmon fry*
2013 Spring Freshet

Average Daily Discharge (m³/s)

January  | March    | June     | September | December

0        | 1500     | 6000     | 4500      | 3000

10500    | 9000     | 7500     | 6000      | 1500
We predict that:

1. # coho: longer duration earlier onset
2. # chinook: longer duration later onset
1. Annual mark-recapture studies
2. Environment Canada Fraser River Discharge Rates

Duration
# of days Fraser River discharge is greater than 5950m3/s

On-set
# of days from Jan. for the Fraser river to reach a discharge of 5950m3/s
There is significant correlation between duration and abundance for coho only.

95% CI
There are no significant correlations between abundance and onset.

95% CI
Summary
Management Implications

1. Access
2. Freshet
3. OCH
Questions

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