

Agenda Item Summary

BACKGROUND The Oregon Fish and Wildlife Commission (hereafter, “Commission”) adopted administrative rules in December 2012 implementing guiding principles and management strategies for a new fisheries framework for lower Columbia River (LCR) non-tribal fisheries (CR Fisheries Reform).

In general, key elements or “Guiding Principles” of CR Fisheries Reform include: shifting allocations to provide a stronger recreational priority in the mainstem; enhancing off-channel hatchery releases, expanding seasons or boundaries in current off-channel fishing sites, and developing new off-channel sites to augment commercial harvest; limiting gill nets to off-channel fisheries and developing alternative gears and techniques for mainstem commercial fisheries; strengthening conservation of native fish. These guiding principles are reflected in OAR 635-500-6705.

Following extensive analysis, testimony, and deliberation on options for future implementation of Columbia River Fisheries Reform during the winter and spring of 2017, the Commission adopted final amendments to 2012 rules at their March 2017 hearing.

Primary details of the amended OFWC rules are as follows:

- Spring Chinook 80/20 sport/commercial allocation of allowable ESA impacts. Commercial priority to off-channel large-mesh gillnet fisheries not constrained by run-size buffer. Mainstem commercial fisheries only occurring with tangle net gear after the run update, if remaining impact balances allow.
- Summer Chinook 80/20 sport/commercial allocation of harvestable surplus; non-gillnet gears required for commercial fisheries, unused commercial allocation not to be reallocated to sport fisheries.
- Fall Chinook $\leq 70/\geq 30$ sport/commercial allocation of most constraining ESA fall Chinook stock (tule or Snake River wild). Large-mesh gill nets allowed in mainstem commercial Zones 4-5; commercial Coho fisheries restricted to tangle nets in Zones 1-3. Up to 2% of commercial Chinook impacts may be used for commercial fishing with alternative fishing gears.
- Off-channel (Select Area) releases: Mitchell Act hatchery reductions required by NOAA are incorporated; additional 500K spring Chinook released from Gnat Creek Hatchery, 390K spring Chinook to backfill Coho cuts released at current Oregon sites, 250K spring Chinook at Westport Slough (if/when assessments completed) and at an existing site in the interim, and 360,000 additional to supplement commercial economics.
- Barbed hooks allowed in off-channel sport fisheries and the Willamette River.
- Youngs Bay Control Zone sport closure remains in effect.

- Intensive monitoring of fall Chinook gillnet fisheries to further evaluate steelhead and sturgeon encounters.

These rules differed in three primary areas from the policy amendments the Washington Fish and Wildlife Commission (WFWC) adopted in 2017: spring mainstem fisheries, fall Chinook allocations, and a sunset provision that Washington included for fall gillnet fisheries in Commercial fishing Zones 4-5.

The Commission authorized the Director to discuss options for concurrence with the Washington Director, subject to review by the Commission prior to implementation of any changes.

2017 PUBLIC INVOLVEMENT

- There has been opportunity for public input at each of the annual updates provided to the Commission throughout the CR Fisheries Reform transition period, as well as at OFWC hearings in November 2016, January 2017, and March 2017 when the transition period was reviewed, and adaptive management measures were considered and adopted by the Commission.
- Public input was provided during open testimony at several OFWC hearings during 2017.
- Public input was also provided at several meetings throughout the year to assist with pre-season planning for various 2017 and 2018 fisheries:
 - January 9, 2017 – Columbia River Recreational Fishery Advisory Group
 - January 31 through December 7, 2017 – Held 36 Columbia River Compact and/or Joint State hearings, of which 28 dealt with non-treaty mainstem or Select Area commercial fisheries and/or mainstem recreational fisheries.
 - February 6, 2017 – Columbia River Commercial Advisory Group
 - February 15, 2017 – Columbia River Recreational Advisory Group
 - March 24 and April 5, 2017 – Met with Columbia River commercial and recreational fisheries stakeholders as part of the North-of-Falcon process for planning summer and fall fisheries
 - May 9, 2017 – Columbia River Commercial Advisory Group
 - May 18 and 24, 2017 – Public meetings in The Dalles and Clackamas to receive input on special regulations for summer and fall recreational steelhead fisheries
 - May 30, 2017 – Public meeting in Vancouver, WA related to 2017 white sturgeon fisheries
 - August 9, 2017 – Met with Columbia River Commercial Fishery Advisory Group to discuss planned observation of Zone 4-5 fishery
 - December 4, 2017 – Columbia River Commercial Fishery Advisory Group
 - December 13, 2017 – Northwest Sportfishing Industry Association

OUTLINE OF KEY POLICY OBJECTIVES

Below is a brief outline of key policy objectives discussed in this agenda item:

- 1) Harvest allocation shifts (Issue 1)

- 2) Off-channel (Select Area) commercial fishery enhancements (Issue 2)
 - a) Enhance production in existing fisheries;
 - b) Evaluate expansion of commercial fishing opportunity in existing sites;
 - c) Examine feasibility of establishing new sites.
- 3) Evaluation of alternative commercial fishing gears and techniques (Issue 3)
- 4) Updates on 2017 fisheries (Issues 4-6), as well as angler trips and commercial ex-vessel value (Issue 7)
- 5) Summer/fall thermal angling sanctuaries (Issue 8)

ISSUE 1

ALLOCATION SHIFTS

ANALYSIS

The Commission adopted the following policy objective in rule (635-500-6705): “(5) *For steelhead, salmon and sturgeon, prioritize recreational fisheries in the mainstem and commercial fisheries in off-channel areas of the lower Columbia River. Toward this end: a) Assign mainstem recreational fisheries a sufficient share of ESA-impacts and harvestable surplus to enhance current fishing opportunity and economic benefit. b) Assign commercial fisheries a sufficient share of the ESA-impacts and harvestable surplus to effectively harvest fish in off-channel areas and harvest surplus fish with selective techniques in the mainstem Columbia River.*”

This policy objective includes a phased shift in allocation among recreational and non-tribal commercial fisheries for 2013 and beyond per OAR 635-500-6715 through OAR 635-500-6750 (TABLE 1).

TABLE 1—Summary of impact sharing as defined in Harvest Reform rules/policy. Shares are listed as recreational/commercial.

Species/Stock	Transition Period				Long-term
	2013	2014	2015	2016	2017+
Spring Chinook	65/35	70/30			80/20 ^a
Summer Chinook (<Priest Rapids)	60/40		70/30		80/20 ^b
Sockeye ^c	70/30				80/20
LCR Fall Chinook ^d	≤70/≥30				≤70/≥30 ^e
SRW Fall Chinook ^f	≤70/≥30				≤70/≥30 ^e
LCN Coho ^g	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)				

^a Oregon policy allows post-run update mainstem commercial fishery using tangle nets if impacts remain available above what is needed for Select Areas; Washington policy requires any spring mainstem commercial fishery to use alternative gears other than tangle net.

^b By policy, any mainstem commercial summer Chinook fishery must use alternative gears.

^c Commercial share for incidental harvest in Chinook-directed fisheries.

^d Lower Columbia River wild/natural tule fall Chinook (LCR).

^e Oregon policy allocation is $\leq 70/\geq 30$ (with no more than 2% of 30% applied to alternative gear types) and Washington policy allocation is $\leq 75/\geq 25$ through 2018, and $\leq 80/\geq 20$ thereafter. Washington policy has a sunset provision for Zone 4-5 gillnet fishery after 2018, while Oregon policy has no sunset provision.

^f Snake River wild fall Chinook (SRW).

^g Lower Columbia River wild/natural Coho (LCN).

For 2017, planned pre-season allocation shifts from commercial to recreational fisheries continued per policy guidelines (TABLE 2). Post-season impact shares used by fishery are discussed in Issues 4, 5, and 6.

TABLE 2—Summary of pre-season allocations in non-tribal fisheries, 2014-2017.

Stock	Allocation Metric	Fishery	2014	2015	2016	2017 ^a
Spring Chinook	ESA Impact	Recreational	70%	70%	70%	80%
		Commercial	30%	30%	30%	20%
Summer Chinook	Harvestable Surplus	Recreational	60%	70%	70%	80%
		Commercial	40%	30%	30%	20%
Sockeye	ESA Impact	Recreational	70%	70%	70%	80%
		Commercial	30%	30%	30%	20%
LCR Fall Chinook	ESA Impact	Recreational	70%	70%	70%	69%
		Commercial	30%	30%	30%	31%
SRW Fall Chinook	ESA Impact	Recreational	38%	55%	50%	64%
		Commercial	62%	45%	50%	36%

^a In fall of 2017, available impacts for fall Chinook stocks could not be fully accessed due to larger than normal available impacts for LCR fall Chinook and a very low return of B-index wild steelhead (see Issue 6).

ISSUE 2

OFF-CHANNEL (SELECT AREA) ENHANCEMENTS

ANALYSIS

Enhance Production in Existing Select Area (Off-Channel) Fisheries

While not adopted in rule, enhanced hatchery releases associated with CR Fisheries Reform (TABLE 3) are described below, including projected releases for 2018.

- a) Spring Chinook: Oregon initiated an increase of 250,000 per year in 2010 based on Commission direction in 2008. An additional 500,000 annual Oregon increase was initiated in 2013 as part of the transition period. Washington Department of Fish and Wildlife (WDFW) discontinued releases of 350,000 spring Chinook into Deep River in 2014, as planned in the reform package, due to poor survival and negligible contribution of these fish, but initiated target production of 250,000 additional spring Chinook annually for release at a different site beginning in 2014. Further Oregon increases of 250,000 beginning in 2017 brought the total to 1,250,000 “additional releases” and a cumulative goal of 2,200,000 by 2017. The March OFWC decision included the staff recommendation to add an additional 1,500,000 spring Chinook releases in Oregon Select Area sites, (500,000 from Gnat Creek Hatchery, 390,000 as backfill for Mitchell Act Coho cuts, 250,000 to Westport Slough (or an alternative existing site), and 360,000 additional to supplement commercial economics) bringing the release goal to 3,700,000 by 2019.

- b) Coho: Oregon initiated an increase of 120,000 per year in 2010 based on Commission direction in 2008. An additional 600,000 Oregon increase was implemented in 2013 as part of the transition period. WDFW was also to initiate 200,000 additional production in 2013. Further Oregon increases of 1,000,000 were scheduled to begin in 2017 to bring the total to 1,920,000 “additional releases” and a cumulative goal of 6,090,000 by 2017; however, due to Mitchell Act cuts, the goal beginning in 2017 was reduced to 5,255,100.
- c) Select Area Bright (SAB) fall Chinook: Oregon planned to increase SAB fall Chinook production by 500,000 beginning in 2013 as part of the transition period. Further increases of 250,000 were scheduled to begin in 2017 to bring the total to 750,000 “additional releases” and a cumulative goal of 2,200,000 in 2017; however, due to Mitchell Act cuts, the goal beginning in 2017 was reduced to 1,000,000, and this program may be eliminated due to concerns over adverse interactions with ESA-listed fall Chinook stocks.

The CR Fisheries Reform policy did not specify changes to planned releases of tule fall Chinook from lower river hatcheries. However, these releases will also be affected by proposed actions associated with the 2016 Mitchell Act review.

Average Oregon Select Area releases through 2017, and projected releases in 2018, have been at or near targets, except for SAB fall Chinook in 2016-2018 (TABLE 3). For 2013-2018, average actual/projected releases of spring Chinook, Coho, and SAB fall Chinook in Oregon have been 96%, 98%, and 70% of their respective targets. Although it should be noted that, for 2017 and 2018, production goals for Coho and SAB fall Chinook were significantly lowered relative to the original goals for those years (see footnote *e*, TABLE 3) as a result of Mitchell Act changes.

Releases of spring Chinook into Cathlamet Channel continued for the 4th year in 2017 as part of WDFW’s efforts to develop a new Select Area site. To date, disease issues have prevented meeting the 250,000 release goal at this site. Releases in 2014, 2015, 2016, and 2017 were 200,000, 141,000, 108,000, and 120,000, respectively, and these values are included in totals shown in TABLE 3. Adult returns from the 2014 and 2015 releases were expected in 2016 and 2017; however, no fish were recovered in Cathlamet Channel test fisheries, despite nearly 100% of the released fish having coded wire tags. The few returning Cathlamet adult spring Chinook that were recovered in 2016 and 2017 were caught in other Select Area sites or recreational fisheries. WDFW anticipates releasing 325,000 spring Chinook from Cathlamet Channel in 2018.

TABLE 3—Summary of Select Area production goals and actual releases.

	Period	Release Year	Total Release Goal	Actual Release Total	% of Goal	First Adult Return Year
Spring Chinook	Pre-Transition	2010 ^a	1,550,000	1,535,200	99%	2012
		2011 ^a	1,550,000	1,290,700	83%	2013
		2012 ^a	1,550,000	1,529,300	99%	2014
	Transition	2013	2,050,000	1,829,200	89%	2015
		2014 ^{bc}	1,950,000	1,846,600	95%	2016
		2015 ^{bc}	1,950,000	1,747,300	90%	2017
2016 ^{bc}		1,950,000	1,958,800	100%	2018	

	Post-Transition	2017 ^{bc}	2,200,000	1,925,700	88%	2019
		2018 ^{bc}	2,200,000	2,495,900	113%	2020
Coho	Pre-Transition	2010 ^a	4,290,000	4,009,700	93%	2011
		2011 ^a	4,290,000	3,811,000	89%	2012
		2012 ^a	4,290,000	3,995,800	93%	2013
	Transition	2013	5,090,000	4,536,700	89%	2014
		2014	5,090,000	4,814,400	95%	2015
		2015 ^d	5,090,000	4,709,300	93%	2016
		2016 ^d	5,090,000	5,589,500	110%	2017
	Post-Transition	2017 ^e	5,255,100	4,787,500	91%	2018
		2018 ^e	5,255,100	5,848,000	111%	2019
	SAB Fall Chinook	Transition	2013	1,950,000	1,850,300	95%
2014			1,950,000	2,227,400	114%	2016
2015			1,950,000	1,670,700	86%	2017
2016		1,950,000	621,900	32%	2018	
Post-Transition		2017 ^e	1,000,000	599,500	60%	2019
		2018 ^e	1,000,000	334,500	33%	2020

^a Includes 250,000 spring Chinook and 120,000 Coho additional production specified as part of 2008 OFWC Allocation Policies.

^b 350,000 spring Chinook from WDFW (Deep River) were discontinued in 2014.

^c Includes releases of 200,000, 141,000, 108,000, 120,000, and an expected 325,000 spring Chinook from Cathlamet Channel during 2014-2018 which are not contributing directly to a Select Area fishery.

^d 200,000 Coho from WDFW scheduled for release beginning in 2015 were discontinued due to budget cuts.

^e Beginning in 2017, Coho and SAB fall Chinook production goals reflect Mitchell Act cuts. Prior to the cuts, Coho production was planned to increase to 6.09 million in 2017 and SAB production was planned as 2.2 million.

Evaluate Expansion of Commercial Fishing Opportunity in Existing Select Area (Off-Channel) Sites

The Commission's rules also include a policy objective to enhance the economic benefits of off-channel commercial fisheries by "expanding existing seasons and boundaries in off-channel areas and/or establishing new off-channel areas (OAR 635-500-6705(7)(b))."

Season Expansion: Because of the duration of existing fishing seasons in current Oregon Select Area (off-channel) sites, opportunities to expand seasons are limited to the winter timeframe in Tongue Point/South Channel and Knappa Slough, and the summer timeframe in Youngs Bay, Tongue Point/South Channel, and Blind Slough/Knappa Slough. In 2017, expanded winter season fisheries were opened for the 5th consecutive year. During 2013-2017, new winter seasons added an average of 24 commercial fishing periods, 31 deliveries, and 78 landed spring Chinook annually for both sites combined (TABLE 4). Fish abundances are generally low during the winter timeframe, thus participation and harvest to date have been limited. Although winter season landings account for less than 1% of the combined landings during the winter, spring, and summer seasons for all Select Area sites, fish prices are relatively high since these are the first Columbia River spring Chinook of the year available to the market. Therefore, winter seasons do give fishers the opportunity to harvest spring Chinook when prices are highest.

TABLE 4—Summary of expanded seasons in off-channel winter fisheries, 2013-2017. Includes year, date range of fisheries, number of fishing periods added, deliveries, Chinook landed, and percentage of the total winter-spring-summer catch for all Select Area sites combined.

Site	Year	Date Range	Periods	Deliveries	Chinook	% of Total
Tongue Point/ South Channel	2013	Feb 11-Mar 12	9	23	70	0.9%
	2014	Feb 10-Mar 14	10	17	33	0.7%
	2015	Feb 9-Mar 13	10	26	70	0.5%
	2016	Feb 8-Mar 11	10	41	109	1.0%
	2017	Feb 6-Mar 30	13	38	82	0.5%
	Average			10	29	73
Knappa Slough ^a	2013	Feb 11-Mar 12	9	2	6	0.1%
	2014	Feb 10-Mar 14	10	2	4	0.1%
	2015	Feb 9-Mar 20	12	3	10	0.1%
	2016	Feb 8-Mar 18	17	3	3	0.1%
	2017	Feb 6-Mar 31	20	0	0	0.0%
	Average			14	2	5

^a Some landings for Knappa Slough may have been reported as Blind Slough.

Summer seasons have occurred in Youngs Bay for many years, but starting in 2014, 5-7 fishing periods per year have been added to the early part of the existing summer season to provide additional harvest opportunity for late arriving Select Area spring Chinook (TABLE 5). For similar reasons, spring seasons in Blind Slough/Knappa Slough and Tongue Point/South Channel were extended into the summer timeframe beginning in 2015 and 2016, respectively. For Blind Slough/Knappa Slough and Tongue Point/South Channel combined, an average of 20 fishing periods, 147 deliveries, and 1,711 landed spring Chinook have been added annually during the summer timeframe. Although these additional landings have accounted for only about 12% of the combined landings during the winter, spring, and summer seasons for all Select Area sites, they do provide fishers with additional opportunity to catch late returning hatchery spring Chinook.

TABLE 5—Summary of expanded seasons in off-channel spring-summer fisheries, 2014-2017.^a Includes year, date range of fisheries, number of fishing periods added, deliveries, Chinook landed, and percentage of the total winter-spring-summer catch for all Select Area sites combined.

Site	Year	Date Range	Periods	Deliveries	Chinook	% of Total
Youngs Bay ^b	2014	Jun 16-Jul 8	7	--	--	--
	2015	Jun 16-Jul 7	6	--	--	--
	2016	Jun 16-Jul 7	6	--	--	--
	2017	Jun 19-Jul 6	5	--	--	--
	Average			6	--	--
Blind Slough/ Knappa Slough	2015 ^c	Jun 16-Jul 3	5	23	336	2.5%
	2016	Jun 16-Jul 19	10	75	858	8.2%

	2017	Jun 19-Jul 28	12	121	1,161	6.6%
		Average	9	73	785	5.7%
	2016	Jun 16-Jul 19	10	34	369	3.5%
Tongue Point/ South Channel	2017	Jun 19-Jul 28	12	114	1,483	8.4%
		Average	11	74	926	6.0%

^a Prior to 2017, fishing periods added between June 16 and July 30 in Blind Slough/Knappa Slough and Tongue Point/South were considered as extensions of the spring season. Beginning in 2017, they were categorized as “summer” seasons.

^b Because landings for Youngs Bay summer fishing periods planned pre-season and added in-season are combined, landings specific to the additional fishing periods are not available.

^c The first two periods were for both Blind Slough and Knappa Slough; last three periods were for Knappa Slough only.

Area Boundary Expansion: To determine if the boundaries of existing Select Area sites could be expanded to provide additional fishing area, test fishing was conducted in the spring and/or fall during 2011-2015 in areas adjacent to some current Select Area sites (Outer Youngs Bay, Lower Prairie Channel, Grant Slough, Upper Prairie Channel; FIGURE 1). Analysis of test fishing results indicated that any gains in fishing opportunity from the expanded areas would likely be offset by additional impacts on non-local stocks. Therefore, no expansions have been made to existing Select Area site boundaries.

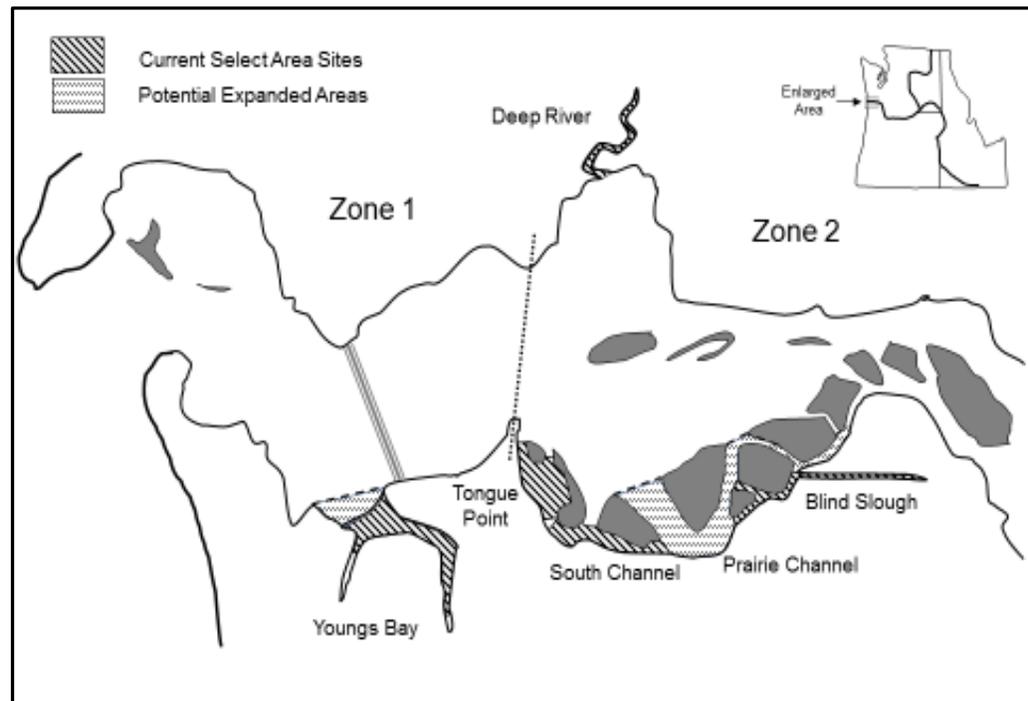


FIGURE 1—Current off-channel Select Area fishing sites and potential areas of expansion.

Evaluate the Feasibility of Establishing New Select Area (Off-Channel) Commercial Fishing Sites

ODFW evaluated potential new off-channel fishing sites in Clifton Channel (OR), Westport Slough (OR), Coal Creek Slough (WA), and Bradbury Slough (OR) from 2014 through 2016. WDFW conducted spring test fishing in Cathlamet Channel (WA)

during 2013-2017 to evaluate its potential as a new off-channel fishing site (FIGURE 2). ODFW’s evaluation concluded that Westport Slough and Coal Creek Slough could potentially be developed as spring season Select Area sites based on the results of adult test fishing; however, both sites currently lack suitable locations for juvenile fish acclimation facilities (TABLE 6). Without a viable location for acclimation facilities and landowner permission to access the location, smolt releases cannot occur at the sites, and a fishery cannot be developed. In addition, WDFW’s test fishing results indicate that the spring Chinook catch to date in Cathlamet Channel has consisted of non-local stocks. This is likely due to the poor survival of spring Chinook released into Cathlamet Channel. The incidental catch of steelhead has also been high in certain parts of the channel. WDFW plans to continue test fishing in Cathlamet Channel in the spring of 2018.

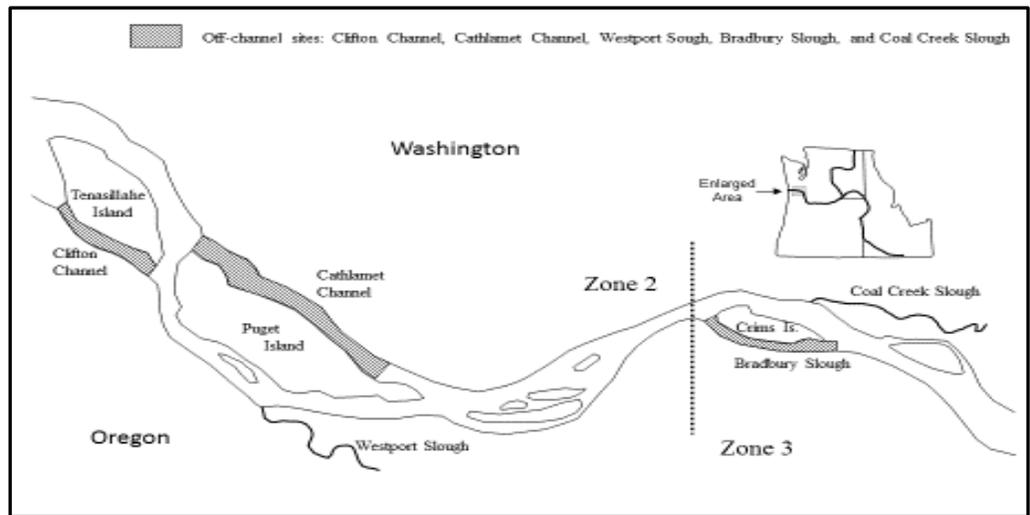


FIGURE 2—New off-channel sites evaluated for potential fisheries development.

TABLE 6—Overall assessment of potential new Select Area sites.

Evaluation Site	Adult Assessment	Juvenile Assessment
Clifton Channel	<ul style="list-style-type: none"> Excessive catch of upriver spring Chinook 	<ul style="list-style-type: none"> Lacking acclimation infrastructure/site Questionable homing source/ potential for straying
Westport Slough	<ul style="list-style-type: none"> Spring: OK for development based on adult test fishing Fall: Natural origin Coho present 	<ul style="list-style-type: none"> Lacking acclimation infrastructure/site; access permission contingent on Kerry West expansion Potential straying to Clatskanie
Bradbury Slough	<ul style="list-style-type: none"> Upriver spring Chinook catch could lead to ineffectual use of Select Area allocation 	<ul style="list-style-type: none"> Insufficient homing source; potential for straying
Coal Creek Slough	<ul style="list-style-type: none"> Spring: OK for development based on adult test fishing 	<ul style="list-style-type: none"> Lacking acclimation infrastructure/site No access permission at existing dock Potential water quality issues (temperature, D.O.)

ANALYSIS

Another policy objective adopted in rule by the Commission is: “develop and implement selective fishing gear and techniques for commercial mainstem fisheries to optimize conservation and economic benefits consistent with mainstem recreational objectives” (OAR 635-500-6705(8)). Since 2009, Oregon and Washington fisheries staff have been evaluating alternative gear types for use in Columbia River commercial fisheries. Department funding for this research has been from base budget, federal Mitchell Act research funds, and from funding appropriated and authorized through SB 830 passed by the Oregon legislature in 2013 (both general fund and Columbia Basin Endorsement fee).

2016-2017 Results

During 2016 and 2017, two types of alternative fishing gears (floating fish trap and pound net) were tested to evaluate their feasibility for use in mainstem mark-selective commercial fisheries, and post-release mortality studies were conducted for salmon released from tangle nets, seines, and the pound net. The following is a brief summary of the results:

Floating Fish Trap

In 2016, a new floating fish trap design was tested by a contracted commercial fisher and ODFW in the lower Columbia River near Jim Crow Point, Washington (RM 29) and Woody Island, Oregon (RM 29) from August 25 to October 29. Test fishing results were extremely poor in 2016, with only seven Coho jacks, three steelhead, and one White Sturgeon captured in the trap during 16 days of fishing. Previous versions of the floating fish trap were tested in 2009 and 2010 with only slightly better results (TABLE 7). Based on recent testing of similar types of trap nets in the lower Columbia (e.g. arrow net and early versions of the pound net), we suspect that the low catch rates for the floating fish trap may have been due to fish swimming under the lead, rather than following it into the trap. The strong currents of the Columbia make it extremely difficult to keep the bottom of the lead net on the riverbed, especially for trap designs that rely solely on anchors or weights to accomplish this. There are currently no plans for further testing of the floating fish trap.

TABLE 7—Summary of catch and effort for the floating fish trap, 2009-2010 and 2016.

Year	Fisher- Fishers	Days	Sets	Adult Chinook ¹		Chinook Mark Rate	Adult Chinook/Set	Adult Coho ¹		Adult Coho Mark Rate	Marked Adult Coho/Set	Total Steelhead	Steelhead Per Marked Adult Salmon
				Marked	Unmarked			Marked	Unmarked				
2009	1	15	15	0	1	0%	0.0	26	8	76%	1.7	0	0.0
2010	2	60	100	14	11	56%	0.1	45	16	74%	0.5	4	0.1
2016	1	16	33	0	0	--	0.0	0	0	--	0.0	3	--
Total	4	91	148	14	12	54%	0.1	71	24	75%	0.5	7	0.1

¹Table does not include any adult Chinook or Coho whose fin-mark status could not be determined.

Pound Net

A pound net trap was test fished in the lower Columbia River near Cathlamet, Washington (RM 42) in 2013, 2016, and 2017. The initial feasibility evaluation in 2013 was conducted by a commercial fisher who designed and operated the trap with monitoring conducted by WDFW. Effort was limited to 10 days in late September through early October, with 9 salmonids caught. Testing of the pound net in 2016 was a joint effort between the commercial fisher, the Wild Fish Conservancy (WFC), and WDFW, and occurred from August 25 to September 29. The 2017 evaluation was conducted by the commercial fisher and WFC from August 26 to September 29. In 2017, WFC conducted a post-release mortality study for Chinook and steelhead based on a Ricker Two-Release mark-recapture methodology. Pound net catch rates for marked adult Chinook and Coho were low in 2016, averaging just over one marked

adult salmon per fisher-hour (TABLE 8). In addition, 1.3 steelhead were caught for every marked adult salmon. Mark rates in 2016 were moderately high—58% for Chinook and 68% for Coho. A modified design in 2017 appeared to significantly improve catch rates for marked adult Chinook and Coho (3-4 times higher than 2016), and decreased the ratio of steelhead to marked adult salmon by about one-third. However, mark rates were lower in 2017, and the aggregate mark rates for 2016-2017 of 51% for Chinook and 53% for Coho suggest that almost half of the adult salmon caught in a commercial pound net during the late August-September timeframe would need to be released under mark-selective regulations. The percentage of jacks in the combined Chinook and Coho catch was also relatively high—27% in 2016 and 16% in 2017. For comparison, 11% of Chinook and Coho passing Bonneville Dam during the timeframe fished by the pound net in 2016 were jacks, and 10% were jacks in 2017. In 2016, the species composition of the pound net salmonid catch (including jacks) consisted of 25% Chinook, 37% Coho, and 38% steelhead. In 2017, Chinook comprised 38% of the catch, Coho 49%, and steelhead 13%. To date, immediate mortalities in this gear type have been low, primarily limited to jack salmon. In 2017, there were only two adult salmonid immediate mortalities—one Chinook and one Coho. Preliminary post-release survival estimates calculated by WFC for adult Chinook and steelhead were high and are shown in TABLES 9 and 10, respectively. Cumulative survival (including immediate) from capture to McNary Dam was estimated as 99.6% for adult Chinook and 94.0% for steelhead.

TABLE 8—Summary of catch and effort for the Cathlamet Pound Net, 2016-2017.

Year	Fishing Days	Fisher-Hours ¹	Adult Chinook ²		Adult Chinook	Marked Adult Chinook/	Adult Coho ²		Adult Coho	Marked Adult Coho/	Total Steelhead	Steelhead Per Marked Adult Salmon
			Marked	Unmarked	Mark Rate	Fisher-Hour	Marked	Unmarked	Mark Rate	Fisher-Hour		
2016	30	516	245	180	58%	0.5	374	172	68%	0.7	816	1.3
2017	33	581	1,089	1,121	49%	1.9	1,464	1,439	50%	2.5	921	0.4
Total	63	1,097	1,334	1,301	51%	1.2	1,838	1,611	53%	1.7	1,737	0.5

¹Assumes a minimum of two fishers operating the trap.

²Table does not include any adult Chinook or Coho whose fin-mark status could not be determined.

TABLE 9—Relative post-release survival of adult fall Chinook captured in the Cathlamet Pound Net, 2017.

Component	Group	<i>n</i> ¹	Recaptures	Survival	Lower 95% CI	Upper 95% CI
Short-Term (Gear to Bonneville)	Control	978	572	--	--	--
	Treatment	1,091	619	0.970	0.901	1.045
Long-Term (Bonneville to McNary)	Control	572	233	--	--	--
	Treatment	619	259	1.027	0.897	1.177
Cumulative (Gear to McNary)	Control	978	233	--	--	--
	Treatment	1,091	259	0.996	0.854	1.164

¹Number of fish tagged for short-term and cumulative components; number of fish successfully reaching Bonneville for long-term component.

TABLE 10—Relative post-release survival of steelhead captured in the Cathlamet Pound Net, 2017.

Component	Group	<i>n</i> ¹	Recaptures	Survival	Lower 95% CI	Upper 95% CI
Short-Term (Gear to Bonneville)	Control	383	308	--	--	--
	Treatment	409	316	0.961	0.893	1.033
Long-Term (Bonneville to McNary)	Control	308	263	--	--	--
	Treatment	316	264	0.978	0.914	1.047
Cumulative (Gear to McNary)	Control	383	263	--	--	--
	Treatment	409	264	0.940	0.851	1.038

¹Number of fish tagged for short-term and cumulative components; number of fish successfully reaching Bonneville for long-term component.

Further testing of the pound net is uncertain at this time. In 2018, there may be additional test fishing of the pound net during the fall timeframe, and a second year of the post-release mortality study. In addition, there may be some testing of the pound net during the spring and/or summer timeframes. A comprehensive assessment of the pound net, including an analysis of economic viability, would be necessary before a pilot fishery using commercial impacts can be implemented.

Coho Tangle Net Mortality Study

In October of 2015 and 2016, ODFW conducted a post-release mortality study for adult Coho salmon captured in tangle nets, using a net-pen confinement study design. All Coho treatment groups were held for two days in net pens near Astoria, Oregon (RM 18), and a subset of treatment groups was held for an additional six days to assess both short-term and long-term mortality. Most test fishing occurred within 0.5-2.0 miles of the net pens. Post-release mortality estimates were similar between years, and were combined with the average immediate mortality rate observed during 2013-2015 Coho tangle net fisheries to calculate a cumulative mortality rate. The average cumulative mortality rate for the two years of the study was 23.6% (TABLE 11). ODFW plans to have this mortality rate reviewed by the *U.S. v. Oregon* Technical Advisory Committee (TAC) for potential use in future commercial Coho tangle net fisheries.

TABLE 11—Estimated mortality rates for adult Coho caught and released from tangle nets in the lower Columbia River, 2015-2016.

	Immediate ¹		Short-Term		Long-Term		Cumulative ²
	%	n	%	n	%	%	
2015	12.5%	265	7.5%	61	4.9%	23.0%	
2016	12.5%	269	8.2%	71	5.6%	24.2%	
Avg						23.6%	

¹ Weighted average of immediate mortality rates from observation of Coho tangle net fisheries during 2013-2015 (range 6.9% - 14.5%; n = 727 for all years combined).

² Calculated by multiplying immediate, short-term, and long-term survival rates (1 - mortality rate).

Fall Seine Mortality Study

In late September and October of 2017, WDFW conducted a post-release mortality study for adult Chinook and Coho captured in purse seines, using a net-pen confinement study design. Treatment fish were transported in holding tanks on the purse seine boats from the test fishing area near Rooster Rock, Oregon (RM 129) to net pens located near Skamania Landing, Washington (RM 140). Control fish were collected at the Bonneville Dam Adult Fish Facility (AFF), transported by tanker truck to the net pen site, and placed in the pens with treatment fish for a 48-hr period to assess short-term mortality. Study results are not yet available.

ANALYSIS

Pre-season Planning

In 2017, management guidelines for the harvest of upriver spring Chinook were based on forecasted run-sizes to the Columbia River mouth of 160,400 adult upriver spring Chinook and 38,090 adult Willamette spring Chinook, Commission policies, and catch-balance provisions under the *U.S. v. Oregon* Management Agreement.

Actual Returns

The actual return of adult upriver spring Chinook was 115,821 or 72% of the pre-season forecast. The actual return of adult Willamette spring Chinook to the Columbia River was 50,774 or 133% of forecast.

A total of four Columbia River Compact (commercial fisheries) and five Joint State Hearing (recreational fisheries) meetings were held during the spring season. Eight TAC meetings occurred during the spring management period, resulting in five formal run size updates for upriver spring Chinook. The first update occurred on May 15 (later than usual), resulting in a run downgrade, although there was great uncertainty about the status of the run until late May, due to the extreme lateness of 2017 passage at Bonneville. The 50% passage completion date in 2017, May 21, was the latest on record by 9 days. On May 25, the run was further revised up to 108,000 upriver spring Chinook. Subsequent in-season updates put the adult upriver spring Chinook run size at 118,000 and 115,000, respectively.

Recreational Fisheries*Downstream from Bonneville Dam*

Seasons: Prior to a run size update, the recreational fishery downstream from Bonneville Dam was planned pre-season for Chinook retention from Buoy 10 to the I-5 Bridge during January 1-February 28 (by permanent rule), then March 1 through April 6 from Buoy 10 upstream to Bonneville Dam, with the area between Beacon Rock and Bonneville Dam open to bank fishing only. Furthermore, the states adopted a closure around the mouth of the Lewis River (RM 87) since the Lewis run size forecast was less than the hatchery escapement goal. High river flows led to poor fishing conditions and unusually low catch rates during March and early April. As a result, the recreational fishery was well below its pre-run size update catch guideline, and the fishery was extended through April 10. With catch rates still relatively low during the first extension, two more fishing periods were added to the season (April 13-17 and April 20-23). Catch rates improved significantly during the April 20-23 opener and the recreational fishery downstream from Bonneville Dam closed on April 24. In total, angling was open for 50 of a possible 107 days from March 1 through June 15, including 19 days in April.

Harvest/Angler Trips: An estimated 9,047 adult spring Chinook of all stocks were kept and 943 were released from 63,303 angler trips downstream of Bonneville Dam. In addition, 175 jack Chinook and 137 steelhead were also kept. The catch rate averaged one adult Chinook kept for every 7.0 angler trips.

The recreational fishery downstream from Bonneville Dam used 7,198 adult upriver spring Chinook (kept plus release mortalities), which due to the downgrade in final run size resulted in using 114% of the post-season mortalities allowed for this fishery

under the *U.S. v. Oregon* catch balancing agreement and Commission allocation policies.

Upstream of Bonneville Dam

Seasons: Prior to the run size update, anglers were allowed to retain spring Chinook from March 16 through May 5 from Bonneville Dam upstream to the Oregon/Washington border. Although the fishery was tracking well behind expectations in early May, with the upriver spring Chinook return tracking late and smaller than expected, the states opted not to extend the fishery.

In Washington state waters of the Snake River, recreational spring Chinook fisheries were open two days per week for three weeks in three areas of the Snake—the area downstream of Ice Harbor Dam (opened April 28), the area downstream of Little Goose Dam (opened April 30), and the area near Clarkston, Washington (opened April 30). Considering the May 15 run downgrade and harvest levels from downriver fisheries, all areas of the Snake River were closed on May 15 after the third fishing period.

Harvest/Angler Trips: An estimated 15 adult Chinook were kept from 1,150 angler trips in the Bonneville to OR/WA border area. An additional 27 adult Chinook were released. The catch rate averaged one adult Chinook kept for every 77 angler trips. In the Snake River, anglers kept 65 adult spring Chinook and released 8 fish.

Recreational anglers between Bonneville Dam and the OR/WA border and in the Snake River used 2% and 12% of their respective allocations.

Non-Tribal Commercial Fisheries

Mainstem

Commission policy allocated 20% of the non-treaty share of the available catch balance/ESA impacts for upriver spring Chinook to the commercial fishery in 2017, and specified that it should be prioritized for use in Select Area fisheries. Oregon policy allowed any remaining catch balance/impacts to be utilized for a mainstem tangle net fishery after the run size update. In contrast, Washington policy prohibited any mainstem commercial spring Chinook fishery. Commercial impacts for upriver spring Chinook were fully utilized in Select Area fisheries in 2017 (TABLE 12).

TABLE 12—Summary of upriver spring Chinook catch balance and ESA-impact sharing in 2017 non-tribal fisheries. ^{a, b}

		Catch Balance			ESA Impacts		
		Pre-allowed	Post-allowed	Actual	Pre-allowed	Post-allowed	Actual
Commercial	Mainstem	0	0	0	0.000%	0.000%	0.000%
	Select Area	610	347	463	0.380%	0.300%	0.400%
	Total	610	347	463	0.380%	0.300%	0.400%
Recreational	Below BON	6,905	6,334	7,198	0.990%	0.900%	0.683%
	BON-OR/WA Border	921	845	18	0.132%	0.120%	0.004%
	Snake River	863	568	66	0.198%	0.180%	0.313%
	Total	8,689	7,747	7,282	1.320%	1.200%	1.000%
Total Non-Tribal		9,299	8,094	7,745	1.700%	1.500%	1.400%

^a Includes release mortalities.

^b All data preliminary and subject to change.

Select Area (Off-Channel)

Select Area winter and spring commercial fisheries were open in Youngs Bay, Tongue Point/South Channel, Blind Slough/Knappa Slough, and Deep River. Participation and harvest are summarized in TABLE 13.

TABLE 13—Summary of 2017 winter/spring Select Area seasons.

Site	Season	Dates	Fishing Periods	Deliveries Per Period	Chinook
Youngs Bay		Feb 6-Apr 17	28	0-28	630
Tongue Point/South Channel	Winter	Feb 6-Mar 30	13	0-8	82
Blind Slough/Knappa Slough		Feb 6-Apr 18	26	0-15	136
Deep River		Feb 6-Mar 31	16	0-2	8
Subtotal					856
Youngs Bay		Apr 20-Jun 15	29	12-71	7,346
Tongue Point/South Channel	Spring	Apr 20-Jun 14	14	4-18	1,952
Blind Slough/Knappa Slough		Apr 20-Jun 13	16	12-20	1,964
Deep River		Apr 20-May 19	9	0-1	13
Subtotal					11,275
Total					12,131

Harvest in Select Area winter and spring commercial fisheries of 12,131 Chinook was 163% of the recent 5-year average and the best since 2010. A total of nine fishing periods were rescinded in-season to avoid exceeding ESA limitations and catch balance guidelines; however, even with these season reductions, Select Area commercial fisheries used 133% of their post-season allocation (TABLE 12).

ISSUE 5

2017 FISHERIES REVIEW - SUMMER CHINOOK AND SOCKEYE

ANALYSIS

Pre-season Planning

In 2017, management guidelines for the harvest of summer Chinook were based on a forecasted run-size to the Columbia River mouth of 63,100 adults. Fishery allocations were based on the *U.S. v. Oregon* Management Agreement and Commission policy for sharing of harvest allocations downstream of Priest Rapids Dam. The combined pre-season harvest guideline for adult summer Chinook in non-treaty fisheries downstream of Priest Rapids Dam was 3,906 fish, with 3,125 allocated to recreational fisheries and 781 for commercial fisheries.

Based on the pre-season Sockeye forecast of 198,500 and a one percent ESA limit on Snake River Sockeye, the combined management guideline in all non-tribal fisheries was 1,985 fish.

Actual Returns

The actual return of adult summer Chinook was 68,204 (hatchery and wild) or 108% of the pre-season forecast, and the actual return of Sockeye was 88,263 or 45% of the forecast. The Sockeye return was only 27% of the recent 10-year average return. The Snake River Sockeye return consisted of 445 fish.

A total of two Joint State hearings were held during the summer season. Three TAC meetings occurred during the period, resulting in two formal run-size updates for summer Chinook. Both in-season run size updates were higher than the pre-season

forecast of 63,100 summer Chinook, but the run size upgrade on July 5 of 74,100 was later lowered to 68,700 on July 17.

Recreational Fisheries

Downstream from Bonneville Dam

The 2017 recreational summer Chinook fishery was scheduled to open for adipose fin-clipped Chinook during June 16-July 31 from the Astoria-Megler Bridge upstream to Bonneville Dam with a daily limit of two adult hatchery fish. The guideline for the recreational fishery below Bonneville Dam was 2,656 adult summer Chinook (including release mortalities) based on the adult run size forecast of 63,100 fish. Sockeye retention was allowed in conjunction with the summer Chinook fishery through July 31 based on the forecast for 198,500 fish. Summer Chinook catch rates in late June were good, and with a higher than expected mark rate (~66%), catches accumulated quickly and the states closed the fishery on July 1. TAC upgraded the summer Chinook run on July 5 to 74,100 and the fishery was re-opened from July 7 through July 31 due to the increased number of available fish at this run size. Totals for the summer Chinook season include 3,516 kept adult summer Chinook (2,248 released), 264 kept Sockeye (71 released), and 1,439 kept summer steelhead (1,042 released) from 41,595 angler trips. The kept summer Chinook catch was the fourth highest since 2000, but the summer steelhead catch was the lowest since the mid-1970s. The final post-season allocation for the recreational fishery downstream from Bonneville Dam was 3,227 adult summer Chinook. Of this total, the fishery used 3,853 fish (including release mortalities), or 119% of its sub-allocation (TABLE 14).

Bonneville Dam to Priest Rapids Dam

Prior to 2017, in-season catch estimates for this fishery were based on limited creel efforts and were updated post-season with catch record card data when available. Beginning in 2017, estimates of catch and effort are provided by robust creel programs implemented by ODFW (area between Bonneville Dam and McNary Dam) and WDFW (area upstream of McNary Dam). The 2017 fishery was open June 16-July 31 and was mark-selective for Chinook. Catch estimates total 248 kept adult summer Chinook (94 released) and 888 kept Sockeye from 5,173 angler trips. The final allocation for the recreational fishery from Bonneville Dam to Priest Rapids Dam was 570 adult summer Chinook. Of this total, the fishery used 262 fish (including release mortalities), or 46% of its sub-allocation (TABLE 14).

The combined 2017 harvest of adult summer Chinook in recreational fisheries downstream of Priest Rapids Dam was 4,115 fish, or 108% of the 3,797 post-season allocation.

Non-Tribal Commercial Fisheries

Mainstem

Commission policy required that any mainstem commercial summer Chinook fishery use alternative gears beginning in 2017. Department staff have evaluated some alternative gears for potential use in summer mainstem commercial fisheries; however, no viable gear has been identified to date. Beach seines, purse seines, and an “arrow net” trap were tested during the summer season, but handle of Sockeye and summer steelhead were high in these gears and would pose problems with impacts on ESA-listed stocks. The feasibility of a summer commercial hook and line fishery was assessed by analyzing guide and non-guide catch rate data for the recreational summer

Chinook fishery (the closest existing metrics for a potential commercial counterpart). This analysis indicated that a commercial hook and line fishery for summer Chinook would be marginally viable economically, but only if most commercial fishers had the hook and line expertise/experience equivalent to guides, and if the fishery was implemented as a full retention fishery (not mark-selective). The latter could cause conflicts with recreational fishers whose summer Chinook fishery is mark-selective. Commercial and recreational fishers would also be in direct competition for prime fishing spots during the season. Without a viable alternative gear, no mainstem commercial summer Chinook fishery was implemented in 2017.

Select Area (Off-Channel)

Select Area summer commercial fisheries occur in Youngs Bay to harvest late hatchery spring Chinook and early-returning Select Area Bright hatchery fall Chinook, as opposed to upriver summer Chinook targeted in mainstem fisheries. The 2017 summer season in Youngs Bay was open for 4 days per week from June 19 through June 30, 3 days from July 3 through July 6, and 2 days per week from July 11 to July 27. The Youngs Bay summer fishery landed 2,822 Chinook (primarily late spring Chinook), the highest landings since summer seasons were first implemented there in 1999. Summer seasons also occurred in Blind Slough/Knappa Slough and Tongue Point/South Channel in 2017. These were basically extensions of the spring season made in-season to harvest late arriving hatchery spring Chinook (see Select Area Season Expansion; TABLE 5). Summer season landings for Blind Slough/Knappa Slough and Tongue Point/South Channel were 1,161 and 1,483 Chinook, respectively. Select Area fisheries used 5% of the commercial summer Chinook allocation (TABLE 14). Considering the combined overage in recreational summer Chinook fisheries downstream of Priest Rapids Dam, which was primarily due to the late run size downgrade, about 2/3rds of the unused commercial allocation was passed upstream for conservation, compared to 100% as directed by Oregon Commission guidance.

TABLE 14—2017 non-treaty summer Chinook fisheries summary. ^a

	Pre-Season	Post-Season		
Run size at Columbia River mouth:	63,100	68,204		
			Allowed	Actual
Fishery			Pre	Post
				Take
				Allowed
PFMC Ocean Fisheries	4,500	4,500		4,500
Below Priest Rapids Dam (PRD)				
Commercial Below BON ^b	781	949		47
Recreational Below BON	2,656	3,227		3,853
Recreational BON to PRD	469	570		262
Below PRD Total	3,906	4,746		4,162
Above Priest Rapids Dam (PRD)				
Wanapum Tribal	300	300		158
Colville Tribal	4,347	4,884		1,578
Recreational Above PRD	4,047	4,584		4,325
Above PRD Total	8,694	9,768		6,061
Non-Treaty Total	17,100	19,014		14,724
				77%

^a All data preliminary and includes kept and release mortalities.

ANALYSIS

Pre-season Planning

In 2017, catch expectations for the harvest of fall Chinook and Coho in recreational and non-tribal commercial fisheries were based on forecasted run-sizes to the Columbia River mouth of 613,800 adult fall Chinook (including 275,200 upriver brights, of which 12,400 were Snake River wild stock) and 319,300 adult Coho. The fall Chinook forecast was similar to the 2016 return and well below the 5-year average return. In addition, a poor forecast of 130,700 upriver summer steelhead (including only 1,100 wild B-Index steelhead) played a significant role in pre-season planning for fall fisheries. Fisheries were modeled based on allowable ESA-impacts, including Commission policy allocations of LCR natural tule and Snake River fall Chinook, wild A/B-Index steelhead and LCN Coho limits, and recreational season objectives specified in Commission policy.

Actual Returns

The actual return of adult fall Chinook was 475,900, (78% of forecast). Approximately 72% of the return was mid-Columbia and upriver bright fall Chinook. The actual return of lower Columbia hatchery (and LCR natural tule) fall Chinook was below expectations, resulting in higher impact rates than estimated in-season. Approximately 317,300 adult fall Chinook passed Bonneville Dam in 2017. The actual Coho return to the Columbia River was approximately 235,500, (74% of forecast).

A total of eight Columbia River Compact and/or Joint State hearings were held during the fall season. Ten TAC meetings occurred during the fall, resulting in four formal run-size updates for upriver fall Chinook, though upriver Chinook stocks were not a constraint for fall fisheries. The LCR fall Chinook run cannot be updated in-season. The number of returning wild B-Index steelhead was expected to be low (1,100), and in-season updates appeared to confirm this, although there was much uncertainty about the in-season stock proportions and as a result in-season updates of this run were highly variable. Fall recreational fishery regulations were modified throughout the mainstem Columbia River to reduce impacts to wild B-index steelhead, and wild B-Index steelhead impacts substantially constrained fall mainstem commercial fishery opportunities. Based on post-season run reconstruction, the current actual wild B-Index steelhead estimate for 2017 is 751 fish.

Recreational Fisheries

Seasons:

Buoy 10 to Tongue Point: The fishery was open for Chinook retention from August 1 through September 4 (Labor Day) as planned pre-season in accordance with Commission policy. The daily bag limit was two fish/one Chinook. For the first time since 2012, the fishery was prosecuted without any mark-selective regulations for Chinook. Chinook retention reopened October 1 with a bag limit of two Chinook. Retention of adipose fin-clipped Coho was allowed throughout the fall season (August

1-December 31); steelhead retention was prohibited during August. The Youngs Bay Control Zone was again implemented from August 1–September 15.

Tongue Point to Warrior Rock: The fishery opened for Chinook retention August 1 with a daily bag limit of two fish/one Chinook; steelhead retention was closed during the month of August. Chinook retention continued through September 14 with retention restricted to hatchery Chinook during September 8-14, per policy. The fishery reopened to adult Chinook (fin-clipped or not) retention October 1 with a two fish/two Chinook daily bag limit.

Warrior Rock to Highway 395 Bridge (near Pasco, Washington): The fishery was open to adult Chinook and Coho retention throughout the fall season with a two fish/two Chinook daily bag limit. Steelhead retention was prohibited during August upstream to The Dalles Dam, during September from The Dalles Dam upstream to McNary Dam, during October from John Day Dam upstream to Highway 395, and during November from McNary Dam to Highway 395.

Buoy 10 to Highway 395 Bridge: Several other temporary regulations were in place for the 2017 fall season to reduce take of steelhead in recreational fisheries. For the entire fall season, the daily salmonid bag limit could not include more than one hatchery steelhead when retention was allowed. Night angling was limited to registered anglers fishing for Northern Pikeminnow. Oregon anglers are prohibited from fishing for steelhead at night under permanent rules, but Washington anglers are normally allowed to fish at night.

The “party rule” was again in place allowing each legal angler aboard a vessel to deploy angling gear until the daily bag limit of salmon/steelhead for all anglers aboard the vessel was achieved.

Harvest/Angler Trips:

Buoy 10 to Tongue Point: An estimated 28,398 adult Chinook (hatchery and wild) and 18,834 adult hatchery Coho were kept from 93,547 angler trips. An additional 6,199 Chinook and 12,793 Coho were released. Kept catches for both Chinook and Coho exceeded pre-season expectations even though both run sizes were smaller than expected. The kept Chinook catch was also the 4th highest since 1982. For the season, the catch rate averaged one adult salmon kept for every 2.0 angler trips. Preliminary post-season impacts for LCR natural tule and Snake River wild Chinook exceeded pre-season expectations by 8% and 38%, respectively. Since 2012, the percentage of the total angler trips and kept salmon catch in the Buoy 10 fishery attributed to guides and their clients has steadily grown to about 23% of the trips and 33% of the catch in 2017 (FIGURE 3). Increased concentration of the catch within an angler subgroup with higher than average catch rates, and higher than average effort (rods per boat, days fished per season), may explain why managing the Buoy 10 fishery within allowable impacts in an objective-based framework has become more challenging in recent years.

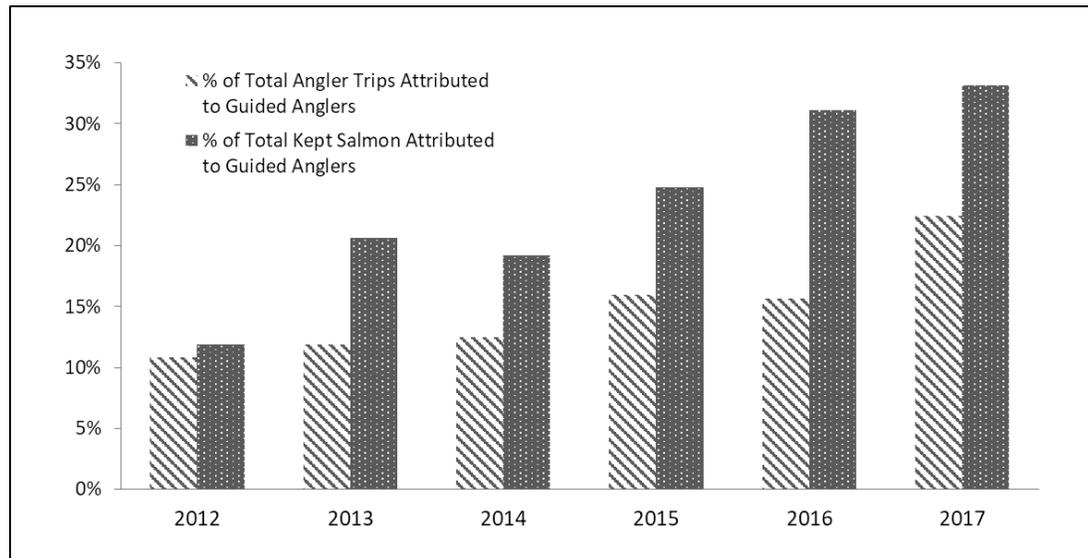


FIGURE 3—Percentage of angler trips and kept Chinook and Coho in the Buoy 10 fishery attributed to guided anglers, 2012-2017.

Tongue Point to Bonneville Dam: An estimated 26,138 adult Chinook and 3,114 adult hatchery Coho were kept from 114,721 angler trips. An additional 2,846 Chinook and 1,488 Coho were released. The kept Coho catch in 2017 was about three times the typical mainstem Coho catch, and was unexpected given the relatively low return. The Chinook catch rate averaged one adult kept for every 4.4 angler trips.

The total mortality of adult Chinook in the fishery of about 26,700 was 122% of the pre-season expectation of 21,900, even with the smaller run size. Preliminary post-season impacts on LCR natural tule Chinook for this fishery were lower-than-expected pre-season (1.3% vs 1.5%), but higher-than-expected for SRW Chinook (6.2% vs 5.4%).

Upstream from Bonneville Dam: An estimated 5,800 adult Chinook and 1,800 adult Coho were kept from 21,200 angler trips in fisheries from Bonneville Dam upstream to McNary Dam based on an ODFW creel program first implemented in fall 2016. The kept Chinook catch exceeded the pre-season expectation of 4,080 fish.

Non-Tribal Commercial Fisheries

Mainstem

Chinook Fisheries

Early fall mainstem commercial fisheries consisted of five periods targeting Chinook from August 22-September 1 in Zones 4-5 with a 9-9¾-inch mesh restriction. All early fall fishing periods were nine hours in length. The weekly landing limit was six sturgeon per vessel. Fishers landed 13,959 Chinook, 218 Coho, and 485 White Sturgeon with deliveries ranging from 96 to 122 per period.

Late fall commercial fisheries targeting Chinook were limited to two 10-hour periods using 9-9¾-inch gear from September 17-20 in Zones 4-5, and these periods were added in-season based on the late timing of the fall Chinook run and updates on available wild B-Index steelhead impacts. Landings for the late fall fishery included 5,439 Chinook, 713 Coho, and 239 White Sturgeon. Combined landings for both seasons totaled 19,398 Chinook, 931 Coho, and 724 White Sturgeon. The Chinook

catch was 42% of the expected catch of 45,900. The weekly landing limit was five steelhead per vessel.

Commercial Fishery Observations:

ODFW and WDFW were directed by their respective Commissions to conduct observations of the fall Zone 4-5 gillnet fishery in 2017. The intent was to collect additional data on the incidental catch in the Zone 4-5 fishery, particularly for steelhead. The Departments used a systematic random sampling design to place 14-20 observers on randomly selected fishing vessels throughout the fishing area during each open fishing period. Observers were placed by Department boats just prior to the start of each fishing period. Each observer remained on his/her assigned vessel for the duration of the trip to get a complete accounting of the vessel’s catch. A summary of observation results is provided in TABLE 15.

TABLE 15—2017 Zone 4-5 fishery observation summary.

Date	Vessels	Drifts	Chinook	Coho	Observed				Comment
					Steelhead A-Index	Steelhead B-Index	Steelhead Mortality Rate	White Sturgeon	
Aug 22-23	19	106	581	5	28	0	25%	130	No B-Index steelhead handled
Aug 24-25	20	97	473	5	18	2	20%	103	All observed steelhead mortalities were A-Index fish
Aug 27-28	20	93	1,110	30	22	1	30%	121	All observed steelhead mortalities were A-Index fish
Aug 29-30	19	82	315	8	5	0	0%	60	No B-Index steelhead handled
Aug 31-Sep 1	20	92	296	5	5	0	40%	50	No B-Index steelhead handled
Sep 17-18	14	68	460	47	6	4	56%	125	One steelhead with unknown condition
Sep 19-20	16	103	503	101	25	8	13%	102	All observed steelhead mortalities were A-Index fish
Totals	128	641	3,738	201	109	15	24%	691	

An average of 19% of the vessels participating during each fishing period were observed, and 19% of the landed Chinook were observed. The compliance rate among vessels approached for observation was 94%. A total of 124 steelhead were observed on 641 drifts. The number of salmon observed per steelhead was 32. The observed immediate mortality rate for all steelhead was 23.8%. The immediate mortality rate for A-Index steelhead was 24.1% and for B-Index steelhead it was 21.4%. A total of 691 White Sturgeon were observed, including 157 legal-size sturgeon kept, and 28 legal, 361 sublegal, 140 over-legal, and 5 unknown size-class sturgeon released.

Coho Fisheries

No mainstem Coho tangle net fisheries were implemented in 2017 (Coho 6-inch gillnet fisheries prohibited by policy beginning in 2017) because the limited wild B-Index steelhead impacts available for commercial fisheries were prioritized for use in Chinook-directed fisheries, which have much higher economic value. Given steelhead run size and stock proportion data available in early October, it was estimated that the commercial fishery had used 99% of the commercial share of wild B-Index impacts available at the time, and no impacts were available for a mainstem Coho fishery.

Seine Fisheries

No commercial fall seine fisheries were conducted in 2017. Steelhead handle in past seine fisheries has been relatively high, and even with a relatively low mortality rate, operation of seine fisheries in 2017 would have substantially reduced the economic performance of the fall commercial season.

Select Area (Off-Channel)

Select Area fall commercial fisheries were open in Youngs Bay, Tongue Point/South Channel, Blind Slough/Knappa Slough, and Deep River. Combined fall Chinook landings were the lowest since 2009 and continued a downward trend since 2015.

Although combined Coho landings were improved for the second consecutive year, they were still well below the previously modelled expectations (TABLE 16; FIGURE 4).

TABLE 16—Summary of participation and harvest in 2017 Select Area fall seasons.

Site	Dates	Fishing Periods	Deliveries Per Period	Chinook	Coho
Youngs Bay	Aug 1-Oct 31	64	0-57	6,277	13,603
Tongue Point/South Channel	Aug 28-Oct 27	34	0-33	2,251	12,534
Blind Slough/Knappa Slough	Aug 28-Oct 27	34	0-12	1,636	2,460
Deep River	Aug 21-Oct 13	35	3-23	1,870	9,382
Total				12,034	37,979

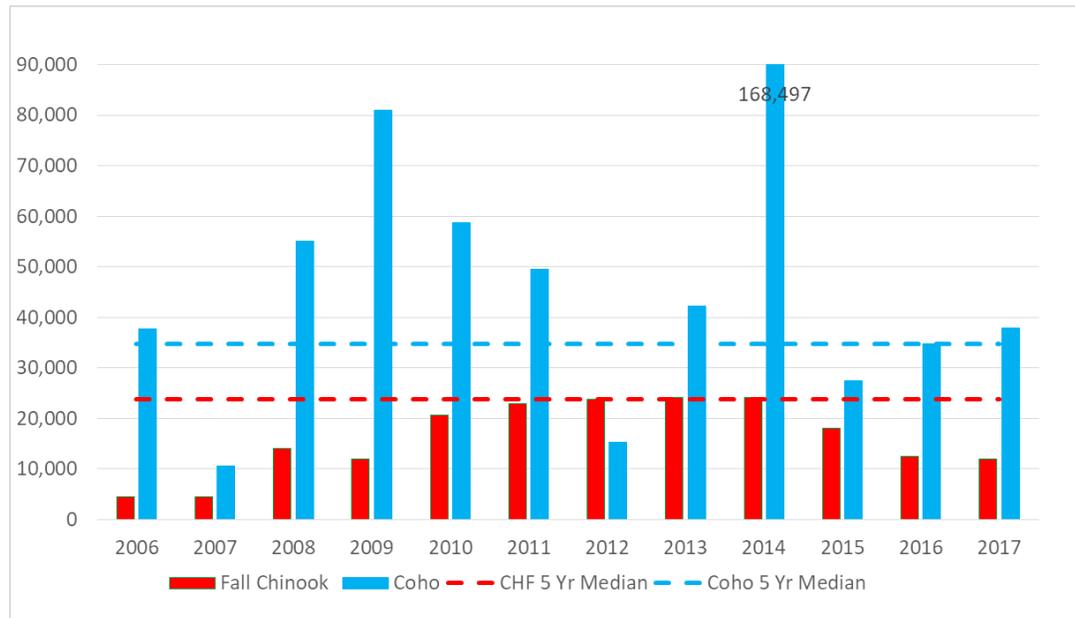


FIGURE 4—Fall Chinook and Coho landings in Select Areas, 2006-2017.

The 2017 return of adult Select Area bright fall Chinook to the Columbia River was 47% of the recent 5-year average and the lowest since 2007. Harvest of SAB fall Chinook in 2017 Select Area fisheries was 30% of the recent 5-year average even though releases contributing to the 2017 return averaged 34% greater than base production levels. Due to the low adult return, SAB fall Chinook hatchery egg collections were only about 1/3 of the reduced target of 1.0 million.

Impact Sharing

Assessment of preliminary post-season sharing of LCR tule and SRW fall Chinook impacts used for Columbia River fisheries are complicated by the fact that additional ESA impacts were available for both stocks, but could not be accessed by either user group due to B-index steelhead constraints. Restrictive ocean fisheries resulted in a much larger available impact for Columbia River fisheries for LCR tule Chinook, with a total of about 13%, compared to an average annual rate of ~8%. Of this 13%, only about 9% was expected to be used in preseason planning, due to B-index steelhead

constraints. Similarly, Columbia River non-Treaty fisheries were allowed a total of 15% impact on SRW fall Chinook, but only about 12% was accessible to the fisheries. In most years, non-Treaty fisheries are planned to use 100% of at least one of these limiting stocks; this is not the case for 2017.

As a result of this complication, we present the post-season shares of impacts in two ways: as a percent of the total that was used by the non-Treaty fisheries, and as a percent of the total that was available to non-Treaty fisheries (TABLE 17). Values in TABLE 17 are preliminary as actual post-season impact values are currently being finalized.

TABLE 17—Preliminary 2017 post-season fall Chinook impact sharing.

		Impact Used	% of impact used	% of impact available
Snake River Wild	Recreational	9.63%	72%	64%
	Commercial	3.74%	28%	25%
	Unused	1.63%	NA	11%
Lower Columbia River wild/natural tule	Recreational	6.53%	88%	49%
	Commercial	0.89%	12%	7%
	Unused	5.78%	NA	44%

ISSUE 7

FISHERIES REVIEW - ANGLER TRIPS AND EX-VESSEL VALUE

ANALYSIS

One of the policy objectives in rules adopted by the Commission in June 2013 states “*in a manner that is consistent with conservation and does not impair the resource, seek to enhance the overall economic well-being and stability of Columbia River fisheries in Oregon*” (OAR 635-500-6705 (4)). For recreational salmon fisheries, an economic measure considered during the Columbia River fisheries reform process was the number of angler trips in areas downstream of Bonneville Dam. For commercial fisheries, ex-vessel value was the primary economic measure evaluated.

Both of these measures are strongly affected by factors beyond the control of managers, particularly overall fish returns which can be dynamic, making it difficult to isolate effects due only to allocation shifts and management actions.

Recreational Fisheries

The combined angler trips for salmon and steelhead in the lower Columbia River downstream of Bonneville Dam during 2017 was the lowest since 2008, with total angler effort continuing to correspond closely with the strength of salmon returns (TABLE 18; FIGURE 5).

TABLE 18—Recreational salmonid angler trips downstream of Bonneville Dam, 2013-2017.

	Angler Trips				
	2013	2014	2015	2016	2017
Spring	109,700	145,600	151,200	126,800	63,300
Summer	52,000	53,700	50,600	58,100	41,600
Fall – Buoy 10	65,800	107,500	108,200	94,900	93,500
Fall – Mainstem	141,500	143,900	131,400	133,300	114,700
Total ^a	368,900	450,800	441,300	413,100	313,200

^a Totals may not match sums due to rounding.

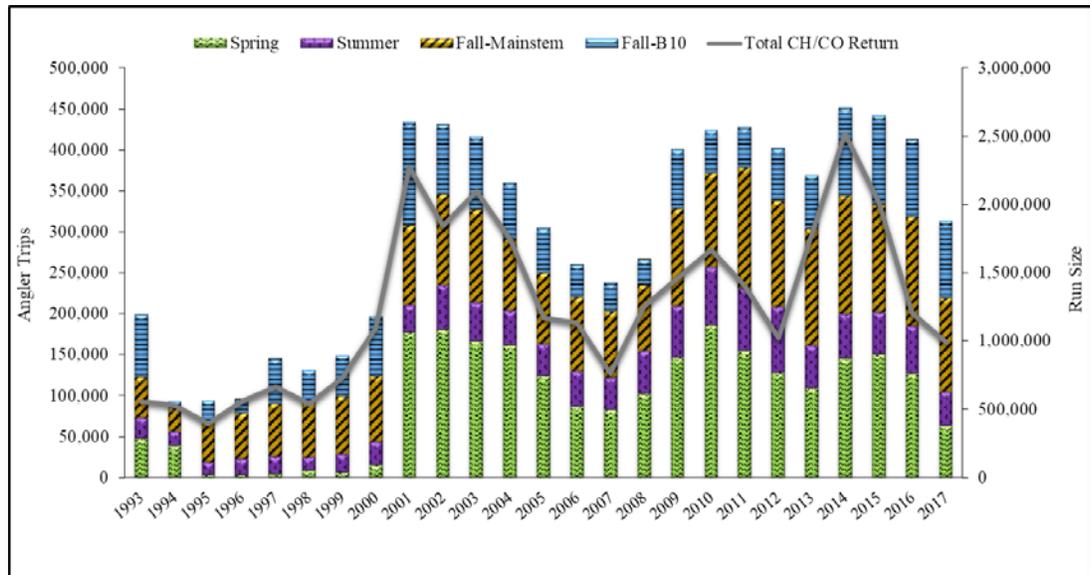


FIGURE 5—Salmonid angler trips in the lower Columbia River recreational fishery and total Chinook and Coho returns to the Columbia River, 1993-2017.

Despite the recreational fishery downstream of Bonneville Dam having 19 open fishing days in the prime month of April, spring season angler trips in 2017 were only about half of what they were in 2016, likely because high turbid flows made fishing difficult in March and early April when effort is normally high (TABLE 18). Angler trips during the summer and fall seasons were also down from recent years, although effort in the Buoy 10 fishery remained relatively high.

Estimating angler effort upstream of Bonneville Dam has been difficult but new creel programs funded by the Columbia Basin Endorsement will provide more detailed and timely information.

Commercial Fisheries

The total catch of Chinook in 2017 mainstem commercial fisheries was the lowest since 1989 due to no spring and summer fisheries and a poor fall mainstem season. Because of recent policy changes, mainstem commercial fisheries did not occur for spring and summer Chinook for the first time since 2001 and 2005, respectively. Mainstem landings of fall Chinook were the lowest since 2007, partially due to a late and condensed run timing, and limited fishing time resulting from the low upriver steelhead return. Mainstem Coho harvest in 2017 was the 2nd lowest since 1998; no target Coho fishery occurred due to constraints resulting from the low upriver steelhead return and all Coho were landed during target Chinook periods. This was the second consecutive year that a Coho-directed fall fishery did not occur. Total non-treaty commercial salmon harvest in 2017 was the lowest observed in the last eight years (FIGURE 6).

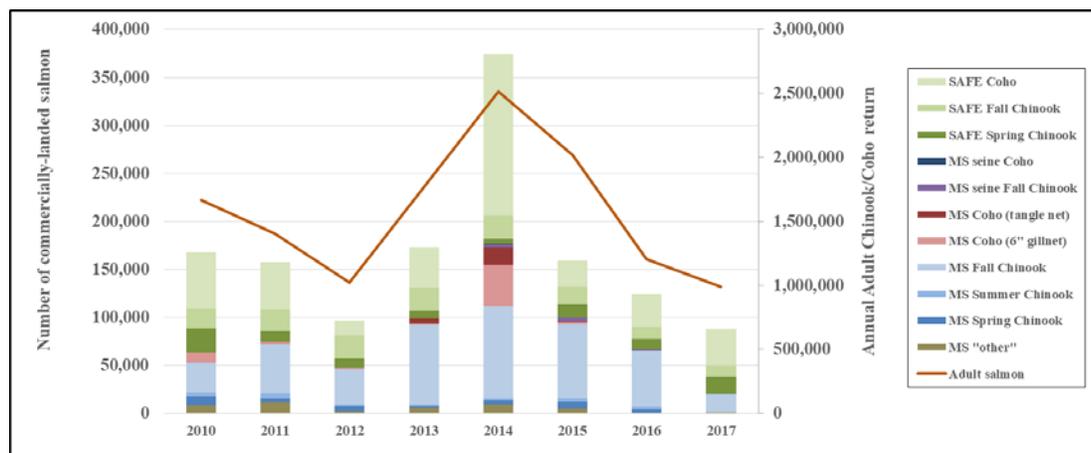


FIGURE 6—Number of salmon landed in non-treaty commercial mainstem (MS) and Select Area (SAFE) fisheries in the lower Columbia River, and annual adult salmon returns, 2010-2017.

In 2017, mainstem fisheries accounted for 28% of the total commercial Chinook and Coho ex-vessel value in the LCR, with Select Area fisheries comprising 72%. The ex-vessel value of Select Area Chinook landed during combined winter, spring, and summer seasons was the 2nd highest ex-vessel value on record for these seasons at \$1.46 million, and these seasons accounted for 45% of the total commercial ex-vessel value in 2017 (TABLE 19). Although mainstem fall landings were much lower than expected, the 19,400 harvested Chinook yielded an ex-vessel value of \$909,000. Fall Select Area fisheries produced \$582,000 and \$323,000 for Coho and Chinook, respectively.

TABLE 19—Ex-vessel values of salmon landed during 2017 lower Columbia River commercial fisheries. ^a

Fishery	Season/Species	Harvest (numbers)	Landings (lbs)	Avg Price (\$/lb)	Ex-Vessel Value (\$)
Select Area (Off-Channel)	Spring/Chinook	12,131	132,839	\$8.69	\$1,154,972
	Summer/Chinook	5,466	62,770	\$4.92	\$308,828
	Fall/Chinook	12,034	128,481	\$2.52	\$323,253
	Fall/Coho	37,979	284,788	\$2.04	\$581,649
	Subtotal	67,610	608,878		\$2,368,731
Mainstem	Spring/Chinook	0	0	--	\$0
	Summer/Chinook	0	0	--	\$0
	Fall/Chinook (drift net)	19,398	313,192	\$2.90	\$908,770
	Fall/Chinook (seine)	0	0	--	\$0
	Fall/Coho (drift net)	931	6,862	\$1.97	\$13,535
	Fall/Coho (seine)	0	0	--	\$0
	Subtotal	20,329	320,054		\$922,305
Total		87,939	928,932		\$3,291,036

^a Ex-vessel value was calculated as total landings in pounds (lbs) multiplied by the average price per pound (\$/lb) paid to fishers upon delivery of their catch.

The total annual ex-vessel value of Chinook and Coho landed during 2012-2017 mainstem and Select Area commercial fisheries are summarized in TABLE 20. Total commercial values were substantially higher in 2013-2016, primarily as a result of the

large fall Chinook returns during 2013-2015 and greater commercial mainstem opportunity during spring, summer, and fall seasons in 2016 (relative to 2017).

TABLE 20—Ex-vessel value of Chinook and Coho salmon in lower Columbia River commercial fisheries, 2012-2017.

	2012	2013	2014	2015	2016	2017
Mainstem	\$2,043,762	\$3,285,674	\$3,693,268 ^a	\$3,472,107 ^b	\$3,523,631	\$922,305
Select Area	\$1,303,897	\$2,096,146	\$2,474,179	\$1,589,991	\$1,656,346	\$2,368,731
Total	\$3,347,659	\$5,381,820	\$6,167,447	\$5,062,098	\$5,179,976	\$3,291,036

^a Value of pilot 2014 research seine fishery not included in mainstem commercial fishery total because ESA impacts (research) for the fishery were not part of the commercial sub-allocation.

^b Value of 2015 and 2016 commercial seine fishery is included since these fisheries used ESA impacts from the commercial sub-allocation.

ISSUE 8

SUMMER/FALL THERMAL ANGLING SANCTUARIES

ANALYSIS

At their September 2017 meeting in the Commission directed staff to look at summer and fall fisheries and to identify ways to potentially reduce fisheries related impacts on upriver wild summer steelhead.

There has been a recent downturn in the number of wild summer steelhead destined to return to the Snake River Basin, declining from a recent 5-year average (2012/13 – 2016/17) of 29,792 fish returning to Lower Granite Dam to an estimated 10,541 in 2017/18. Declines in the number of returning wild B-Index steelhead (primarily Snake River origin) have also occurred. Returns of these larger, primarily two-salt, fish to Bonneville Dam have declined from a recent 5-year average (2012-2016) of 3,729 fish to a current estimate of 751 fish in 2017. Given these declines, it is appropriate for staff to examine potential future measures across fisheries, like they did in 2017, to ensure that when environmental conditions and low run-sizes coincide that fisheries are not impeding recovery and are minimizing potential impacts. The Commission asked staff to include seasonal thermal angling sanctuaries at tributary mouths, areas where no angling would occur, in the suite of actions that should be considered when conditions warrant additional actions.

Inter-jurisdictional Columbia River non-treaty fisheries impact summer steelhead in fisheries from the mouth at Buoy 10 upstream to the Highway 395 Bridge (near Pasco, WA), with additional recreational impacts accruing upstream to Lower Granite Dam in Washington managed waters. The majority of non-treaty wild- B-index summer steelhead impacts occur in recreational fisheries upstream of Bonneville Dam. Given the inter-jurisdictional nature of Columbia River fisheries it is staff's plan to work with WDFW, primarily for the area between Bonneville and McNary dams (FIGURE 7), to establish potential boundaries around selected tributaries, which could be used as angling sanctuaries should conditions necessitate this action. Staff will also identify Oregon-only tributary mouth boundaries in case concurrent management cannot be achieved with Washington.

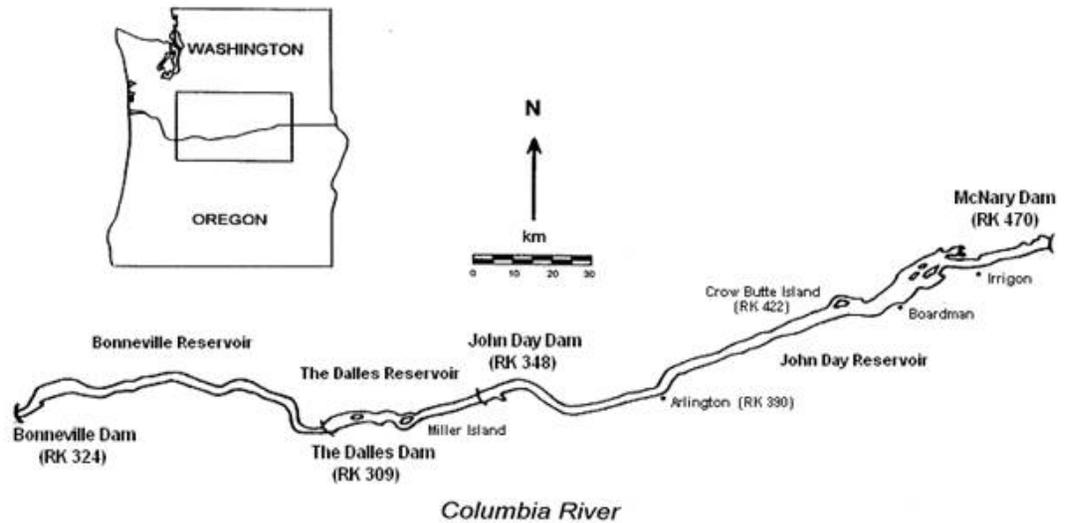


FIGURE 7—The Columbia River between Bonneville and McNary dams

When considering actions for tributary mouths it will be necessary to:

- Identify areas with both sufficient volume and temperature differentials (compared to mainstem conditions) to attract and hold migrating steelhead (FIGURE 8): a thermal angling sanctuary on a small stream or a stream that is warmer than the Columbia is unlikely be effective in reducing impacts,
- Identify run-size and environmental conditions when actions might be beneficial, and
- Identify potential actions that could effectively reduce impacts and provide biological benefits to wild steelhead.

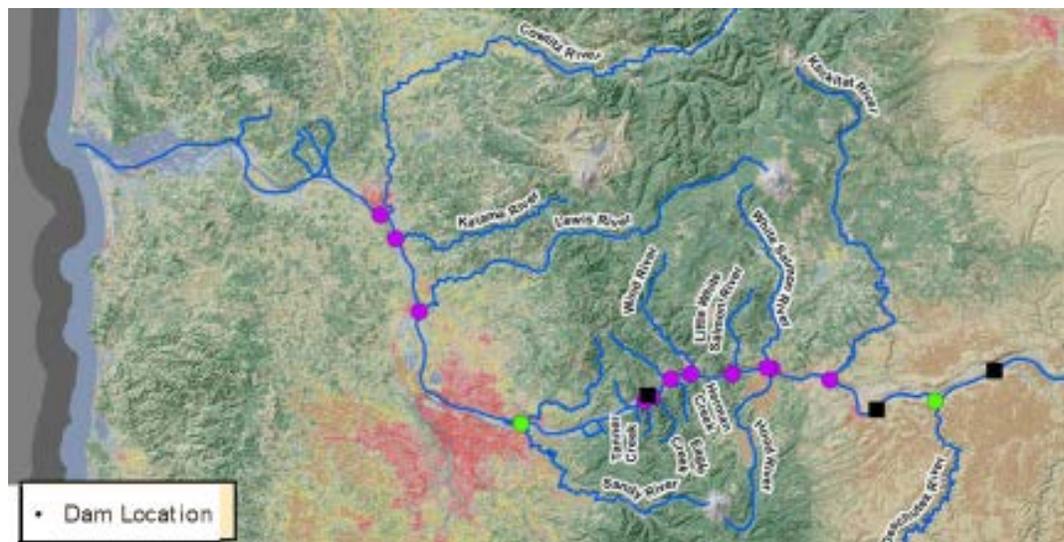


FIGURE 8—Candidate tributaries for potential thermal angling sanctuaries (map courtesy of the Environmental Protection Agency).

The Environmental Protection Agency is working on identifying these areas as well (FIGURE 8) in an ongoing effort and we plan to draw on that information throughout our process.

When considering these actions it will be important to draw on local biologists, law enforcement, anglers, and commercial fishers to ensure a process that is open and transparent and that considers on-the-ground knowledge. To that end, and similar to the public process that occurred in 2017 prior to instituting the rolling steelhead angling retention closures, we plan on conducting a series of meetings to engage constituents.

In the course of these meetings it will be important for the public, law enforcement, and local biologists to see the potential actionable criteria for actions being considered and potential boundaries for all tributaries being considered. Any potential boundaries will need to be easily definable by staff, recognizable by anglers, enforceable, and biologically meaningful. Input taken at the meeting will be incorporated into final recommendations that will be brought back before the Commission in June either as a full informational agenda item supporting emergency rules enacted by ODFW, or for potential rulemaking by the OFWC.

OPTIONS

1. NA

STAFF

1. NA

RECOMMENDATION

DRAFT MOTION	NA
EFFECTIVE DATE	NA