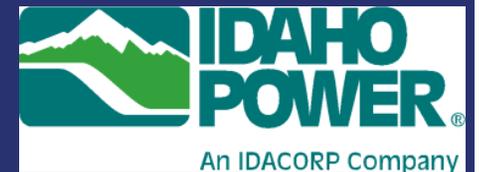


Forecasting Chinook Salmon Returns to the Snake River Basin: Understanding Current Methods and Working Toward a Unified Approach

A summary of the discussions at the Idaho AFS Workshop

Chris Sullivan



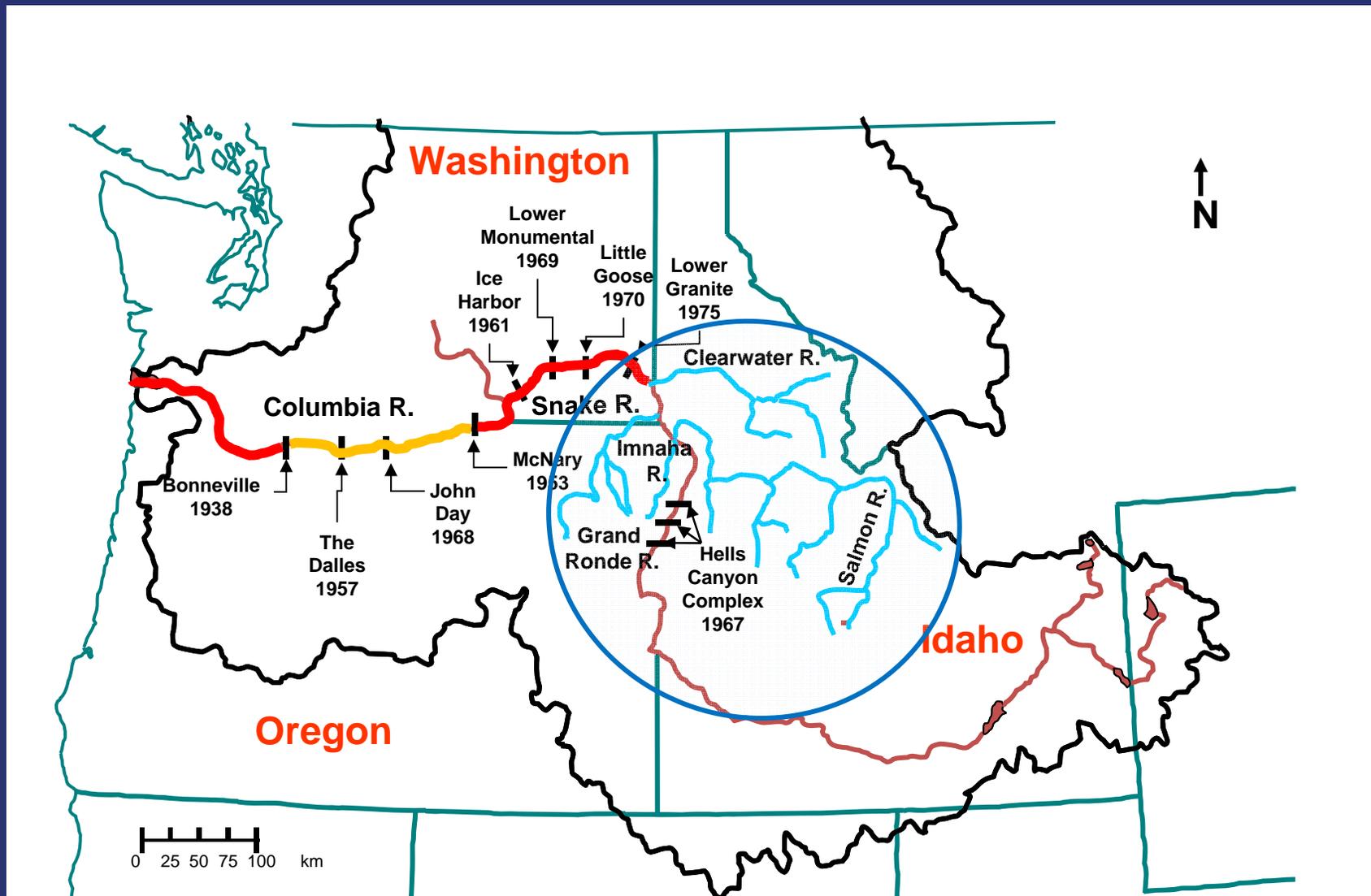
Presenters

- Joseph Feldhaus – ODFW
 - Catherine Creek, Grande Ronde R., Lookingglass Cr., Lostine R., Imnaha R.
- Ryan Kinzer – NPT
 - Lolo Creek, Newsome Creek, NPTH on-site, Secesh River, Johnson Creek
- Chris Peery – USFWS
 - Dworshak and Kooskia hatchery releases
- Sam Sharr – IDFG
 - Clearwater, Sawtooth, McCall, Rapid River, Pahsimeroi, Oxbow hatchery releases
- Bill Young – IDFG
 - Fall Chinook for Snake and Clearwater river returns
- Chris Sullivan
 - -Minijacks as a forecasting tool

Discussion Topics

- Why is forecasting important in the Snake River basin?
- Current forecasting models used
- Jack forecasting methods
- “Anchor point” of the data
- How to back the forecast down to the Columbia River mouth
- Incorporation of new data (PBT at Lower Granite Dam, Fisheries, PIT data)
- Minijacks as a forecasting tool
- Moving forward with the creation of a forecasting workgroup

Columbia River Basin

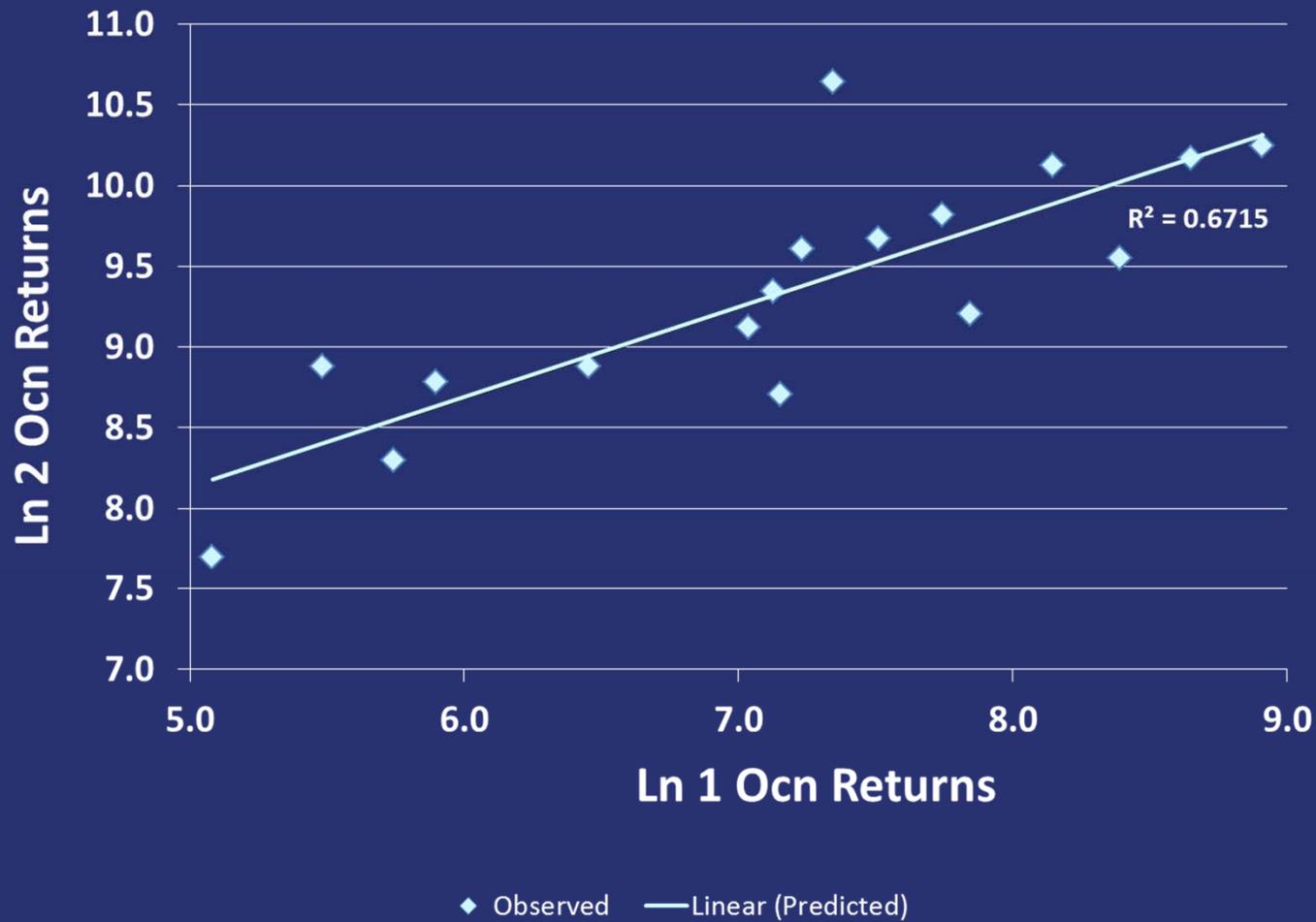


Why Forecast?

- TAC uses them to plan Columbia River fisheries
- Snake River populations drive lower Columbia River fisheries
 - Hatchery and natural components set harvest levels
 - Sliding scales based on abundance
 - No pre-season “checks” before the fishery starts

Current Forecasting Models for Adults

Sibling Regression Ln 1 Ocn vs Ln 2 Ocn Smolt Years 1997 - 2013



Jack Forecasts

- Not currently used by all cooperators
- Several variables incorporated
 - Smolt releases and survival estimates
 - Ocean conditions
 - Inconsistency from year to year
- Further development needed?

Forecast “Anchor Point”

- Where is the data anchored?
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 - Supply actual harvest numbers from downriver fisheries

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 - Supply actual harvest numbers from downriver fisheries
- Post-hoc analysis
- Easier to do this with hatchery populations than natural

Incorporation of new data

- PBT estimates at Lower Granite Dam
- PBT estimates of harvest in downriver fisheries
- PIT tag conversion rates from BON to LGD

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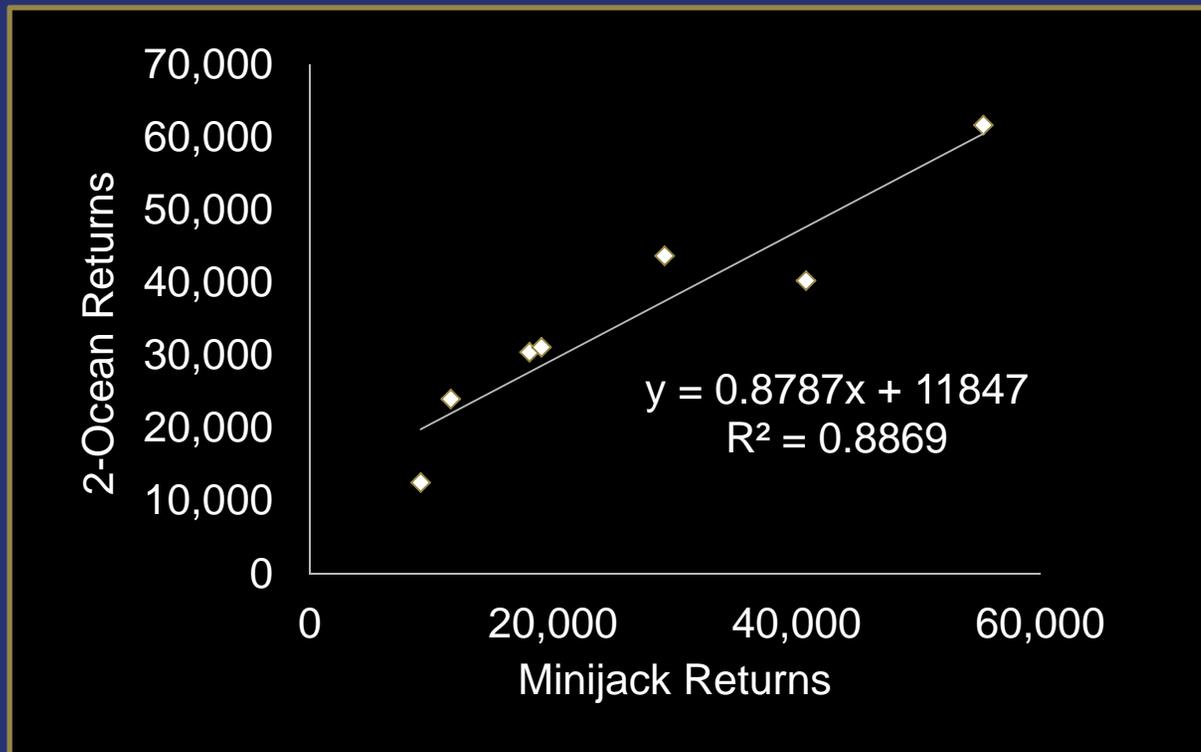
How to mesh new data with current datasets???

Minijacks

- Can minijacks be used as a forecasting tool?
 - Sibling regression for minijack vs 2-ocean returns
 - PIT tag data for estimates
 - Minijack detections in adult ladders after July 1
 - Adult PIT detections at BON

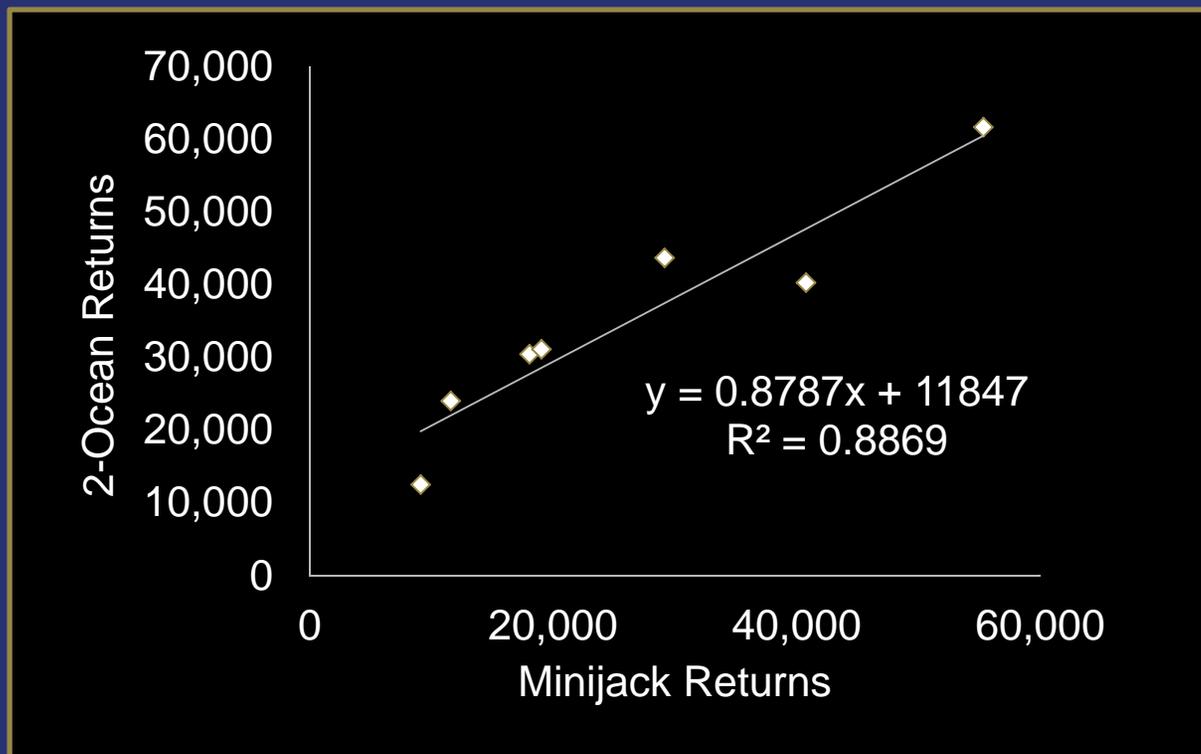
Minijacks

- Aggregate return of minijacks and 2-ocean Chinook from Rapid River, McCall, Sawtooth, Pahsimeroi, Clearwater hatcheries



How do we use this tool?

- Only predicts the aggregate return
- PIT tag estimate differs from actual return (+ and -)



Moving Forward

- Small forecasting workgroup developed
- GoTo meetings to discuss progress, new techniques
- Desire to expand to other species
 - Steelhead
 - Sockeye
 - Coho

Questions?



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