

Interactions between wild and hatchery salmon: Working toward conservation responses

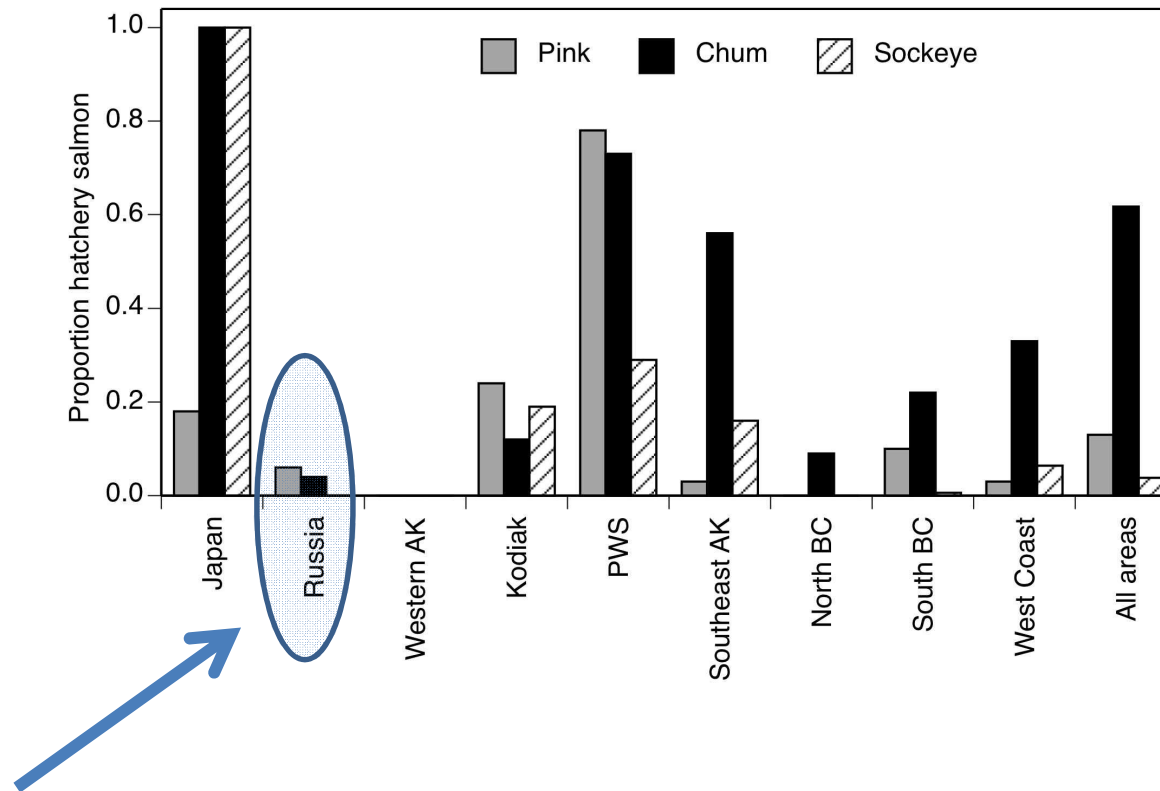
Pete Rand, Moderator

Mark Chilcote

Vladimir Tabunkov

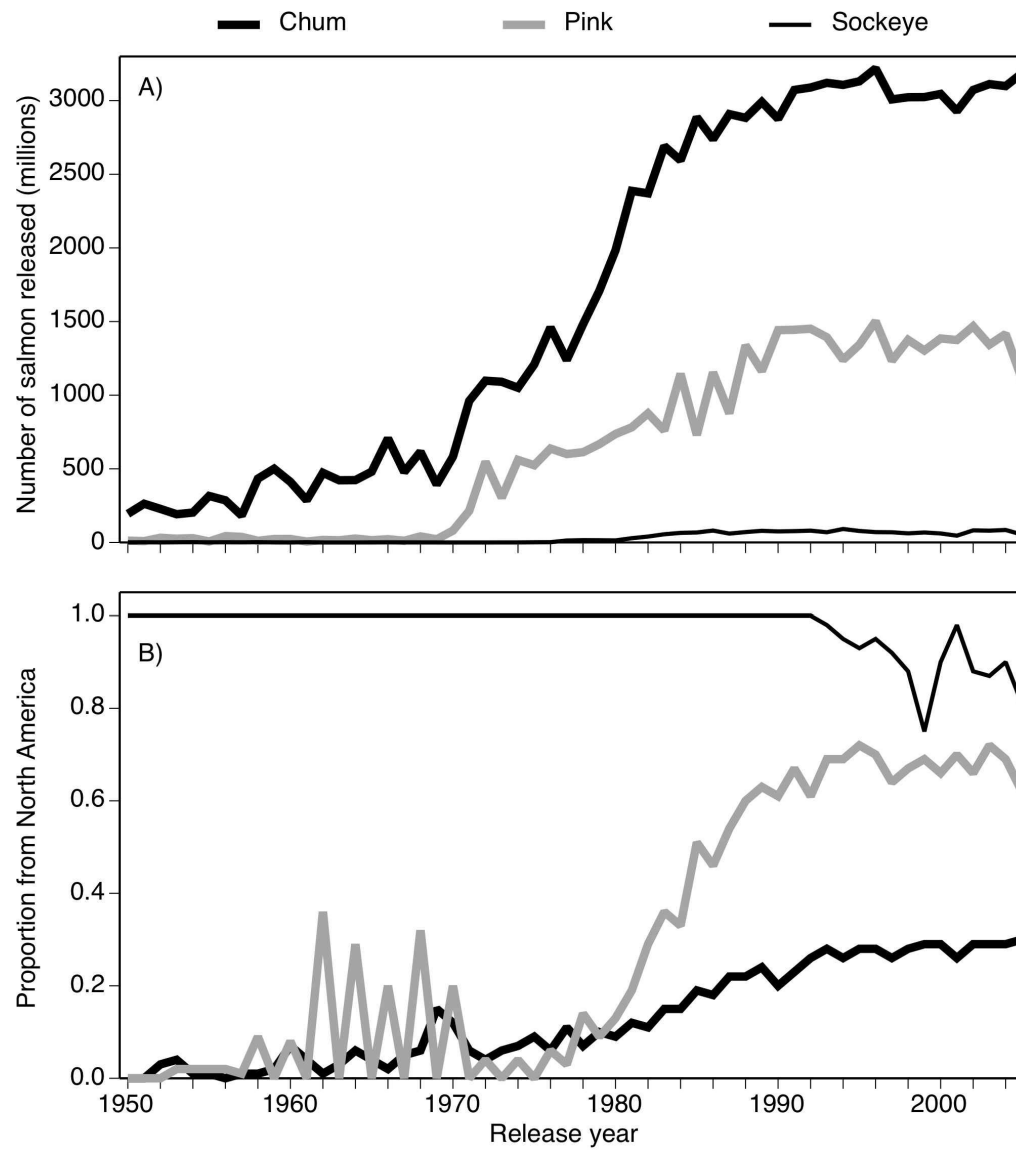
Dmitry Lajus

Proportion of Hatchery Fish Across Regions



Ruggerone et al. (in review)

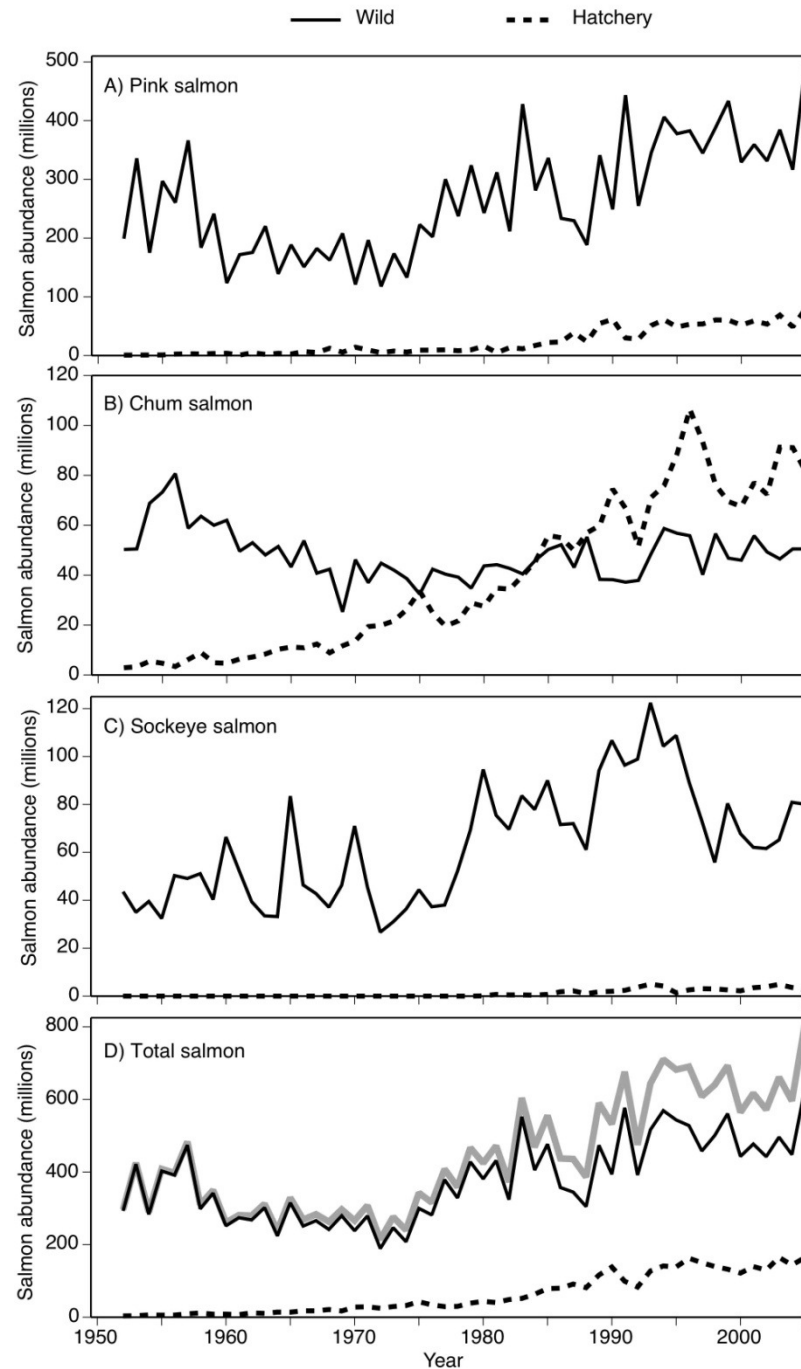
Timeline of Hatchery Releases



Ruggerone et al. (in review)

Timeline of abundance of Wild/Hatchery Salmon

Ruggerone et al. (in review)



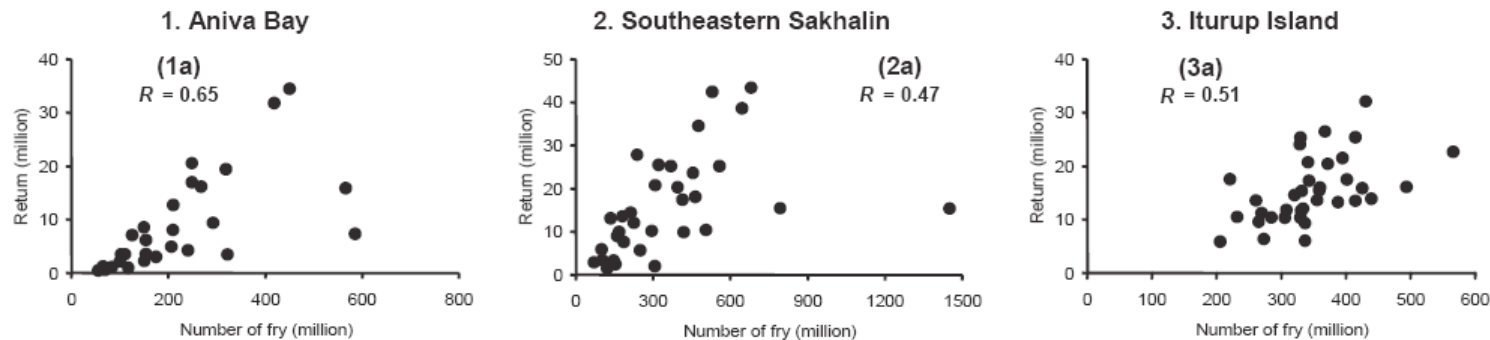
Key points

- Local economic benefits of hatcheries (focus on production of pink and chum)
- Basic, unresolved questions of whether hatcheries are augmenting or displacing wild salmon
 - Prince William Sound case study (Hilborn & Eggers, recent studies)
 - Recent analyses by Kaev and Zhivotovsky in Sakhalin
- Lack of good quality data on spawning adults and lack of marking to distinguish W/H.

Genetic, Ecological and Economic Issues

- Genetic impacts (domestication interfering with local adaptation) – more from Mark Chilcote
- Ecological effects
 - Competition
 - Disease
 - Predation
 - Food web/ecosystem disruption
- Economic issues
 - Value of catch, marketing
 - High costs compared to other strategies for increasing abundance of run (habitat restoration/protection, anti-poaching efforts, diminishing returns given marine limits to production)

Importance of Marine Conditions and Limits



“... there appears to be one common pattern for all three regions which is that changes in stock abundance are mainly the result of pink salmon survival during the marine period.”

“... we can attribute the increase in mortality for year-classes with very abundant fry migrants in Aniva Bay and southeastern Sakhalin to density-dependent factors.”



ECOLOGICAL INTERACTIONS
between Wild & Hatchery Salmon

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