

Behaviour and survival of outmigrant sockeye salmon smolts

N.B. Furey¹, S.G. Hinch¹, A.G. Lotto¹, A.L. Bass¹, V. Minke-Martin¹, C.T. Middleton¹, M.T. Casselman¹, T.D. Clark², E.L. Rechisky³, M. Gale⁴, K. Jeffries¹, A. Porter³, and D.W. Welch³

1- UBC, 2- Australian Institute of Marine Science, 3- Kintama, 4- Freshwater Fisheries Society of BC

Background

- What's a smolt?
- Smolt-to-adult survival of sockeye has declined
- Know very little about the migration experience
- Acoustic telemetry used to track smolts
 - Chilko Lake, BC
 - 2010-2014
 - Nearly 2000 smolts
 - All age 2



Results – Chilko acoustic telemetry on sockeye salmon smolts

- Survival is poor in 2 landscapes
 - Chilko and Chilcotin rivers
 - Late marine environment (upper Strait of Georgia)
- Movement speeds appear to be related to flow
 - Fastest in large Fraser River
- Movements in Chilko and Chilcotin rivers occur primarily at night
 - Potentially as mechanism to avoid predation

Conclusions

- Salmon smolt migration behaviour and survival is landscape specific
- Fine-scale movements of smolts are variable, but their importance is unknown
- Telemetry can be more powerful when combined with other techniques, tools, or complementary studies
- OTN provides important framework for these studies