Overview of NWFSC comments

Sept 18th, 2012

General comments

“The draft report provides a good summary of the scientific issues surrounding the question of the effects of salmon fisheries on the status of the southern resident killer whales. In general, we think the report did a good job of capturing the key issues, and identifying areas of particular uncertainty in an objective and balanced way. Considering the large number of presentations, reports and papers the panel needed to digest to evaluate the questions put to it, we think on the whole the panel did a good job of sorting through everything to come up with their recommendations. “

Section 2 - Synthesis

- Methods of including other salmon predators in logistic regression analysis
- Interpretation of modeled relationship between salmon and whales
- Methods of measuring nutritional stress
- Mechanisms of responding to lack of prey

Methods of including other salmon predators

- We agree that this is important
- Some concerns about most appropriate data on pinniped abundance
- Need to evaluate mechanisms
  - Location of predation?
  - Age of salmon consumed?
  - Generalist versus specialist predators?

Interpretation of correlation between salmon and whales

- Report:
  - Correlation does not prove causation
  - Third factor could be driving both salmon and whales
  - Ocean indices
  - Lack of density dependence
- Yes, but...
  - Chinook are major prey source
  - No third factor identified or even hypothesized
  - Other factors already explored and rejected (Ward et al. 2009)
  - Ocean conditions > salmon > whales
  - Panel notes that SR and NR vital rates are correlated – why if not via prey?

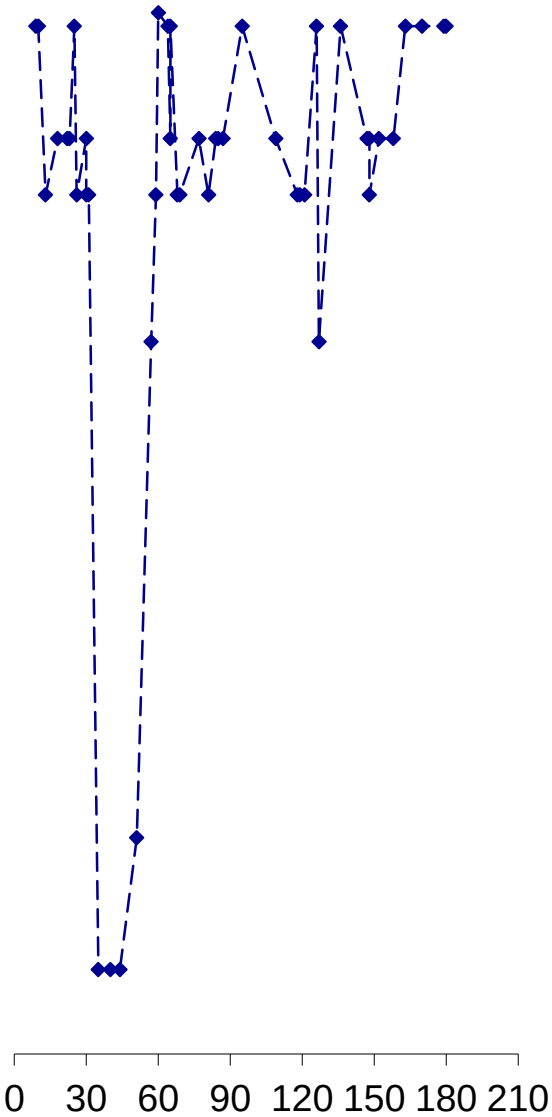
Methods of measuring nutritional stress

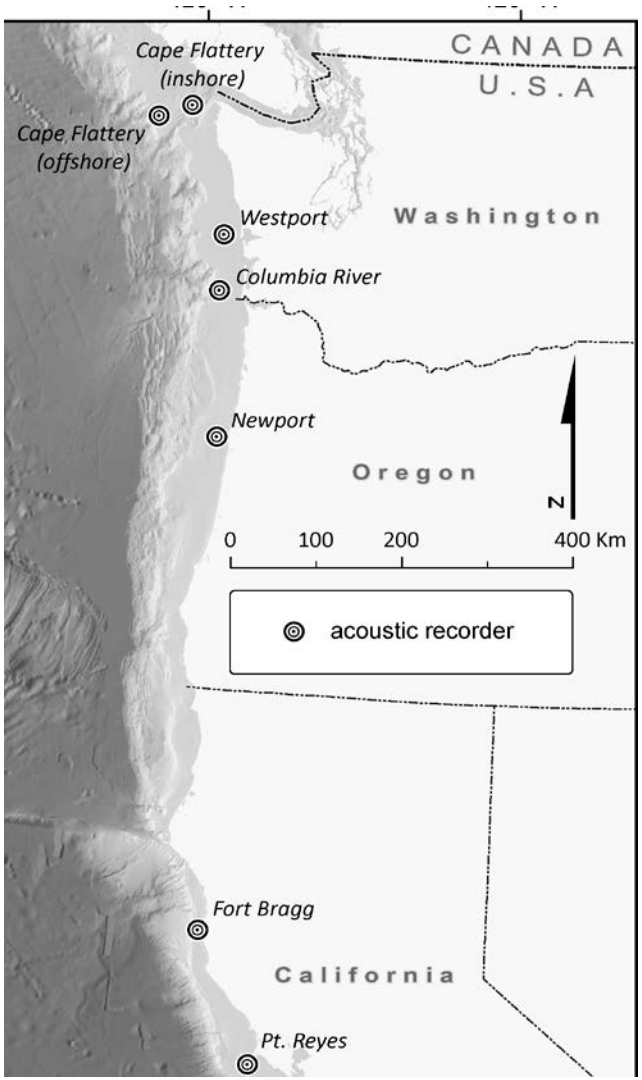
- Aerial photogrammetry
  - Could provide more context
- Could also mention other methods
  - Hormones
  - Chemical analysis
  - Behavior

Mechanisms of responding to lack of prey

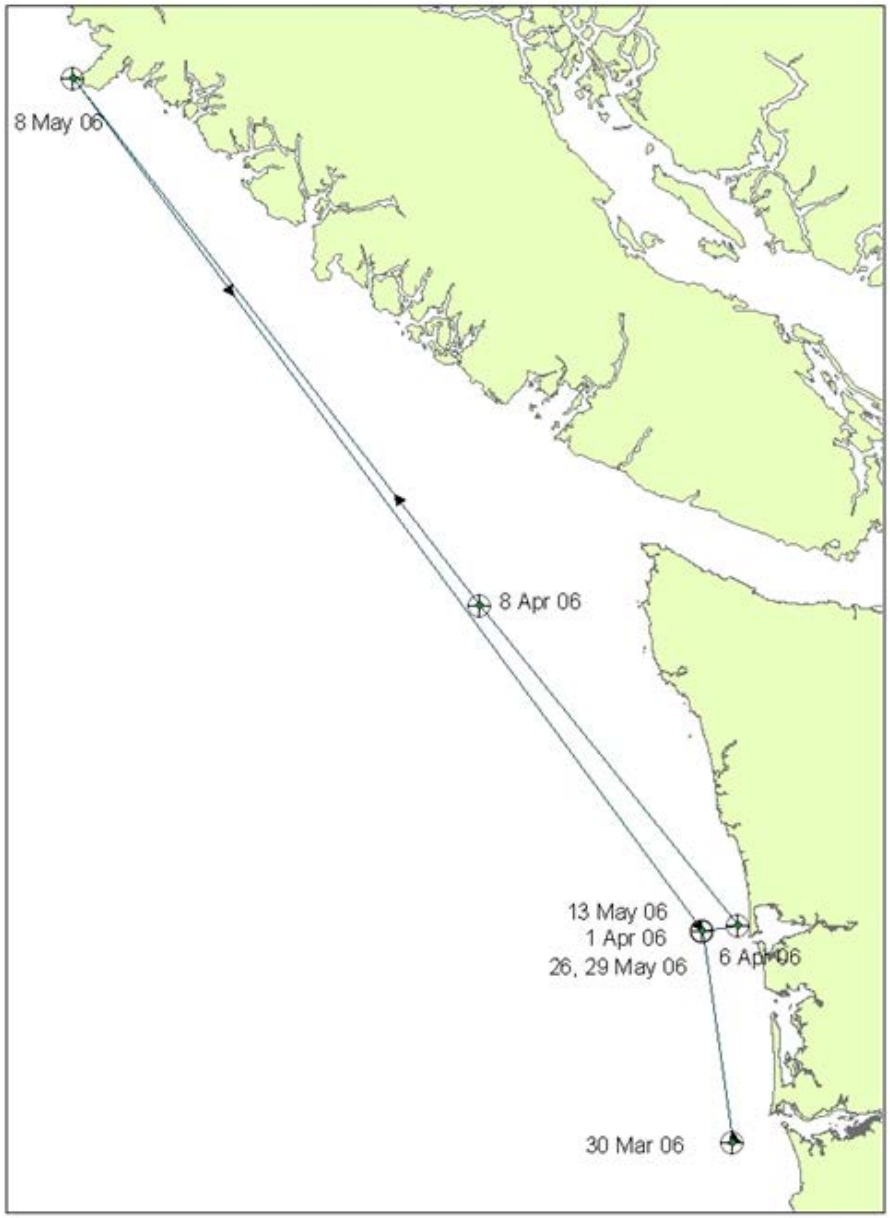
- In addition to potentially switching prey, whales can also move

Movement examples





Movement examples



Section 3 – Status and growth

- Mostly minor comments

Section 4 – Feeding habits and energetic needs

- Mostly minor comments
- Definitions of “winter” etc related to diet
- Some data not cited, and some new data available
  - Review of seasonal prey information
  - New data based on next generation sequencing
  - New data based on stable isotope ratios
- Review of previous calculations of % of Fraser Chinook runs consumed

Section 5 – Fisheries and Prey Availability

- Report makes some simple assumptions about seasonal distribution
  - There are data on the winter whale distribution
  - The whales spend significant time in coastal areas in ALL seasons, including summer
- Seasonal overlap of whales and Chinook salmon stocks
  - Based on assumptions about “summer” and “winter” distribution of the whales and salmon
  - There are data on seasonal Chinook stock availability

Section 6 – Project future status and recovery

- The various version of lambda Eric calculated are not all directly related to the published recovery goal
  - Realized vs expected growth rate
  - Total population vs females only
- No evidence to conclude population has always been rare

Thanks