

COLUMBIA RIVER FISHERIES REFORM IMPLEMENTATION UPDATE

9 November 2016

Oregon Department of Fish and Wildlife



Outline for Today

- Background
- Transition Period Assessments
- Adaptive Management Assessment and Recommendation
- Next Steps

Background

- CR Fisheries reform – initiated in response to Oregon Measure 81 (ban gillnet and tangle net in inland waters)
 - Oregon Governor direction
 - Joint OR/WA workgroup
- Joint OR/WA CR Fisheries Reform policy adopted Dec 2012 (OR) Jan 2013 (WA)
 - OR re-adoption of rules June 2013 following litigation
- Objectives (see June 2013 OFWC)
 - Economic viability
 - Optimize overall economic benefits to state
 - Promote conservation of native fish
 - Promote orderly and concurrent Columbia R fisheries with WA

Background

- Legislation SB 830 (now in ORS 508.980)
 - Similar objectives to policy
 - Optimize overall economic benefits
 - Enhance viability of fisheries
 - Contribute to native fish conservation
 - Promote orderly fisheries with WA
 - Provide consistency with tribal agreements
 - Provided alt gear authority, adaptive management provisions and budget (\$4M)
 - Established transition fund (no claims)
 - Established CR Enhancement Fund and authorized recreational fee

Background

- OAR 635-500-6750 – “Guiding Principles”
 1. Promote ESA recovery and conservation of wild stocks
 2. Continue leadership on fish recovery actions
 3. Continue to meet terms of *US v Oregon* management agreements
 4. Seek to enhance the overall economic well-being and stability of Columbia River fisheries in Oregon
 5. Prioritize recreational fisheries in the mainstem and commercial fisheries in off-channel areas
 6. Phase out the use of non-selective gillnets in the mainstem
 7. Enhance economic benefits of off-channel commercial fisheries
 8. Develop and implement selective fishing gear and techniques for commercial mainstem
 9. Maintain consistent and concurrent policies between OR and WA
 10. Develop a program that seeks to implement certification of commercial fisheries as sustainably managed fisheries

Key Elements to Achieve Objectives/Principles

- Recreational priority in mainstem – allocation shifts
- Commercial priority in off-channel – enhancements
 - More hatchery fish
 - New sites
 - Extended boundaries and times in existing sites
- Develop alternative fishing gear for commercial mainstem use
- Conservation enhancements

Background

- Transition period (2013-2016)
 - Phased in actions
 - Evaluate actions and assumptions
 - Avoid significant economic harm during transition period
 - Transition Fund
- Long Term (2017+)
 - Learn from transition period
 - Adaptive management
 - Economics
 - Action effectiveness
 - Validation of assumptions
- Adaptive management
 - OAR 673-500-6765 (Attachment 7)
 - ORS 508.980 (Attachment 4)

Updates and Review

**Progress Report:
Implementation of Columbia
River Fish Management and
Reform Rules**

January 10, 2014

Oregon Department of Fish and Wildlife

Annual updates during Transition Period

**Progress Report:
Implementation of Columbia
River Fish Management and
Reform Rules**

January 9, 2015

Oregon Department of Fish and Wildlife

**Progress Report:
Implementation of Columbia
River Fish Management and
Reform Rules**

18 March 2016

Oregon Department of Fish and Wildlife

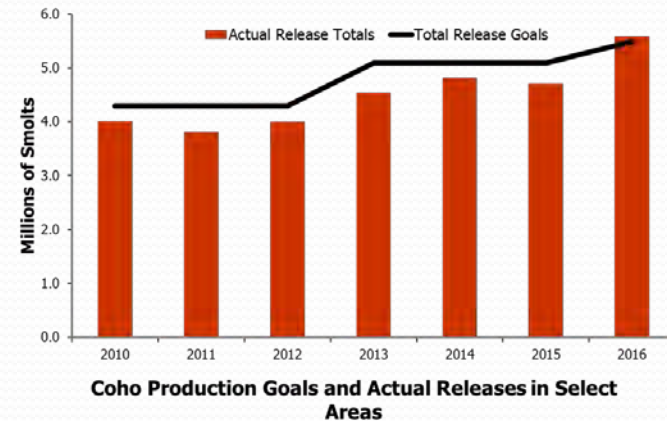
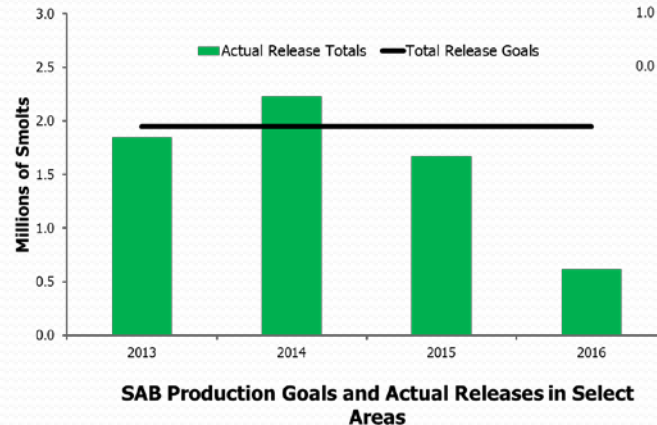
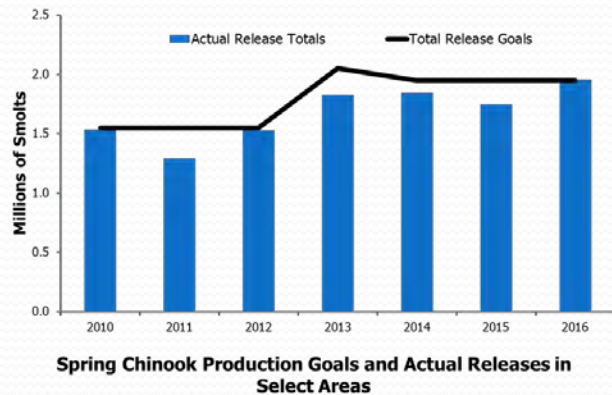


Phased Allocation Shifts

Species/Stock	Transition Period				Long-term
	2013	2014	2015	2016	2017+
Spring Chinook	65/35	70/30			80/20
Summer Chinook (<Priest Rapids)	60/40		70/30		unresolved
Sockeye	70/30				80/20
LCR Fall Chinook	≤70/≥30				≤80/≥20
SRW Fall Chinook	≤70/≥30				≤80/≥20
LCN Coho	Priority to Select Area and mainstem Chinook commercial fisheries				Priority to Select Area, mainstem Chinook, and hatchery Coho commercial fisheries
Chum	No retention. Share sufficient to implement Select Area and mainstem commercial fisheries targeting other species				
White Sturgeon	80/20 (when retention allowed)				

Off-Channel Enhancements

- Enhanced production at existing off-channel sites
 - Actual average Oregon releases through 2016 at or approaching targets except for SAB fall Chinook in 2016 and 2017; CHS = 93%, COH 97%, SAB 82%
 - Average annual ex-vessel value in off-channel commercial harvest for all stocks combined ahead of projections



Off-Channel Enhancements

- Existing sites
 - Time extensions show promise
 - Boundary expansion limited in spring; none in fall
- New sites
 - Westport and Coal Creek sloughs, but need to find/secure infrastructure locations
 - Need to complete ecological assessment (Westport)
- Suggested off-channel expansions should fit available impacts, but will need to evaluate effects

Off-Channel Enhancements

Cost-benefit of hatchery releases and efficiency of fishery impacts – off-channel vs mainstem

For spring Chinook

- A smolt released in off-channel areas is >30x more likely to be harvested commercially than a smolt released elsewhere
- Off-channel fisheries harvest:
 - 10x more fish per ESA impact than mainstem gillnets and 2x more than mainstem tanglenets
 - 17X more fish per catch-balance impact than mainstem gillnets and 10x more than mainstem tanglenets

Alternative Gear Evaluations

- ODFW/WDFW research 2009-current
- Implementation of seines for fall commercial fishing in 2015-16
- Primary focus fall season
- Post-release mortality rates
- Bycatch



Post-release Mortality Studies



- Critical component of gear viability but technically and logistically difficult
- Seine evaluations 2011-2013, 2015
- Coho tangle net evaluations 2013-2016

Post-release mortality - Seines

- Treatment / Control method
 - Passage to upstream points (e.g. Bonneville Dam) treatment v control
 - Treatment group (seine) passed Bonneville at a much lower rate than control groups
 - Steelhead in treatment group similar to control
- Radio tracking to assess possibility of lower river Chinook in treatment
 - Confirmed DNA and CWT data contradicts
- Fish PIT-tagged as outmigrating juveniles passed Bonneville at much higher rates (89%+); sample size low (10-36 per yr)
- Study should be repeated with an improved design

Post-release mortality - Seines

- Current mortality rate estimates based on existing study

Gear	Chinook	Coho	Steelhead
Beach Seine	33%	38%	5%
Purse Seine	21%	29%	2%

Bycatch in seines

- Steelhead encounter rates, 2014-15 fall fisheries

	Kept Chinook	STH Handle	STH Mortality Rate	Wild B Mortalities	Kept Chinook per B Mortality
4-5 GN (Non)	169,565	2,506	0.59	54.5	3,112
Purse (MSF)	3,769	503	0.02	2.2	1,698
Beach (MSF)	2,018	677	0.05	4.4	459
Combined Seine (MSF)	5,787	1,180		6.6	875

Bycatch in seines

- Ratio of kept fish per B-mortality is driven by encounter rate of steelhead and % of fish that can be kept (mark rate in MSF)
- Approximated change in kept fish for non-MSF seines using observed mark rates
- Non-MSF in Z 1-3 would be very high ESA tule Chinook impacts

	Mark Rate	Kept Chinook	STH Handle	STH Mortality Rate	Wild B Mortalities	Kept Chinook per B Mortality
4-5 GN (Non)		169,565	2,506	0.59	54.5	3,112
Purse (Non)	36%	10,476	503	0.02	2.2	4,720
Beach (Non)	49%	4,083	677	0.05	4.4	929
Combined Seine (Non)		14,559	1,180		6.6	2,201

Conservation Enhancements



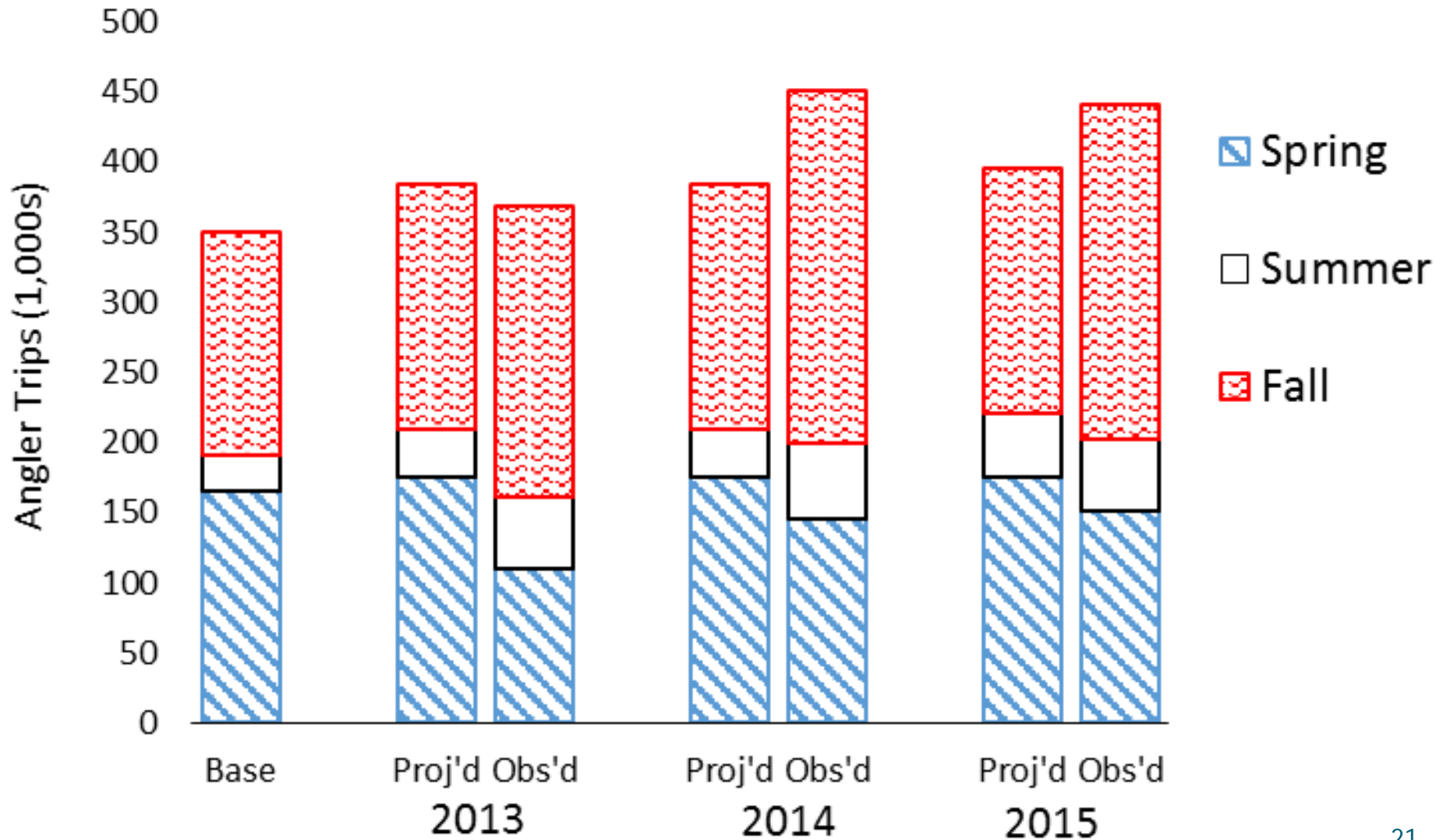
- Reduce PHOS. Transition inadequate
- Increase harvest of hatchery fish
- Cost-benefit of off-channel
- Leverage maximum harvest of hatchery fish per impact



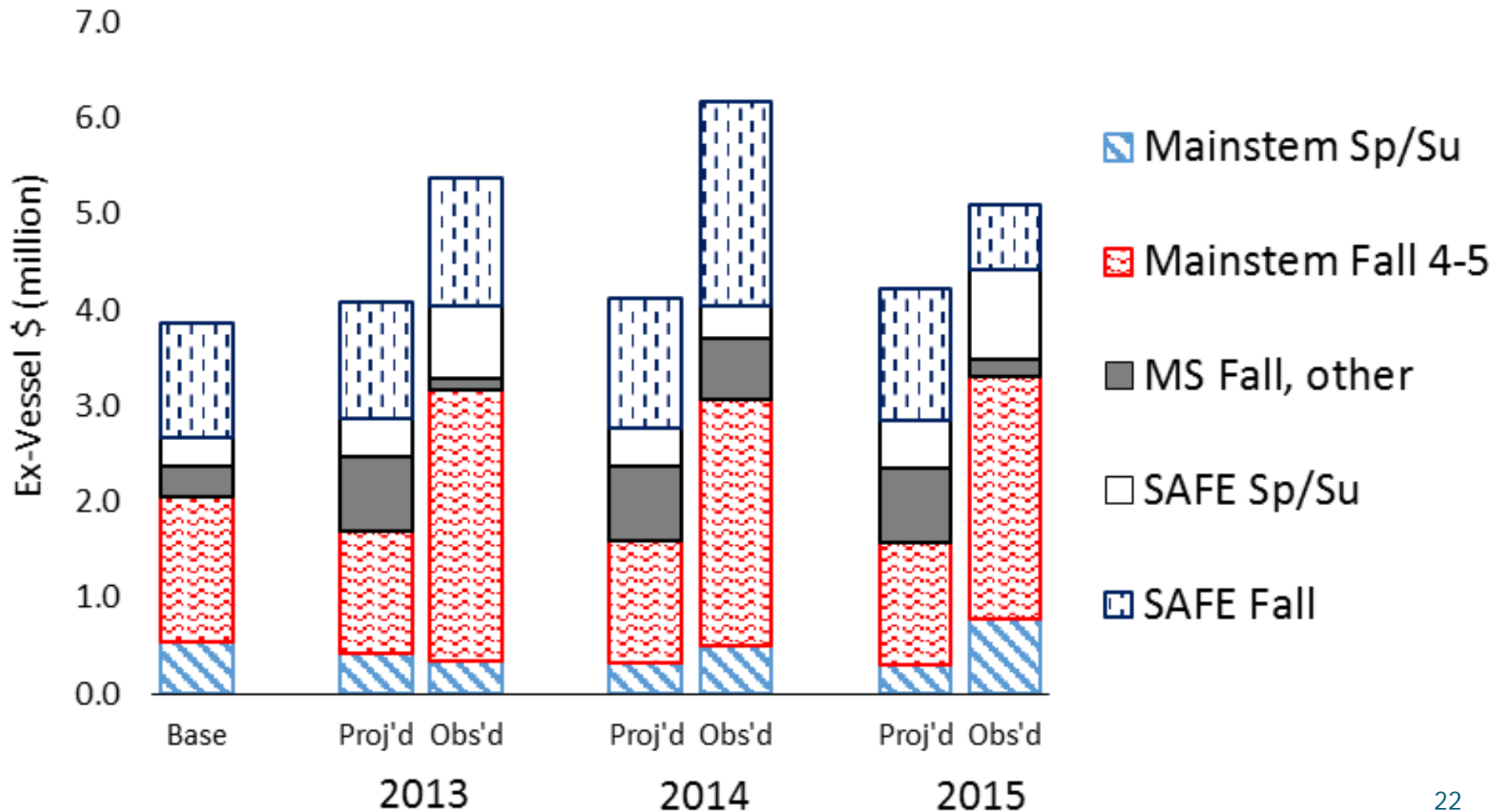
Economic Evaluation

- Three approaches:
 - Transition period observations vs. 2009-2012 base period (**Transition vs. Base** – see workgroup tables C1-5, “current”)
 - Transition period observations vs. annual projections from Base model (**Transition vs. Projected** – see workgroup tables C1-5, annual values for 2013-16)
 - Transition period observations adjusted to reflect “without policy” (**Transition vs. w/o policy** – new modeling efforts)
- Effect of run-size

Angler Trips – Transition Observed vs “Base” and “Projected”



Ex-vessel Value – Transition Observed vs “Base” and “Projected”



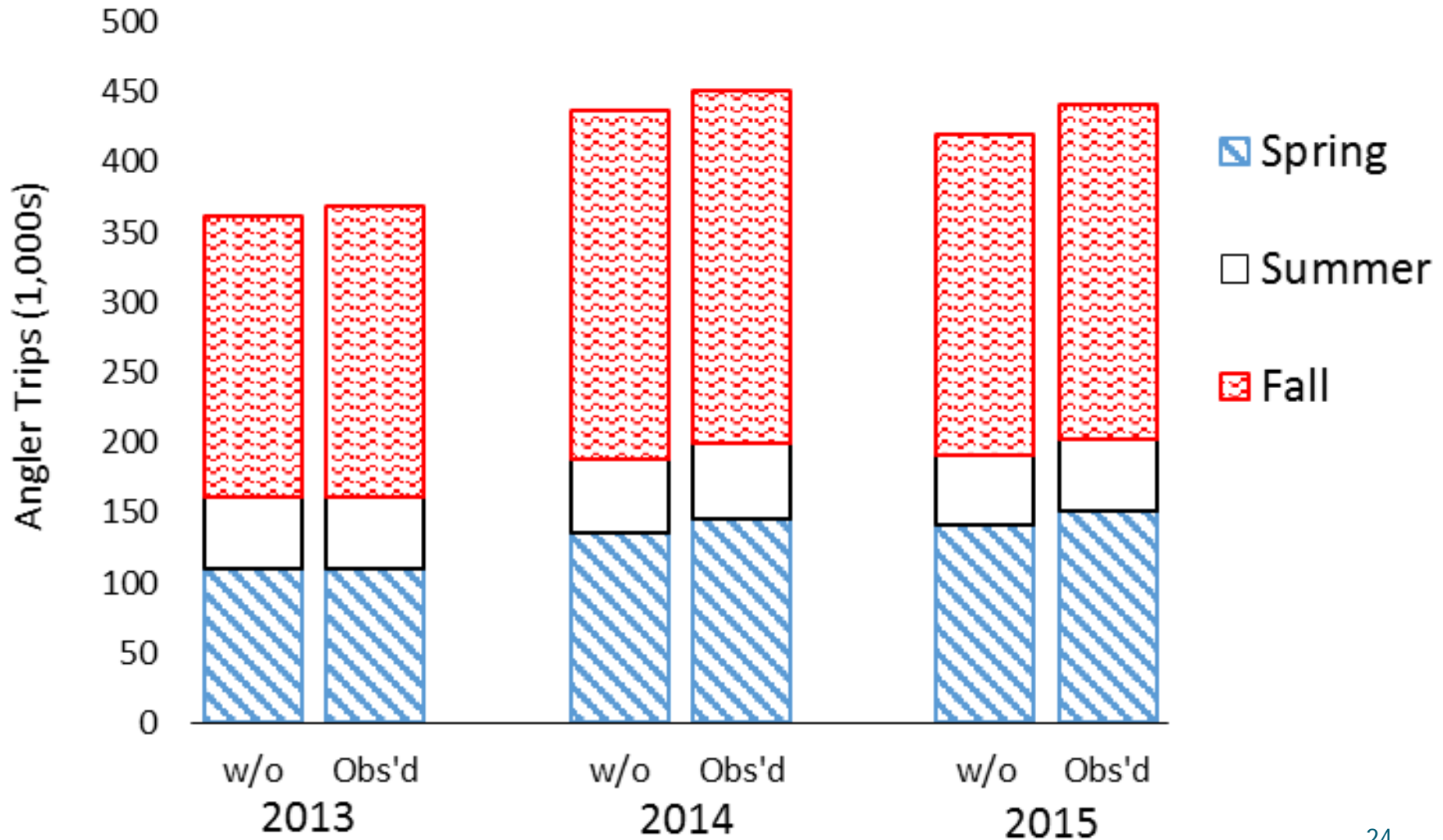
Modeling Approaches

Third approach (new):

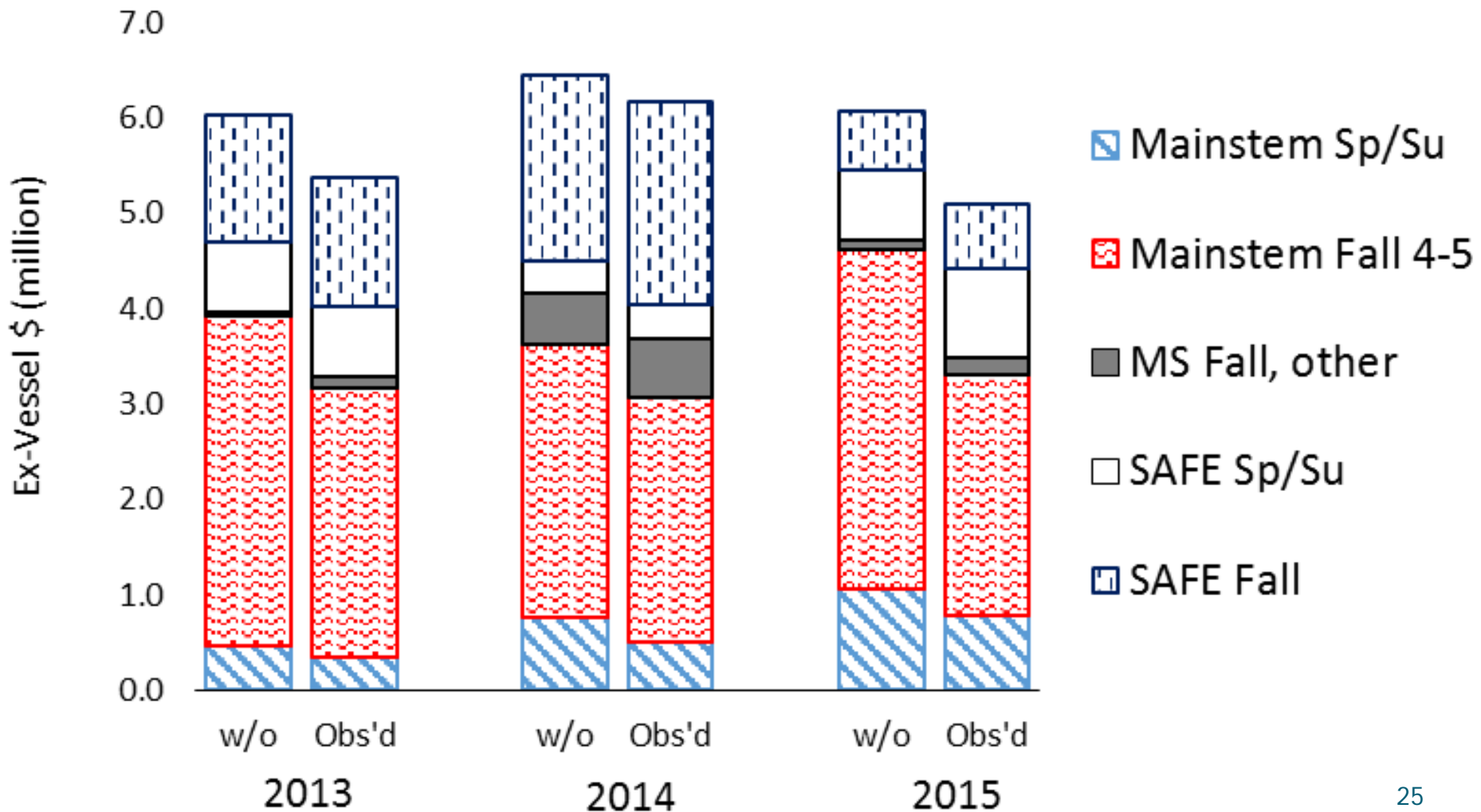
Transition period observed compared to transition period adjusted to be without policy changes (**Transition vs. w/o policy**)

- Used transition period observations to demonstrate the effects of the new policy and compared them to estimates of what would have occurred if the policy had not been implemented
 - Includes real effects of “management error” – e.g., errors in forecasts, fishery modeling, etc.
 - Observed = increased off-channel fish; “Without policy” = no increases
 - Based upon run sizes, stock mixes, and other factors observed during the transition period – IN ADDITION TO ALLOCATIONS, ETC.

Angler Trips – Transition vs “Without Policy”



Ex-vessel Value – Transition vs “Without Policy”



Mitchell Act Unknowns

- Litigation by Wild Fish Conservancy
- Stay of funds by NOAA
- HGMP approval underway
- Reduction in pHOS required
 - Increase harvest of hatchery fish
 - Decrease production
 - Direct removals (i.e., tributary weirs)
 - Other???



Transition Period Summary

Transition Summary

- Recreational mainstem priority – allocations shifts
- Increased angler trips in transition period
- Run sizes affect results

Transition Summary

- Commercial off-channel priority – production increases
- Oregon production generally on track with policy
 - SAB below goal –2016-17 due to broodstock shortages

Transition Summary

- Development and implementation of alternative gears - seines
 - Post-release mortality
 - Steelhead encounters

Adaptive Management 2017+

Adaptive Management 2017+

- Access to mainstem URB Chinook for commercial economic viability
- Seines as utilized to date (MSF) have not been as effective/efficient in utilizing ESA impacts to access URBs
- Increase conservation emphasis on reducing pHOS

Modeling Approaches

- Workgroup Appendix C projections for 2017+
- With and without policy
 - Future scenarios applied to transition year observations - assumes the conditions observed in the transition period (times/areas fished, run sizes, stock mixes, forecast error, modeling error) continue into future
 - Effects of policy (allocation, gear types, production changes) are layered atop these conditions
 - Effect of “no policy” (i.e., pre-policy allocations, gears, etc.) are assessed with this method

Full Policy Implementation (No action)

Modeled as:

- Spring 80/20, no mainstem commercial fishery
- Summer 98/2, no mainstem commercial fishery
- **REVISED** Fall Chinook 80/20, MS commercial all non-mark-selective Zone 4-5 purse seine
 - Preliminary - range of potential ex-vessel values
 - Lower end - data for purse seines in Z4-5 – assumptions (adjustments to Non-MSF, etc.) need to be evaluated
 - Upper end - if purse seines are about equivalent to gillnet
 - Does **NOT** include operating costs, feasibility, etc. on Z4-5 purse seines
 - **MORE ANALYSIS NEEDED**
- Current plan SAFE releases, 2017+ SAB releases at 1.44 million (recent average SABs)

	Angler trips	Ex-Vessel Value
Appendix C “Base”	350,400	\$3.86 M
Appendix C 2017+	425,450	\$4.39 M
No Policy	406,100	\$6.18 M
Full Policy	437,100	\$3.7-\$4.7 M

Full Policy Implementation (No action)

Meets:

- Phase out gillnets in mainstem fisheries
- Recreational fishery mainstem priority

Does not meet:

- Does not enhance viability of commercial fisheries
- Does not optimize economics for region
- Conservation benefits inadequate

Adaptive Management – Freeze Transition

Modeled as:

- Spring 70/30, MS commercial fishery, gillnet allowed in late spring if impacts available
- Summer 70/30, MS commercial fishery with gillnet allowed
- Fall Chinook 70/30, MS commercial fishery with gillnet in Z4-5, MS seine fishery as in transition years, 6" Coho gillnet and Coho tangle net as in transition years
- Current plan SAFE releases, 2017+ SAB releases at 1.44 million (recent average SABs)

	Angler trips	Ex-Vessel Value
Appendix C "Base"	350,400	\$3.86 M
Appendix C 2017+	425,450	\$4.39 M
No Policy	406,100	\$6.18 M
Freeze Transition	422,600	\$5.84 M

Adaptive Management – Freeze Transition

Meets:

- More recreational fishery mainstem priority than without policy
- More assurance of viability for commercial fisheries

Does not meet:

- Less recreational priority than planned
- Does not phase out gillnets in mainstem fisheries
- Does not optimize economics for region
- Conservation benefits inadequate

Adaptive Management – Rebalance Plan (staff recomm.)

Modeled as:

- Spring 80/20, small MS commercial fishery with tangle nets
- Summer 80/20, MS commercial fishery with selective gear to be developed by fleet with agency assistance
- Fall Chinook 70/30, MS commercial fishery with gillnet in Z4-5 and Coho tangle net in Z 1-3.
 - Implementation of fall “conservation fishery”
- Current plan SAFE releases, 2017+ SAB releases at 1.44 million continue
 - Addition of 500K spring Chinook to Gnat Cr., 250K each to Westport Sl. (OR) and Coal Cr. (WA, shifted from Cathlamet).
- Allow barbed hooks in Willamette R. and off-channel sport
- Remove Youngs Bay sport closure

Adaptive Management – Rebalance Plan (staff recomm.)

	Angler trips	Ex-Vessel Value
Appendix C “Base”	350,400	\$3.86 M
Appendix C 2017+	425,450	\$4.39 M
No Policy	406,100	\$6.18 M
Rebalance	427,100	\$5.80 M*

- Ex-vessel value calculated in 2022 to capture returns of additional off-channel hatchery production
- Mean ex-vessel for 2017-2021 = \$5.48 M

Adaptive Management – Rebalance Plan (staff recomm.)

Meets:

- More recreational fishery mainstem priority than without policy or transition
- More assurance of viability for commercial fisheries than full implementation
- Commercial economics similar to transition by 2022
- Gillnets removed in spring and summer, use in fall limited
- Higher conservation performance
- Higher overall economic returns for region

Does not meet:

- Less recreational priority than planned
- Gillnets remain in fall
- Less ex-vessel value than “without policy”
- Takes additional time to accrue full commercial benefits

Economic Comparison Summary

Relative effects for 2017 and beyond

	App C "Base"	App C 2017+	New Model			
			No Policy	Full Policy	Keep Transition	Rebalance
Angler trips	350,400	425,450	406,100	437,100	422,600	427,100
Ex-vessel \$	\$3.86 M	\$4.39 M	\$6.18 M	\$3.7-4.7 M	\$5.84 M	\$5.80 M*

* See prior slide

Economic Comparison Summary

- Personal income impacts estimated using methods from 2013 FIS
- Staff is exploring the use of revised IO-PAC model from PFMC for December FWC

Personal Income Impacts (millions)

	App C "Base"	App C 2017+	New Model			
			No Policy	Full Policy	Keep Transition	Rebalance
Angler trips	\$14.0	\$17.0	\$16.2	\$17.5	\$16.9	\$17.1
Ex-vessel \$	\$7.3	\$8.3	\$11.6	\$7.0 - \$8.8	\$11.0	\$11.0
Sum	\$21.3	\$25.3	\$27.8	\$24.5-\$26.3	\$27.9	\$28.1

Next steps

Oregon

- ODFW staff assess effects of Z 4-5 modeling oversight in “Full Implementation” and coordinate with WDFW
- December OFWC hearing for potential rulemaking

Washington

- December WFWC hearing for presentation and public testimony
- January WFWC hearing for potential rulemaking

Oregon staff recommends at least one more Joint FWC subgroup meeting prior to rulemaking



QUESTIONS?