

Baker Sockeye Briefing



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Outline

- History/Background
- Fishery Management
- Harvest/Sharing Updated through 2017
- Challenges
- Proposed solutions
- Summary

Baker Lake History

- Native Baker River sockeye run blocked by Lower Baker Dam (Lake Shannon) in 1925 – ladder for fish passage
- Upper Baker Dam (1959) – enlarged Baker lake
 - Blocked upstream fish passage
- Human transport of adults/smolts from lake to Baker river
- Hatchery dependent run – low levels of natural spawning in Baker Lake/River

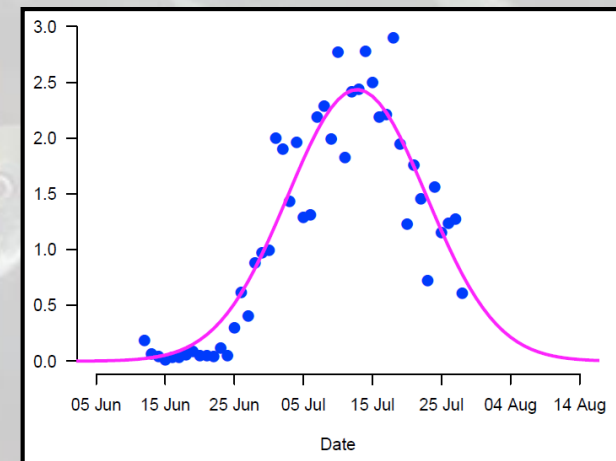
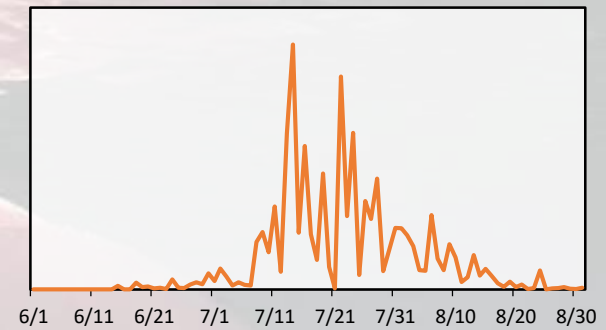


Fishing Locations – Skagit R.



In-Season Management

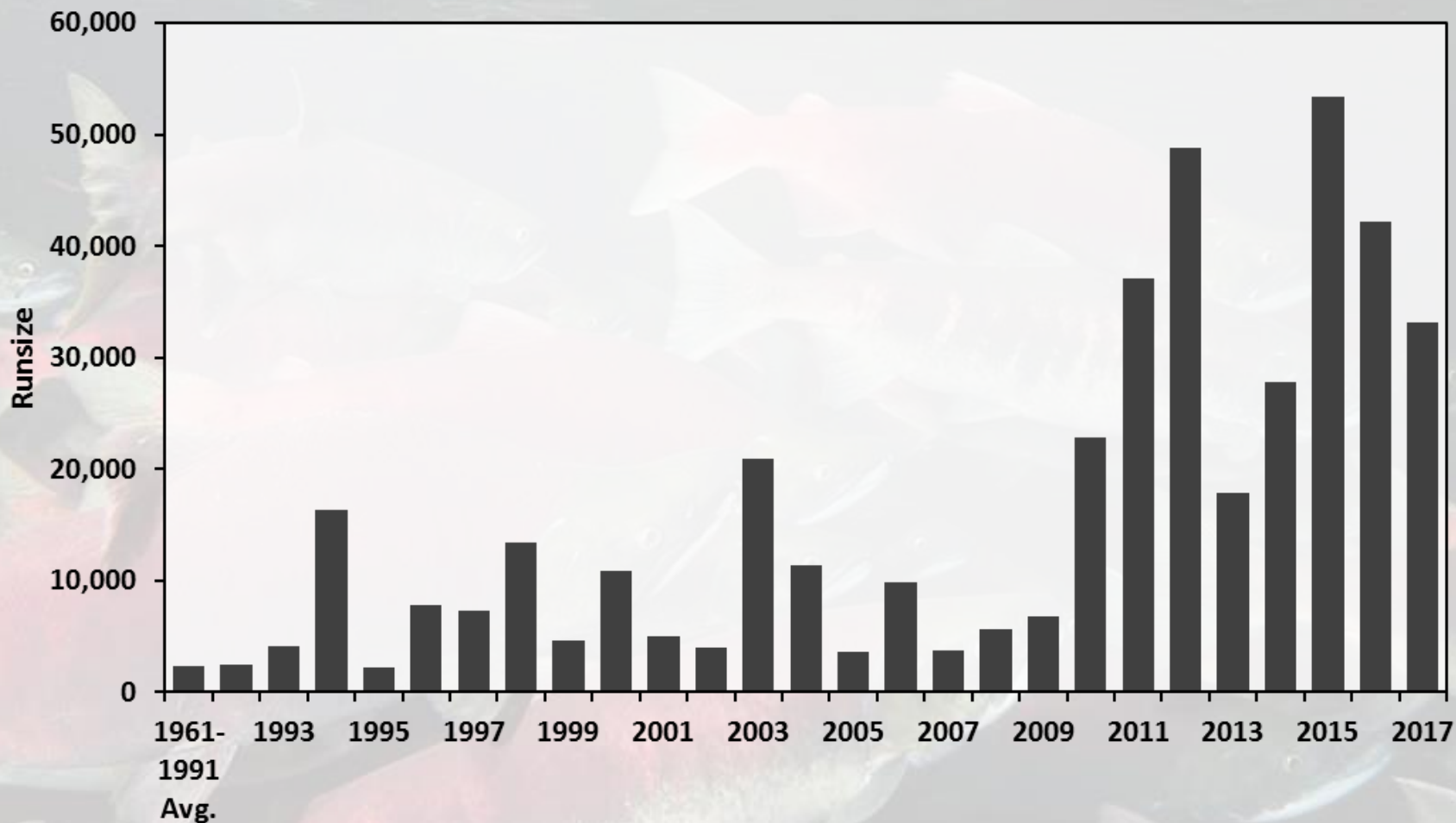
- Baker Trap Counts
 - Flow Dependent – can be variable
 - 20 day migration from mouth to trap
- Treaty Test Fisheries
 - Started in 2012 – no timeline if/when test fisheries will become useful for in-season run updates
- In-Season Update (ISU) Models– utilize trap counts to predict total run size
 - Reliability of models greatly increases after 50% migration
 - Migration time limits effectiveness of in-season actions



2014/15 Baker Lake Workshops

- 2 Public Workshops in Fall/Winter 2014/15
- Prompted following poor return in 2014 and sharing imbalance between state and tribes
- Primary Outcomes:
 - River vs Lake Fishery Priority of harvest (sliding scale with runsize)
 - Bag limits (runsize dependent in lake)
 - Fisheries start and end dates
- Post 2014/15 workshops, continue to work with key stakeholders to address concerns
 - Most recent meeting on Oct. 5

Baker Lake Sockeye Runsize



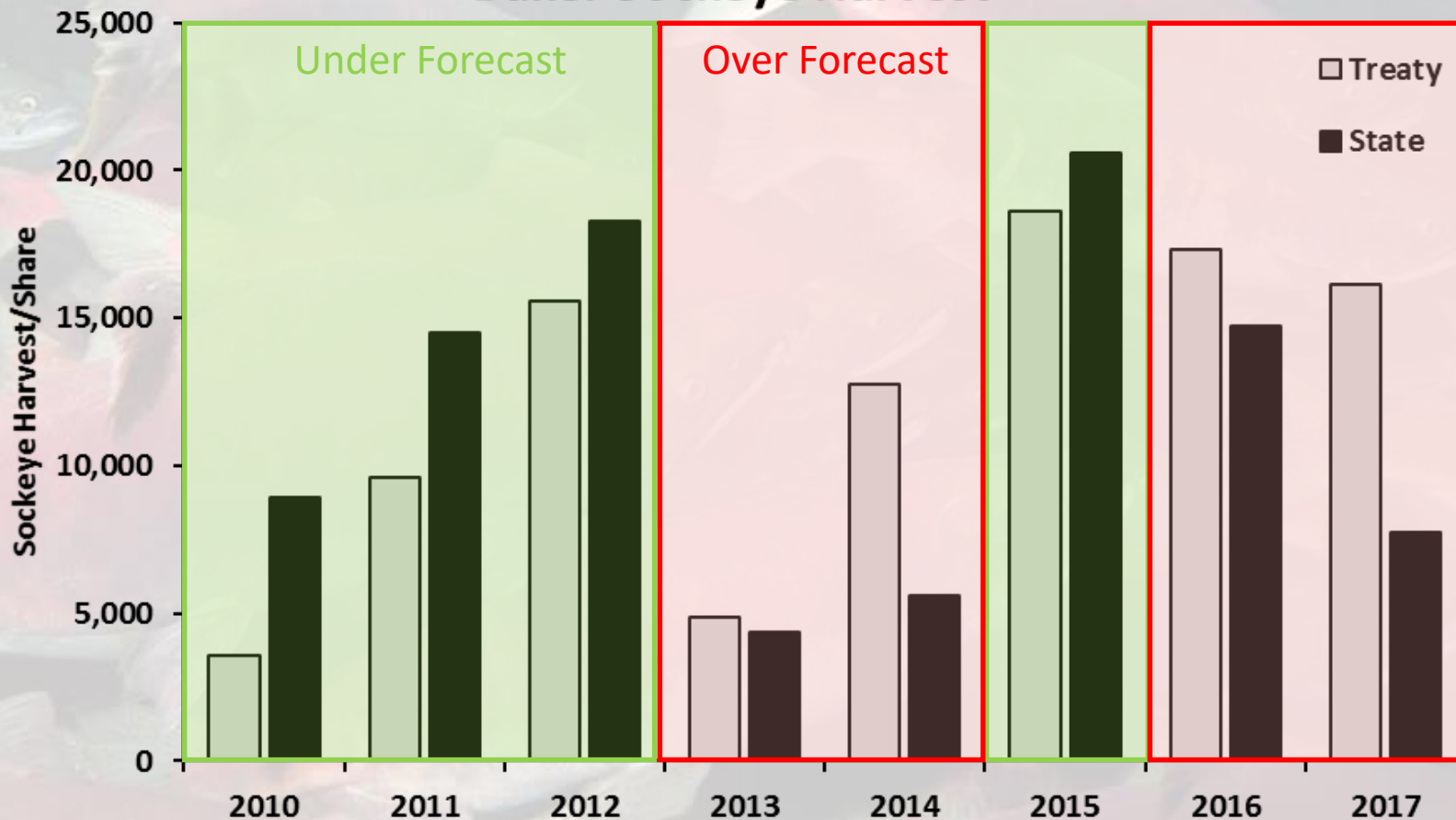
Share Balance

- 2010-17 Sharing relatively even
- In-season variability an issue – 2014 & 2017

2010-2017 Harvest/Share Equity

	Treaty Harvest	State/Rec Share
Avg. Harvest	12,299	11,842
Total Harvest	98,390	94,737

Baker Sockeye Harvest



The Challenge

1. Despite sharing relatively equal over time, harvest/share balance on a single year can be highly skewed
2. Lack timely data to adjust in-season harvest substantively

Proposed Solutions

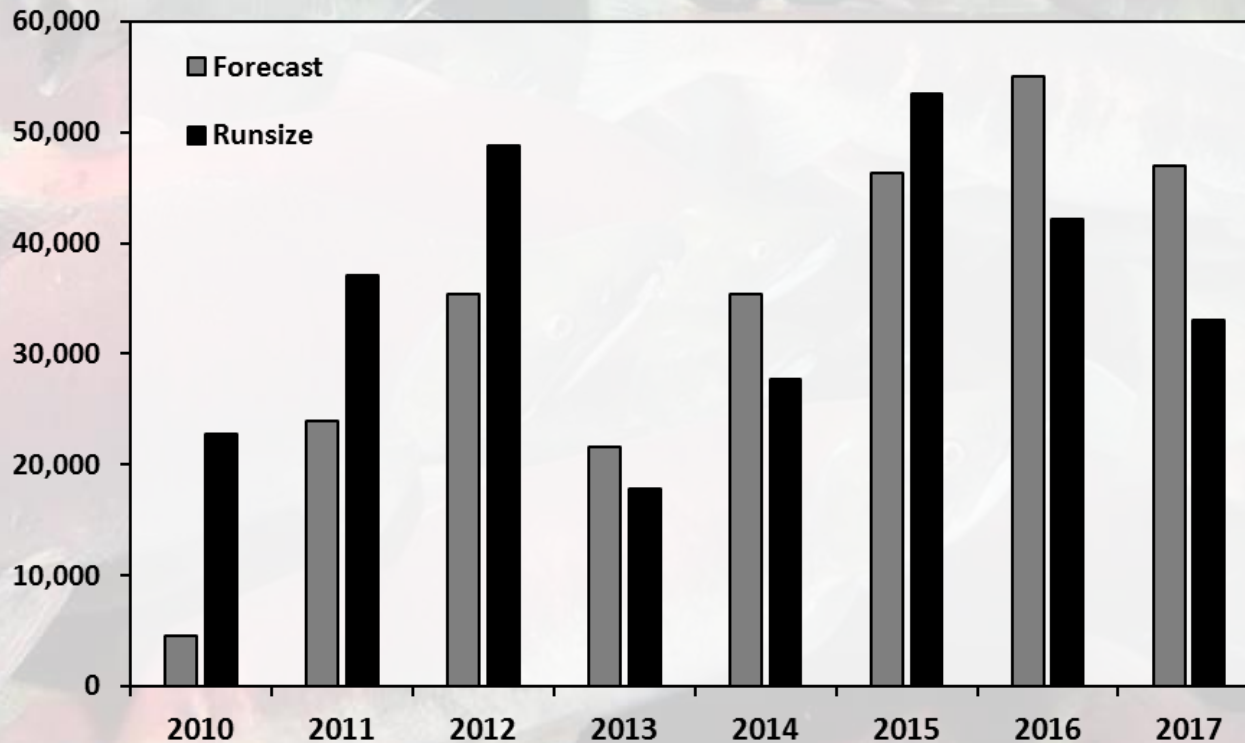
Proposed by WDFW or angler groups to address harvest imbalance on low return years

- Technical Improvements
- Buffer Harvest Shares
- Conservative Preseason Planning
- Expanding River Opportunity

Technical Improvements

Forecasts

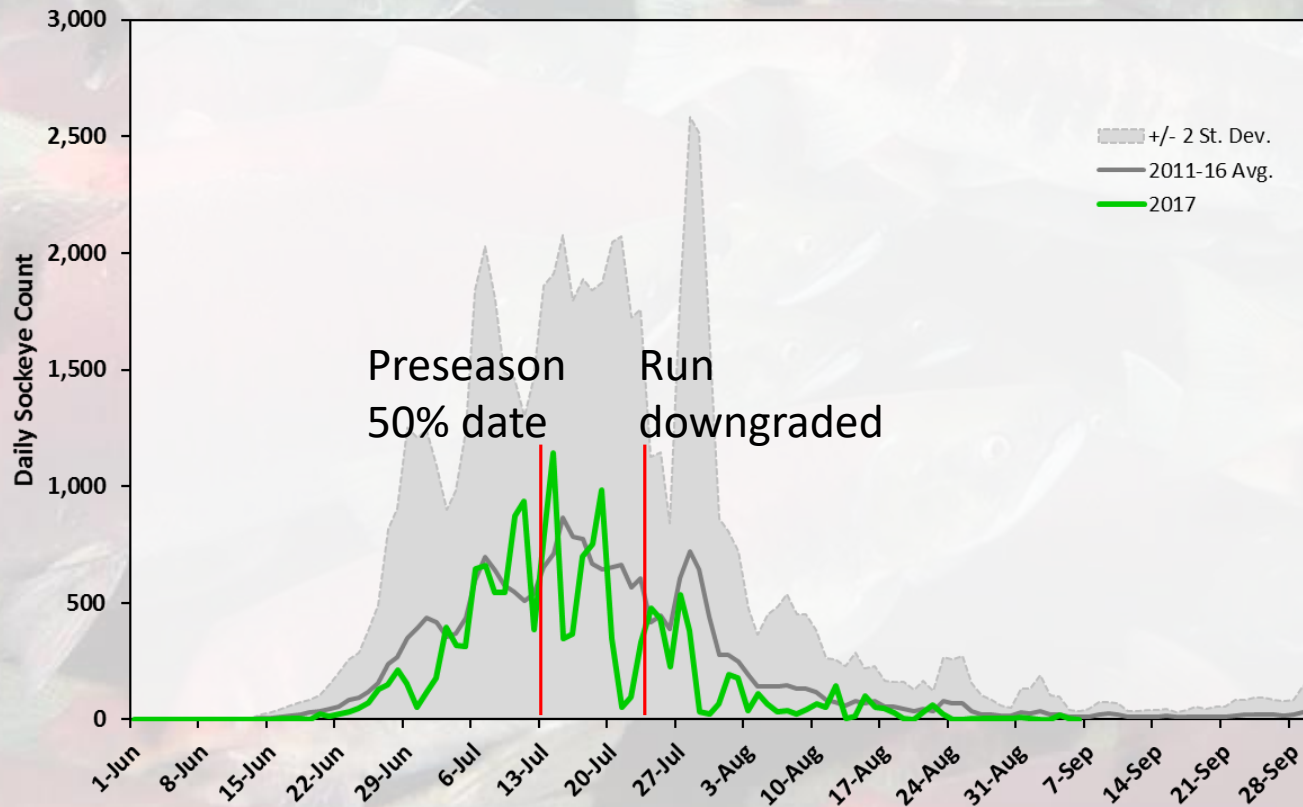
- Within range of forecast model error for sockeye
- Forecast models updated annually
- Potential Improvements – marine environmental indicators to better predict marine survival?



Technical Improvements Cont.

In-season Update (ISU) Models

- Limited to trap count dataset currently
 - Timeliness of ISU will remain a challenge – e.g. 2017 below
- Include covariates in ISU models – flow, test fishing datasets?



Buffer Harvest Shares

Set aside a portion of harvestable surplus until confirmation of preseason forecast

- Proposed by constituents and/or angler groups

Pros:

- Reduce harvest imbalance when run comes in below forecast

Cons:

- May limit some tribes from catching their share
 - Fish move past U&A
 - Tribal Opposition – unlikely to be agreed-to
- WDFW has significant concerns

Conservative Preseason Planning

Make conservative estimates of survival in forecast models to reduce likelihood of run coming in below forecast (similar outcome to buffer proposal)

- Proposed by constituents and/or angler groups

Pros:

- Reduce harvest imbalance when run comes in below forecast

Cons:

- Addresses a management issue by biasing a forecast model
 - Forecasts rely on best available science
- Bias harvest against tribes
- WDFW has significant concerns

Expanding River Opportunity

Currently open from Hwy 536 to Gilligan Cr.

Pros:

- If expanded - allows greater proportion of harvest to occur in the lower river (before update)

Cons:

- Monitoring needs - presents greater logistical constraints on sampling staff
- Lack resources to adequately fund additional staff needed
- Increased risk of overharvest (small relative to treaty fisheries)



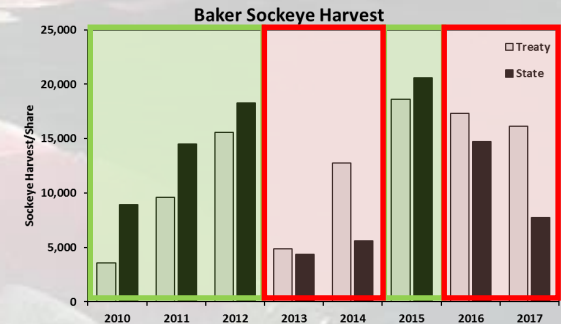
Summary

Challenge: Share is balanced over time, though can be highly skewed on a single year

- Largely dependent on forecast performance

Next Steps to Address Challenge:

- Technical – Forecast and ISU model performance
 - Unlikely to solve challenge, but may reduce imbalance
- Expanded river opportunity – most likely to increase recreational harvest in river and reduce sharing imbalance prior to ISU (need funding)
- Continue to engage with angler groups and share in-season information.



Questions?