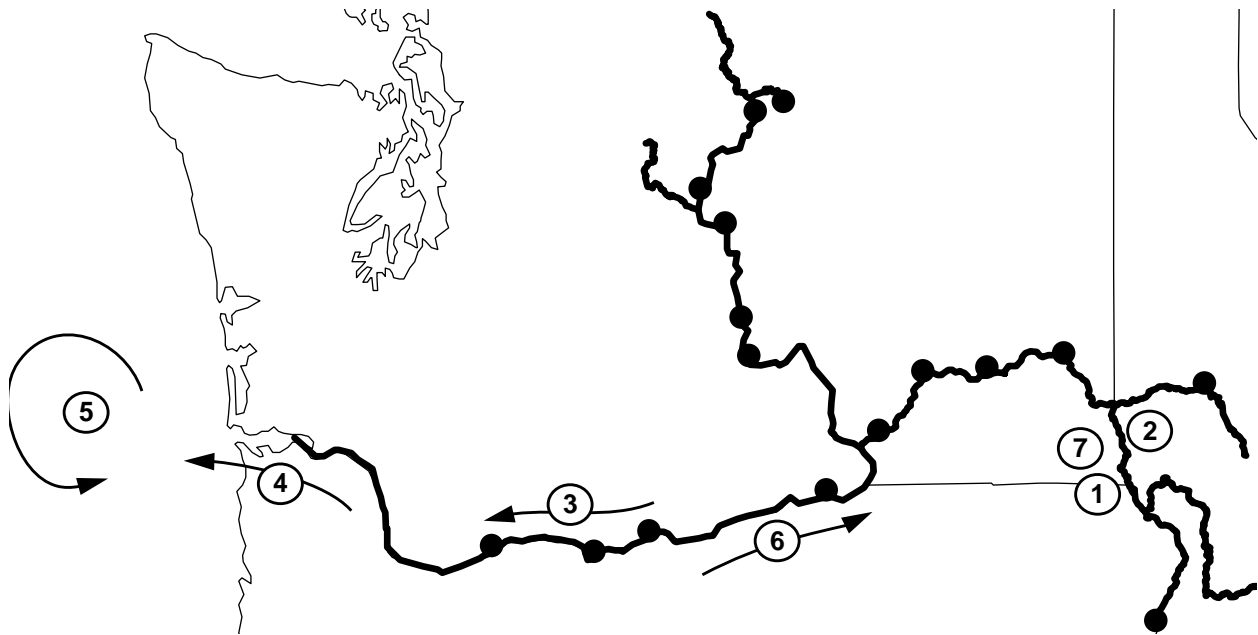


Life History of Snake River Fall Chinook

Habitats important to endangered species recovery

- 1 - Egg in redds
- 2 - Juveniles in tributaries
- 3 - Smolts in river migration (major focus of recovery efforts)
- 4 - Smolts in estuary
- 5 - Adults in ocean
- 6 - Adults in river
- 7 - Adults on redds



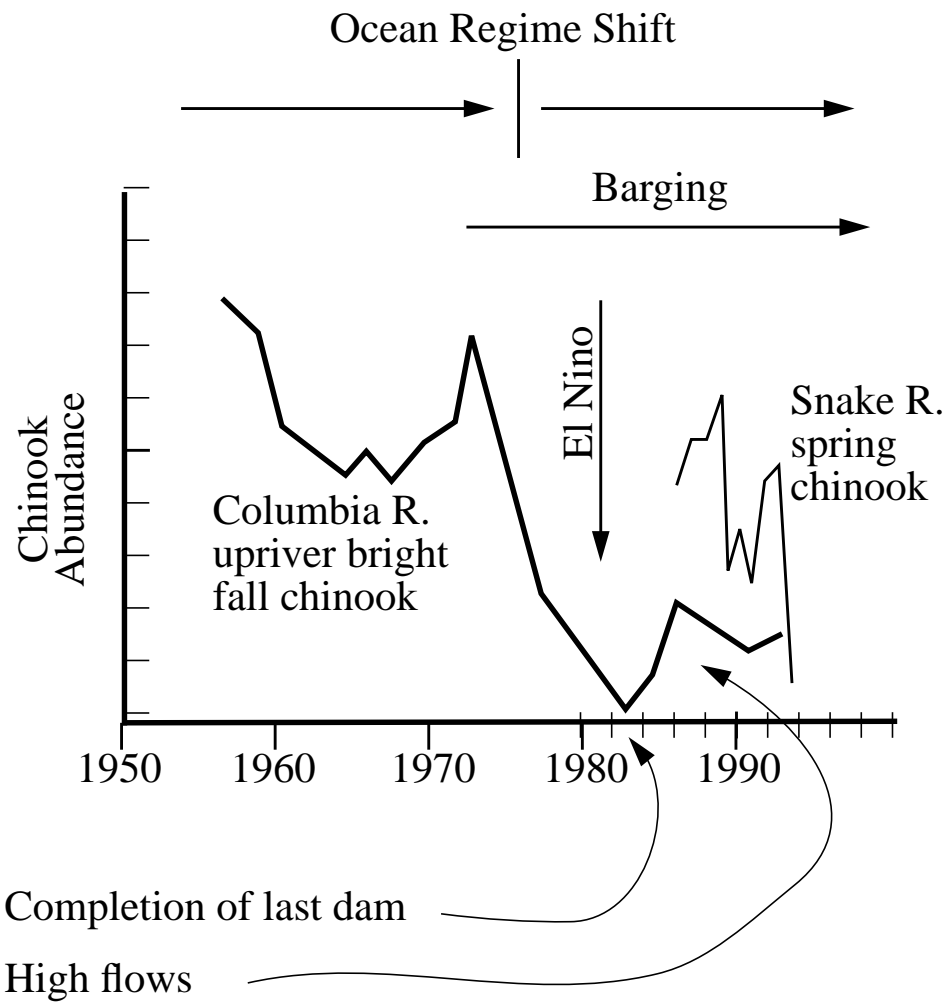
Reasons suggested for stock decline

Shift in ocean conditions decreasing fish ocean survival

Start of fish barging program

Completion of hydrosystem

Low flows/fish travel time through reservoirs



The events suggest two explanations

It's Our Fault: Mitigation efforts have failed

barging kills fish
to little flow so fish move slowly
poor fish passage at dams

Recovery plan river actions for it's our fault:

stop fish barging
improve in-river passage by

- adding more flow
- improve dam passage with spill and bypass systems
- remove predators from reservoirs

It's Nature's Fault: Mitigation efforts have worked

barging saves fish
ocean/estuary conditions give poor survival
poor passage at dams

Recovery plan river actions for it's nature's fault:

increase and improve fish barging
improve passage at collector dam

- add more flow to collector dam
- improve collection for barging
- remove predators above collector dam

How do we determine which story is right?

Explanations for decline and recovery plans are based on models.

“It’s Our Fault,” is based on the FLUSH/ ELCM models

“It’s Nature’s Fault,” is based the CRiSP/SLCM models

We must determine which models represent the “Best Science”

Features of Best Science models

Based on ecological principles

Express through mathematical equations

Models are statistically calibrated with data

Models validated by comparing predictions to data

Sensitivity and uncertainty in models are identified

Public Access and Education

Models must be

- understandable to public
- accessible to public

All factors used in real-time decisions must be available

- Quantitative predictions of actions must be made
- Predictions must be compared to results

The NMFS Recovery plan favors the “It’s our fault” scenario

The CRiSP model supports the “It’s nature’s fault” scenario