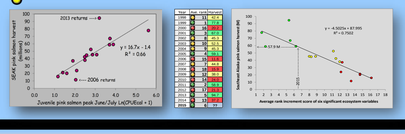
The use of ecosystem metrics for pre-season forecasts of pink salmon harvest in Southeast Alaska: What have we learned?



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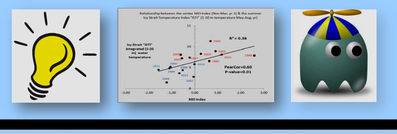
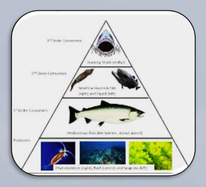


The Alaska Fisheries Science Center's **Southeast Alaska Coastal Monitoring (SECM)** project has provided remarkably accurate pre-season forecasts of pink salmon harvest to the resource stakeholders of Southeast Alaska (SEAK) for over a decade

Why study pink salmon?



Ecological driver: The biomass of pink salmon commercially harvested in the Gulf of Alaska & adjacent waters can be substantial compared to other fish species

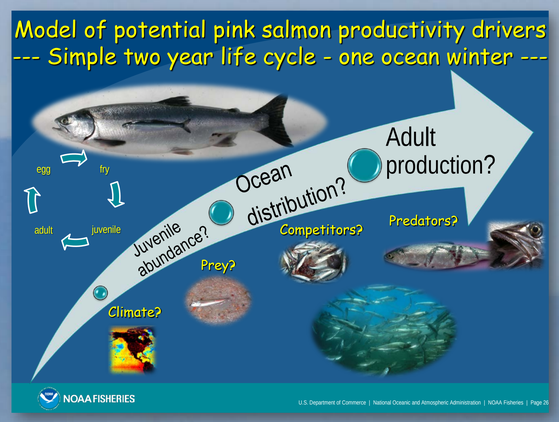
Ecosystem indicator: The short one-ocean year life cycle of pink salmon makes them an ideal candidate to relate their production variability to recent ocean/climate anomalies

Economic force: Annual ex-vessel commercial harvest value of pink salmon in SEAK alone can exceed $125,000,000

Southeast Monitoring:

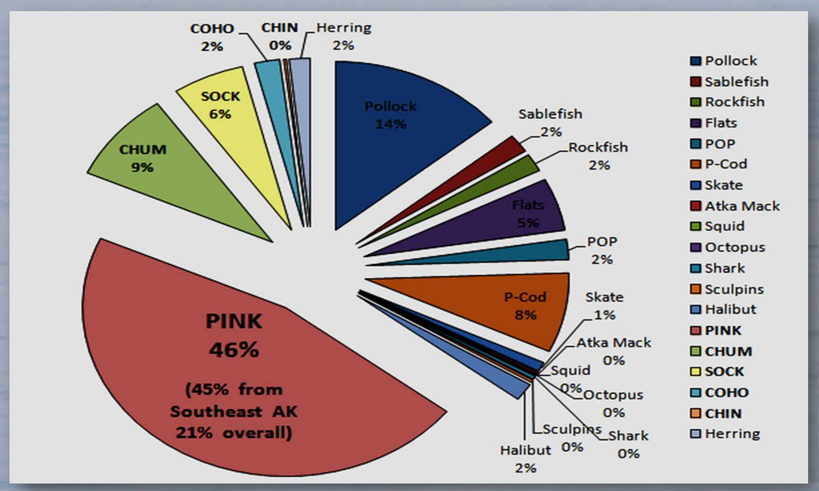
The SECM project, launched in 1997, continues to collect monthly biophysical data associated with seaward migrating juvenile salmon (May-August) and uses this data along with larger basin scale indexes to forecast adult pink salmon returns to SEAK. Visit our website:

Google: NOAA pink salmon forecast

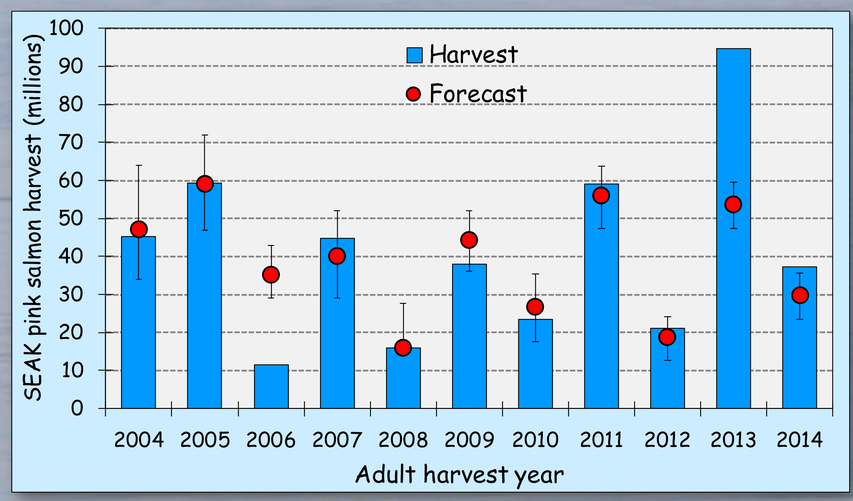


What have we learned?

1. **Accurate pre-season pink salmon forecasts benefit resource stakeholders by increasing economic efficiency of the fishery and helping to promote resource sustainability**
2. **Early marine ecosystem metrics typically modulate pink salmon production in SEAK, however, forecast model "outliers" give insight to later ocean basin anomalies impacting overall year class strength (i.e., ocean years 2005 & 2012)**
3. **Long term annual ecosystem monitoring identifies important trophic interactions & ecosystem variability influenced by climate that shorter term studies would fail to recognize**



In Alaska fisheries of the Gulf of Alaska & coastal waters in 2013, the relative biomass of pink salmon in the total landings (673,479 MT) was 46% (21% SEAK)



NOAA pink salmon forecast model accuracy in nine of the past eleven years (2004-2014) ranged from 0 to 17% of the actual harvests, with an average pre-season forecast deviation of about 9%

Funding support for SECM some years from the Pacific Salmon Commission (N-Fund), Global Ocean Ecosystem Dynamics (GLOBEC), & the Alaska Sustainable Salmon Fund

Background photo credit: Rebekah Olson