Interactions of Wild and Hatchery Pink Salmon and Chum Salmon in Prince William Sound and Chum Salmon in Southeast Alaska 2013-2015 Progress

Prince William Sound Science Center
together with
Sitka Sound Science Center
For
Alaska Department of Fish and Game
Ocean Sampling

Objective: Unbiased Estimates of the Hatchery Fraction of Run Sizes of Pink and Chum Salmon in PWS during 2015 (with some comparisons to previous years)
Ocean Sampling

Sampling Hierarchy – Fish within Trips within Stations within PWS

Basic Sampling Units – Salmon of the target species

Recorded Attributes – Catch statistics (including CPUE), Sex, Origin

Sample Selection:

- Nine fishing stations were systematically spaced at near equal distances across the two entrances to PWS.
- Trips to fish at each station were systematically scheduled two days apart.
- A subset of catches of the target species (if caught) were sampled during each trip.
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2015 Results

• 15,761 salmon were caught in the ocean test fishery.
  - Pink Salmon (12,060)
  - Chum (2,022)
CPUE during 2013-2015

- Season of returns of Pink Salmon was more protracted in 2015 compared to previous years.
- Mean CPUE of Chum Salmon was much lower than Pink Salmon for all years.
The H02 Hinchinbrook station had consistently low CPUE over the study years, while M05 Montague station exhibited consistently high CPUE.

CPUE was lower for chum salmon compared to pink salmon across all stations in 2015.
Sex Ratios

- In 2015, 3,716 salmon processed for weight-length measurements and otoliths extracted. Pink Salmon (2,278), Chum (1,296).
- Male bias is consistent across years in the pink salmon run.
- Chum salmon ratio closer to 50:50, but more variable across stations, and differ by origin in some cases.
Male Pink Salmon Arrive Earlier - 2015
Male Chum Salmon Arrive Earlier - 2015
Hatchery Pink Salmon Arrive Later: 2015
Hatchery Chum Salmon Arrive Earlier - 2015
Origins
The weighted hatchery proportions calculated for Pink Salmon and Chum Salmon for Prince William Sound entrances combined were 0.55 (SE = 0.004) and 0.69 (SE = 0.015), respectively.
Aggregate hatchery proportion by species and by year.