

Hood Canal Chum Commercial Fisheries Management Review



Washington
Department of
**FISH and
WILDLIFE**

**Laurie Peterson and Kirt Hughes - Fish Program
Washington Fish and Wildlife Commission Meeting
February 26, 2016**

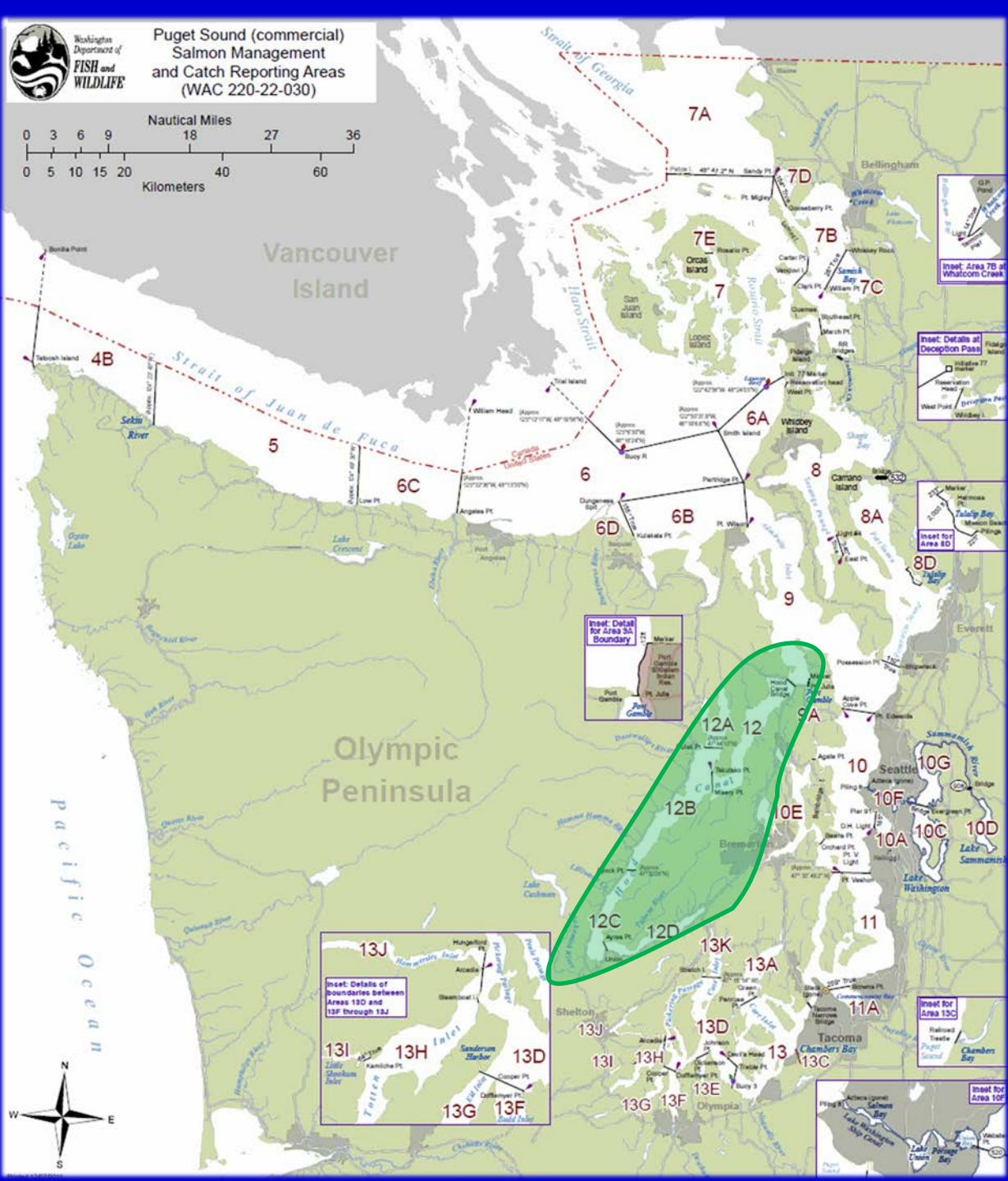
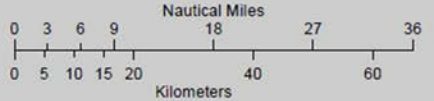
Purpose – Questions to Answer

- **Overview of Chum Management in Hood Canal**
 - **How is Hood Canal chum run size evaluated and updated in-season?**
 - **In recent years, how and why has methodology changed?**
 - **Has change in methodology negatively impacted ability of WDFW to provide timely access for the all-citizens fleet to harvest chum?**

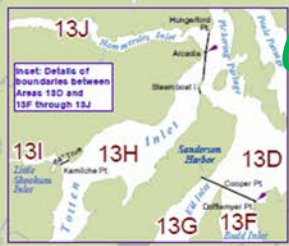


Washington Department of FISH and WILDLIFE

Puget Sound (commercial) Salmon Management and Catch Reporting Areas (WAC 220-22-030)



Map of Puget Sound Commercial Catch Areas; Hood Canal - MA 12



Outline of Presentation

- **Policy Guidance**
- **Characteristics of Management, Objectives, and Process**
- **Background and History**
- **Current In-season Management Process**
- **Outcomes of Recent Management**

Policy Guidance

North of Falcon Policy – C-3608

- Statewide;

- directed at healthy wild and hatchery stocks
- not exclusively for sport or commercial users

- Sockeye, Chum, and Pink Salmon

- PS-origin chum stocks, majority to commercial fisheries
- minimizing gear and other fishery conflicts.

Non-treaty Commercial Fishery Objectives

- 1) RCW 77.04.012 – Conserve ... food fish... resources in a manner that does not impair resource by achieving conservation objectives for all species and stocks.**
- 2) Harvest non-treaty share of salmon.**
- 3) Maintain economic well-being and stability; provide opportunity for each gear type.**

Chum Management in Hood Canal

- Lower Elwha Klallam Tribe
- Jamestown S'Klallam Tribe
- Port Gamble S'Klallam Tribe
- Skokomish Tribe
- Washington Department of Fish and Wildlife



Jamestown S'Klallam Tribe



nəxʷqíyt nəxʷsʰkáyám
PORT GAMBLE S'KALLAM TRIBE



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Other tribal entities:

- Point No Point Treaty Council
- Northwest Indian Fisheries Commission



Point No Point Treaty Council
Port Gamble S'Klallam and Jamestown S'Klallam Tribes

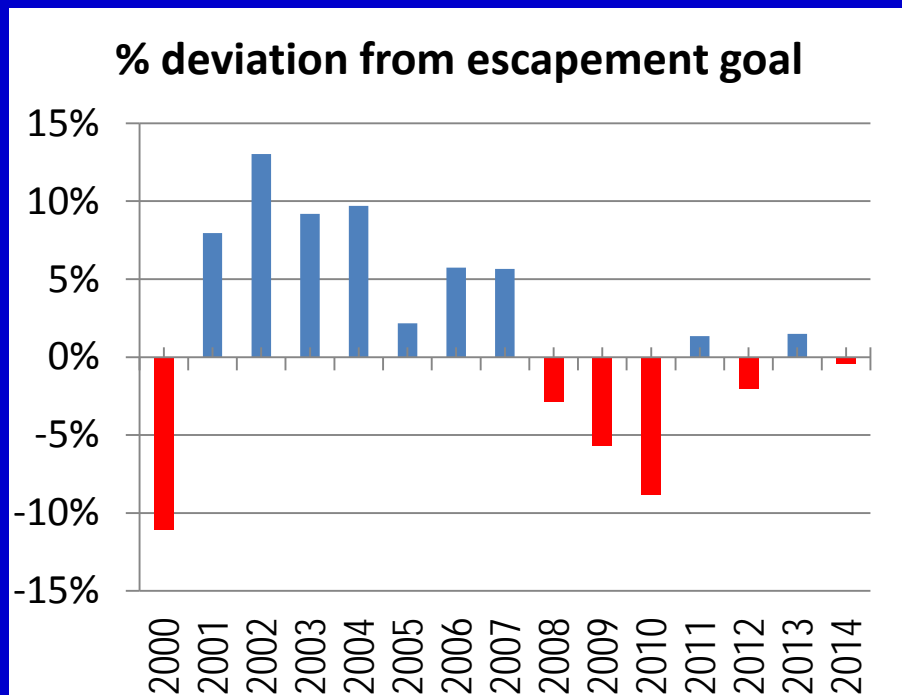


Northwest
Indian
Fisheries
Commission

Management Objectives

Natural production

- Odd years; 39,900
- Even years; 54,250



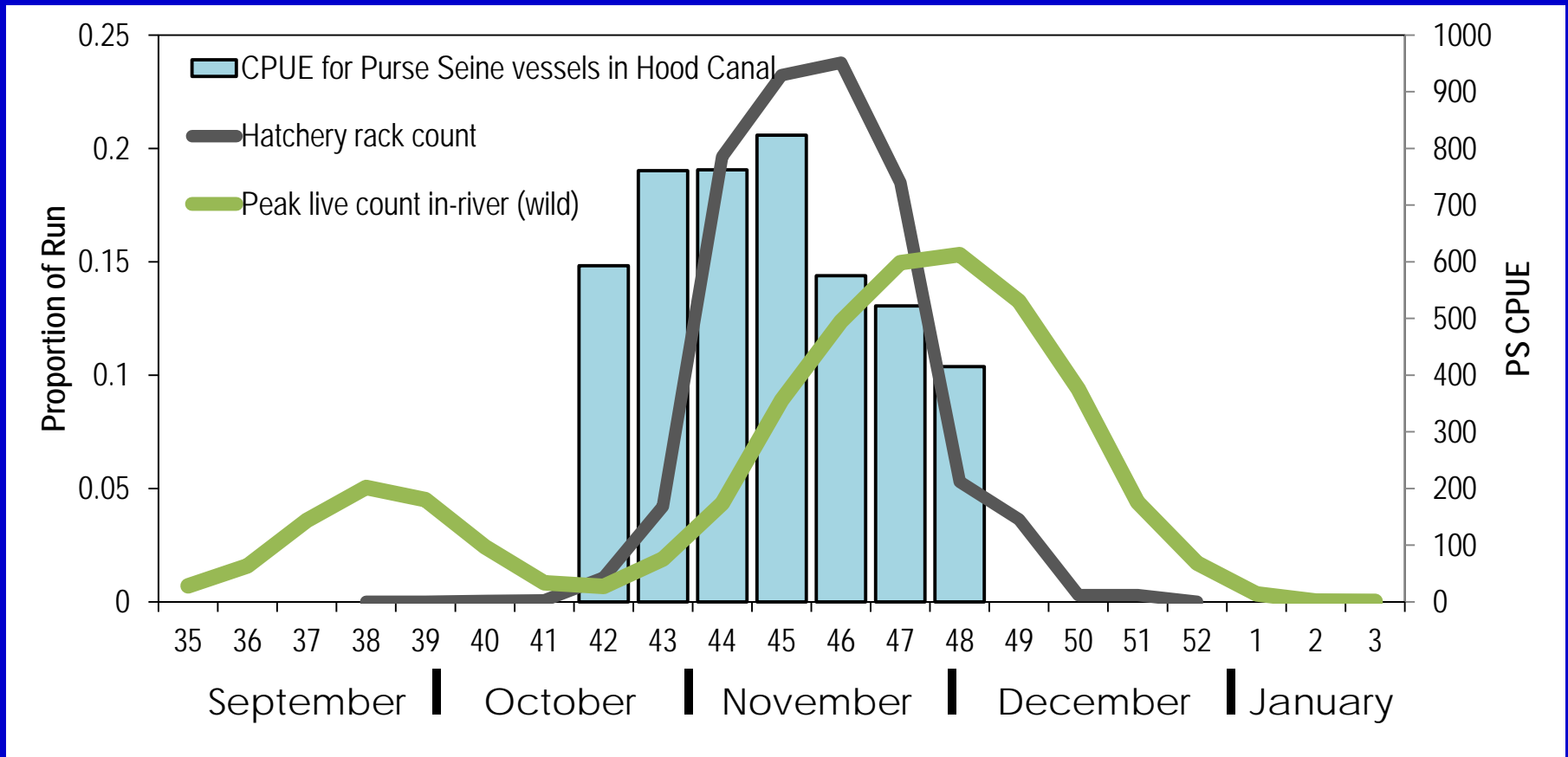
Hatchery production

- Release number from Future Brood Document

Facility	# Released
Hoodsport	12,000,000
McKernan	11,500,000
Rick's Pond	1,500,000
Other Co-ops	125,500
WDFW sub-total	25,125,450
Enetai Creek	3,200,000
Total	28,325,450

Characteristics of Management

- Differential run-timing of hatchery & natural
- Target front end of abundance MA 12



Hatchery Adult Disposition

	Spawned Adults			Surplus Adult	Total Adults
	Male	Female	sub-Total	sub-Total	
2010	10,062	10,425	20,487	9,247	29,734
2011	14,421	14,421	28,842	19,765	48,607
2012	8,628	10,863	19,491	22,694	42,185
2013	10,869	11,369	22,238	74,651	96,889
2014	11,691	12,286	23,977	18,393	42,370
2015	11,255	12,286	23,541	50,272	73,813
Average	11,154	11,942	23,096	32,504	55,600

- **Adult need to achieve egg take goal is about 20,000**

Management Process – Pre-Season



**In-season
Weekly Co-
manager
Conference
Calls**

**Pre-season
forecasts (PSF) of
HC Chum**

**Agreed Treaty &
Non-treaty fishing
schedules via North
of Falcon process**

**Calculate number
of harvestable
chum expected
from PSF**

**Divide harvestable
number into Treaty
and Non-treaty
shares (50:50)**

Management Process – In-Season

Update Treaty and Non-treaty weekly catch numbers, by date, gear type, area.

In-season update (ISU) model with CPUE data to date from non-treaty purse seine fleet, to predict run size.

Assemble hatchery & natural escapement data to date, sex ratio data, any other observations.



**In-season
Weekly Co-
manager
Conference
Calls**

Management Process – In-Season (cont.)

Calculate known and expected catches (high, average, and low) by gear type at different ISUs.

Project remaining share at high, average, low catch scenarios for different ISUs.

Co-managers discuss whether or not an update to run size is warranted.



In-season Weekly Co-manager Conference Calls

Propose fishing schedule for next week (any adjustments vs. pre-season?)

Schedule next conference call

Hood Canal Chum Management in 2015

Non-treaty Catch vs. Share

Pre-season Forecast =	402,369		Year: 2015	Non-treaty Share		
ISU =	617,091			245,908		
Estimated Total to Date						
	Purse Seine	Gill Net	Total	ISU	Share	Remaining
Week 42	37,617	19,647	57,264	n/a	155,000	97,736
Week 43	43,811	38,827	82,638	n/a	155,000	15,098
Week 44	89,084	20,781	109,865	569,047	225,565	-24,202
Week 45	0	0	0	569,047	225,565	-24,202
Week 46	0	0	0	569,047	225,565	-24,202
Week 47	2,117	242	2,359	617,091	245,908	-6,218
Week 48						
Total	172,629	79,497	252,126			
Approximate ex-vessel value			\$1,517,799			

Background and History

- Long history, using various agreed-to ISUs in the past
- Unable to achieve agreement more recently
- Leading to high degree of uncertainty and unpredictability
- Co-managers initiated a collaborative review of ISU models in 2012

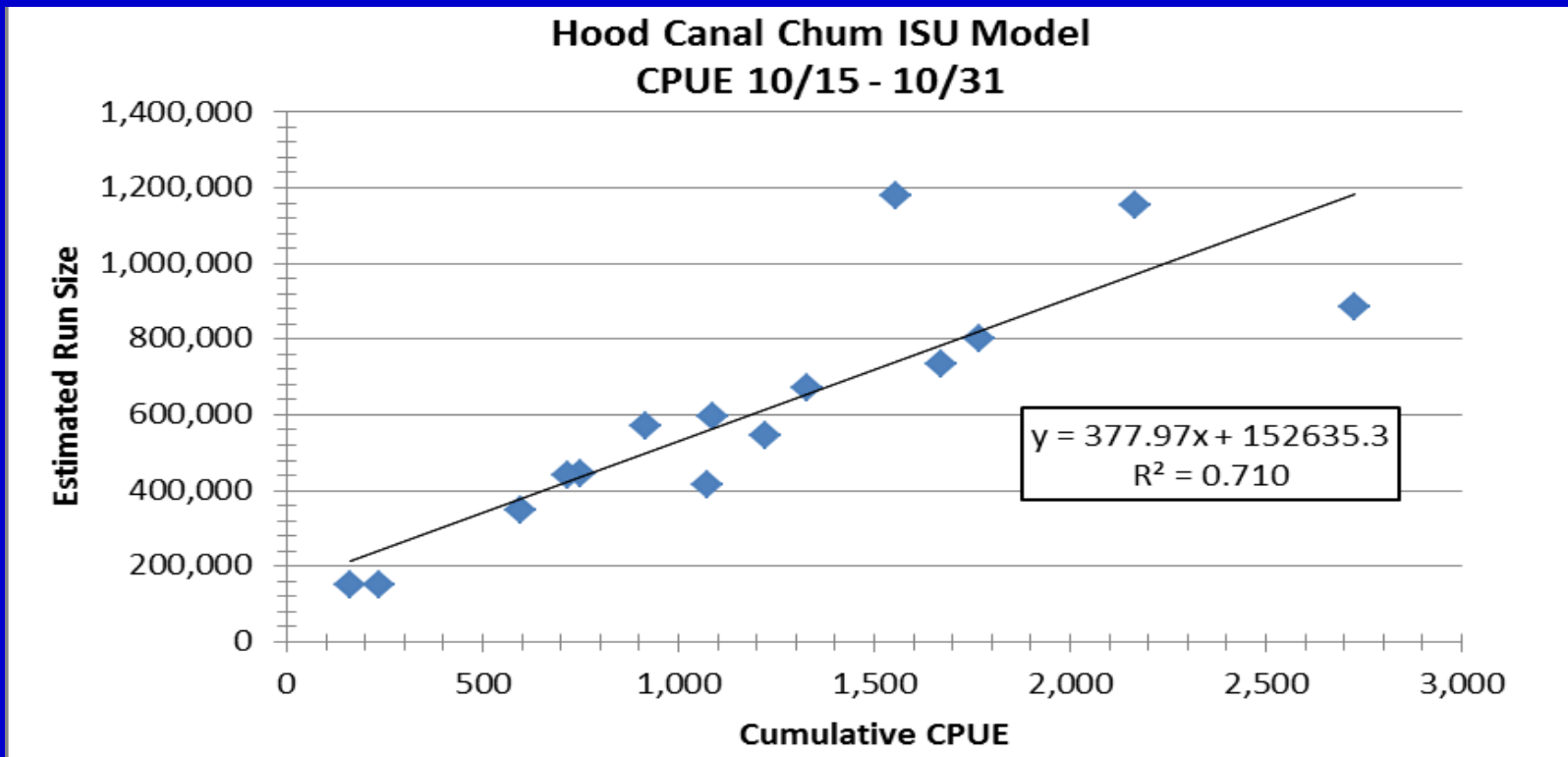


Background and History (cont.)

- **2012 ISU model review used data from all-citizen purse seine fleet.**
- **Assessed 2 time periods:**
 - **Early (Oct 15 - 31; weeks 43 & 44)**
 - **Extended (Oct 15 - Nov 7; weeks 43 - 45)**
- **Evaluated predictability using:**
 - **Cumulative Catch for 1981-2011 & 1997-2011**
 - **Cumulative CPUE for 1981-2011 & 1997-2011**

In-season Update Model

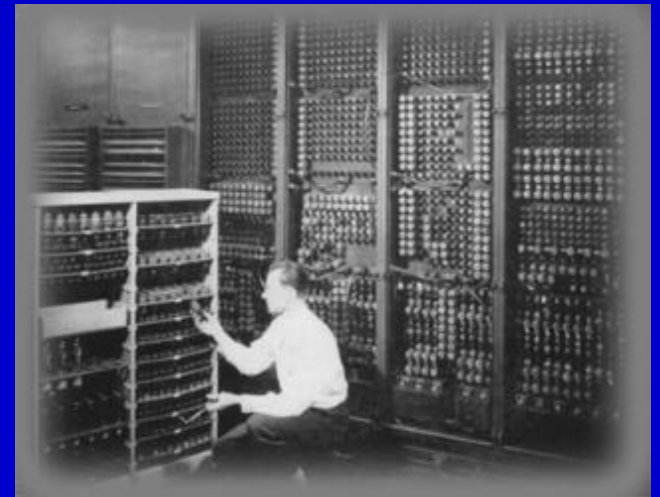
- Agreed to use linear regression model based on 1997-2011 cumulative CPUE during the early period (Oct 15-31).



In-season Update Model (cont.)

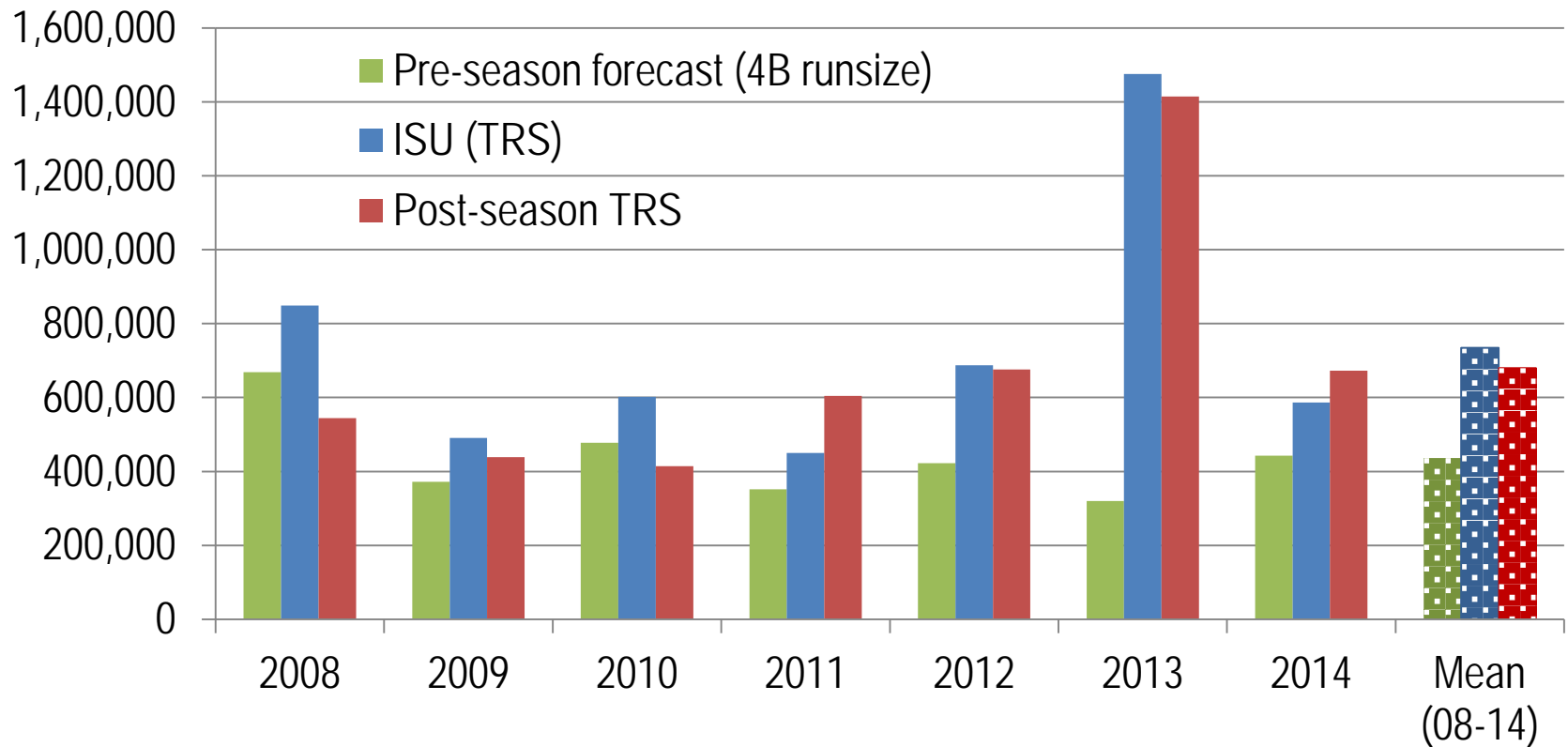
2014 review of the model:

- **Additional 2 years of data were included in the data set**
- **Increased predictive strength**
- **Extended agreement to use ISU model for 2015**



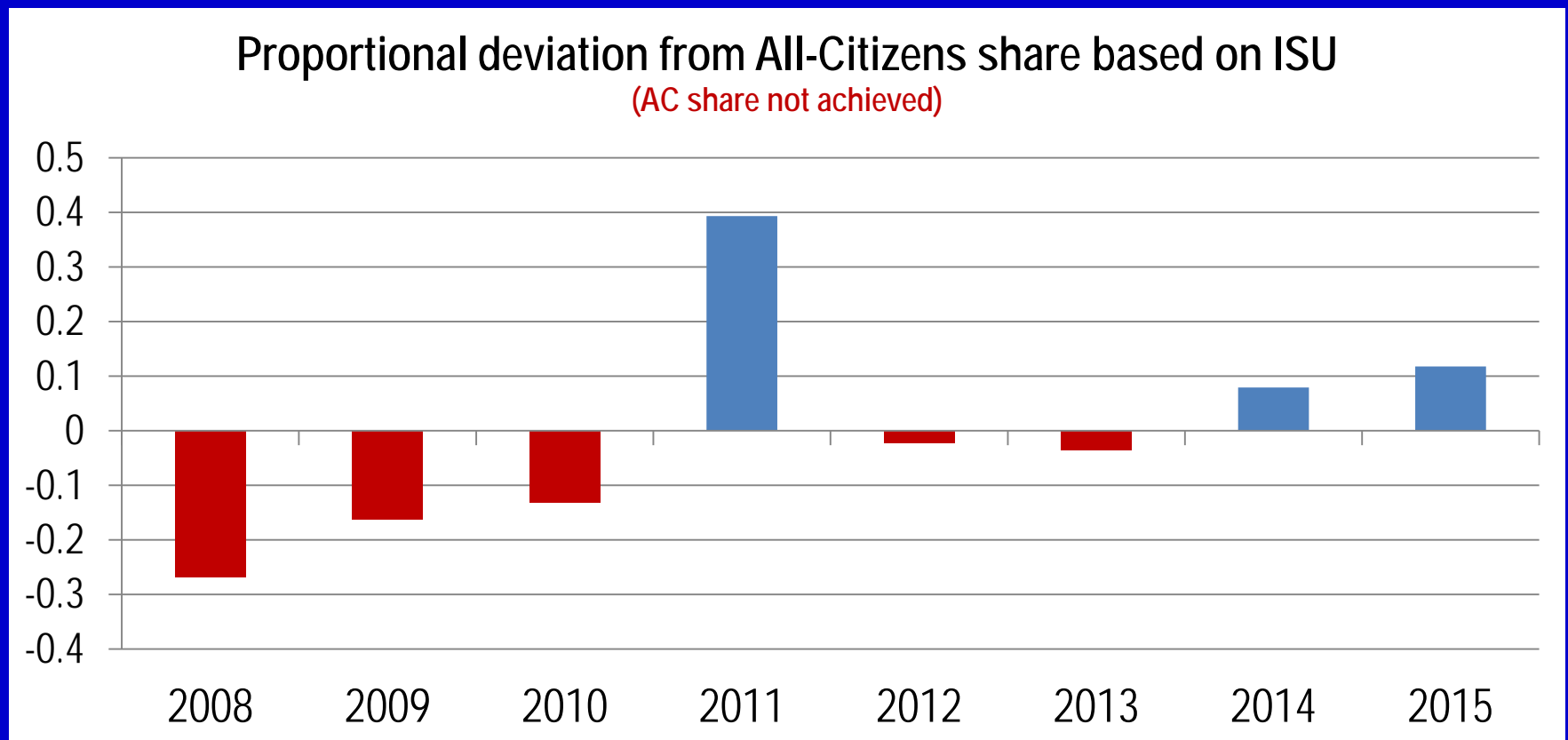
Outcomes of Recent Management

Comparison of Run-Size estimates;
pre-season forecast, ISU, and run reconstruction



Outcomes of Recent Management (cont.)

- Has the All Citizens Fleet been achieving their share?



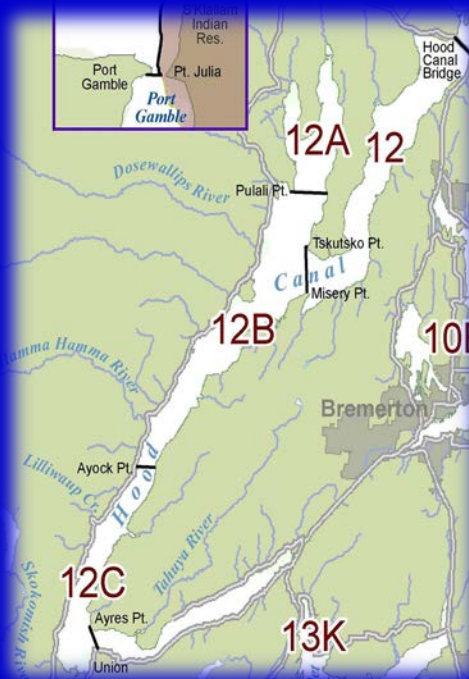
What has changed in management?

- **All-citizens PS fishing pattern – wks 42-44**
 - in 2014 & 2015 was 1-1-1 (days/wk)
 - prior to 2014 typically 0-1-2 (days/wk)

2015 statistical weeks				All-Citizen Schedule: # Days/Week			
				Purse Seine		Gillnet	
				2014-2015	pre-2014	2014-2015	pre-2014
Month	Week #	Start Date	End Date				
Oct	40	27-Sep	3-Oct				
	41	4-Oct	10-Oct				
	42	11-Oct	17-Oct	1	0	2	0
	43	18-Oct	24-Oct	1	1	2	2
	44	25-Oct	31-Oct	1	2	2	2
Nov	45	1-Nov	7-Nov	1	1	2	2
	46	8-Nov	14-Nov	2	2	2	2
	47	15-Nov	21-Nov	1	1	2	2
	48	22-Nov	28-Nov	1	1	2	2

Where Do We Go From Here?

- **Work with HC tribes to improve current in-season run size update process.**
 - **Use sex ratio data, other factors in addition to purse seine CPUE-based model.**
- **Accuracy of current ISU model improves with a 0-1-2 schedule (weeks 42-43-44). Align schedule with model assumptions.**





Questions?