

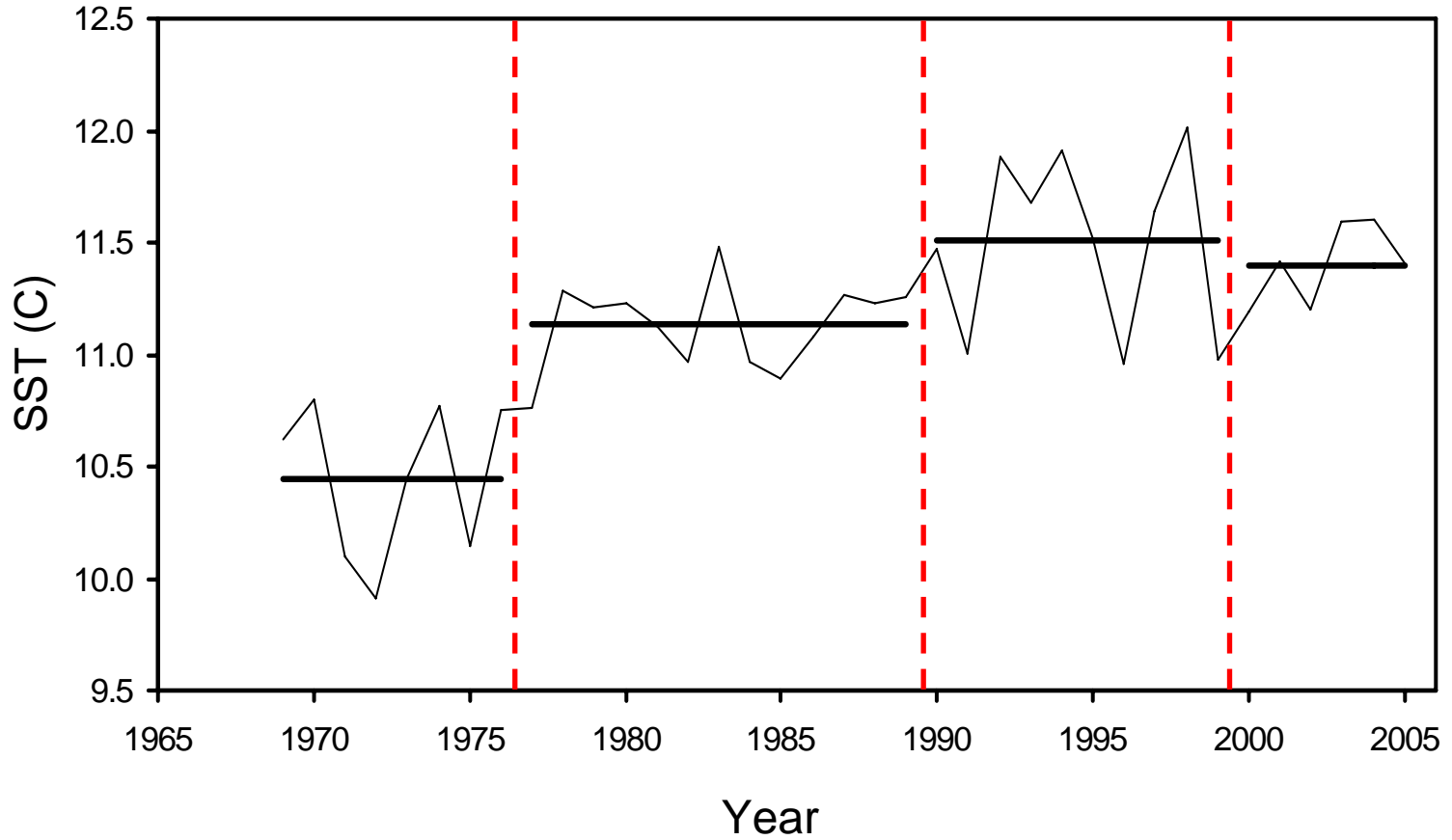
Managing a Strait of Georgia Ecosystem

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R.M. Sweeting and C.M. Neville
Fisheries and Oceans Canada

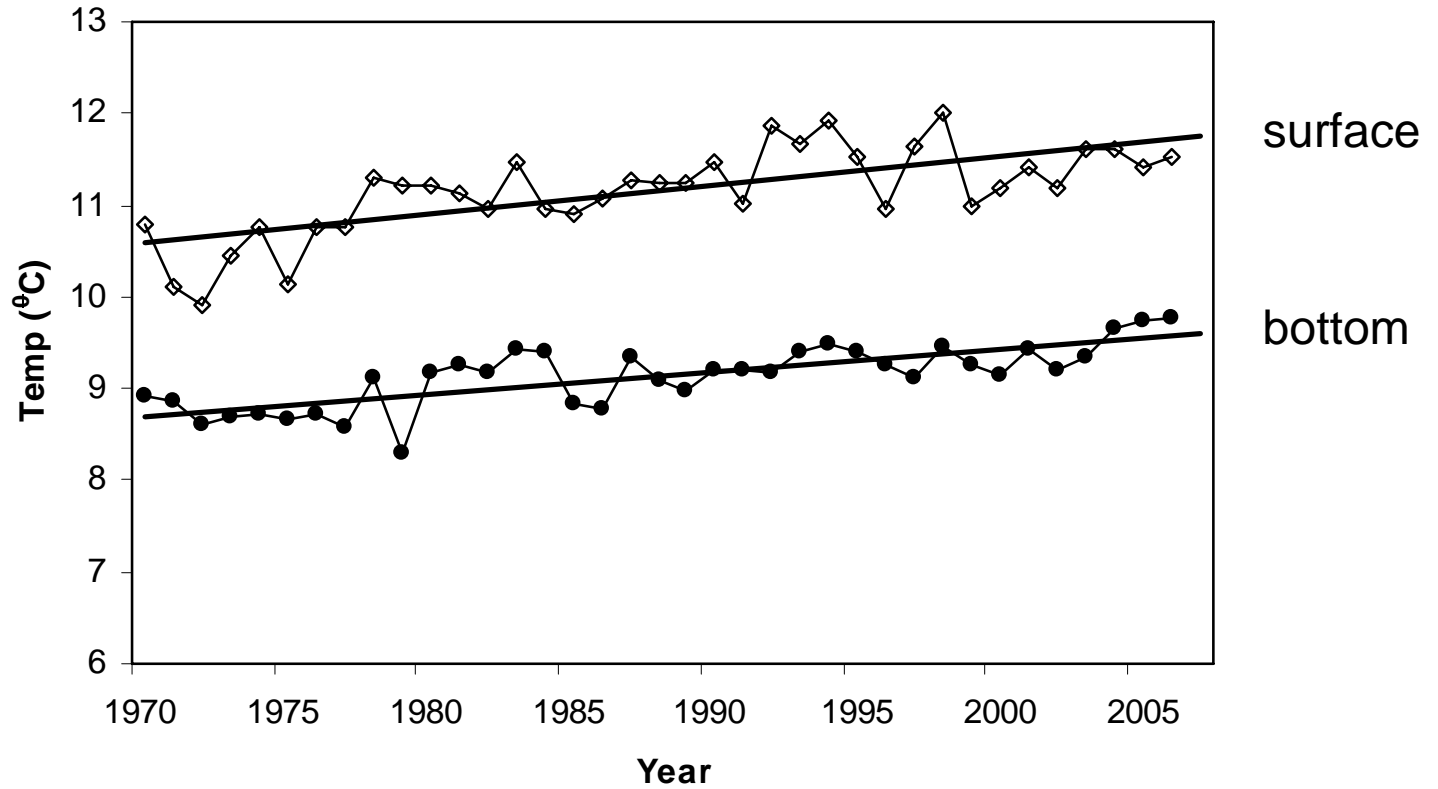
Strait of Georgia and Vancouver Island



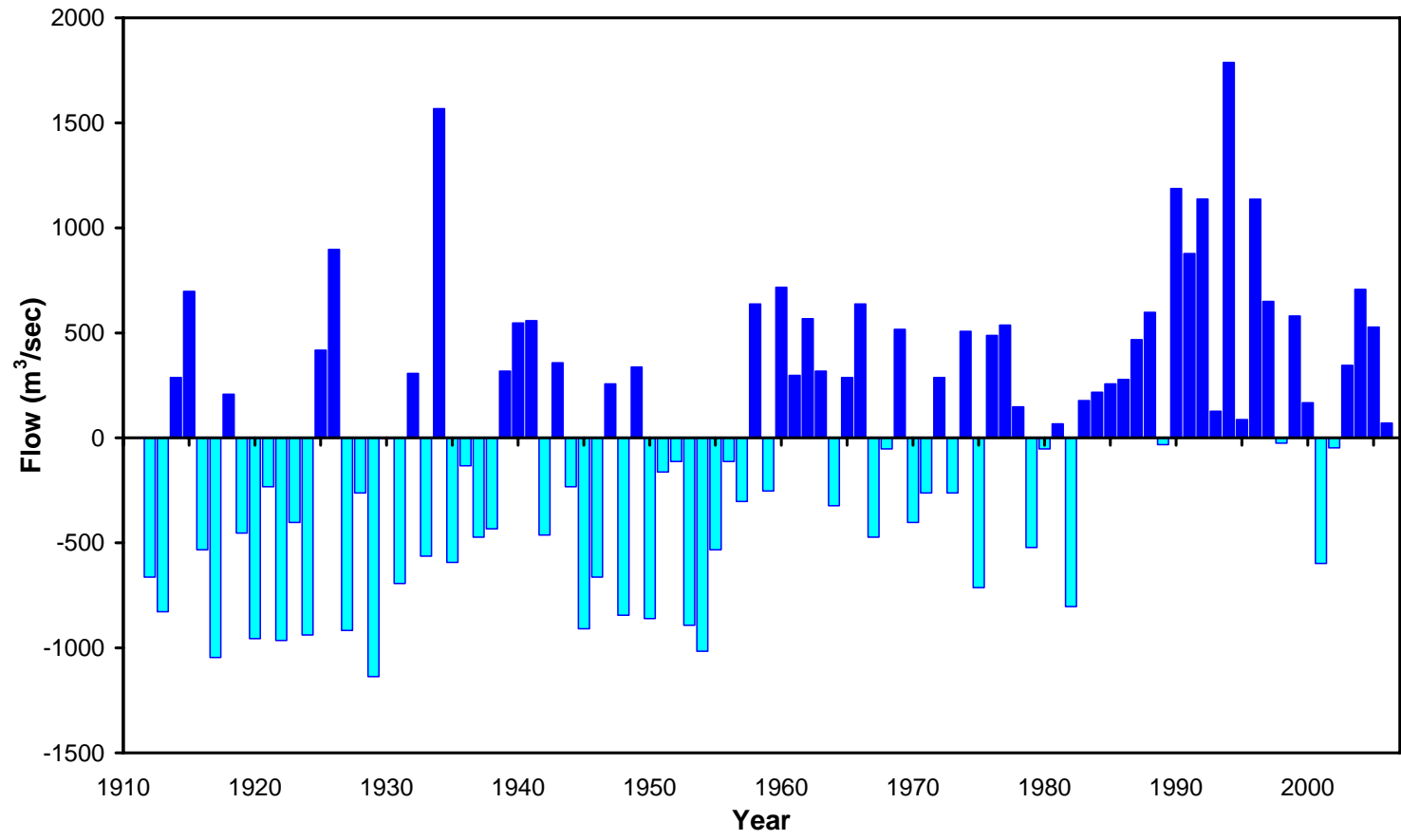
Nanoose Bay Sea Surface Temperatures



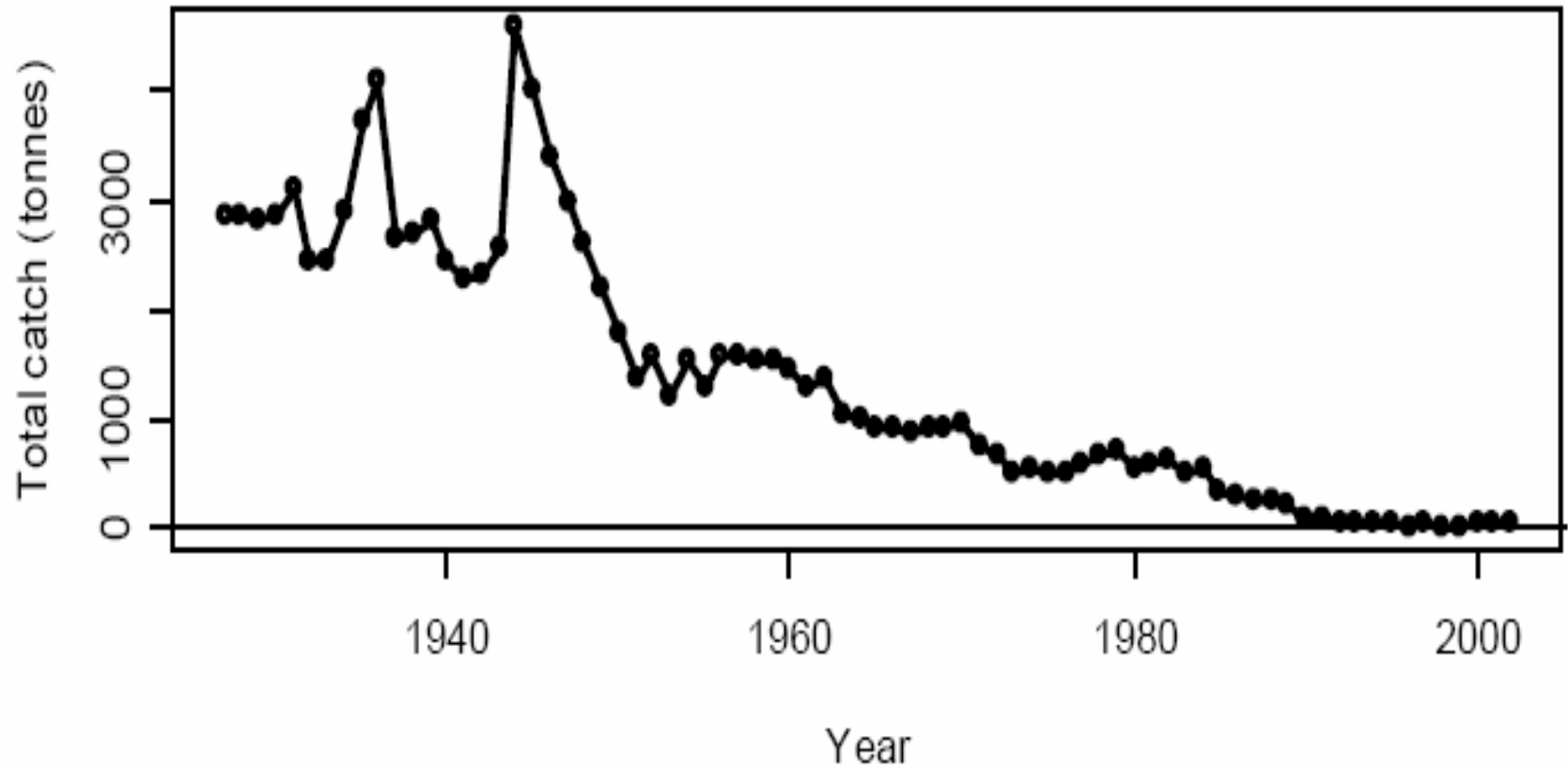
Ocean Temperature



Fraser River flow anomaly in April 1912-2006



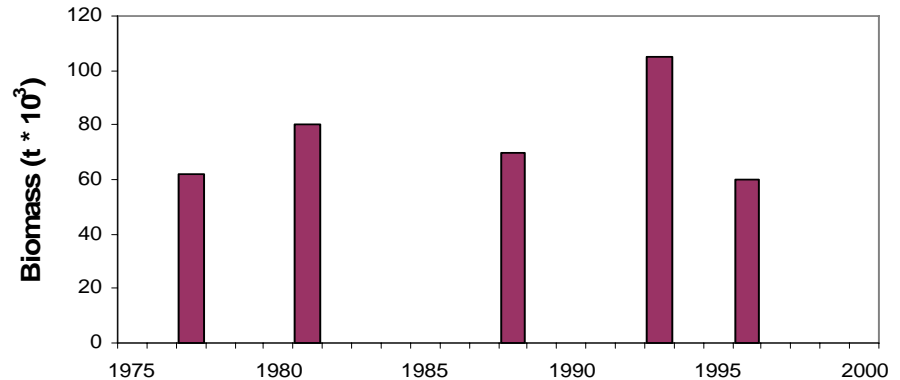
Lingcod catch in the Strait of Georgia



Pacific hake in the Strait of Georgia

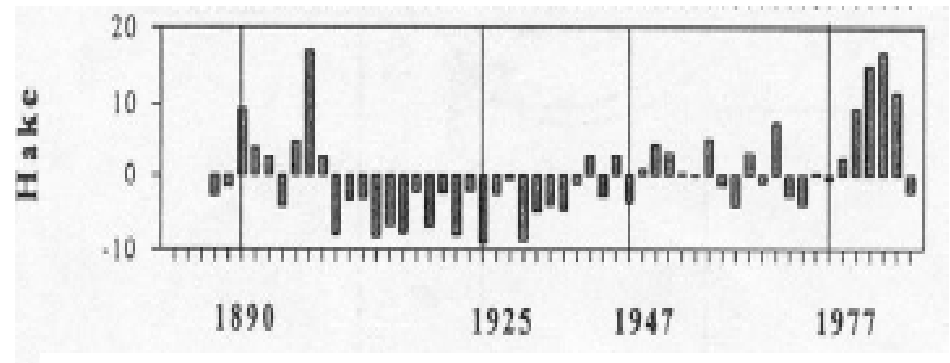
Biomass estimates

Beamish et al. 2001



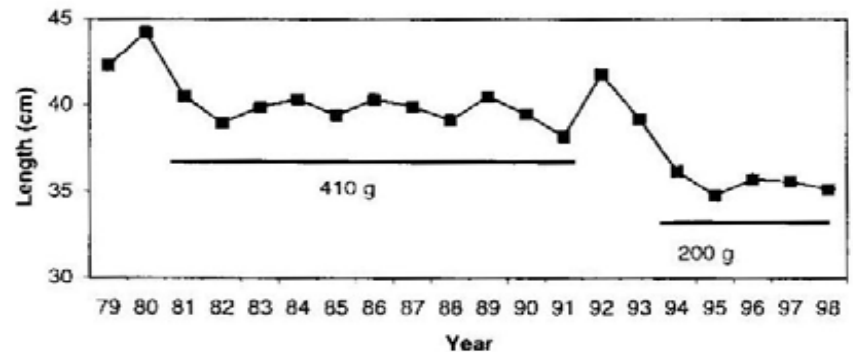
Sediment record

O'Connell. 2000



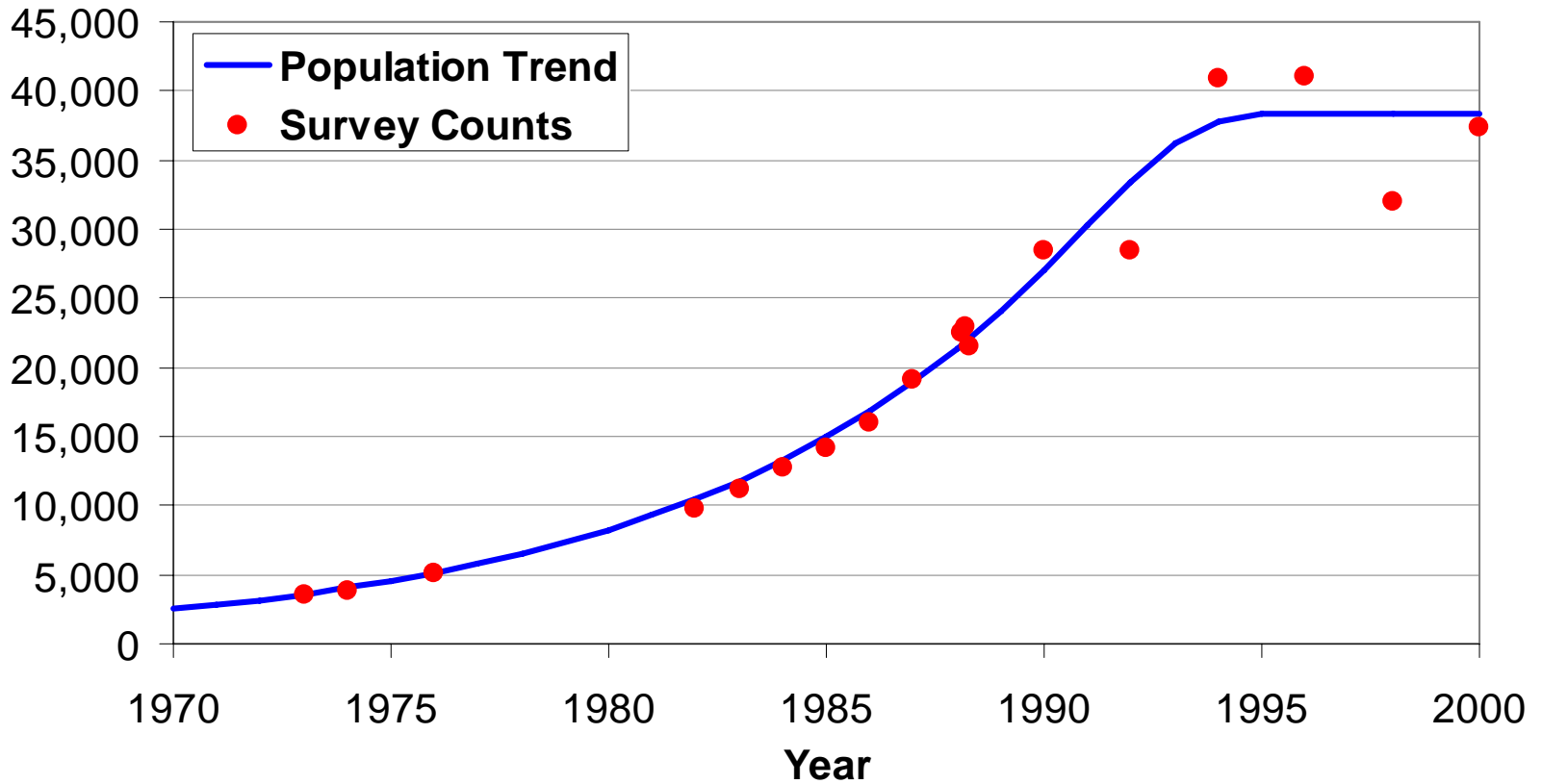
Trends in mean length

Beamish et al. 2001



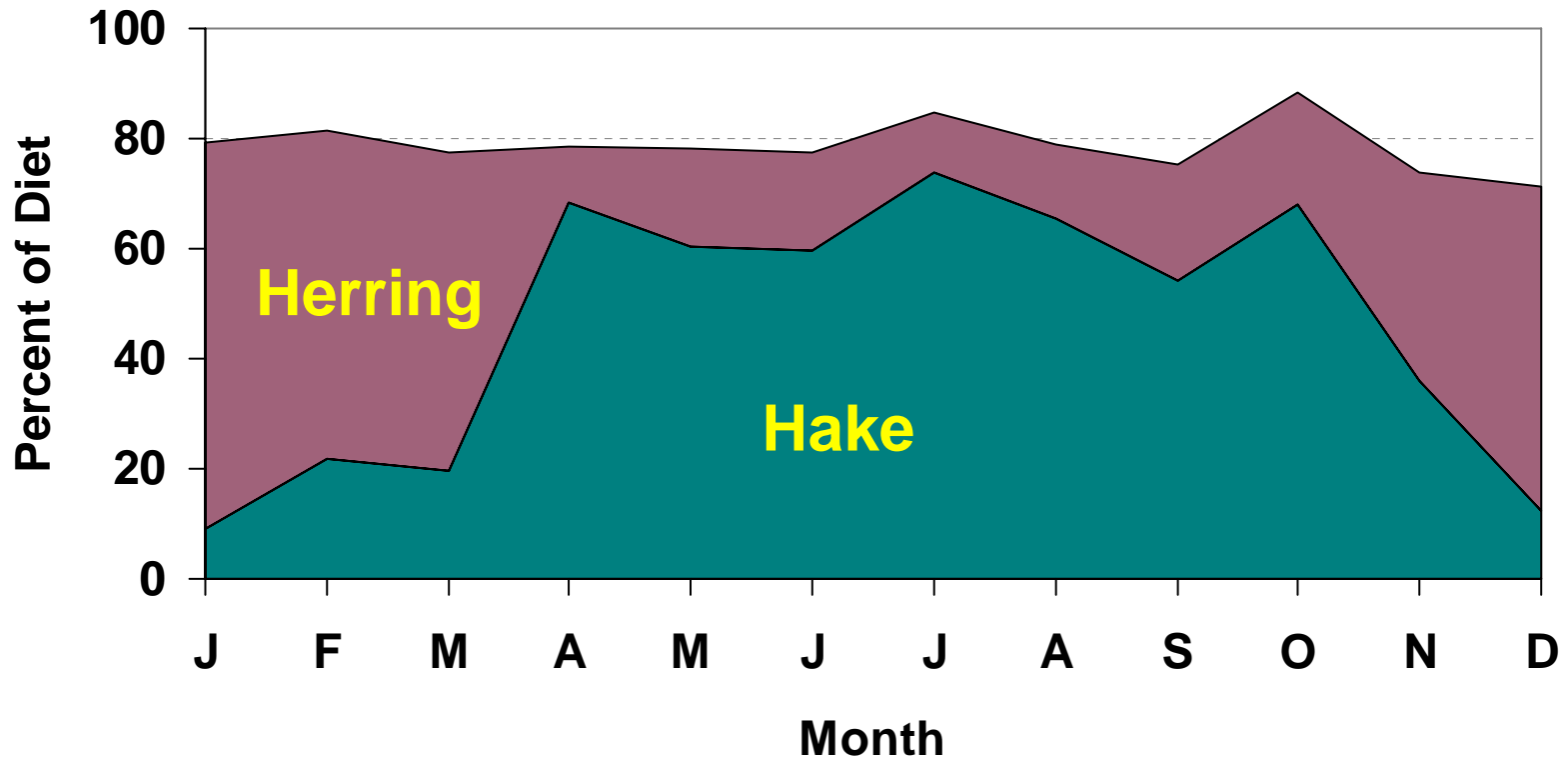
Trends in Harbour Seal Abundance

Strait of Georgia

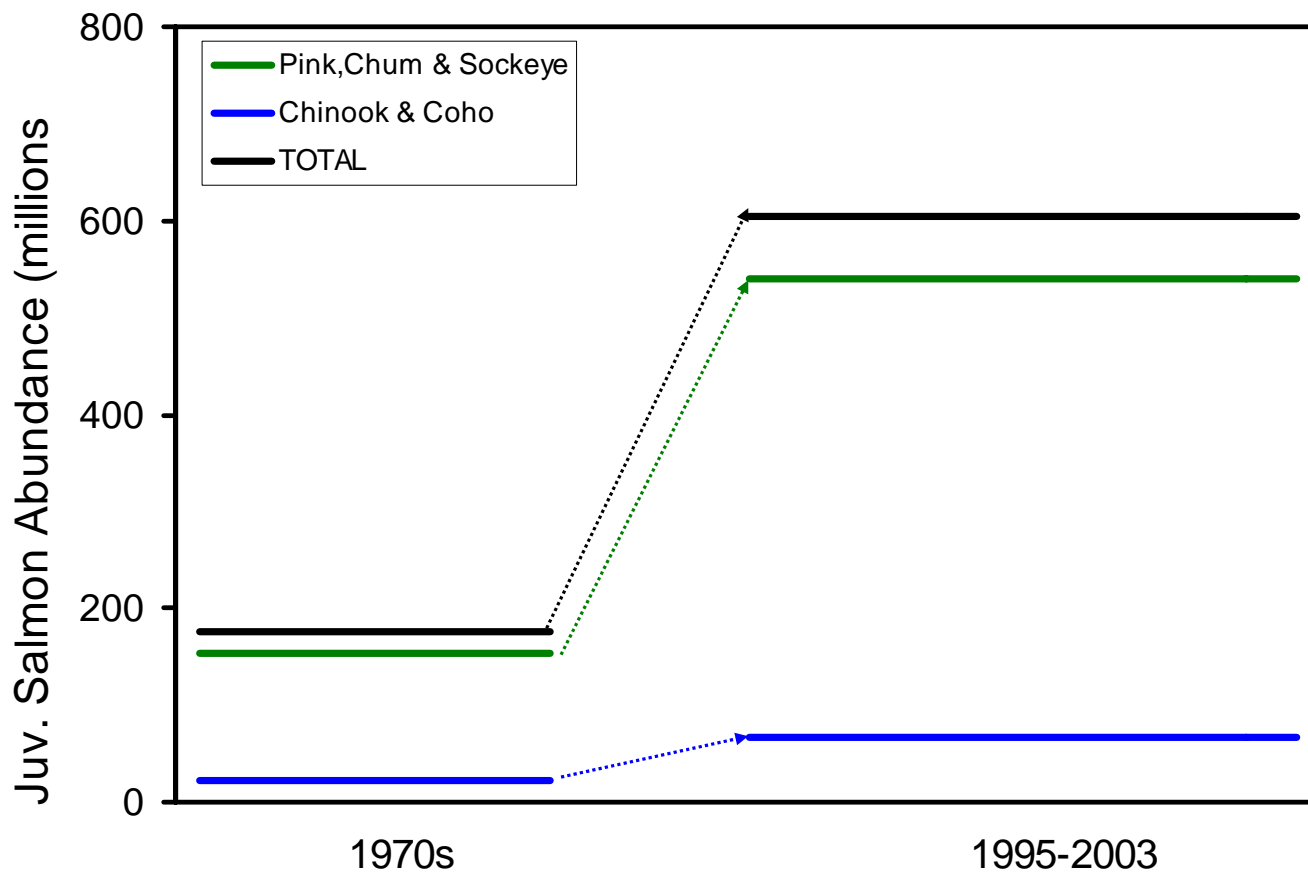


Harbour Seals - Seasonal Diet

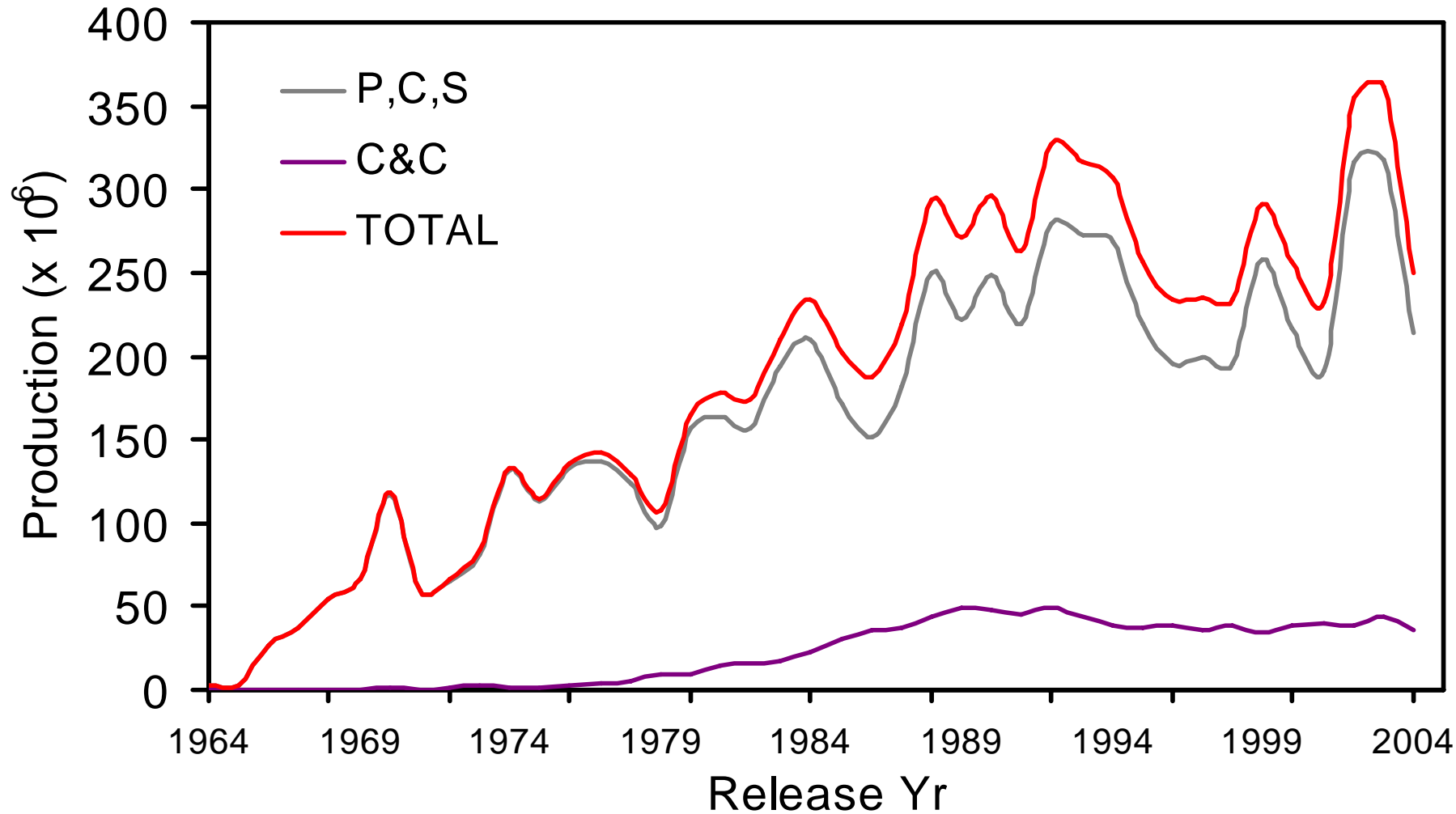
Strait of Georgia



Estimated abundance of juvenile salmon in the Strait of Georgia 1967-1976 and 1993-2003

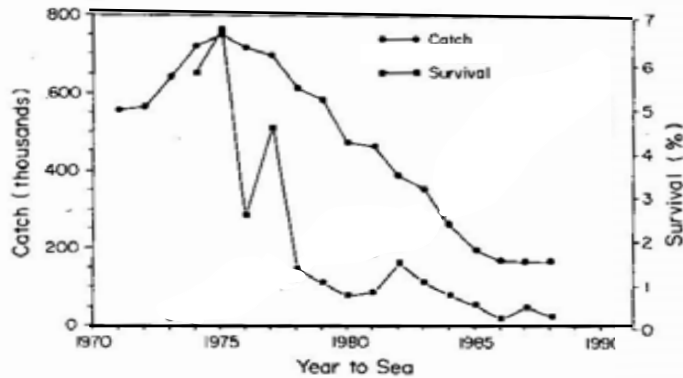


Strait of Georgia – hatchery production 1964-2004



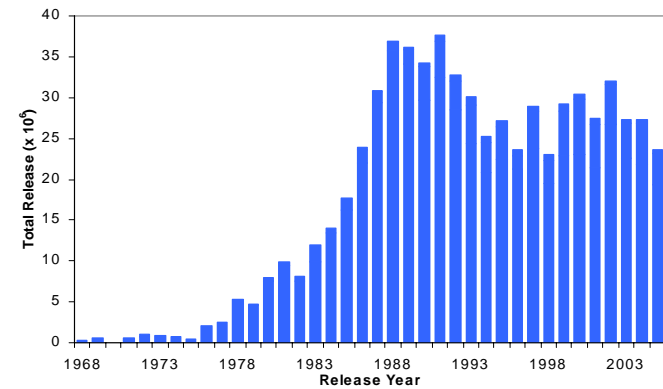
Chinook - Strait of Georgia

Catch and survival

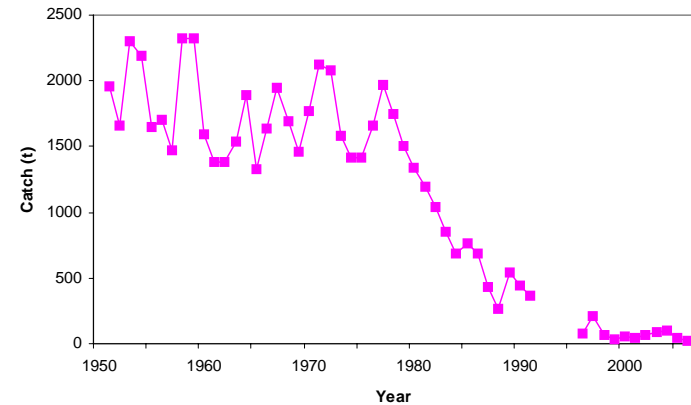


Beamish et al. 1995. *Oceanogr.* 4:3, 243-256.

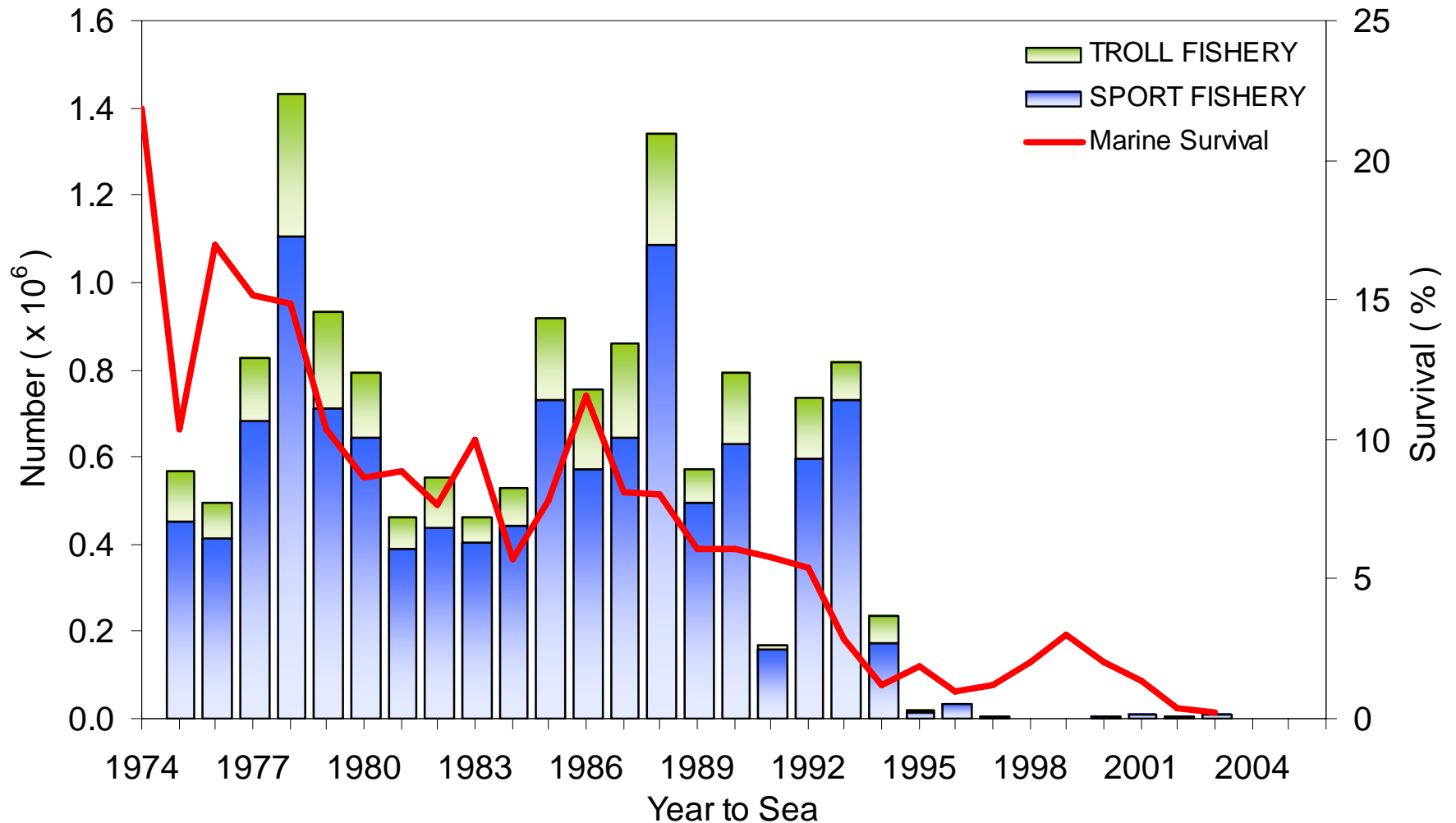
Hatchery releases



Chinook catch

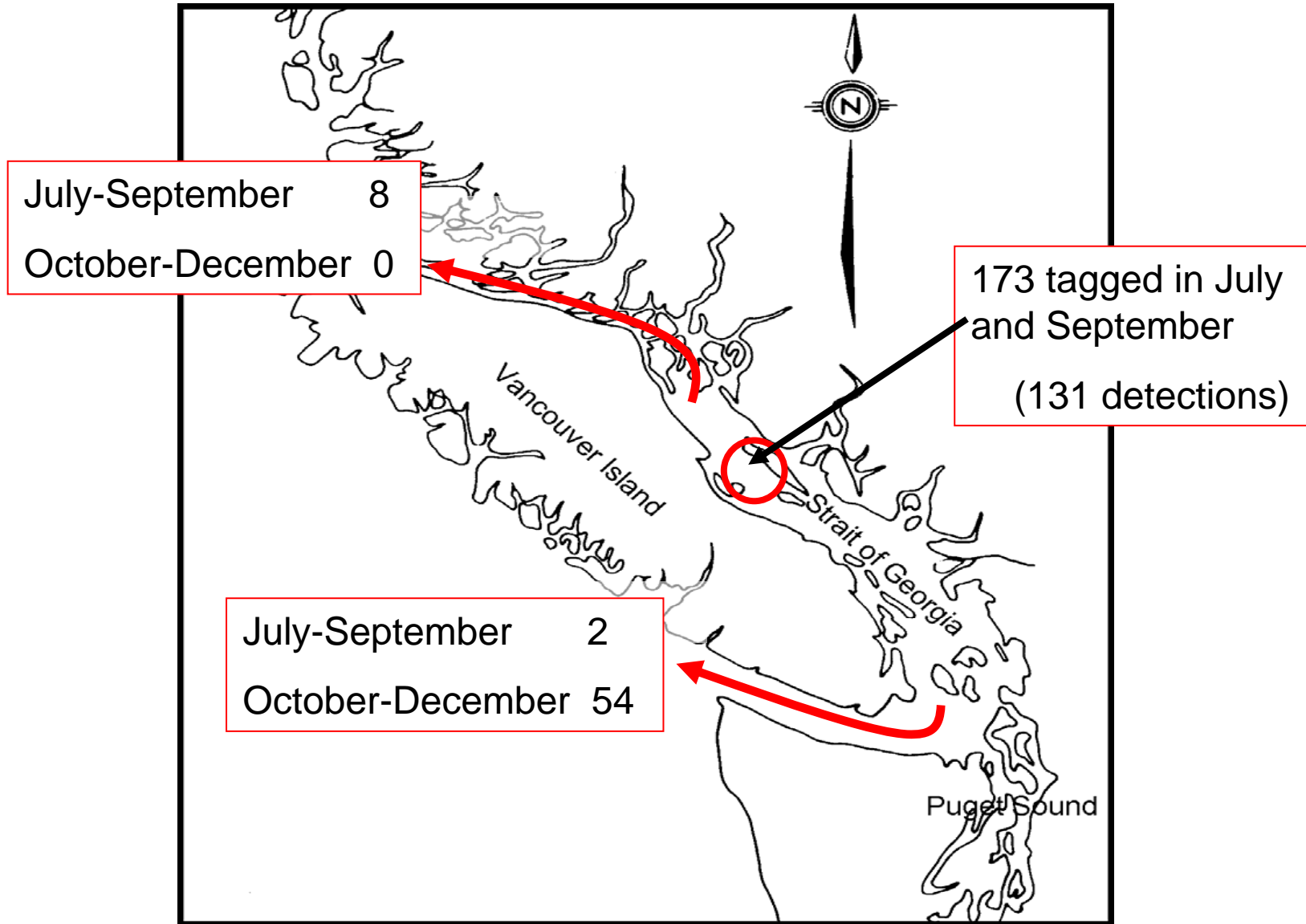


Sport and Commercial catch within the Strait of Georgia, 1975-2005

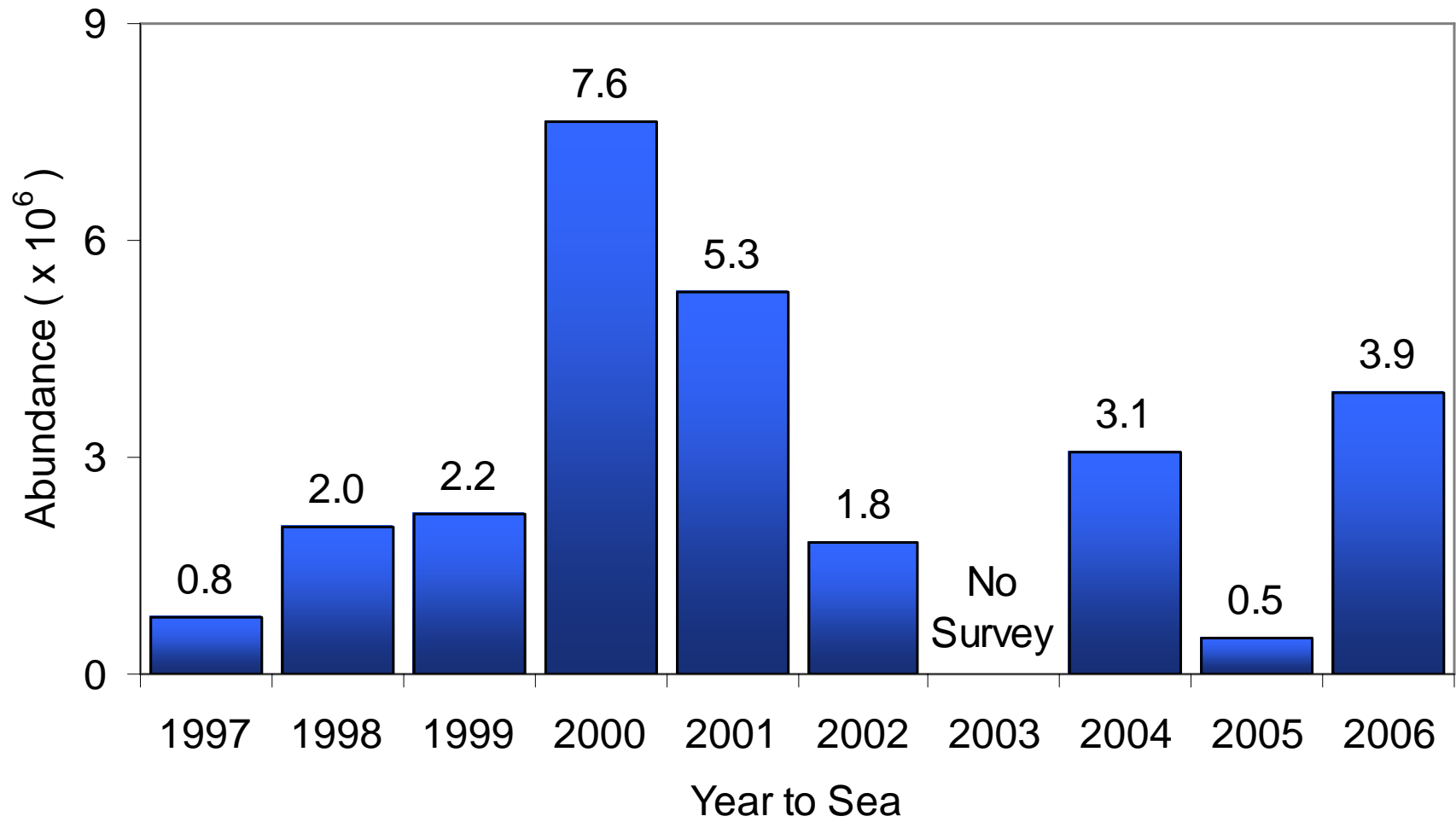




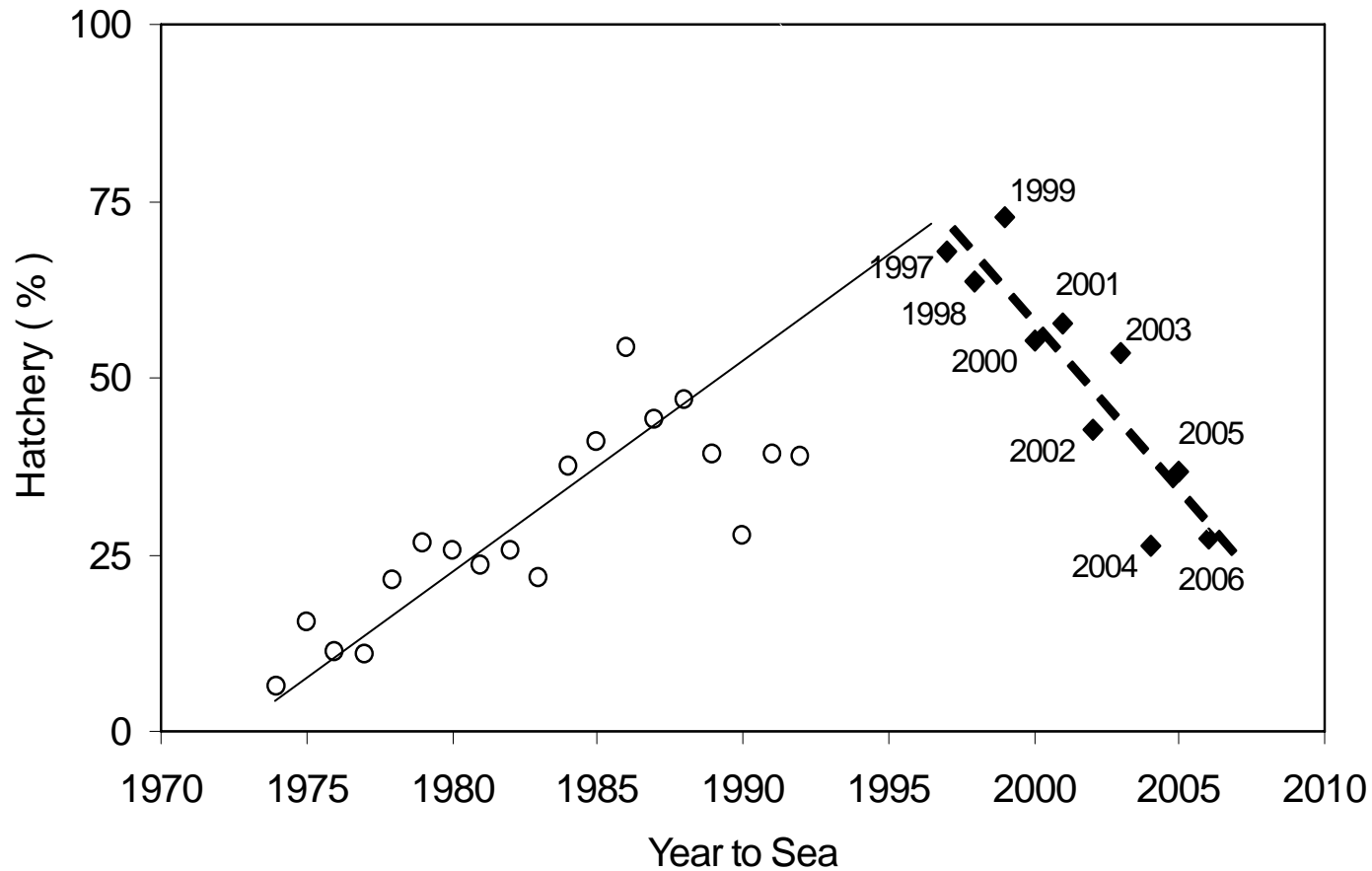
Acoustic tags on *O. kisutch*



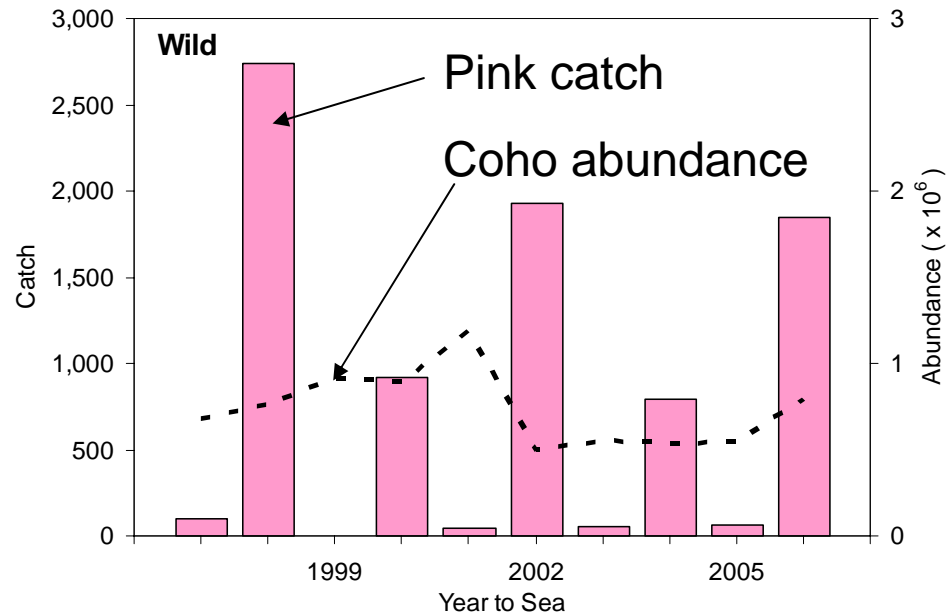
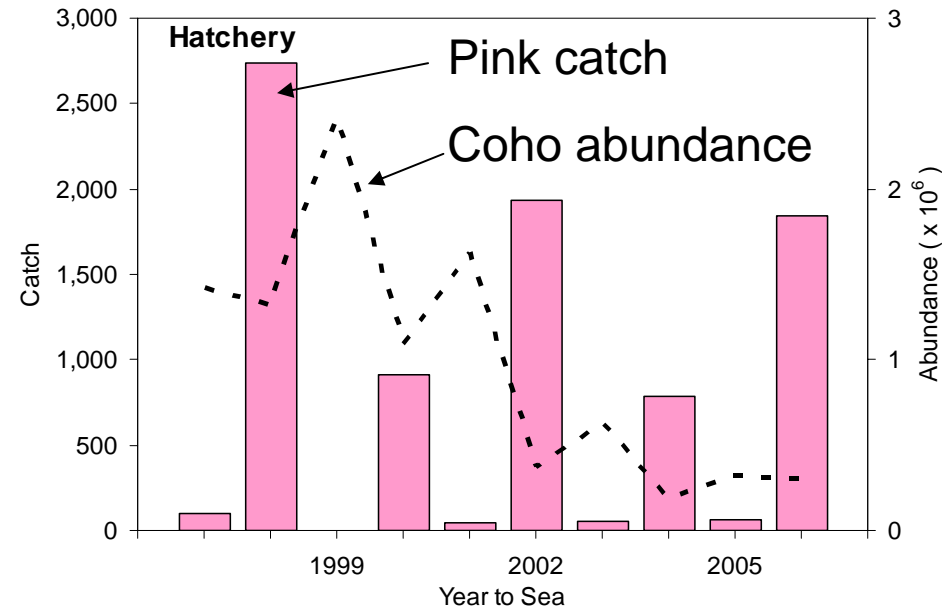
Coho abundance in the Strait of Georgia, July 1997-2006



Percent of coho salmon in the Strait of Georgia that originated from hatcheries

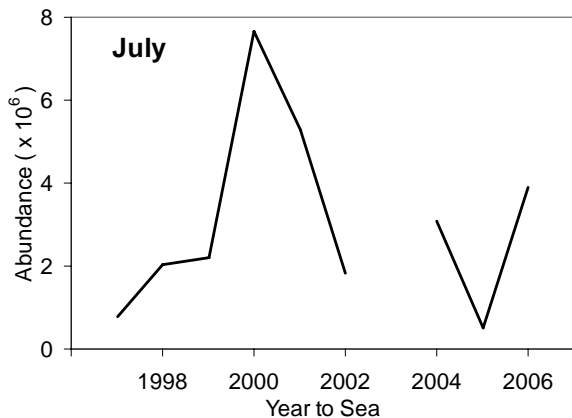


Catches of pink salmon and hatchery and wild coho salmon abundance in September

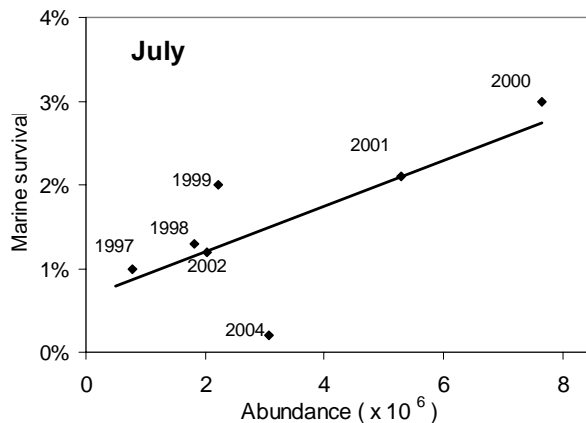


Is Marine Survival related to the abundance or length of the coho salmon?

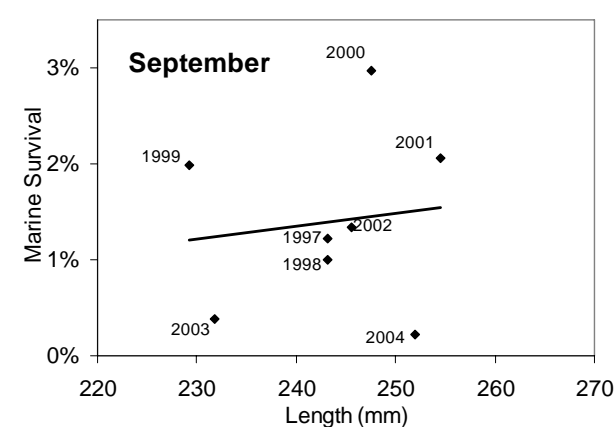
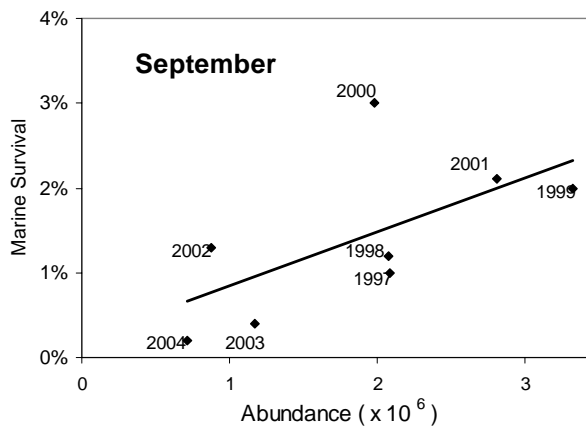
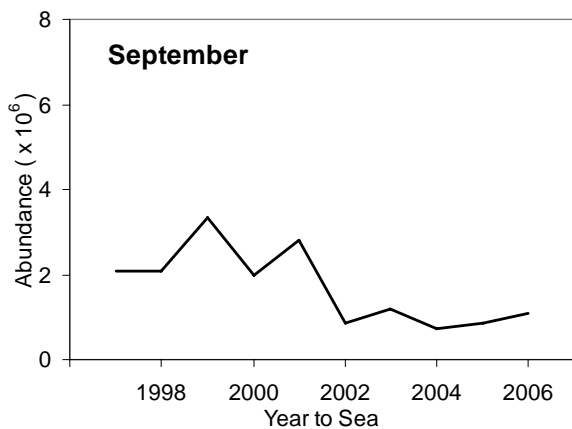
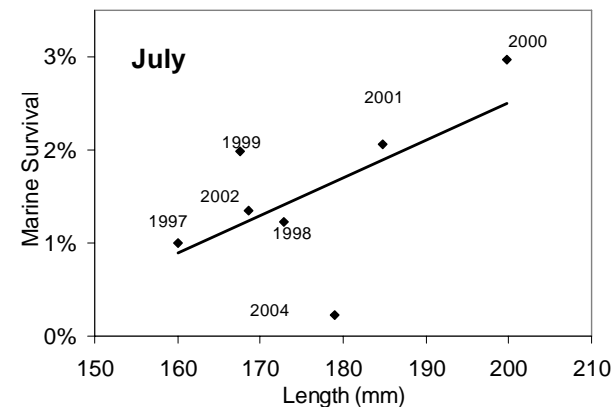
Number of coho salmon



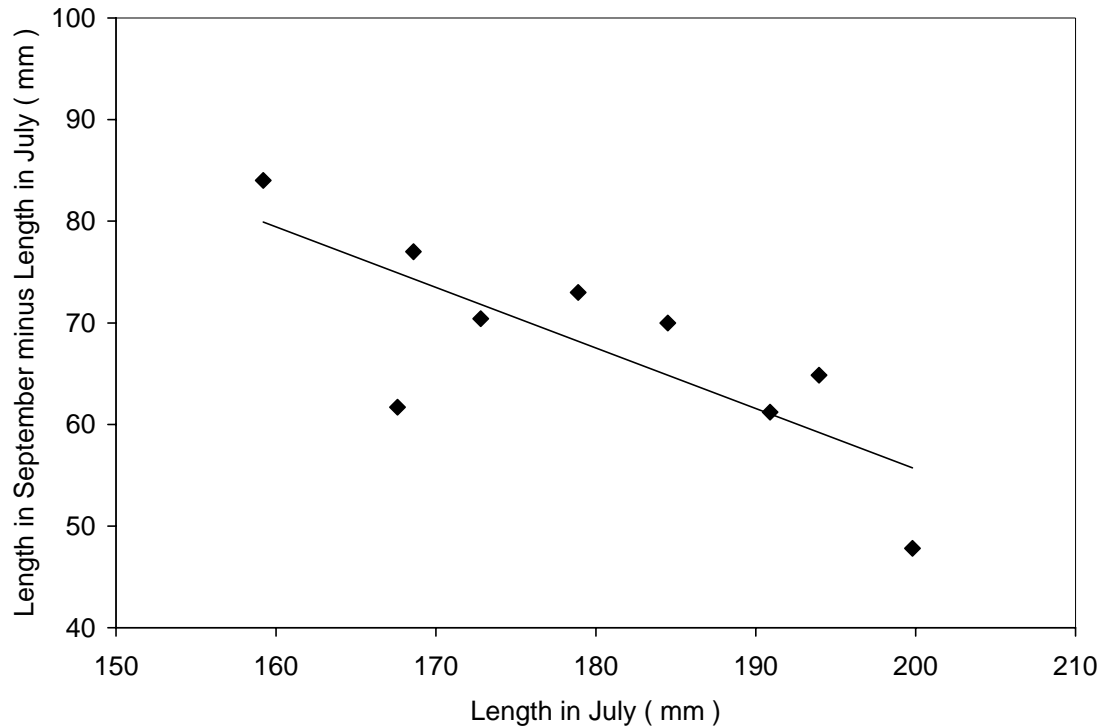
Abundance



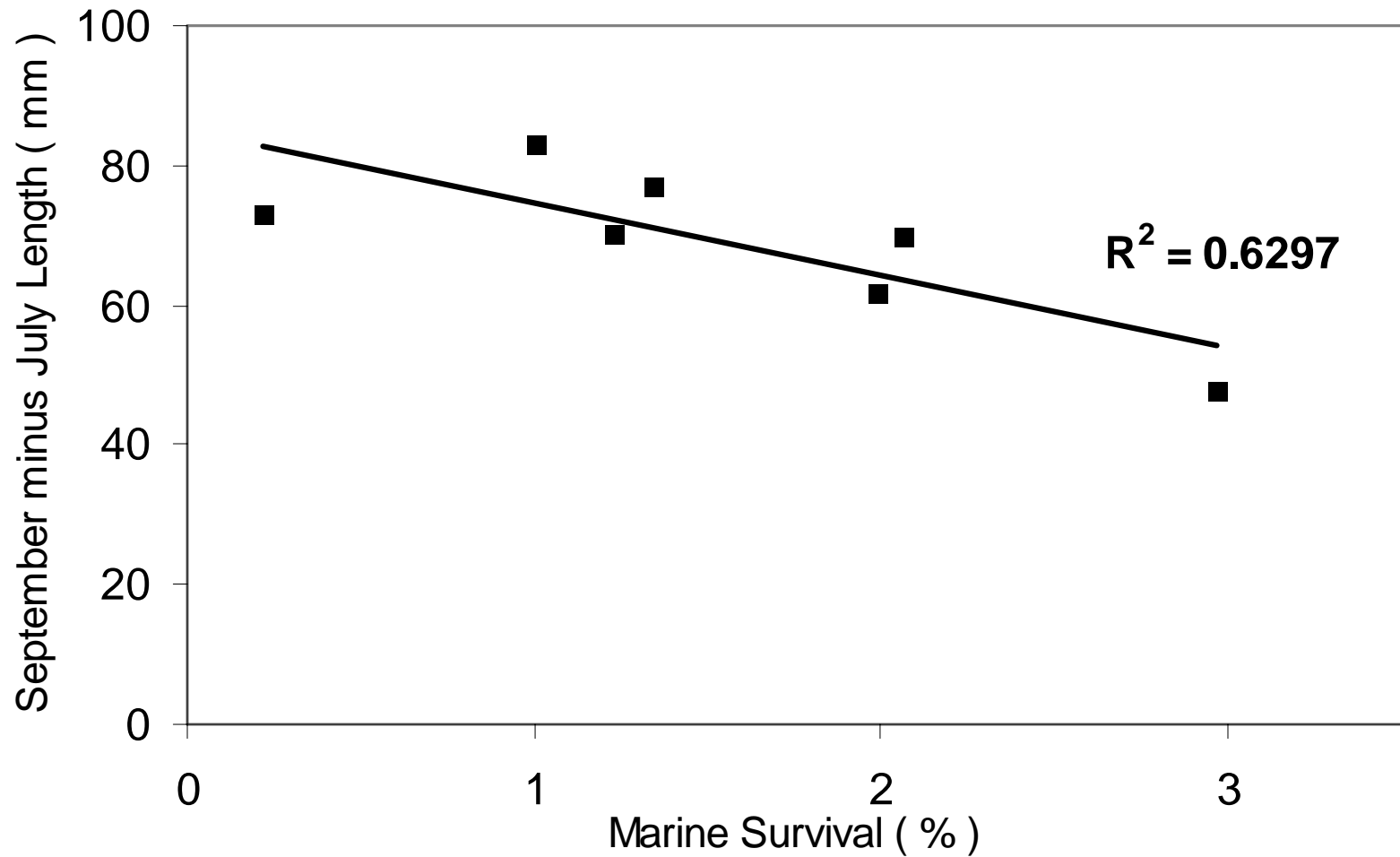
Length



September – July Lengths



September – July Marine survival



Conclusion

- The carrying capacity in the Strait of Georgia for coho salmon has changed
- Juvenile coho salmon need to grow to a critical size by the summer solstice
- This critical size and critical time appears to be different for hatchery and wild coho salmon.
- Growth and lipid storage need to continue over the summer months to achieve high marine survivals seen in the 1970s