



*Washington
Department of*
**FISH and
WILDLIFE**

**2018 JOINT STAFF REPORT:
STOCK STATUS AND FISHERIES FOR
FALL CHINOOK SALMON, COHO SALMON, CHUM
SALMON, SUMMER STEELHEAD,
AND WHITE STURGEON**

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Washington Department of Fish and Wildlife

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INTRODUCTION

This report describes fall fisheries in the mainstem Columbia River, and includes a summary of 2017 management guidelines and fisheries, and expectations for 2018 fall fish runs and fisheries. This report is part of an annual series produced by the Joint Columbia River Management Staff of the Washington Department of Fish and Wildlife (WDFW) and Oregon Department of Fish and Wildlife (ODFW). The first Columbia River Compact hearing of the 2018 fall management period is scheduled for 10:00 a.m. Thursday July 26 via teleconference. Members of the *U.S. v Oregon* Technical Advisory Committee (TAC) have reviewed this report.

COMPACT and JOINT STATE PROCESS

The Columbia River Compact is charged by congressional and statutory authority to adopt seasons and rules for Columbia River commercial fisheries. In recent years, the Compact has consisted of delegates for the Oregon and Washington agency directors, acting on behalf of the Oregon Fish and Wildlife Commission (OFWC) and the Washington Fish and Wildlife Commission (WFWC). The Columbia River treaty tribes have authority to regulate treaty Indian fisheries.

When addressing commercial seasons for Columbia River fisheries, the Compact must consider the effect of the fishery on escapement, treaty rights, and the impact on species listed under the Endangered Species Act (ESA; Table 1). Working together under the Compact, the states have the responsibility to address the allocation of limited resources between recreational, commercial, and treaty Indian fishers. This responsibility has become increasingly demanding in recent years. The states maintain a conservative management approach when considering Columbia River fisheries that will affect species listed under the ESA.

SEASONS CONSIDERED

At the July 26 hearing, the Compact will consider fall Select Area fisheries, and fall treaty platform and hook-and-line fisheries. A second hearing will occur in mid-August to consider non-treaty and treaty mainstem commercial fisheries. Additional Compact and/or Joint State hearings will be scheduled throughout the fall management period as additional information on fish runs and ongoing fisheries become available.

STOCK STATUS

Fall Chinook

Fall Chinook generally enter the Columbia River from late July through October with abundance peaking in the lower river from mid-August to mid-September, and passage at Bonneville Dam peaking in early to mid-September (Figures 2 & 4). Columbia River fall Chinook are comprised of eight management components: Lower River Hatchery (LRH), Lower River Natural-Origin (LRW), Select Area Bright (SAB), Bonneville Pool Hatchery (BPH), Upriver Bright (URB), Pool Upriver Brights (PUB), Bonneville Upriver Brights (BUB), and Lower River Brights (LRB). The aggregate PUB, BUB, and LRB returns comprise the mid-Columbia Bright (MCB) stock category.

The LRH and BPH components are considered tulle stock, and the LRW, SAB, URB, and MCB components are considered bright stock. General destinations of these various stock components are illustrated in Figure 1.

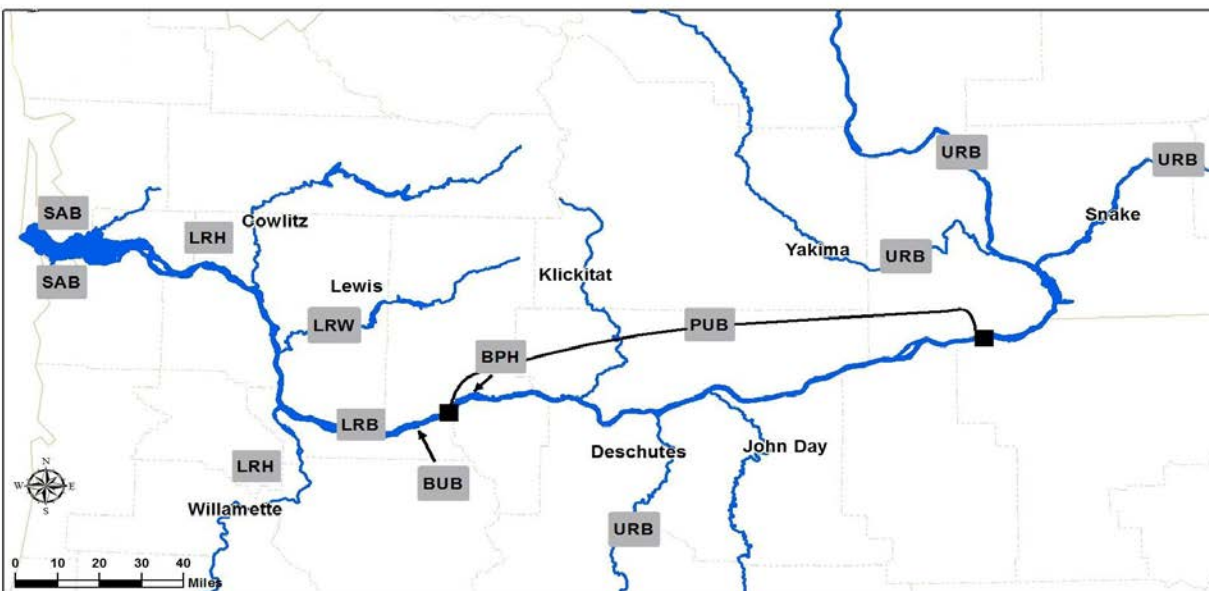


Figure 1. Major Columbia River fall Chinook stock components and general destinations.

The upriver run is comprised of stocks produced upstream of Bonneville Dam, and includes URB, PUB, and BPH. Most of the URB Chinook are destined for the Hanford Reach area of the Columbia River, Priest Rapids Hatchery, areas upstream of Priest Rapids Dam, and the Snake River. Smaller URB components are destined for the Deschutes and Yakima rivers. Snake River natural-origin (SRW) fall Chinook are a sub-component of the URB stock. PUBs are a bright stock reared at Little White Salmon, Umatilla, and Klickitat hatcheries, and released in areas between Bonneville and McNary dams. Natural production of fish derived from PUB stock is believed to also occur in the mainstem Columbia River below John Day Dam, and in the Wind, White Salmon, Klickitat, and Umatilla rivers. The BPH stock is produced primarily at the Spring Creek Hatchery in Bonneville Pool, although natural production of tules also occurs in the Wind, White Salmon, Hood, and Klickitat rivers. Hatchery production of BPH Chinook has been reduced in recent years, and offset by increased tule releases in Oregon facilities downstream of Bonneville Dam. Tule (BPH) passage at Bonneville Dam occurs over a shorter timeframe than for bright (URB and PUB) Chinook (Figure 2).

The lower river run is comprised of stocks produced downstream of Bonneville Dam, and includes LRH, LRW, BUB, LRB, and SAB stocks. Of the five lower river stocks, LRH are the only tulle strain, the remainder being bright stocks. The LRH stock is currently produced from hatchery facilities (four in Washington and three in Oregon), and includes lower Columbia River (LCR) natural production (LCR natural tules) from most tributaries downstream of Bonneville Dam. Being a tulle stock, the LRH fish are generally more mature (darker in color and well-developed gonads) when entering the mainstem, and are quick to reach the tributaries to spawn. The LRW stock is naturally produced, primarily in the Lewis River system with smaller components also present in the Cowlitz and Sandy rivers. BUBs are hatchery fish that were reared and released

from Bonneville Hatchery, located on the Oregon shore just downstream of Bonneville Dam. Although currently considered a lower river stock, the original broodstock used to develop this stock were of upriver origin and a portion of the BUBs stray upstream of Bonneville Dam. Due to the source stock used to develop the BUB run, they are considered an upriver stock when calculating harvestable surplus. The BUB program has been discontinued starting with the 2013 brood year (BY); this production has been transferred to the Little White Salmon National Fish Hatchery (LWSNFH) upstream of Bonneville Dam. The production at LWSNFH is considered a PUB stock since it occurs upstream of Bonneville Dam; this means the BUB stock will no longer exist once the 2012 BY is complete. The LRBs are a natural stock that spawn in the mainstem Columbia River approximately three miles downstream from Bonneville Dam. The LRB stock is closely related to URBs, and is thought to have originated from MCB or URB stock. LRBs were originally classified as BUBs, and therefore considered a component of the MCB stocks. Beginning in 1998, this stock was reclassified as a unique subcomponent of the MCB stock. SABs are a hatchery stock that originated from Rogue River stock fall Chinook egg transfers during 1982-1986. Production of this stock is confined to Youngs Bay, with past releases occurring from ODFW's Klaskanine Hatchery, and Clatsop County Fisheries' (CCF) net pens and South Fork Klaskanine Hatchery facilities. Beginning with the 2015 brood, SAB production from the South Fork Klaskanine facility was discontinued.

2017 Returns

The total Columbia River fall Chinook adult return during 2017 was 476,463. The return was 65% of the recent 10-year average (2007-2016) return of 727,700 adults, and substantially less than the preseason forecast of 613,840 fish. The URB, LRB, and PUB returns exceeded pre-season forecasts, while LRH, LRW, BPH, BUB, and SAB returns came in under pre-season forecasts. Passage at Bonneville Dam totaled 317,313 adults, with a peak daily count of 27,333 adult fish. Due to the Eagle Creek fire, TAC estimated passage at Bonneville for Chinook, steelhead, and Coho during a short period in early September when the counting stations at Bonneville Dam were closed. Therefore, the Bonneville counts reported in this document will not match data posted from COE counts. Forecasted and actual returns for 2017 are presented in Table 2. Historical returns by stock are presented in Tables 3 and 4. Forecast accuracy is presented in Table 4. Chinook passage at Bonneville Dam is illustrated in Figures 2 and 4.

The 2017 LRH return was 64,626 adults, 65% of forecast and 73% of the 2007-2016 average of 88,500 fish. Nearly 30,300 adult fish returned to Oregon and Washington hatcheries below Bonneville Dam, which greatly surpassed the overall escapement goal of 13,200. LRH hatchery escapements included 22,900 adult fish to Washington hatcheries (8,200 goal) and 4,700 adult fish to Oregon hatcheries (5,000 goal). A tule production program was initiated in 2008 at Bonneville Hatchery. Eggs were initially transferred from Spring Creek Hatchery, and sub-yearling smolts were released beginning in 2009 (2008 BY). This program is now maintained with broodstock collected at Bonneville Hatchery. Currently these fish are grouped with the LRH stock, but because of their origin, these fish could be grouped with the BPH stock, or considered a separate stock. In addition to the established hatchery programs, releases of LRH Chinook also occur from the Deep River net pens and Klaskanine Hatchery. Naturally-spawning LRH fall Chinook accounted for an estimated 13,800 adults in Washington tributaries and 6,000 adult fish in Oregon tributaries.

The 2017 LRW return totaled 7,855 adults. The return was 58% of forecast and 51% of the 2007-2016 average return of 15,600 fish. The 2017 return ranked 51 out of 54 returns since 1964. The natural spawning escapement to the North Fork Lewis River of 6,100 adults exceeded the escapement goal of 5,700 LRW adults.

The 2017 BPH return of 48,127 adults ranked as 34 since 1964. The return was 29% of forecast and 58% of the 2007-2016 average return of 83,480 fish. Adult returns of BPH included 11,800 fish to Spring Creek Hatchery, which exceeded the escapement goal of 7,000 adults. An additional 700 adult BPH strayed into Bonneville Hatchery. Naturally-spawning BPH fall Chinook accounted for an estimated 1,500 adult fish in Washington tributaries. Natural spawners may include a mix of hatchery and natural origin fish.

The 2017 URB return of 297,423 adults was the twelfth highest return since at least 1964. The return was 108% of the forecast and 72% of the recent 10-year (2007-2016) average return of 413,900. The URB return constituted 62% of the Columbia River fall Chinook return. The McNary Dam count (Aug 9 – Oct 31) of 152,185 adult Chinook well exceeded the management goal of 60,000 fish. The Hanford Reach fall Chinook spawning escapement in 2017 was 70,700 adult fish. The Deschutes River return of 5,900 adults was 42% of the recent 10-year average of 14,000 adults. The SRW fall Chinook return of 11,750 fish was 95% of forecast and 66% of the 2007-2016 average (Table 5). The SRW escapement to Lower Granite Dam totaled 6,966 adult fish, and ranked ninth highest on record since at least 1986.

The 2017 MCB adult return included 1,353 BUB stock, 4,199 LRB stock, and 46,263 PUB stock. The BUB return was 40% of forecast. The Bonneville Hatchery escapement included 900 adult BUBs. The LRB return was 165% of the recent 10-year average return of 2,500 fish. The PUB return was 104% of the forecast and 56% of the recent 10-year average of 83,100 fish. PUB hatchery escapement included 5,700 fish to LWSNFH. PUB natural-spawn escapement totaled 5,200 fish in Washington tributaries upstream of Bonneville Dam.

The 2017 SAB return of 6,617 adults was 48% of forecast and 53% of the 2007-2016 average of 12,490 fish. Ninety-eight percent of SABs returning in 2017 were harvested in Columbia River fisheries or returned to hatcheries.

2018 Forecast

The forecast for the 2018 fall Chinook adult return to the Columbia River totals 375,510 fish (Table 2). The forecast is 79% of the 2017 actual return (476,463) and 50% of the 2008-2017 average return (753,350). Bright stocks represent 69% of the total forecast. The LRB forecast of 63,910 is similar to the 2017 actual return (64,600), but well below the 2008-2017 average (91,700). The LRW forecast of 7,860 adults is 49% of the 2008-2017 average of 15,900 fish. The BPH forecast of 51,420 adults is 59% of the 2008-2017 average of 86,800 fish. The forecasted return of 205,060 URB adults represents 55% of the projected total return and is 47% of the 2008-2017 average (432,300). Included in the URB forecast is the SRW forecast of 9,600 fish, which is 54% of the 2008-2017 average (17,940) and 82% of last year's return. Starting in 2018, the BUB stock is no longer forecasted. The LRB forecast of 3,760 fish is 130% of the recent 10-year average (2,900), and the PUB forecast of 38,200 fish is 45% of the recent 10-year average (85,350 fish). The SAB forecast of 5,300 fish is 42% of the 2008-2017 average return (12,500 fish).

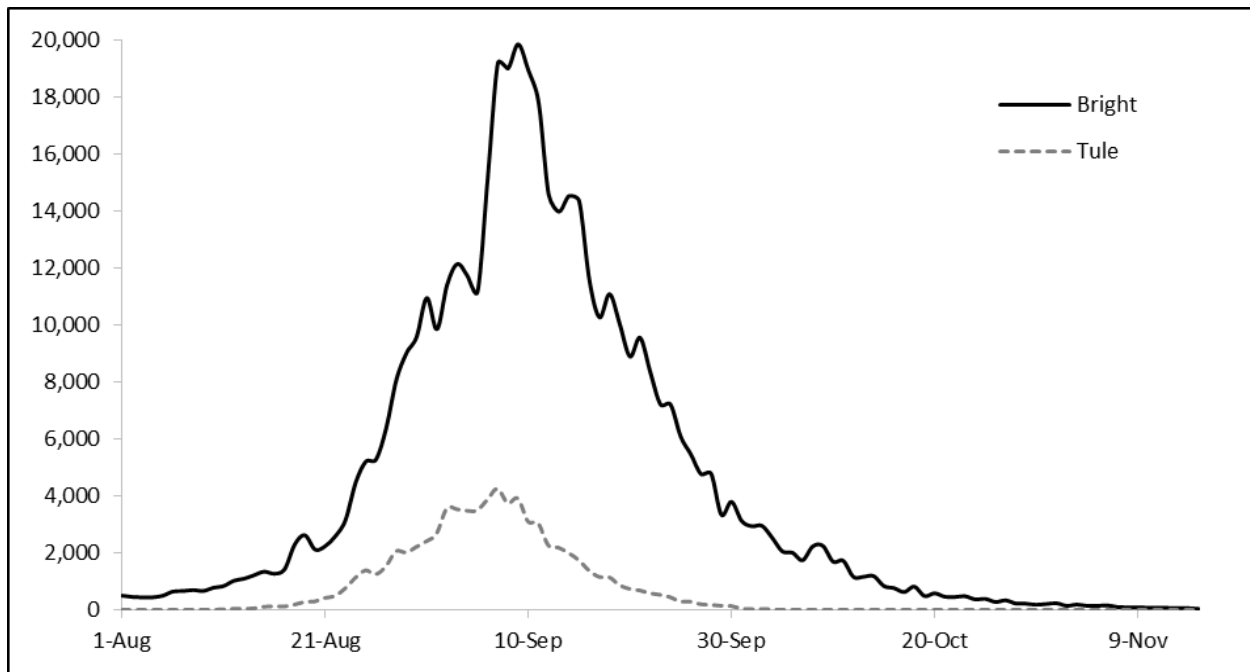


Figure 2. Ten-year average (2008-2017) daily passage of fall Chinook at Bonneville Dam.

Summer Steelhead

The Columbia River summer steelhead run is made up of populations originating from both lower river and upper river tributaries. Summer steelhead enter the Columbia River primarily from April through October each year, with most of the run entering from late June to mid-September. The LCR component is primarily hatchery produced and derived from Skamania stock, and tends to be earlier timed than the upriver stocks. The Skamania stock was successfully introduced into numerous streams below Bonneville Dam, and a few streams above, including the Klickitat and Hood rivers. Peak return timing of the lower river component is in May and June. Summer steelhead caught in mainstem Columbia River fisheries downstream of Bonneville Dam during May and June of each year are categorized as lower river Skamania stock (destined for areas downstream of Bonneville Dam).

Upriver summer steelhead include hatchery and wild fish that pass Bonneville Dam during April through October of each year. Fish passing from April through June are categorized as Skamania stock steelhead, destined mainly for tributaries within Bonneville Pool. Production of Skamania stock steelhead in hatcheries upstream of Bonneville Dam has decreased from historical levels. Steelhead caught in the Bonneville Pool from April 1 through June 30 are categorized as upriver Skamania Steelhead.

Steelhead that pass Bonneville Dam during July through October are categorized as A-Index or B-Index fish, based on fork length (A-Index <78 cm, B-Index \geq 78 cm). B-Index steelhead primarily return to tributaries in the Salmon and Clearwater rivers in Idaho and usually spend two years in the ocean, while A-Index steelhead return to tributaries throughout the Columbia and Snake basins (including the Salmon and Clearwater rivers), and usually spend only one year in the ocean. The run-timing distributions at Bonneville Dam of A-Index and B-Index summer steelhead are shown

in Figure 3. Steelhead caught in the mainstem Columbia River downstream of the Snake River from July 1 through October 31 are considered A-Index or B-Index steelhead. Additionally, steelhead caught in the mainstem Columbia River between The Dalles Dam and the mouth of the Snake River from November 1 through June 30 are also considered A-Index or B-Index steelhead.

Summer steelhead passage at Bonneville Dam is illustrated in Figure 4. Summer steelhead passage (returns) over Bonneville Dam is shown in Table 6, and passage over Lower Granite Dam is shown in Table 7. Stock distribution and hatchery/natural origin determination are based on, and dependent on, biological sampling at the two hydro-electric facilities mentioned. See Table 2 for details on steelhead forecasts.

Steelhead harvest from non-treaty recreational fisheries occurs throughout the Columbia River basin and in Zone 6 from treaty Indian fisheries. Recreational steelhead fisheries are mark-selective, allowing retention of fin-clipped fish only. Treaty Indian steelhead harvest is not mark-selective. The majority of the treaty Indian catch occurs during the fall gillnet fishery; catch also occurs in treaty platform and hook-and-line fisheries. Since the 1990s, the tribes have reduced catch of natural origin steelhead during fall treaty Indian gillnet seasons. Commercial retention of steelhead in non-treaty fisheries has been prohibited since 1975. Time, area, and gear restrictions are implemented to minimize encounters of steelhead in non-treaty commercial fisheries, although some release mortality does occur.

2017 Returns

The total return to Bonneville Dam (April-October passage) of upriver summer steelhead was 116,841 fish, and included 3,491 Skamania stock, 106,776 A-Index stock, and 6,574 B-Index stock. The 2017 return was 89% of the forecast of 130,700 upriver steelhead. Upriver steelhead passage at Bonneville Dam in 2017 was 36% the recent (2007-2016) 10-year average return of 328,000 fish. Natural-origin fish passage totaled 29,896 fish, which represented 26% of the return, compared to the recent 10-year average of 32% (104,900 fish). Run-size data in this report are adjusted for unclipped hatchery fish based on sampling data collected at the Bonneville Dam adult fish trapping facility (AFF). In 2017, between July and October, 785 steelhead were biologically sampled at the AFF. Sampling at the AFF was halted periodically in the summer months due to increased water temperature; the sampling restrictions, in combination with the low abundance of B-Index steelhead, resulted in a lower than desired sample size for estimating abundances of A- and B-Index groups.

The majority of summer steelhead passage at Bonneville Dam occurs during July through October. During these months in 2017, an estimated 113,350 steelhead passed Bonneville Dam, compared to the recent 10-year average of 315,100 fish. Passage during 2017 was 50% complete on August 24, compared to the 10-year average 50% passage date of August 13.

The upriver Skamania return to Bonneville Dam totaled 3,491 fish, including 1,236 (35%) natural-origin fish. The Skamania return was 27% of the 2007-2016 average of 12,900 fish. The A-Index return of 106,776 was 40% of the 2007-2016 average of 270,000 fish. Natural origin fish represented 26% of the A-Index return, less than the recent 10-year average of 33%. The B-Index return totaled 6,574 fish, which was 15% of the 2007-2016 average of 45,124 fish.

The steelhead run year at Lower Granite Dam is comprised of all fish passing from July 1 through June 30 of the following year. The 2017-2018 steelhead passage at Lower Granite Dam totaled 74,178 fish. Based on passage and visual sampling data, stock composition included 4,619 B-Index fish (10% natural origin) and 69,561 A-Index fish (16% natural origin). Sampling data from Lower Granite Dam suggests that 44% of the unclipped B-Index fish were hatchery fish and 12% of the unclipped A-Index fish sampled were hatchery fish.

2018 Forecast

The 2018 forecast for the summer steelhead return to Bonneville Dam is 190,350 upriver fish, including 7,950 Skamania stock (3,000 natural origin), 158,000 A-Index stock (44,800 natural origin), and 24,400 B-Index stock (3,400 natural origin). Overall, the forecast is 62% of the 2008-2017 average of 307,700 fish. The Skamania, A-Index, and B-Index forecasts are 65% and 62%, and 60% respectively, of the 2008-2017 average returns (Tables 2 and 6).

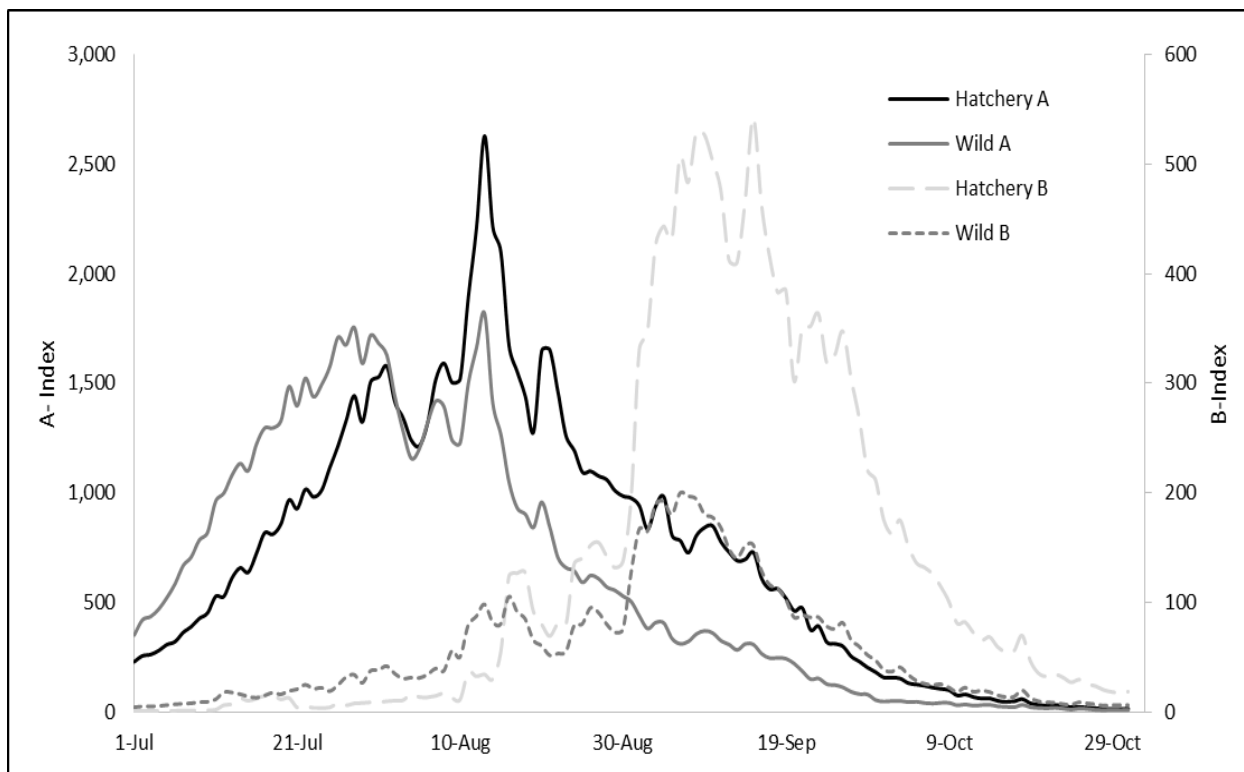


Figure 3. Ten-year average (2008-2017) daily passage of A- and B-Index summer steelhead at Bonneville Dam.

Coho

The Columbia River hatchery Coho return includes both early and late returning stocks. Coho adults are typically age-3 fish, returning to freshwater after only one year in the ocean. Early stock Coho enter the Columbia River from mid-August to early October, with peak entry occurring in early September. In the ocean, early stock Coho tend to remain near the Oregon and southern Washington coasts, and primarily migrate southward from the Columbia River, and are therefore referred to as Type S. Late stock Coho enter the Columbia River from mid-September through

December, with peak entry occurring in mid-October. In the ocean, late stock Coho tend to migrate northward from the Columbia River along the Washington coast and Vancouver Island, and are therefore referred to as Type N. Columbia River Coho return primarily to Oregon and Washington hatcheries downstream from Bonneville Dam, although substantial hatchery, and some natural, production now occurs in areas upstream of Bonneville Dam (Tables 8, 9, and 10).

In Oregon, Columbia River tributaries with historical natural Coho production included the Lewis and Clark, Youngs, Klaskanine, Clatskanie, Clackamas, and Sandy rivers, plus Big, Gnat, Beaver, Milton, and Scappoose creeks. Annual spawning fish survey counts conducted in Oregon lower Columbia River tributaries from December through February, beginning as early as 1949, indicated that natural origin Coho might have been extirpated from Oregon's lower Columbia River tributaries, excluding the Clackamas and Sandy rivers. Intensive surveys conducted during 1990-1999, resulting in counts of 0.0-0.4 fish per mile, supported this conclusion. Increased numbers of unmarked Coho have been observed in lower Columbia River tributaries since 2000, indicating that some remnant Oregon populations may persist in the lower Columbia River Basin, but the origin of these fish is unknown. Population-specific estimates of naturally-spawning Coho, and the proportion estimated to be of natural origin, are shown in Table 11.

Historical natural Coho production areas in Washington included the Grays, Elochoman, Cowlitz, Toutle, Kalama, Lewis, and Washougal watersheds. Stream surveys conducted in Washington from 1945-1979 in the Toutle and lower Cowlitz River tributaries showed a steady decline of naturally-spawning Coho. Smolt traps are currently being used in several Washington tributaries to estimate natural production. Recent-year natural spawn estimates from Washington's lower Columbia River tributaries are provided in Table 11.

Historical natural Coho production areas above Bonneville Dam included the Spokane, Yakima, Wenatchee, Entiat, Methow, and Snake rivers. The majority of Coho presently passing Bonneville Dam are from the *U.S. v. Oregon* Management Agreement mandated hatchery releases of lower river Coho stocks in the Yakima, Umatilla, Klickitat, Wenatchee, Methow, and Clearwater rivers. The releases outside the Klickitat are primarily intended to restore natural Coho to appropriate habitats above Bonneville Dam, most recently in the Snake, Yakima, Methow, and Entiat rivers. Coho destined for areas upstream of Bonneville Dam have represented an increasing percentage of the total return in response to increased releases above Bonneville Dam. Coho passage at Bonneville Dam is illustrated in Figure 4. The tribes are engaged in increased monitoring and evaluation activities to determine the extent of natural production in areas where Coho have been re-introduced. See Tables 2, 8, 9, and 10 for details on harvest, escapement, passage, and abundance.

2017 Returns

The 2017 Columbia River Coho return of 235,656 adult fish was comprised of 151,637 early stock fish and 84,019 late stock fish. The return was 74% of the forecasted return of 319,300 adults. The early stock Coho return was 77% of forecast, and the late stock return was 70% of forecast. The Bonneville Dam count of 75,936 adult Coho was nearly double the 2016 count. Passage represented 79% of the estimated total ocean abundance of Columbia River Coho destined for areas above Bonneville Dam. Hatchery escapement below Bonneville Dam (61,100 fish) to Washington and Oregon facilities was 41% of the 2007-2016 average. The preliminary natural

escapement of Lower Columbia River Coho is 19,800 adults, compared to the 2007-2016 average of 26,200 fish.

2018 Forecast

The 2018 forecast for the Columbia River Coho return is 213,600 adults, which includes 127,200 early stock and 86,400 late stock (Table 2). The forecast is 51% of the 2008-2017 average of 416,100 fish. The individual forecasts for early and late stock Coho are 49% and 56% of the 2008-2017 averages, respectively. Bonneville Dam passage is expected to be 51,800 adult Coho, which represents 65% of the forecasted total ocean abundance of Columbia River Coho destined for areas upstream of Bonneville Dam. Escapement goals of 15,600 early stock and 12,100 late stock adults to hatcheries downstream of Bonneville Dam are expected to be achieved.

A total of 331,000 natural origin Coho smolts are estimated to have emigrated from Washington tributaries of the lower Columbia in 2017. Marine survival of these smolts is estimated at 3.9%, which corresponds to a 2018 forecast of 12,909 adult natural origin Coho to Washington tributaries within the lower Columbia Evolutionary Significant Unit (ESU).

Chum

Chum salmon return to the LCR from early October through mid-December, with spawning occurring from late October through early January. Chum returns are primarily from natural production. Primary production areas include the Grays River in Washington, smaller tributaries just downstream from Bonneville Dam, and the mainstem Columbia River in specific locations from the I-205 Bridge upstream to Bonneville Dam. A small number of Chum also pass Bonneville Dam each year.

Four small hatchery enhancement programs (three in WA and one in OR) release fed-fry that contribute to the lower Columbia population. The Washougal Hatchery enhancement program provides fed-fry for release into Duncan Creek (BY 2001 to present) and the East Fork Lewis River (BY 2011 to present). The Grays River Hatchery enhancement program has been producing fed-fry for in-basin releases since 1999 (BY 1998). Beginning in 2011 (BY 2010), eyed-egg transfers of Grays River origin Chum to ODFW's Big Creek Hatchery (BCH) have provided fed-fry for release in Oregon waters. In fall 2014, Chum salmon from the 2010 (age-4) and 2011 (age-3) brood years returned to BCH. These adult returns were the first to be incorporated into the BCH broodstock, and egg transfers from Grays River Hatchery were discontinued after 2014. Some of the eggs collected from BCH returns were reared to the eyed stage and outplanted in Perkins Creek (Clatskanie River watershed). In addition, surplus adults returning to BCH were outplanted into Stewart Creek, another Clatskanie River tributary.

In fall 2015, marked hatchery and unmarked adults returning to BCH were collected for broodstock, and eyed-eggs were once again outplanted in Perkins Creek. Surplus adults were outplanted in Stewart Creek above the adult trap. Previously, unmarked (putative wild) adults had been transported above BCH to spawn naturally. However, after two seasons of operating fry traps below the spawning grounds, it was determined that little to no fry production was occurring in that system, likely due to pronounced habitat degradation.

In fall 2016, overall returns of Chum salmon to the Columbia Basin were excellent; however, relatively few Chum salmon returned to BCH (9 marked and 42 unmarked adults). A high level of straying likely contributed to the low BCH return as 154 BCH-origin Chum were found in Washington tributaries, based on coded wire tag (CWT) and otolith recovery data (expanded by survey effort). The absolute number of strays was the highest seen to date (27 in 2013, 140 in 2014, 50 in 2015), and resulted in a stray rate of 94.6%. Predation and poaching in Big Creek may also have contributed to the low BCH return in 2016. Because of the low hatchery return, only 32,725 fry were released for the 2016 brood year (300,000 goal), no outplanting occurred in Perkins or Stewart creeks.

Adult returns of age-3 Chum were expected in 2016 at two outplanting sites, Graham Creek and Stewart Creek, but none were observed, as determined from eDNA sampling (Graham Creek) and adult trapping (Stewart Creek). However, adult Chum were observed in Westport Slough, the Lewis and Clark River, Big, Little, Bear, and Little Bear creeks, and ODFW research conducted near Tongue Point. Furthermore, juvenile trapping in the Clatskanie River in the winter/spring of 2017 found Chum fry emigrating from that system.

In fall 2017, returns of Chum Salmon to Oregon were very low, and only 8 marked Chum returned to BCH. An additional 52 unmarked Chum entered the hatchery and were incorporated in the broodstock. Approximately 80,000 fed-fry were released from BCH. Because of the low overall returns, no adult or eyed-egg outplanting occurred for the second year in a row. It is expected that marked Chum strayed to Washington, as has been seen in previous years, but data are not yet available.

Despite seeing few to no Chum on most spawning surveys in the Oregon portion of the LCR, some Chum fry were captured in screw trapping efforts on the Clatskanie River and on Bear Creek. Fin clips were collected from fry (and previously from outplanted adults), so we will be able to conduct a genetic analysis and determine whether fry in the Clatskanie River were the offspring of previous eyed-eggs outplanted in Perkins Creek from the 2014 and 2015 brood years. Projections for Chum returns to the Columbia Basin over the next two years are very low, with only 2,500 to 3,000 adults expected. This will cause substantial difficulty in maintaining broodstock releases of 100,000 eggs from BCH.

Washington index areas have been surveyed annually since 1950, and specific areas of the mainstem Columbia River have been surveyed annually since 1998. During 2000-2003, survey areas were expanded to include non-index LCR tributaries (Washington and Oregon) downstream of Bonneville Dam. These non-index stream surveys have continued sporadically since. In some years, significant numbers of Chum have been observed in non-index areas, primarily at the mainstem Columbia River spawning areas between Bonneville Dam and the I-205 Bridge. Few Chum have been observed in Oregon tributaries; however, survey effort has not been as intensive as in Washington tributaries. In 2013, the reporting metric for the LCR Chum abundance index was changed from fish/mile to estimates of escapement. Table 12 has been updated to report escapement estimates for the major populations of LCR Chum. While variable, reported returns to spawning areas outside of the major populations of LCR Chum generally number less than 200 fish annually. The combined estimated return for the major populations in 2017 of approximately 10,000 fish was much lower than the 2016 estimated return of nearly 43,000 fish, and just over two-thirds of the recent 10-year average return (about 14,500 adults).

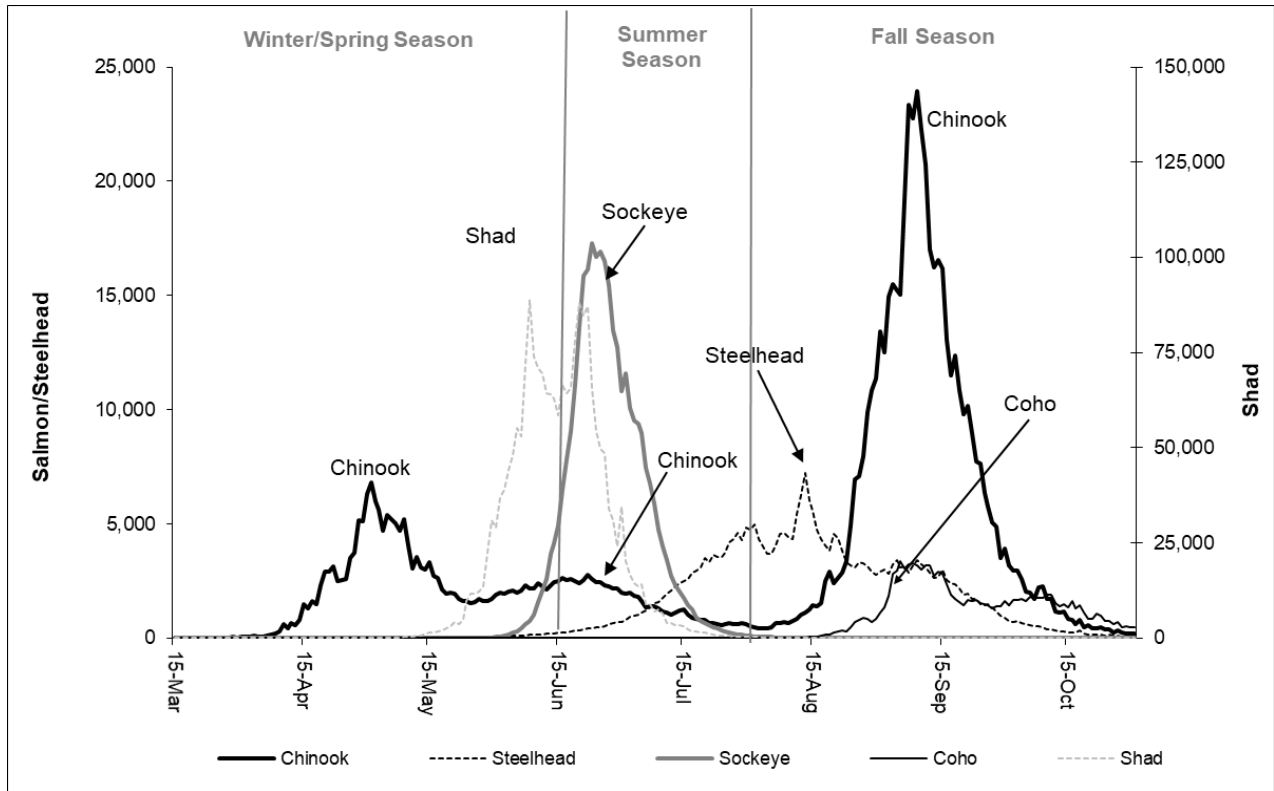


Figure 4. Ten-year average (2008-2017) of daily fish counts at Bonneville Dam.

MANAGEMENT GUIDELINES

Endangered Species Act

Status reviews occurring since 1991 have resulted in the majority of Columbia Basin salmon and steelhead stocks being listed under the ESA (Table 1). The *U.S. v Oregon* TAC has prepared Biological Assessments (BAs) for combined fisheries based on relevant *U.S. v Oregon* management plans and agreements. The TAC has completed BAs for ESA-listed stocks for all mainstem Columbia River fisheries since January 1992. In addition, ODFW has a state management plan in place for naturally-produced Coho from Oregon tributaries that were listed by the State of Oregon in 1999.

The current BA addresses Columbia River treaty Indian and non-treaty fisheries for upriver Chinook, upriver Coho, Sockeye, steelhead, and White Sturgeon, as described in the *2018-2027 U.S. v Oregon Management Agreement* (2018-2027 MA). The BA was submitted in June 2017, and a Biological Opinion (BO) was subsequently issued by the National Marine Fisheries Service (NMFS) in February 2018.

Columbia River Salmon Management Guidelines

The parties to *U.S. v Oregon* are currently operating under the 2018-2027 MA. This agreement provides specific fishery management constraints for upriver spring, summer, and fall Chinook,

upriver Coho, Sockeye, and steelhead. Excerpts from the 2018-2027 MA and other agreements applicable to fisheries considered in this report are included in this section.

Upriver Summer Steelhead

During the fall season, treaty Indian and non-treaty fisheries encountering upriver summer steelhead will be managed according to the harvest rate schedule shown in Table A4 of the 2018-2027 MA. Table A4 only addresses impacts to B-Index steelhead in fall season fisheries; however, the BO does address ESA impact limits to A-Index steelhead in the fall season as well as steelhead impacts in other management periods. All mainstem non-treaty fall fisheries (downstream of the Highway 395 Bridge near Pasco, Washington) are managed not to exceed impact rates of 2% on natural-origin A-Index and natural-origin B-Index steelhead occurring from August through December. Treaty fisheries are managed based on the abundance-based harvest rate schedule for the combined hatchery- and natural-origin B-Index return.

Table A4. Steelhead harvest rate schedule for fall management period.				
Forecast Bonneville Total B Steelhead Run Size	River Mouth URB Run Size	Treaty Total B Harvest Rate	Non-Treaty Natural Origin B Harvest Rate	Total Harvest Rate
<20,000	Any	13%	2.00%	15.00%
20,000	Any	15%	2.00%	17.00%
35,000	>200,000	20%	2.00%	22.00%
B-Index Steelhead are defined as steelhead measuring ≥ 78 cm & passing Bonneville Dam during July 1 and October 31. This harvest rate schedule applies to fall season fisheries only. These fisheries include all mainstem fisheries below the mouth of Snake River from August 1 through October 31 and for mainstem fisheries from The Dalles Dam to the mouth of the Snake River from November 1 through December 31. Also included are fall season treaty fisheries in Drano Lake and tributary mouth fisheries in Zone 6 that impact Snake River steelhead.				

Lower Columbia River natural origin Coho (LCN Coho)

As part of the 2018-2027 MA, ocean and Columbia River fisheries are managed to provide treaty Indian and non-treaty fisheries the opportunity to each harvest 50% of the upriver adult Coho available for harvest south of the U.S-Canada border. Non-treaty fisheries include commercial and recreational fisheries in the ocean and mainstem Columbia River. For lower river Coho stocks, the exploitation rate (ER) limits are based on impacts to LCN Coho stocks. These ER limits are set annually by NMFS using a harvest matrix that considers parameters of ocean survival and parental escapement. The matrix was updated in 2015 to include additional reference populations. The allocation of non-treaty catch and ESA impacts between ocean and in-river fisheries is determined annually by the states and occurs during the Pacific Fishery Management Council (PFMC) and North of Falcon (NOF) meetings in March and April.

Lower Columbia River natural origin (LCN) Coho - Exploitation Rate Matrix					
Parental Escapement (percent of full seeding)	Marine Survival Index a/				
	Very Low	Low	Medium	High	Very High
	$\leq 0.06\%$	$\leq 0.08\%$	$\leq 0.17\%$	$\leq 0.40\%$	$> 0.40\%$
Normal	10%	15%	18%	23%	30%
Very Low *	$\leq 10\%$	$\leq 15\%$	$\leq 18\%$	$\leq 23\%$	$\leq 30\%$
* In the event that lower Columbia River natural Coho average spawning escapements fall below 30 percent of full seeding when considered as an average of the ten reference populations, b/ the Council shall work to the extent possible to minimize LCN Coho exploitation rates on adult returns from the corresponding brood year, and in no case exceed the exploitation rate for a given marine survival index category.					

a/ Columbia River hatchery Coho jack returns per smolt released.
b/ Clatskanie River, Scappoose Creek, Elochoman River/Skamokawa River, Grays River/Chinook River, Clackamas, Sandy River, Lower Cowlitz River, Toutle River, Coweeman River, and East Fork Lewis River.

Lower Columbia River natural origin tule Chinook (LCR tule)

Fall season fisheries in the Columbia River and ocean that harvest LCR tules are currently managed according to an abundance-based ER schedule that depends on the abundance of LRH Chinook. The LRH Chinook are considered a valid indicator of the relative abundance of LCR (natural) tules. The total allowed ER is shared between ocean and in-river fisheries downstream of Bonneville Dam. The allocation of non-treaty catch and ESA impacts between ocean and in-river fisheries is determined annually by the states and occurs during the PFMC and NOF meetings in March and April.

LRH Abundance	Exploitation Rate
0-30,000	0.30
30,000 -40,000	0.35
40,000 -85,000	0.38
> 85,000	0.41

Upriver Fall Chinook

Fall season fisheries in the Columbia River Basin below the confluence of the Snake River are managed according to the abundance-based harvest rate schedule from the 2018-2027 MA (Table A3). If non-treaty mark-selective fisheries are implemented that impact URBs, the non-treaty ocean and in-river fisheries may not harvest more than 50% of the harvestable surplus of URBs, consistent with the applicable federal allocation case law.

Upriver fall Chinook escapement goals include 7,000 adult BPH fall Chinook (4,000 females) to Spring Creek Hatchery, and a 60,000 adult URB fall Chinook (natural and hatchery) management goal above McNary Dam.

Expected URB River Mouth Run Size	Expected River Mouth Snake River Natural Origin Run Size ¹	Treaty Total Harvest Rate	Non-Treaty Harvest Rate	Total Harvest Rate	Expected Escapement of Snake R. Natural Origin Past Fisheries
<60,000	<1,000	20%	1.50%	21.50%	784
60,000	1,000	23%	4%	27.00%	730
120,000	2,000	23%	8.25%	31.25%	1,375
>200,000	5,000	25%	8.25%	33.25%	3,338
	6,000	27%	11%	38.00%	3,720
	8,000	30%	15%	45.00%	4,400

1. If the Snake River natural fall Chinook forecast is less than the level corresponding to an aggregate URB run size, the allowable mortality rate will be based on the Snake River natural fall Chinook run size.
2. Treaty Fisheries include; Zone 6 Ceremonial, subsistence, and commercial fisheries from Aug 1-Dec 31.
3. Non-Treaty Fisheries include: Commercial and recreational fisheries in Zones 1-5 and mainstem recreational fisheries from Bonneville Dam upstream to the confluence of the Snake River and commercial and recreational SAFE (Selective Areas Fisheries Evaluation) fisheries from August 1-December 31.
4. The Treaty Tribes and the States of Oregon and Washington may agree to a fishery for the Treaty Tribes below Bonneville Dam not to exceed the harvest rates provided for in this Agreement.
5. Fishery impacts in Hanford sport fisheries count in calculations of the percent of harvestable surplus achieved.

- | |
|--|
| <p>6. When expected river-mouth run sizes of naturally produced Snake River Fall Chinook equal or exceed 6,000, the states reserve the option to allocate some proportion of the non-treaty harvest rate to supplement fall Chinook directed fisheries in the Snake River.</p> |
|--|

Annual Non-Treaty Impact Allocation of Upriver Fall Chinook

Based on preseason runsize forecasts, a fishing schedule is developed annually for non-treaty recreational and commercial fisheries through the NOF management process. The fisheries described in the following section were structured and guided by preseason planning efforts, and informed by in-season data. Preseason plans for fall fisheries that occurred in 2017 can be found in the “Fall Season Expectations” section of the 2017 Fall Joint Staff Report.

REVIEW OF MAINSTEM AND SELECT AREA FISHERIES

Non-Treaty Commercial Fisheries

Traditional commercial fisheries below Bonneville Dam occurred during "early fall" (August to mid-September) targeting Chinook, and during the "late fall" (mid-September to mid-November) targeting Coho. Although Coho typically outnumber Chinook in the late fall season catch, Chinook landings have occasionally been significant during the mid-September timeframe. Incidental landings of steelhead occurred in both early and late fall seasons until commercial sales were banned in 1975. Time, area, and gear restrictions have been imposed to reduce the incidental catch of non-target species. See Figure 5 for a map of commercial fishing zones.

Since 1992, fall season commercial fisheries below Bonneville Dam have been reduced in response to ESA listings. During 1995-1998, extremely low Coho abundance curtailed nearly all commercial fishing opportunities during the late fall period. During 1997-2001, early fall fisheries consisted primarily of short fishing periods targeting sturgeon. Since 2002, August fisheries have expanded in time with increased emphasis placed on targeting Chinook. Since 2011, the early fall season has primarily occurred in Zones 4-5 due to ESA constraints and reduced allocation guidelines for LCR tulle Chinook. Late fall season fisheries targeting Chinook typically occur from mid to late September through the end of October within Zones 4-5. Prior to 2006, the majority of the late fall season targeted Coho in Zones 1-3 (below the mouth of the Lewis River). Since 2006, the ESA listing of LCN Coho has reduced Coho fishing opportunity considerably. However, during 2013-2015, mark-selective Coho-target fisheries were implemented using tangle net gear and other live-capture regulations to provide commercial access to harvestable hatchery-origin Coho, while remaining within allowable ESA impact limits.

Reduced non-treaty commercial salmon fishing opportunities in the late 1990s and adoption of Joint State Sturgeon Management Agreements beginning in 1997 resulted in target sturgeon fisheries becoming an important part of fall fishing strategies to allow access to the commercial allocation of White Sturgeon. Sturgeon fishery management changed considerably in 2003 when the annual commercial White Sturgeon allocation was reduced to 20% of the total non-treaty harvest allowed below Bonneville Dam. During 2002-2013, daily and/or weekly possession and sales limits concurrent with salmon fisheries largely replaced directed sturgeon seasons during the fall timeframe. During 2014-2016, policies adopted by the WFWC and OFWC prohibited the

retention of White Sturgeon in all non-treaty fisheries downstream of Bonneville Dam (sport and commercial).

2017 Early Fall Commercial Mainstem Fisheries

The 2017 early fall (August) mainstem gillnet season consisted of five 9-hour fishing periods in Zones 4-5 during August 22 through September 1. A 9-inch minimum mesh size restriction was in place for all periods to minimize handle of steelhead and under-sized sturgeon. White Sturgeon sales (44-50 inches FL) were allowed for the first time since 2013, with a six fish per participating vessel weekly landing limit in effect. The number of deliveries ranged from 96-122 per fishing period. Landings for the early fall season included 13,959 Chinook, 218 Coho, and 485 White Sturgeon. Due to a delayed run timing, Chinook landings were 32% of pre-season expectations resulting in lower-than-expected impacts for both SRW and LCR natural origin Chinook. Coho landings in the early fall season were less than half of the recent 10-year average of 574 fish. An estimated 407 steelhead were handled based on data collected from a robust onboard observation program. See Tables 14-21 for details on season structure and catches.

2017 Late Fall Commercial Mainstem Fisheries

Due to the low predicted return of upriver summer steelhead in 2017, late fall mainstem non-treaty commercial fisheries were not planned during the annual pre-season NOF process. The management intent for this fishery was to wait until mid-September when additional information on Chinook and steelhead run sizes, and corresponding ESA impacts, would be available. Based on inseason information, two 10-hour late-fall fishing periods occurred in Zones 4-5 on the nights of September 17 and September 19. The 9-inch minimum mesh size restriction was maintained during these late-fall periods; however, the weekly sturgeon landing limit was reduced to five. Deliveries for the two periods were 107 and 69, respectively. Combined landings during the late fall fishery included 5,439 Chinook, 713 Coho, and 239 White Sturgeon. Chinook landings were the lowest since 2000. Steelhead handle was estimated at 243 fish during the late fall season.

No other Chinook or Coho-directed mainstem drift net fisheries occurred due to subsequent natural-origin B-Index steelhead inseason run downgrades. The combined fall season Chinook landings of 19,398 were 44% of preseason expectations. Aside from the 665 fish landed in 2016, the combined Coho landings of 931 fish were the lowest since 1998. See tables 14-19b and 22 for details on late fall season structure and harvest.

2017 Fall Seine Fisheries

Due to low projected returns of upriver summer steelhead, non-treaty commercial seine fisheries were not considered, and did not occur, in 2017 (Table 23).

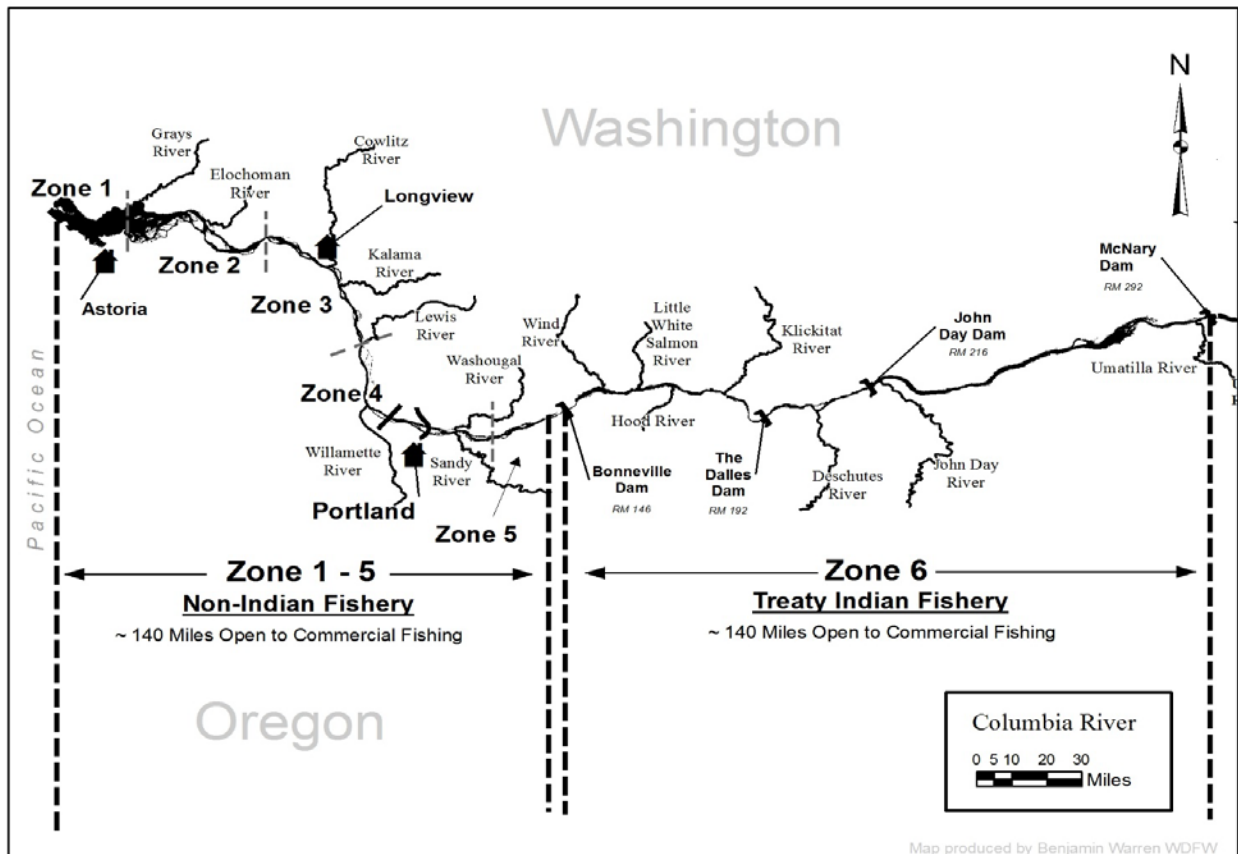


Figure 5. Columbia River commercial fishing zones.

Non-Treaty Recreational Fisheries

The fall recreational salmon fishery occurs throughout the Columbia River with primary catch areas in the estuary (Buoy 10), the lower river between Tongue Point and Bonneville Dam, and the Hanford Reach area below Priest Rapids Dam. The Buoy 10 fishery targets fall Chinook and Coho from the Buoy 10 line upstream to the Tongue Point/Rocky Point line and accounts for the majority of the recreational Coho harvest in the Columbia River. The LCR recreational fishery catches fall Chinook, summer steelhead, and Coho in the mainstem Columbia River from the Tongue Point/Rocky Point line upstream to Bonneville Dam. The Hanford Reach fishery targets fall Chinook in the area downstream of Priest Rapids Dam. Additionally, significant steelhead-target fisheries occur during the late fall and early winter in the mainstem between McNary Dam and the Highway 395 Bridge. Smaller fisheries targeting Chinook, Coho, and steelhead also occur near most tributary mouths on the mainstem Columbia River between Bonneville and McNary dams and in the mainstem upstream of McNary Dam. In all of these fisheries, regulations require anglers to release all unclipped steelhead and Coho, except anglers may keep unclipped Coho upstream of the Hood River Bridge (RM 170).

The popularity of the LCR fall salmon fishery has grown considerably over the years, and anglers continue to fish successfully in new areas of the lower Columbia for fall Chinook. Historically, high water temperatures on the mainstem during August and September hindered anglers' ability

to catch fall Chinook in the shallows, and the majority of the catch occurred at or below tributary mouths where water temperatures were cooler. Beginning in the late 1990s anglers began targeting fall Chinook in deeper areas of the river with excellent results, especially in and around shipping lanes. The recreational catch of adult fall Chinook on the mainstem has increased from an average of 2,300 during the 1980s, to 5,000 fish during the 1990s, 14,700 during the 2000s, and 27,400 since 2010. Angler trips have also increased from an average of about 41,000 trips in the 1980s, to 54,000 trips in the 1990s, 94,000 trips in the 2000s, and 132,000 trips annually since 2010. Because of the increased effort and catch, the recreational opportunity for fall Chinook on the mainstem Columbia River downstream of Bonneville Dam has been constrained in terms of the daily bag limit and/or fewer fishing days since 2004 in order to meet ESA and harvest-sharing guidelines.

Similar to the trend in the lower river fishery, Chinook catches in the Buoy 10 fishery have also increased as anglers have become more effective at catching Chinook in this area, especially in recent years with large returns. While the average number of angler trips by decade has remained relatively stable since the 1990s, annual Chinook harvest has increased from an average of 6,700 in the 1990s, 10,000 in the 2000s, to 21,000 since 2010. A significant portion of the Chinook catch in the Buoy 10 fishery is tule stock. The increased Chinook harvest, coupled with a decrease in the allowable ER on LCR tules, has required the states to reduce opportunity for Chinook since 2007, with retention seasons averaging about 30 days during August and early September. Additionally, the states have adopted mark-selective regulations for a portion of the season during 2013-2016 to increase the likelihood of meeting the Chinook retention end-date objective of Labor Day.

2017 Buoy 10 Recreational Fishery

The 2017 Buoy 10 fishery opened August 1 for fall Chinook and adipose fin-clipped Coho. The season started with a daily bag limit of two adult salmon in combination, with only one adult Chinook allowed. The retention of adipose fin-clipped Coho was scheduled for August 1 to December 31. Steelhead retention was prohibited from August 1 to 31 due to low forecasted returns. Chinook retention was scheduled to close from September 5 to 30 and set to reopen from October 1 through December 31. The expected harvest (including release mortality) for the Buoy 10 fishery was 22,100 Chinook (1.6% SRW harvest rate; 4.8% LCR natural origin ER), and 16,560 adipose fin-clipped Coho.

2017 Buoy 10 Fishery- Summary of Retention Regulations	
08/01 to 08/31	Two adult salmonid daily bag limit, only one Chinook allowed. Coho must be adipose fin-clipped. Steelhead retention prohibited.
09/01 to 09/04	Two adult salmonid daily bag limit, only one Chinook and/or one steelhead allowed. Coho and steelhead must be adipose fin-clipped.
09/05 to 09/30	Two adult salmonid daily bag limit, only one steelhead allowed. Adipose fin-clipped fish only. Chinook retention prohibited.
10/01 to 12/31	Two adult salmonid daily bag limit, only one steelhead allowed. Coho and steelhead must be adipose fin-clipped.

The 2017 Buoy 10 fishery opened with about 7,000 angler trips and a Chinook catch rate of about 0.23 fish per rod (kept) through the first week (August 1 to 6). Angler trips averaged over 15,000

per week through August. Catch rates for Chinook remained between 0.23 and 0.41 fish per rod in August. The peak catch rate was at 0.41 Chinook per rod (kept) during the week of August 28 to September 3. Stock composition tracked within pre-season expectations. As planned, Chinook retention closed from September 5 to 30 and reopened on October 1 with an increased bag limit of any two Chinook. Effort and catch was very low after October 1, with less than 50 Chinook caught after this date.

Coho catch rates were low for most of August (0.01 to 0.07 kept fish per rod), with a slight increase towards the end of the month (0.12 to 0.29 kept fish per rod). Catch rates improved (0.65 to 0.73 fish per rod) during the first two weeks of September, but dropped off towards the end of the month (0.26 to 0.28 fish per rod). The peak catch rate for Coho was 0.73 fish per rod during the week of September 11 to 17. The average catch rate for Coho in September was 0.48 fish kept per rod. After the first week of September, with Chinook retention prohibited and as catch rates started to decline, angling effort declined steadily. The Columbia River Coho return was lower than predicted, which accounted for the low catch rates for most of the season; however, total kept catch was above preseason expectations.

The 2017 Buoy 10 fishery consisted of 93,547 angler trips with a kept catch of 28,398 Chinook and 18,834 adipose fin-clipped Coho (Table 25). Anglers released 6,199 Chinook and 12,793 Coho. The season structure for Chinook, Coho, and steelhead matched the preseason agreement. The total Chinook kept catch ranked fourth highest since 1982. Total angler effort in the fishery was the fourth highest in the since 2010 behind 2015, 2014, and 2016. See Tables 15, 18, 19a, 19b, and 25 for additional detail.

2017 Lower Columbia Mainstem Recreational Fishery

In 2017, Columbia River fall fisheries were most constrained by low expected returns of natural origin B-Index steelhead and secondly by LCR tule fall Chinook. The 2017 lower Columbia River recreational fishery opened August 1 for fall Chinook and adipose fin-clipped Coho. The states prohibited steelhead retention below Bonneville Dam during August but allowed retention of steelhead effective September 1. Additionally, a river-wide night fishing closure for all species was in place from June 16 through October 27 to reduce steelhead handle; this closure was modified effective October 28 through the end of the year, to align with permanent Oregon rules (i.e. night fishing not allowed when angling for salmon, steelhead, shad, sturgeon, trout, and/or whitefish).

The states structured Chinook retention seasons and bag limits by area to maximize the opportunity for anglers to harvest surplus upriver bright fall Chinook within conservation and harvest-sharing guidelines for natural origin LCR tule fall Chinook. In the area between Tongue Point and Warrior Rock, where LCR tule abundance is relatively higher, Chinook retention was scheduled to be open during August 1-September 7 and October 1-December 31. The states also adopted a MSF for hatchery Chinook in the area between Tongue Point and Warrior Rock during September 8-14. The daily bag limit for this area was two adult salmon in combination with no more than one adult Chinook until October 1 when the limit changed to two adult fish. The states allowed Chinook retention from Warrior Rock upstream to Bonneville Dam during August 1-December 31 with a two-fish daily bag limit. In both areas, the states restricted the daily bag limit for hatchery summer steelhead to one fish during September 1-December 31 to reduce impacts to B-run steelhead.

Beginning in September 2013, the states adopted party fishing rules for boat anglers, whereby each angler aboard a vessel could continue to deploy gear until the anglers achieved a boat limit, and have reinstated party fishing rules for boat anglers during the fall salmon fishery on an annual basis since that time. The preseason catch expectation for the 2018 mainstem recreational fishery was 21,900 adult Chinook and 1,000 Coho, including catch during the MSF.

Similar to recent years, high water temperatures had an adverse effect on catch rates in the recreational fishery from Cathlamet upstream to Bonneville Dam during early August. Catch rates improved to about one Chinook per every five boats downstream of Warrior Rock by late August, but never reached expectations. Through August 31, the total Chinook catch in the recreational fishery was 3,775 adult fish, which was the lowest Chinook catch for the month since 2005.

Chinook catch rates during September 1-7 averaged about one fish kept per every three boats, and the overall Chinook catch and impacts to LCR tules remained below expectations. Chinook retention switched to MSF regulations during September 8-14 in the Tongue Point to Warrior Rock area. After the switch to MSF regulations in the lower river, many anglers moved just upstream of Warrior Rock, where regulations were more liberal; however, the Eagle Creek wildfire restricted access for anglers in the Gorge beginning September 3. The U.S. Coast Guard prohibited boat traffic east of Reed Island until September 11, and the Oregon Department of Transportation restricted access to The Fishery boat ramp and the Bonneville project until September 24. Despite the lack of access to the productive fishing areas in the Gorge, catch rates in the area above Warrior Rock improved dramatically to over a fish per boat by September 12 and remained high for the remainder of the month. The total Chinook catch in the lower Columbia during September was 17,406 adults, the sixth highest catch for the month on record. A high percentage of anglers fishing above Warrior Rock have switched from anchoring and fishing with wobblers during the outgoing tide to trolling small spinners behind rotating flashers, this technique allows them to fish effectively at any stage of the tide. This flexibility, combined with the effectiveness of trolling small spinners, has resulted in a large increase in the Chinook catch between Warrior Rock and Bonneville Dam during the last several years.

Chinook retention reopened on October 1 downstream of Warrior Rock and Chinook catch rates were good. Catch rates also remained excellent in the Gorge and upstream of Warrior Rock through mid-October. The total Chinook catch during October was 4,957, which was the second highest on record and marked the first time the October catch exceeded the August catch.

The 2017 mainstem recreational fishery produced 114,700 angler trips with kept catches of 26,138 adult fall Chinook, 1,701 Chinook jacks, 3,114 adipose fin-clipped adult Coho and 237 adipose fin-clipped summer steelhead; these totals include trips and catch made during the MSF period (Table 26). The total adult Chinook catch was the sixth highest on record, and the angler trip total was the eighth highest on record; however, the CPUE for adult Chinook of 0.23 fish per angler was the third highest on record. The catch of 3,114 adult Coho was the fourth highest on record, but the summer steelhead catch of 237 fish was the lowest since the early 1980s. During September 8-14, the MSF between Tongue Point and Warrior Rock produced 5,189 trips with catches of 770 adipose fin-clipped adult fall Chinook, 101 adipose fin-clipped adult Coho and 2,086 unmarked adult fall Chinook released (73%). Season totals for released fish were 2,846 adult Chinook, 1,488 adult Coho, and 881 summer steelhead including fish released during August when retention was prohibited. See Tables 15, 18, 19a, 19b, and 26 for additional detail.

2017 Columbia Mainstem Recreational Fisheries above Bonneville Dam

The Columbia River is typically open for Chinook and hatchery steelhead and Coho retention during the fall season in the area from Bonneville Dam upstream to the Highway 395 Bridge. Additional areas of the Columbia River upstream of the Highway 395 Bridge, such as the Hanford Reach, are also open during the fall season. Since 2017, fall season catch estimates for the salmon and steelhead fisheries from Bonneville Dam upstream to the Highway 395 Bridge are based on creel programs. The catch from the Hanford Reach fishery is also based on a robust creel program. See Tables 15, 18, 19a, 19b, and 27 for seasons and catch detail.

Bonneville Dam to Highway 395 Fishery

This fishery is often referred to as the ‘Zone 6’ recreational fishery; however, it does extend upstream of McNary Dam to the Highway 395 Bridge. Chinook catch from Bonneville to the Highway 395 Bridge during 2012-2016 ranged from 5,800 to 20,000 adult fish annually, and averaged 11,000 Chinook. The majority of the catch occurs within the Zone 6 area (Bonneville Dam upstream to McNary Dam). Minor catch (average of 300 Chinook annually) is reported in the area from McNary Dam upstream to the Highway 395 Bridge. Chinook retention was open August 1 through December 31 in 2017. Harvest is currently estimated at 5,851 adult Chinook kept (709 released), 1,798 Coho kept (166 released), and 262 steelhead kept (2,110 released hatchery- and natural-origin fish) based on creel results (Tables 15, 19a, 19b, and 27). Due to low predicted steelhead returns in 2017, steelhead retention was limited to one fish per day throughout the fall season. In addition, retention of steelhead was prohibited in Bonneville Pool during August, The Dalles Pool in September, John Day Pool during September and October, and from McNary Dam upstream to Highway 395 during October and November. Regulations regarding night fishing were enacted consistent with those in the lower Columbia River.

Hanford Reach Fall Chinook Fishery

The Hanford Reach fall Chinook sport fishery opens annually from August 16 through October 22 for the area from the Highway 395 Bridge upstream to Priest Rapids Dam with a daily bag limit of two adults.

An estimated 11,489 adult fall Chinook, 872 jack fall Chinook, and 28 Coho were harvested from about 30,000 angler trips in this fishery in 2017. Approximately 202 adult Chinook, 36 jack Chinook, and 10 adult Coho were also caught and released. The 2017 Chinook harvest continued the trend started in 2010 of harvest exceeding 10,000 adults in this fishery (Table 27). Similar to other mainstem fisheries, steelhead restrictions were in place for the 2017 Hanford Reach fishery including a one steelhead daily limit and retention limited to AD-RV fin clipped fish only through March 2018. The night fishing closure was also in effect through December upstream to the old Hanford townsite.

Select Area Fisheries

The Select Area Fisheries Project is a cooperative program that strives to deliver quality commercial and recreational salmon fishing opportunities in areas that maximize the return of hatchery production to fisheries. Hatchery production and targeted commercial fisheries for Coho and Chinook Salmon occur in the Select Areas. The Select Areas are off-channel and terminal

areas in the lower Columbia River and include Youngs Bay, Blind Slough/Knappa Slough, and Tongue Point/South Channel in Oregon and Deep River in Washington.

Commercial fisheries in the Select Areas target salmon that return from local net-pen and hatchery releases into these sites. Fall commercial fisheries have occurred in Youngs Bay since 1962 and in Blind Slough/Knappa Slough, Tongue Point/South Channel, and Deep River since 1996. Fisheries are managed to remain within allowable harvest impact rates and catch guidelines though Select Area fall fishery impacts on ESA-listed fish are minimal. Fall fisheries in the Select Areas target hatchery Coho returning to these release sites; however, SAB and LRH fall Chinook are also produced and harvested in Youngs Bay, LRH fall Chinook from Big Creek Hatchery are targeted in Tongue Point/South Channel and Blind Slough/Knappa Slough fisheries, and LRH fall Chinook from the Deep River net pen releases are targeted in that site. Coho and Chinook produced for Select Areas also contribute to mainstem Columbia River recreational and commercial fisheries, as well as ocean recreational and commercial fisheries.

Recreational fishing occurs in the Select Areas and associated tributaries. Under permanent regulations, Youngs Bay, Blind Slough/Knappa Slough, and Deep River areas are open all year for retention of Chinook (hatchery fish only January-July) and hatchery Coho and steelhead with a daily bag limit of two adult salmonids. Annual catch (10-year average; 2006–2015) in fall recreational fisheries in the Oregon Select Areas is estimated at about 814 Chinook and 361 Coho.

2017 Select Area Fisheries

During the 2017 fall management period, 12,034 Chinook, 37,979 Coho, and 237 White Sturgeon were landed in the Select Area commercial fisheries. In comparison to previous years, 2017 landings were about 59% and 66% of the recent 5-year average (20,514 and 57,654; 2012-2016) for Chinook and Coho, respectively. Retention of White Sturgeon was allowed in Select for the first time since 2013. Landings of Select Area commercial fisheries are summarized in Tables 15, 17, 18, 22, and 24. Season structure is described in Table 14.

In Youngs Bay, the commercial fishery was open for one 36-hour period per week from August 3 to August 24, three twelve-hour periods during the last week of August, and then was open continuously from September 4 through October 31 (57 days). The first four periods in August are generally Chinook-directed fisheries and the remainder target Coho. The upper fishing boundary during the fall season is at Battle Creek Slough. This boundary is downstream from the typical boundary at the confluence Youngs and Klaskanine Rivers and is in place to allow for hatchery escapement of SAB fall Chinook. The maximum mesh size during the Chinook-directed fisheries was 9¾-inches and was reduced to 6-inches during the Coho-directed fisheries. Net length is restricted to 250 fathoms maximum in Youngs Bay. The 2017 fall commercial fishery in Youngs Bay was open for 64 days in which 6,277 Chinook, 13,603 Coho, and 115 White Sturgeon were landed. In comparison to previous years, landings were about 56% and 60% of the recent 5-year averages (11,130 and 22,692; 2012-2016) for Chinook and Coho, respectively. White Sturgeon landings were the highest on record for fall fisheries in Youngs Bay.

In Blind Slough/Knappa Slough, the fall commercial fishery was open for two 12-hour periods during the last week of August, four 12-hour fishing periods during the first week of September, and four 16-hour periods per week from September 11 to October 27 (28 periods). The total

number of fishing periods was reduced from previous years to allow for escapement of tule fall Chinook and Coho to Big Creek Hatchery. The maximum mesh size was 9.75-inches for all periods. Net length is restricted to 100 fathoms maximum in Blind Slough/Knappa Slough. The 2017 fall commercial fishery in Blind Slough/Knappa Slough was open for 34 fishing periods in which 1,636 Chinook, 2,460 Coho, and 9 White Sturgeon were landed. In comparison to previous years, landings were about 52% and 37% of the recent 5-year averages (3,166 and 6,646; 2012-2016) for Chinook and Coho, respectively.

In Tongue Point/South Channel, the season structure of the fall commercial fishery was very similar to that of Blind Slough/Knappa Slough. This structure is designed to provide concurrency between the two fishing sites as requested by commercial fishers. All commercial periods between the two areas were concurrent except that during September 11 to October 27 the open periods were 18 hours in Tongue Point/South Channel. The maximum mesh size was 6 inches for all fall periods. Maximum net length is 250 fathoms in Tongue Point/South Channel. The 2017 fall commercial fishery in Tongue Point/South Channel was open for 34 fishing periods and 2,251 Chinook, 12,534 Coho, and 82 White Sturgeon were landed. In comparison to previous years, landings were about 58% and 70% of the recent 5-year averages (3,882 and 17,965; 2012-2016) for Chinook and Coho, respectively.

In Deep River, the fall commercial fishery was open four 12-hour periods per week during August 21 through September 1 (8 periods), five 15-hour periods per week from September 4 through September 23 (15 periods), and four 15-hour periods per week from September 25 through October 13 (12 periods). The periods beginning on September 25 were originally scheduled as 12-hour periods but were modified in-season to 15-hour periods to allow for additional fishing opportunity. The mesh size was 9.75-inches maximum until September 9 and 6-inches thereafter. The reduction in mesh size is intended to reduce handle of Chum and maximize harvest of Coho. Net length is restricted to 100 fathoms maximum in Deep River. The 2017 fall commercial fishery in Deep River was open for 35 fishing periods in which 1,870 Chinook, 9,382 Coho, and 31 White Sturgeon were landed. In comparison to previous years, landings were about 79% and 90% of the recent 5-year averages (2,354 and 10,376; 2012-2016) for Chinook and Coho, respectively. White Sturgeon landings were the highest on record for fall fisheries in Deep River.

The 2017 recreational fisheries in Select Areas occurred as per permanent regulations in Washington and Oregon. Recreational catch in the Oregon Select Areas is estimated from harvest cards turned in voluntarily by anglers which are not available until the following calendar year at the earliest. Estimated catch in 2016 was about 491 Chinook and 223 Coho in Oregon Select Areas and associated tributaries.

Treaty Indian Mainstem Fisheries

During the fall season, fisheries in the mainstem Columbia River from just downstream of Bonneville Dam upstream to McNary Dam (Zone 6, Figure 5) include treaty Indian commercial and ceremonial and subsistence (C&S) fisheries. Like non-treaty fisheries occurring from the Columbia River mouth upstream to Highway 395 Bridge, treaty mainstem fisheries are managed in accordance with harvest rate schedules in the *U.S. v. Oregon* Management Agreement. The URB harvest rate is used as a surrogate for harvest rates on SRW Chinook. Treaty Indian landings and fishery structures are summarized in Tables 13, 15, 18, and Tables 28-31. ESA impacts are

shown in Tables 32 and 36. Treaty Indian tributary fisheries (including those in the Snake Basin) are not discussed in this report.

2017 Treaty Indian Commercial Fisheries

The 2017 treaty Indian fall commercial fishery was managed to target harvestable salmon and steelhead, while limiting impacts on ESA-listed SRW fall Chinook and B-Index summer steelhead. The commercial gillnet salmon fishery occurred between August 21 and October 5, and consisted of seven weekly fishing periods of 4.5-days each, except for the last period which was 3.5 days long (30.5 fishing-days total). The standard Spring Creek Hatchery closed area was in effect for all openings. An 8-inch minimum mesh size restriction was in place for all seven gillnet openings. Aerial surveys were conducted weekly; net counts averaged 458 nets per survey (Table 31). Platform hook-and-line caught fish were open for sales during August 1 through December 31. Tribal platform and hook-and-line fisheries downstream of Bonneville Dam were open according to agreements with the States, but there was very little recorded effort or catch (360 Chinook, 210 steelhead, and 40 Coho).

Fall season treaty fisheries landed 121,674 Chinook (117,463 adults), 8,439 steelhead, 8,731 Coho, and 3 Sockeye. Sturgeon landings during the fall season totaled 71 fish. A total of 49 walleye were also caught. The tribes allowed legal-sized sturgeon to only be retained for subsistence use during fall salmon gillnet fisheries. The Chinook catch was highest in the second and third weeks of September. Of the total catch, 10% of the Chinook, 36% of the steelhead, and 20% of the Coho were taken home or sold directly to the public. Impacts to total B-Index summer steelhead from treaty Indian fisheries totaled 6.0%, compared to the 13.0% limit.

2017 Fishery Impacts

Fall fisheries are structured to maximize harvest of healthy fish stocks while remaining within ESA-impact guidelines for multiple species/stocks. Tables 32-36 provide impact summaries for treaty Indian and non-treaty fisheries.

For 2017, URB and SRW fall Chinook impacts were managed based on an URB run size greater than 200,000 adults and an SRW run size of at least 8,000 adults. According to Table A3 of the MA, returns of this size allow for a harvest rate of 45% (15% non-treaty and 30% treaty Indian). The actual URB harvest rates were 26.3% in treaty Indian fisheries and 16.1% for non-treaty fisheries. Impacts to SRW fall Chinook totaled 26.3% from treaty fisheries and 16.0% from non-treaty fisheries. Due to non-treaty mark-selective fisheries in the lower river recreational fisheries, normally there is a slight difference between the harvest rate of URBs

2017 Management	Total	Goal/ Guideline
Total URB HR	42.4%	45.0%
Non-Treaty	16.1%	15.0%
Treaty Indian	26.3%	30.0%
Snake River Natural Origin HR	42.3%	45.0%
Non-Treaty	16.0%	15.0%
Treaty Indian	26.3%	30.0%
LRH Ocean/Inriver ER	36.1%	41.0%
<i>In-River ER</i>	<i>7.7%</i>	
Non-Treaty Natural Origin A-Index Steelhead	1.1%	2.0%
Non-Treaty Natural Origin B-Index Steelhead	2.0%	2.0%
Treaty Total B-Index Steelhead	6.0%	13.0%
Lower Columbia Chum	0.0%	5.0%
Percent of Upriver Chinook Harvestable Surplus		
Non-Treaty	34%	50%
Treaty Indian	35%	50%
McNary Escapement	152,200	60,000
Percent Upriver Coho to Bonneville Dam	79%	50%

and the impact rate of SRWs in treaty and non-treaty fisheries. In 2017, because the mark selective fishery impacts were relatively small, the difference was negligible. The ER for LCR natural origin tule Chinook totaled 36.1%, compared to the limit of 41.0% for combined ocean and inriver (mainstem Columbia River) fisheries. The combined ER for inriver fisheries was 7.7% ER, or 21% of the 36.1% total.

The ER for LCN Coho totaled 10.8%, compared to the limit of 18% in combined ocean and inriver fisheries. The ER from inriver fisheries was 3.5%, or 32% of the 10.8% total.

Impacts to natural origin B-Index summer steelhead from treaty Indian fisheries totaled 8.3%. Incidental release mortalities from non-treaty fall fisheries resulted in impacts of 2.0% to natural origin B-Index steelhead, compared to the 2.0% limit.

2018 FALL SEASON FISHERY EXPECTATIONS

Non-Treaty Fisheries

Specific recommendations for fall commercial seasons will be presented at Compact hearings occurring throughout the fall management period. Based on preseason run size forecasts, a preliminary fishing schedule was developed for Columbia River non-treaty fisheries through the NOF management process. As the fall management period progresses, run size updates will occur, which may alter planned fisheries. Chinook run sizes cannot typically be updated until mid-September. Stock composition and estimated impacts for all fisheries will be updated in-season as catch estimates and stock composition (determined from CWT data) become available. These data may differ from preseason expectations, which could result in modifications to fall fishery plans/seasons.

2018 Non-Treaty Columbia River Fall Fishery Chinook Allocation Agreement

The agreement reflects the intent of the Washington and Oregon Fish and Wildlife Commission policies and the management objective to optimize non-treaty (commercial and recreational) fisheries harvest of Chinook and Coho within the limitations of the ESA. The agreement was developed during the March and April 2018 PFMC and NOF meetings, which included input from commercial and recreational fishery representatives.

ESA limits (based on preseason forecasts) for 2018 non-treaty fall fisheries include a 15.0% harvest rate (HR) for SRW Chinook (URB stock is the surrogate), a 38% ER for LCR tule Chinook (LRH stock is the surrogate), an 18% ER for LCN Coho (unmarked Coho are the surrogate), and a 2% impact rate for natural origin A- and B-Index steelhead. The ERs for LCR tule Chinook and LCN Coho include impacts from combined ocean and Columbia River fisheries. The most constraining stock for Columbia River fisheries in 2018 is the URB Chinook (SRW surrogate), which due to the predicted return at 205,100, will be managed conservatively at an 8.25% HR prior to an in-season run-size update since the forecasted return is close to 200,000 (8.25% harvest rate trigger). This conservative approach has required significant preseason recreational and commercial fishery reductions to remain within the reduced ESA take limit.

The preseason expectation for combined non-treaty Columbia River (inriver) fisheries is 8.24% HR on SRW (8.24% on URBs), an ER of 6.3% on LCR tule Chinook (plus an additional 1.4% LCR tule if the URB in season runsize is projected to exceed 200,000) and 5.4% on LCN Coho. Impacts to natural origin A- and B-Index steelhead are expected to be within the 2.0% limits (1.1% and 1.8% projected).

The non-treaty conservation burden for ESA-listed Chinook is shared between recreational and commercial fisheries for the most constraining stock. The sharing for utilized SRW impacts is expected to be 70% recreational and 30% commercial. In-river sharing of utilized LCR tule impacts are currently expected to be 73% recreational and 27% commercial.

White Sturgeon harvest was prohibited effective January 2014 in all Columbia River fisheries downstream of Bonneville Dam, consistent with policies adopted by the Fish and Wildlife Commissions of both Washington and Oregon. Retention fisheries were reinstated in June 2017,

beginning with Estuary recreational and Select Area commercial fisheries. Per Commission guidance, White Sturgeon harvest allocations remain at 80% recreational and 20% commercial.

Goals/expectations for the recreational fishery include:

The Buoy 10 fishery will begin on August 1 with a one salmonid daily limit through August 24. Mark-selective Chinook regulations are not anticipated. From August 25 through December 31, Chinook retention is scheduled to be closed but the daily limit will increase to two adult hatchery salmonids, no more than one steelhead. In-season considerations may include the potential to allow some additional Chinook retention during part of the scheduled Chinook non-retention period (August 25 through December 31). Any decision to extend the fishery will be made in-season, taking into account fishery performance and policy objectives. Catch (and release mortality) expectations total 15,400 Chinook (1.7% SRW harvest rate; 3.7% LCR natural origin ER) and 27,500 Coho (including 2,700 unmarked mortalities; 3.2% LCN ER). The expected impact rate for both natural origin A- and B-Index steelhead is 0.01% each, and 0.0% for Chum.

The mainstem recreational fishery from the Rocky Point/Tongue Point line upstream to Bonneville Dam will be open August 1 through December 31, but Chinook retention seasons and bag limits vary by river section with the intent of maximizing opportunity (with consideration of policy objectives for the fishery), within available impacts to SRW Chinook. Harvest (including release mortality) expectations include 10,100 adult Chinook (3.5% SRW HR; 0.9% LCR natural origin ER) and 1,600 adult Coho (including 110 unmarked mortalities; 0.1% LCN ER). The expected impact rates for natural origin A- and B-Index steelhead are 0.24% and 0.14%, respectively. Impacts to Chum are expected to be minimal at 0.01%.

The following describes the planned season and bag limits by area:

- From the Rocky Point/Tongue Point line upstream to the Lewis River/Warrior Rock line, Chinook retention allowed August 1 through September 2 with a one salmonid limit. The area will close for Chinook retention from September 3 through December 31. Beginning September 3, the daily adult limit will increase to two salmonids, of which no more than one may be a steelhead. In-season considerations may include the potential for allowing a Chinook MSF during part of the scheduled Chinook non-retention period (September 3 through December 31). Any decision to extend the fishery will be made in-season and will take into account fishery performance and policy objectives.
- From the Lewis River/Warrior Rock line upstream to Bonneville Dam, Chinook retention allowed August 1 through September 14, with a one salmonid limit. Chinook retention will be closed September 15 through December 31, but the daily adult bag limit will increase to two fish, no more than one steelhead.

The mainstem recreational fishery from Bonneville Dam to the Highway 395 Bridge will begin August 1 with a two adult salmonid daily limit that may include up to one Chinook and one steelhead. The season will be managed based on a total harvest expectation of 1,630 adult Chinook (0.5% SRW HR) prior to a run update. The expected impact rates for natural origin A- and B-Index steelhead are 0.61% and 1.11%, respectively; these rates include impacts from tributary dip-ins.

During all fall fisheries from Buoy 10 upstream to the OR/WA border (upstream of McNary Dam), each legal angler aboard a vessel may continue to deploy angling gear until the daily adult salmonid bag limit for all anglers aboard has been achieved.

The dates, area restrictions, and catch expectations described above are based on preseason planning and input from the recreational fishing community. In-season events may change many of these expectations.

Goals/expectations for the commercial fishery include:

The August fishery is expected to begin between August 12-19 and continue through the month, with fishing periods occurring one to three days per week. Fishery structure includes 9-hour (9 PM-6 AM) periods in Zones 4-5 with a 9-inch minimum mesh size. The catch expectation is 10,000 adult Chinook (2.1% SRW harvest rate; 1.2% LCR natural origin ER) and 450 Coho (0.26% LCN ER). The expected impact rates for natural origin A- and B-Index steelhead are 0.15% and 0.11%, respectively. No impacts to Chum are expected. Any additional Chinook-directed commercial fisheries will be addressed in-season after the fall Chinook and steelhead run-size updates are available (approximately mid-September).

Commercial fishing periods targeting hatchery Coho using 3.75-inch tangle nets are planned to occur in October during daylight hours in Zones 1-3. Based on preseason forecasts, approximately 11,200 kept Coho (1.4% LCN ER) are available for commercial Coho-directed fisheries. The adult Chinook catch expectation is 730 fish (0.3% SRW HR; 0.1% LCR natural origin ER). The expected impact rates for natural origin A- and B-Index steelhead are 0.02% and 0.14%, respectively. No impacts to Chum are expected.

The dates, areas, gear restrictions, and catch expectations described above are based on preseason planning and input from the commercial fishing industry. In-season events may change many of these expectations.

Mainstem commercial fishing seasons and regulations will be adopted at a mid-August Compact Hearing.

Select Area Fisheries

The 2018 fall season structure for Select Area commercial fisheries is expected to be similar to that of 2017. Fishing periods and regulations will be adopted at the July 26 Compact hearing. Based on 2018 run size predictions, an estimated 36,100 Select Area Coho are expected to return for harvest in all Select Area fishing sites combined. This forecast includes 16,900 Coho to Youngs Bay, 3,200 to Tongue Point/South Channel, 5,600 to Blind Slough/Knappa Slough, and 10,400 to Deep River. SAB Chinook harvest is forecasted at 2,800 fish in all Select Areas combined. LRH fall Chinook will also be available for harvest in all sites. Impacts to ESA-listed stocks in 2018 fall Select Area fisheries are expected to be 0.20% HR for SRW Chinook, 0.40% ER for natural origin LCR Chinook, 0.28% ER for LCN Coho, 0.05% and 0.08% for natural origin A- and B-Index steelhead, and 0.02% for Chum.

Treaty Indian Fisheries

Treaty Indian commercial gillnet fisheries have typically occurred from mid to late August through late September or early October. Sales of platform and hook-and-line caught fish typically begin August 1, and may extend into late-October or possibly the end of the year. Fishery restrictions may include mesh size restrictions to target Chinook. Area restrictions to reduce impacts on specific Chinook stocks have occurred in the past, but have not occurred recently, and are not expected in 2018. Coho and steelhead harvest is expected to be similar to recent-year average rates. Sturgeon sales are generally not allowed during fall salmon gillnet fisheries. Sturgeon retention (within a specific size limit) is typically allowed only for subsistence purposes. It is possible that some limited fall season commercial setline fishing for sturgeon could occur in 2018. Fall gillnet fisheries typically consist of 2.5 to 4.5-day weekly fishery periods. The tribes usually choose to begin commercial gillnet fisheries on Mondays. Sales of platform and hook-and-line caught fish, as well as fish caught in Klickitat River and Drano Lake tributary fisheries, are typically allowed throughout the fall period. The tribes plan on managing their fall season platform and hook and line fisheries for both commercial and subsistence use beginning August 1 and will complete their commercial gillnet fishery planning in late July or early August.

For 2018, allowable ESA impact rates (based on preseason forecasts) for treaty fisheries include a limit of 30% on SRW fall Chinook and an ESA limit of 15% on B-Index steelhead, based on preseason forecasts. Actual allowed harvest rates will depend on actual run sizes.

Seasons and regulations for platform/hook-and-line fisheries, including the area downstream of Bonneville Dam will be adopted at the July 26 Compact Hearing.

Seasons and regulations for the initial mainstem Treaty gillnet fishing periods will be adopted at a mid-August Compact Hearing.

2018 Columbia River Fall Fishery Model Summary

The following table summarizes Chinook catch, ESA-impact, and passage expectations, based on preseason planning.

Columbia River Fall Chinook Fishery Model Summary				11-Apr-18 12:21 PM		MR2018-Final Preseason											
Ocean Option:	April 8 PFMC Ocean Option 2																
Columbia River Model Option:	Model	MR2018-Final Preseason															
Average URB % by Fishery (Spor Time Blocks)																	
Management Guidelines	Goal/Guideline	SRW	Total URB														
Harvest Rate	38.25%	38.24%	38.24%														
Non-Treaty	8.25%	8.24%	8.24%														
Treaty	30.0%	30.0%	30.0%														
% of Harvestable Surplus		Total															
Non-Treaty	50%	29%															
Treaty	50%	41%															
McNary Escapement	60,000	116,900															
LRH Ocean/Inriver Exp. Rate	38%	36.3%															
Non-Treaty Wild B Index Steelhead	2%	1.8%															
Treaty Total B Index Steelhead	15%	15%															
Upriver Coho to Bonneville Dam	50%	65%															
Lower Columbia Chum	5%	0.03%															
				Non-Treaty Catch Sharing													
				SRW - IMPACTS			Brights - Mainstem										
				Sport	Impact	Percent	Mortalities	Percent	Harvest								
				Sport	5.73%	70%	Sport	18,000	76%	17,600							
				Comm	2.51%	30%	Comm	5,600	24%	5,600							
				LRH - Impacts			Chinook - Mainstem										
				Sport	Impact	Percent	Mortalities	Percent	Harvest								
				Sport	4.58%	73%	Sport	27,100	72%	26,600							
				Comm	1.73%	27%	Comm	10,700	28%	10,700							
				Total	LRH	LRW	BPH	URB	BUB	LRB	PUB	SAB	SRW	LRH	SRW		
Ocean Harvest				55,770	11,530	2,600	14,890	22,130	0	400	4,210				ER	HR	
Columbia River Run				375,520	63,910	7,860	51,420	205,060	0	3,760	38,200	5,300	9,600	6.3%	7.8%		
Harvest Below Bonneville				Fishery Description													
Zone 4-5 Wk 33				2 days	2,540	370	0	950	1,050	0	0	160	0	50	0.3%	0.5%	
Zone 4-5 Wk 34				3 days	3,810	560	0	1,420	1,580	0	10	240	0	70	0.5%	0.8%	
Zone 4-5 Wk 35				1 day	3,630	440	10	1,280	1,590	0	20	280	10	70	0.4%	0.8%	
Oct Coho Tanglenet				October	Coho target	730	100	30	10	520	0	0	70	0	20	0.1%	0.3%
Select Areas				Full Season	8,880	5,320	0	270	410	0	0	60	2,810	20	0.4%	0.2%	
Buoy 10 Kept + Morts				1 salmonid Non MSF	Aug 1 - 24	15,400	3,380	140	3,460	3,570	0	70	750	2,880	170	3.7%	1.7%
TP to Lewis				1 salmonid Non MSF	Aug 1 - Sept 2	4,260	540	140	140	2,770	0	50	620	20	130	0.6%	1.3%
Lewis to Bonn				1 salmonid Non MSF	Aug 1 - Sept 14	5,790	230	0	160	4,430	0	100	870	0	210	0.3%	2.2%
Tributary Sport				MSF	Full season	4,100	3,250	850	0	0	0	0	0	0	0	0.0%	0.0%
Lower River Total					49,130	14,200	1,170	7,700	15,920	0	240	3,050	5,710	750	6.3%	7.76%	
Bonneville Dam Passage					253,090			40,280	189,140	0		23,660		8,850			
Harvest Above Bonneville																	
Zone 6 - Bonn to Hwy 395				1 Chinook	Manage Inseason	1,630			980	0		650		50		0.5%	
Treaty Comm. and C&S					Average season	91,470			21,280	60,450	0		9,730		2,830	29.5%	
Hanford Reach Sport					Average season	7,790			7,790					0			
McNary Dam Passage					116,880			116,880									
Lower Granite Dam Passage																	
Escapement					49,710			19,000		0		13,270	-410				
Hatchery					27,580			13,850		0		6,770	-250				
Natural					22,140	6,690	5,150	116,880	0	3,520	8,070	-160					
Hatchery Surplus					12,320			6,850		0		3,210	-1,250				
Natural Surplus						638	3,850	56,880									

Table 1. Federally-listed species found in Columbia River fishery management areas.

Species – <i>ESU/DPS</i> ¹	Designation	Listing Date	Effective Date
<u>Chinook</u>			
Snake River Fall	Threatened	22-Apr-92	22-May-92
Snake River Spring/Summer	Threatened	22-Apr-92	22-May-92
Upper Columbia Spring	Endangered	24-Mar-99	24-May-99
Upper Columbia Summer/Fall	Not Warranted	--	--
Middle Columbia Spring	Not Warranted	--	--
Lower Columbia Spring/Fall	Threatened	24-Mar-99	24-May-99
Upper Willamette Spring	Threatened	24-Mar-99	24-May-99
Deschutes River Summer/Fall	Not Warranted	--	--
<u>Steelhead</u>			
Snake River Basin	Threatened	18-Aug-97	17-Oct-97
Upper Columbia River ²	Threatened	18-Aug-97	17-Oct-97
Lower Columbia River	Threatened	19-Mar-98	18-May-98
Middle Columbia River	Threatened	25-Mar-99	24-May-99
Southwest Washington	Not Warranted	--	--
Upper Willamette	Threatened	25-Mar-99	24-May-99
<u>Sockeye</u>			
Snake River	Endangered	20-Nov-91	20-Dec-91
Okanogan River	Not Warranted	--	--
Lake Wenatchee	Not Warranted	--	--
<u>Chum</u> – Columbia River	Threatened	25-Mar-99	24-May-99
<u>Coho</u> – Columbia River	Threatened	28-Jun-05	26-Aug-05
<u>Green Sturgeon</u>- Southern DPS	Threatened	7-Apr-06	7-Jul-06
<u>Eulachon</u> - Southern DPS	Threatened	17-Mar-10	17-May-10

¹ The ESU/DPSs in bold are present in the Columbia River basin during the time when fisheries described in this report occur and therefore may be impacted by these fisheries.

² Status downgraded to threatened per U.S. District Court order in June 2009.

Table 2. Columbia River fall salmonid returns, forecasts and actual, 2017-2018. ^{1,2}

			2017		2018
			Forecast	Return	Forecast
Fall Chinook	LRH - Lower River	Hatchery	98,750	64,626	63,910
	LRW - Lower River	N-O	13,610	7,855	7,860
	BPH - Bonneville Pool	Hatchery	164,390	48,127	51,420
	URB - Upriver Bright		275,210	297,423	205,060
	<i>Snake River</i>	N-O	12,400	11,750	9,600
	BUB - Bonn. Upr. Br. ³	Hatchery	3,470	1,353	0
	LRB - L. River Brights	N-O	220	4,199	3,760
	PUB - Pool Upr. Br.	Hatchery	44,490	46,263	38,200
	SAB - Select Area Br.	Hatchery	13,700	6,617	5,300
Total Fall Chinook			613,840	476,463	375,510
Coho	Early stock		196,800	151,637	127,200
	Late stock		122,500	84,019	86,400
	Total Coho		319,300	235,656	213,600
Upriver Summer Steelhead (to Bonneville Dam)	Upriver Skamania Index	Total	11,300	3,491	7,950
		N-O	4,100	1,236	3,000
	A-Index	Total	112,100	106,776	158,000
		N-O	33,000	27,909	44,800
	B-Index	Total	7,300	6,574	24,400
		N-O	1,100	751	3,400
	Total Upriver Steelhead	Total	130,700	116,841	190,350
	N-O	38,200	29,896	51,200	

¹ Columbia River mouth return, except summer steelhead is Bonneville Dam return. Numbers may not sum due to rounding.

² Natural origin (N-O)

³ BUB production moved to PUB stock starting in 2018.

Table 3. Stock accountability of adult fall Chinook returning to the Columbia River, 1980-2017.^{1,2}

Return Year	LRH	LRW	BPH	URB	BUB	LRB ³	PUB	SAB	Total Return
1980-84 Ave	106,100	21,400	76,200	88,000	3,900		4,000		299,600
1985	111,000	13,300	33,200	196,400	5,700		3,100	1,600	364,300
1986	154,800	24,500	16,600	281,600	14,200		3,200	2,000	496,900
1987	344,000	37,900	9,100	420,700	25,800		31,200	2,300	871,000
1988	309,900	41,700	12,000	339,900	41,900		36,100	3,200	784,700
1989	130,900	38,600	26,800	261,300	65,200		27,900	1,200	551,900
1990	60,000	20,300	18,900	153,600	38,100		20,800	1,100	312,800
1991	62,700	19,800	52,400	103,300	23,800		11,600	2,000	275,600
1992	62,600	12,500	29,500	81,000	20,400		10,700	2,300	219,000
1993	52,300	13,300	16,800	102,900	18,100		9,400	2,100	214,900
1994	53,600	12,200	18,500	132,800	16,600		17,100	3,200	254,000
1995	46,300	16,000	33,800	106,500	14,900		19,300	6,000	242,800
1996	75,500	14,600	33,100	143,100	27,200		32,500	4,700	330,700
1997	57,400	12,300	27,300	161,700	28,700		30,300	3,800	321,500
1998	45,300	7,300	20,200	141,600	8,000	500	28,800	3,300	255,000
1999	39,900	3,300	50,200	165,900	13,700	900	36,200	2,900	313,000
2000	27,000	10,200	20,500	156,600	11,900	700	24,600	3,500	255,000
2001	94,300	15,700	125,000	232,400	42,200	800	33,500	4,900	548,800
2002	156,400	25,200	158,300	279,500	58,300	1,800	48,100	5,700	733,300
2003	154,500	25,400	180,600	374,200	80,600	2,100	67,400	8,100	892,900
2004	109,000	21,100	175,200	362,800	53,300	2,100	67,100	7,100	797,700
2005	79,400	16,300	103,500	277,200	51,400	1,200	47,000	6,600	582,600
2006	57,300	12,600	27,900	230,400	41,600	3,600	35,200	7,200	415,800
2007	32,700	4,900	14,500	114,000	23,500	700	23,400	6,500	220,200
2008	61,600	7,800	93,800	197,300	40,800	2,500	33,000	12,900	449,700
2009	76,600	8,400	49,000	212,100	38,000	900	34,100	10,600	429,700
2010	103,300	11,500	128,600	324,900	28,800	600	49,600	8,600	655,900
2011	109,100	15,400	70,500	322,100	26,600	1,900	58,700	16,400	620,700
2012	85,000	12,100	56,900	297,800	11,600	500	49,300	11,900	525,100
2013	104,800	25,800	86,700	778,300	33,900	1,700	214,000	23,400	1,268,600
2014	101,900	25,800	127,000	684,200	31,600	2,300	169,900	16,500	1,159,200
2015	128,900	32,400	166,500	795,700	35,900	3,400	131,400	11,400	1,305,600
2016	81,500	12,300	41,300	412,900	9,600	11,000	67,200	6,700	642,500
2017	64,600	7,900	48,100	297,400	1,400	4,200	46,300	6,600	476,500

¹ Numbers may not sum due to rounding.

² The sum of the BUB, LRB, and PUB stocks represent the aggregate mid-Columbia Bright (MCB) stock.

³ LRBs included in BUB stock until 1998 when LRBs designated as a separate stock from BUBs.

Table 4. Predicted and actual returns to the Columbia River of adult fall Chinook, 2012-2017.¹

Stock	Year	Preseason Forecast	Actual Return	Percent of Forecast
Lower River Hatchery (LRH)	2012	128.4	85.0	66%
	2013	86.9	104.8	121%
	2014	100.7	101.9	101%
	2015	96.8	128.7	133%
	2016	142.5	81.5	57%
	2017	98.8	64.6	65%
Lower River Natural Origin (LRW)	2012	16.2	12.1	75%
	2013	14.3	25.8	180%
	2014	33.4	25.8	77%
	2015	19.3	32.4	168%
	2016	22.4	12.3	55%
	2017	13.6	7.9	58%
Bonneville Pool Hatchery (BPH)	2012	60.0	56.9	95%
	2013	36.3	86.7	239%
	2014	103.2	127.0	123%
	2015	163.9	166.4	102%
	2016	100.7	41.3	41%
	2017	164.4	48.1	29%
Upriver Bright (URB)	2012	353.0	295.9	84%
	2013	434.6	784.3	180%
	2014	919.0	684.2	74%
	2015	518.3	795.9	154%
	2016	579.7	412.9	71%
	2017	275.2	297.4	108%
Mid-Columbia Bright (MCB)	2012	90.7	634.0	699%
	2013	97.6	243.4	249%
	2014	344.2	203.8	59%
	2015	114.7	170.6	149%
	2016	99.1	87.8	89%
	2017	48.1	51.9	108%
Select Area Bright (SAB)	2012	6.6	11.9	180%
	2013	8.9	23.4	263%
	2014	10.1	16.5	163%
	2015	12.2	11.4	93%
	2016	15.8	6.7	42%
	2017	13.7	6.6	48%
Columbia River Total	2012	654.9	525.2	80%
	2013	678.6	1,268.4	187%
	2014	1,510.6	1,159.1	77%
	2015	925.3	1,305.4	141%
	2016	960.2	642.5	67%
	2017	613.8	476.5	78%

¹ Numbers may not sum due to rounding. Reported in thousands of fish.

Table 5. Estimated Columbia River return of Snake River natural origin fall Chinook adults, 1986-2017.

Year	Columbia River Return	Non-Treaty Zone 1-5 Harvest	Bonneville Dam Count	Treaty Zone 6 Harvest	Non-Treaty Above BON Harvest ¹	Lower Granite Run Size ²
1986	2,830	652	2,178	723	12	449
1987	1,783	491	1,292	379	2	253
1988	3,558	944	2,614	965	7	368
1989	1,981	373	1,608	608	8	295
1990	508	71	437	169	2	78
1991	1,846	275	1,571	379	17	318
1992	1,289	112	1,178	202	6	549
1993	1,475	107	1,368	270	11	742
1994	958	0	958	173	1	406
1995	1,296	10	1,286	225	9	350
1996	1,729	95	1,634	350	3	639
1997	1,839	99	1,740	459	7	797
1998	730	21	709	165	4	306
1999	2,395	163	2,232	515	11	905
2000	2,612	179	2,432	520	9	1,148
2001	14,133	778	13,355	2,020	63	5,163
2002	3,665	250	3,416	709	11	2,116
2003	8,093	675	7,417	953	33	4,257
2004	8,174	706	7,467	877	21	7,055
2005	9,500	779	8,721	1,434	49	5,299
2006	12,202	928	11,274	2,136	34	4,713
2007	9,878	567	9,311	1,492	64	3,914
2008	8,738	622	8,115	1,615	30	3,937
2009	15,576	1,568	14,008	3,831	53	4,653
2010	12,855	971	11,884	2,141	34	7,302
2011	17,156	2,228	14,928	2,918	53	8,370
2012	19,360	2,641	16,719	3,433	61	12,797
2013	34,669	3,462	31,208	6,429	141	21,124
2014	20,752	2,484	18,268	4,096	32	14,172
2015	24,054	2,530	21,523	4,319	87	16,212
2016	14,493	2,023	12,568	2,907	96	9,772
2017	11,750	1,403	10,997	3,308	86	6,966

¹ Recent year harvest data for non-treaty recreational fisheries upstream of Bonneville Dam considered preliminary until catch record card data is finalized.

² Includes release mortalities

Table 6. Returns of upriver summer steelhead to Bonneville Dam (April- October), 1984-2017.

Year	Skamania Index			A-Index				B-Index				Total Passage		
	Hatchery	Natural Origin	Total	Clipped Hatchery	Unclipped Hatchery	Natural Origin	Total	Clipped Hatchery	Unclipped Hatchery	Natural Origin	Total	Hatchery	Natural Origin	Total
1984	--	2,490	20,780	--	--	52,447	195,751	--	--	13,768	98,011	--	68,705	314,542
1985	--	3,690	19,990	--	--	51,922	281,504	--	--	12,986	40,870	--	68,598	342,364
1986	--	5,520	24,830	--	--	56,570	287,508	--	--	9,984	64,016	--	72,074	376,354
1987	--	7,380	17,790	--	--	106,690	238,283	--	--	13,990	44,959	--	128,060	301,032
1988	--	4,180	22,360	--	--	64,331	173,151	--	--	17,742	81,643	--	86,253	277,154
1989	--	3,770	15,730	--	--	57,513	193,079	--	--	12,367	77,604	--	73,650	286,413
1990	--	3,690	18,710	--	--	27,102	115,628	--	--	8,811	47,174	--	39,603	181,512
1991	--	1,220	10,880	--	--	60,264	234,048	--	--	6,207	28,265	--	67,691	273,193
1992	--	2,940	14,910	--	--	44,294	241,524	--	--	12,715	57,438	--	59,949	313,872
1993	--	1,250	14,360	--	--	28,650	136,701	--	--	4,378	36,169	--	34,278	187,230
1994	--	1,380	12,330	--	--	21,212	120,971	--	--	5,152	27,463	--	27,744	160,764
1995	--	1,150	8,220	--	--	25,997	180,037	--	--	1,847	13,221	--	28,994	201,478
1996	--	1,310	10,830	--	--	25,721	174,464	--	--	3,912	18,693	--	30,943	203,987
1997	--	930	11,890	--	--	30,852	208,209	--	--	3,913	36,663	--	35,695	256,762
1998	--	1,610	9,440	--	--	34,836	134,687	--	--	3,415	40,241	--	39,861	184,368
1999	--	1,310	7,160	--	--	56,626	176,466	--	--	3,740	22,137	--	61,676	205,763
2000	--	5,728	16,619	--	--	63,628	216,723	--	--	8,368	40,909	--	77,724	274,251
2001	--	7,952	28,725	--	--	137,230	515,079	--	--	12,047	86,426	--	157,229	630,230
2002	--	9,671	24,991	--	--	87,276	323,124	--	--	32,333	129,882	--	129,280	477,997
2003	--	1,801	14,154	--	--	67,049	305,795	--	--	6,417	37,228	--	75,267	357,177
2004	--	3,289	20,148	--	--	60,421	250,615	--	--	9,202	37,398	--	72,912	308,161
2005	--	2,123	11,221	--	--	58,917	251,631	--	--	9,619	48,968	--	70,659	311,820
2006	--	2,181	9,882	--	--	63,735	245,168	--	--	8,466	74,128	--	74,382	329,178
2007	--	1,727	9,475	--	--	77,268	258,848	--	--	9,015	51,073	--	88,010	319,396
2008	--	4,489	15,832	--	--	81,648	245,823	--	--	18,529	93,429	--	104,666	355,084
2009	--	3,528	13,884	--	--	154,045	543,195	--	--	13,727	44,540	--	171,300	601,619
2010	--	10,357	29,270	--	--	120,531	304,002	--	--	22,364	77,146	--	153,252	410,418
2011	--	2,814	9,750	--	--	101,263	318,125	--	--	7,771	36,996	--	111,848	364,871
2012	--	3,023	10,958	--	--	55,464	192,134	--	--	6,813	27,723	--	65,300	230,815
2013	--	1,661	5,738	--	--	90,496	214,074	--	--	2,907	11,511	--	95,064	231,323
2014	--	4,783	13,526	--	--	109,279	260,130	--	--	13,341	47,057	--	127,403	320,713
2015	--	3,664	8,131	--	--	84,896	234,382	--	--	5,842	18,848	--	94,402	261,361
2016	7,416	4,822	12,238	92,225	7,519	29,146	128,890	33,839	5,608	3,469	42,916	146,607	37,437	184,044
2017	2,255	1,236	3,491	75,690	3,177	27,909	106,776	5,019	804	751	6,574	86,945	29,896	116,841

Table 7. Returns of upriver summer steelhead to Lower Granite Dam, 1991-2017.¹

Run Year ²	A-Index				B-Index				Total steelhead return			
	Clipped Hatchery	Unclipped Hatchery	Natural Origin	Total	Clipped Hatchery	Unclipped Hatchery	Natural Origin	Total	Clipped Hatchery	Unclipped Hatchery	Natural Origin	Total
1991-92	69,885	0	14,135	84,020	11,883	0	3,182	15,065	81,768	0	17,317	99,085
1992-93	83,420	0	13,617	97,037	25,566	0	5,777	31,343	108,986	0	19,394	128,380
1993-94	34,657	0	7,332	41,989	15,895	0	1,790	17,685	50,552	0	9,122	59,674
1994-95	31,956	0	5,873	37,829	7,178	0	2,231	9,409	39,134	0	8,104	47,238
1995-96	62,773	0	6,721	69,494	8,317	0	1,334	9,651	71,090	0	8,055	79,145
1996-97	67,075	0	5,980	73,055	12,211	0	1,645	13,856	79,286	0	7,625	86,911
1997-98	67,019	0	7,424	74,443	10,878	0	1,325	12,203	77,897	0	8,749	86,646
1998-99	43,832	0	7,074	50,906	17,455	0	2,301	19,756	61,287	0	9,375	70,662
1999-00	54,119	0	10,184	64,303	8,834	0	914	9,748	62,953	0	11,098	74,051
2000-01	79,589	10	17,689	97,278	17,128	0	2,886	20,014	96,717	10	20,575	117,302
2001-02	191,091	5,979	37,545	228,636	30,677	0	3,174	33,851	221,768	5,979	40,719	268,466
2002-03	110,535	11,734	28,308	138,843	51,358	6,618	13,623	64,981	161,893	18,352	41,931	222,176
2003-04	106,334	11,840	21,892	128,226	23,058	2,132	7,254	30,312	129,392	13,972	29,146	172,510
2004-05	94,225	9,166	18,297	112,522	23,179	2,005	4,774	27,953	117,404	11,171	23,071	151,646
2005-06	96,644	13,903	14,586	111,230	26,143	3,345	3,544	29,687	122,787	17,248	18,130	158,165
2006-07	85,210	15,234	7,877	93,087	33,332	5,880	1,633	34,965	118,542	21,114	9,510	149,166
2007-08	102,374	14,643	11,242	113,616	20,513	3,446	2,924	23,437	122,887	18,089	14,166	155,142
2008-09	94,205	13,079	18,216	112,421	40,713	6,998	5,659	46,372	134,918	20,077	23,875	178,870
2009-10	231,003	30,385	38,210	269,213	16,555	2,700	4,529	21,084	247,558	33,085	42,739	323,382
2010-11	110,750	17,721	34,549	145,299	31,574	4,118	9,584	41,158	142,324	21,839	44,133	208,296
2011-12	113,038	7,930	35,240	148,278	17,801	2,113	4,198	21,999	130,839	10,043	39,438	180,320
2012-13	63,611	4,767	19,806	83,417	13,695	3,970	3,337	17,032	77,306	8,737	23,143	109,186
2013-14	70,332	5,328	23,470	93,802	5,546	1,593	1,885	7,431	75,878	6,921	25,355	108,154
2014-15	89,341	5,755	38,861	128,202	21,067	3,639	6,928	27,995	110,408	9,394	45,789	165,591
2015-16	88,296	4,045	30,806	119,102	8,465	1,408	3,130	11,595	96,761	5,453	33,936	136,150
2016-17	52,825	3,556	12,575	65,400	25,724	4,145	3,001	28,725	78,549	7,701	15,576	101,826
2017-18 ³	56,705	1,606	11,250	69,561	3,808	357	452	4,619	60,513	1,963	11,702	74,178

¹ Counts adjusted based on biological sampling at Lower Granite Dam.

² Run year is July 1 to June 30 the following year.

³ Preliminary estimates based on visual sampling at Lower Granite Dam. Final estimates based on genetic analysis by December 2018.

Table 8. Adult Coho returns to the Columbia River, 1980-2017.¹

Year	Lower Columbia River									
	Harvest					Hatchery Returns	Natural Escapement	Tributary Dam Count ⁷	Bonneville Dam Count	Total Run ⁸
	Commercial ^{2,3,4}		Recreational ^{5,6}							
	Zones 1-5	SAFE	Estuary	Mainstem	Tributary					
1980-84 ave	108.7	15.4	19.4	0.2	11.3	106.4		4.1	26.8	292.2
1985-89 ave	377.7	39.3	84.1	1.3	12.6	148.9	14.3	6.9	51.7	736.9
1990	47.6	18.6	18.5	0.4	9.7	88.8	10.8	2.0	11.6	208.0
1991	327.1	80.4	209.5	1.1	29.4	243.3	26.4	5.5	58.9	981.5
1992	38.2	15.8	43.1	0.6	8.4	86.9	9.4	5.2	17.8	225.4
1993	20.7	15.0	20.9	0.6	6.3	39.4	3.7	0.8	10.6	117.9
1994	6.0	54.6	1.8	0.9	3.4	78.0	4.2	4.1	20.3	173.4
1995	0.2	21.2	5.0	0.2	2.7	32.2	2.5	2.9	10.4	77.4
1996	5.8	20.4	4.5	0.3	3.6	62.2	4.1	0.6	15.7	117.1
1997	3.8	16.7	20.4	0.8	10.8	69.7	7.1	2.8	24.3	156.4
1998	0.3	22.8	3.2	3.7	3.0	87.9	7.5	1.3	46.3	175.9
1999	57.6	21.5	9.0	1.3	18.6	124.5	14.9	1.0	40.7	289.1
2000	110.2	58.2	21.5	1.6	36.1	228.6	10.3	6.2	85.6	558.3
2001	218.7	33.7	132.0	3.1	74.9	377.3	21.0	8.2	259.5	1,128.3
2002	94.9	68.1	6.2	3.0	24.4	211.1	36.4	3.7	88.1	535.8
2003	143.8	113.5	54.4	1.1	22.5	205.4	35.4	11.4	125.7	713.2
2004	66.6	53.0	15.2	1.3	12.3	173.5	21.0	5.7	115.0	463.5
2005	30.3	64.5	6.9	0.6	9.9	142.3	13.7	3.3	83.3	354.7
2006	27.2	36.2	3.7	1.2	15.3	191.1	23.8	9.5	101.7	409.7
2007	30.2	10.1	8.4	0.9	23.3	161.0	15.3	10.6	89.2	349.0
2008	13.1	47.3	8.6	2.2	40.8	240.9	26.2	6.2	135.5	520.8
2009	43.8	80.4	48.1	4.0	36.5	260.4	29.7	32.3	224.9	760.2
2010	18.9	57.4	8.0	1.6	22.4	189.3	26.0	22.3	120.7	466.5
2011	13.5	48.8	7.6	1.7	16.4	108.3	26.7	8.7	146.5	378.1
2012	2.6	14.5	7.4	0.9	3.8	41.9	17.3	9.1	55.0	152.4
2013	9.8	38.6	7.6	1.0	9.7	81.9	23.0	21.6	59.6	252.8
2014	70.4	166.9	57.7	5.8	46.4	293.2	68.1	32.2	279.7	1,020.5
2015	4.5	26.6	36.9	1.0	6.8	43.5	8.3	4.6	37.4	169.6
2016	1.1	30.3	9.2	1.3	11.0	84.1	21.1	4.8	42.0	204.9
2017	1.0	36.9	18.2	3.1	7.3	61.1	19.8	12.3	76.0	235.7

¹ Reported in thousands of fish

² Landings since 2003 are preliminary

³ Zones 1-5 (Mainstem) includes jacks

⁴ Jacks landed in SAFE fisheries are not included (except for 1985 and 1986).

⁵ Estuary (Buoy 10) fishery. Catch from this fishery prior to 1982 is included in ocean catch totals. Some non-Columbia River fish are caught in the estuary fishery and are included here.

⁶ Mainstem (LCR) includes catch from above Astoria-Megler Bridge through 1999 and catch from above Tongue Point/Rocky Point thereafter.

⁷ Includes Willamette Falls (Willamette River), North Fork Dam (Clackamas River), and Marmot Dam (Sandy River). No Marmot Dam counts after dam removal in 2007.

⁸ May not match totals found in other sections of this report due to rounding.

Table 9. Early stock adult Coho returns to the Columbia River, 1980-2017.¹

Year	Lower Columbia River									
	Harvest					Hatchery Returns	Natural Escapement	Tributary Dam Count ⁷	Bonneville Dam Count	Total Run ⁸
	Commercial ^{2,3,4}		Recreational ^{5,6}							
Zones 1-5	SAFE	Estuary	Mainstem	Tributary						
1980-84 ave	35.2	15.4	20.2	0.2	6.3	63.7		2.8	21.9	157.6
1985-89 ave	126.3	39.3	52.0	1.0	6.8	78.8	6.3	5.5	45.6	360.3
1990	19.7	18.6	12.6	0.3	6.3	41.1	3.8	1.7	8.7	112.8
1991	122.8	80.4	143.3	0.8	15.1	107.2	9.2	4.3	43.2	526.3
1992	3.6	15.8	29.1	0.5	4.1	44.4	3.3	3.4	11.0	115.3
1993	5.9	15.0	16.5	0.5	2.9	22.9	1.3	0.7	8.0	73.7
1994	3.6	54.6	1.4	0.8	2.2	59.6	1.5	3.3	12.5	139.6
1995	0.0	21.2	4.9	0.2	1.6	20.4	0.9	2.3	6.9	58.4
1996	1.7	20.4	3.9	0.2	2.1	44.3	1.4	0.6	8.9	83.6
1997	1.5	16.7	19.3	0.8	6.4	39.1	2.5	2.8	18.4	107.3
1998	0.0	22.8	3.0	3.6	0.7	55.3	2.6	1.0	34.2	123.2
1999	14.0	21.5	7.8	0.9	11.1	60.0	5.2	1.0	32.9	154.4
2000	20.2	58.2	18.7	1.0	26.4	137.2	3.8	5.5	58.9	330.0
2001	67.8	33.7	114.9	2.6	40.1	200.9	7.8	6.3	225.4	699.3
2002	48.1	68.1	5.4	1.1	18.2	101.1	13.4	3.3	50.4	309.0
2003	71.2	113.5	47.4	0.8	18.0	141.3	13.4	10.8	93.8	510.2
2004	16.6	53.0	13.2	0.8	10.0	109.7	8.4	5.0	85.6	302.3
2005	14.3	63.5	6.0	0.3	7.5	88.0	5.5	2.9	63.6	251.7
2006	9.3	36.2	3.2	0.6	10.7	99.7	10.5	8.3	65.4	243.8
2007	7.9	10.1	7.3	0.5	17.1	99.6	6.2	9.7	62.2	220.6
2008	4.4	47.3	7.5	1.3	26.6	131.3	10.4	6.1	85.0	319.8
2009	20.7	80.4	41.9	2.1	20.9	144.7	12.4	31.0	135.6	489.8
2010	3.0	57.4	6.9	0.7	11.3	75.4	12.2	21.8	56.2	244.9
2011	6.2	48.8	6.6	0.9	5.6	48.1	10.9	8.3	117.7	253.1
2012	0.8	14.5	6.4	0.5	1.5	22.1	7.0	9.0	41.1	102.8
2013	3.6	38.6	6.6	0.6	3.0	42.6	9.3	20.4	33.0	157.9
2014	18.2	166.9	50.2	2.5	16.7	128.8	27.6	30.9	181.5	623.4
2015	1.2	26.6	32.1	0.5	3.3	19.3	3.4	4.3	26.9	117.8
2016	0.9	30.3	8.0	0.7	3.8	34.0	8.8	4.3	28.9	119.6
2017	0.6	36.9	15.8	1.1	3.8	27.2	7.6	11.3	47.3	151.6

¹ Reported in thousands of fish

² Landings since 2003 are preliminary

³ Zones 1-5 (Mainstem) includes jacks

⁴ Jacks landed in SAFE fisheries are not included (except for 1985 and 1986).

⁵ Estuary (Buoy 10) fishery. Catch from this fishery prior to 1982 is included in ocean catch totals. Some non-Columbia River fish are caught in the estuary fishery and are included here.

⁶ Mainstem (LCR) includes catch from above Astoria-Megler Bridge through 1999 and catch from above Tongue Point/Rocky Point thereafter.

⁷ Includes Willamette Falls (Willamette River), North Fork Dam (Clackamas River), and Marmot Dam (Sandy River). No Marmot Dam counts after dam removal in 2007.

⁸ May not match totals found in other sections of this report due to rounding.

Table 10. Late stock adult Coho returns to the Columbia River, 1980-2017.¹

Year	Lower Columbia River									
	Harvest					Hatchery Returns	Natural Escapement	Tributary Dam Count ⁷	Bonneville Dam Count	Total Run ⁸
	Commercial ^{2,3,4}		Recreational ^{5,6}							
	Zones 1-5	SAFE	Estuary	Mainstem	Tributary					
1980-84 ave	73.4	0.0	12.1	0.0	5.0	42.7		1.3	4.8	134.6
1985-89 ave	251.4	0.0	32.1	0.4	5.8	70.2	11.6	1.4	6.0	376.6
1990	27.9	0.0	5.9	0.0	3.5	47.7	7.0	0.3	2.9	95.2
1991	204.3	0.0	66.2	0.3	14.3	136.1	17.1	1.3	15.6	455.2
1992	34.7	0.0	14.0	0.0	4.3	42.5	6.1	1.8	6.8	110.2
1993	14.8	0.0	4.4	0.1	3.4	16.5	2.4	0.1	2.7	44.3
1994	2.4	0.0	0.4	0.1	1.2	18.4	2.7	0.9	7.7	33.8
1995	0.2	0.0	0.2	0.0	1.1	11.8	1.7	0.6	3.5	19.0
1996	4.0	0.0	0.6	0.0	1.4	17.9	2.7	0.0	6.8	33.5
1997	2.3	0.0	1.0	0.0	4.4	30.7	4.6	0.0	6.0	49.0
1998	0.2	0.0	0.2	0.2	2.3	32.6	4.9	0.2	12.1	52.7
1999	43.6	0.0	1.2	0.4	7.5	64.5	9.7	0.1	7.8	134.7
2000	89.9	0.0	2.8	0.6	9.8	91.5	6.5	0.6	26.7	228.4
2001	150.9	0.0	17.2	0.5	34.8	176.4	13.2	1.9	34.2	429.1
2002	46.8	0.0	0.8	2.0	6.2	110.0	23.0	0.4	37.7	226.9
2003	72.5	0.0	7.1	0.4	4.4	64.1	22.0	0.6	31.9	203.0
2004	50.0	0.0	2.0	0.5	2.3	63.8	12.6	0.6	29.5	161.2
2005	15.9	1.0	0.9	0.3	2.4	54.2	8.3	0.3	19.7	103.0
2006	18.0	0.0	0.5	0.6	4.6	91.4	13.3	1.2	36.3	165.9
2007	22.3	0.0	1.1	0.3	6.2	61.4	9.1	0.8	27.1	128.4
2008	8.7	0.0	1.1	1.0	14.2	109.6	15.8	0.1	50.5	200.9
2009	23.1	0.0	6.3	1.8	15.7	115.8	17.3	1.2	89.3	270.4
2010	15.9	0.0	1.0	0.9	11.1	113.8	13.7	0.6	64.5	221.6
2011	7.3	0.0	1.0	0.8	10.8	60.1	15.8	0.4	28.8	124.9
2012	1.8	0.0	1.0	0.4	2.3	19.9	10.3	0.1	13.9	49.5
2013	6.1	0.0	1.0	0.3	6.7	39.3	13.6	1.2	26.6	94.9
2014	52.2	0.0	7.5	3.3	29.7	164.5	40.4	1.3	98.2	397.2
2015	3.2	0.0	4.8	0.5	3.5	24.2	4.8	0.3	10.5	51.8
2016	0.3	0.0	1.2	0.7	7.2	50.1	12.3	0.5	13.1	85.3
2017	0.4	0.0	2.4	2.0	3.5	33.9	12.2	1.0	28.7	84.0

¹ Reported in thousands of fish

² Landings since 2003 are preliminary

³ Zones 1-5 (Mainstem) includes jacks

⁴ Jacks landed in SAFE fisheries are not included (except for 1985 and 1986).

⁵ Estuary (Buoy 10) fishery. Catch from this fishery prior to 1982 is included in ocean catch totals. Some non-Columbia River fish are caught in the estuary fishery and are included here.

⁶ Mainstem (LCR) includes catch from above Astoria-Megler Bridge through 1999 and catch from above Tongue Point/Rocky Point thereafter.

⁷ Includes Willamette Falls (Willamette River), North Fork Dam (Clackamas River), and Marmot Dam (Sandy River). No Marmot Dam counts after dam removal in 2007.

⁸ May not match totals found in other sections of this report due to rounding.

Table 11. Lower Columbia River Coho natural spawner estimates in Oregon and Washington tributaries, 2011-2016.^{1,2}

Population	2011			2012			2013		
	Total	Unmarked	% unmarked	Total	Unmarked	% unmarked	Total	Unmarked	% unmarked
Youngs Bay	476	161	34%	241	129	54%	NA	NA	--
Big Creek	333	160	48%	521	409	79%	NA	NA	--
Clatskanie	1,553	1,546	100%	696	619	89%	685	611	89%
Scappoose	298	298	100%	210	210	100%	979	979	100%
Clackamas	2,498	2,254	90%	1,755	1,580	90%	3,252	3,202	98%
Sandy	3,813	3,494	92%	1,198	1,165	97%	756	667	88%
Lower Gorge-Oregon	471	216	46%	220	96	44%	161	151	94%
Upper Gorge/Hood	743	232	31%	759	169	22%	1,599	561	35%
Grays/Chinook	2,447	125	5%	1,039	518	50%	1,819	668	37%
Elochoman/Skamokawa	1,164	498	43%	450	284	63%	748	435	58%
MAG	479	391	82%	397	386	97%	514	475	92%
L. Cowlitz (tribs. only)	4,540	4,148	91%	3,477	2,990	--	5,733	4,522	79%
Coweeman	2,492	2,372	95%	2,151	2,049	95%	3,282	2,881	88%
Toutle/Green	1,489	1,048	70%	1,316	1,037	79%	3,089	2,469	80%
SF Toutle	1,213	1,019	84%	1,555	1,369	88%	2,498	2,130	85%
Upper Cowlitz/Cispus	20,298	7,877	39%	6,821	1,689	25%	5,829	4	0%
Tilton	6,879	2,088	30%	6,640	1,444	22%	6,460	2,744	42%
Kalama ³	279	8	--	178	17	10%	291	31	11%
NF Lewis (Cedar Ck)	1,147	1,026	89%	588	545	93%	902	662	73%
EF Lewis	1,250	1,160	93%	2,022	1,875	93%	1,994	1,811	91%
Salmon Creek	1,545	1,473	95%	908	868	96%	1,119	1,096	98%
Washougal	807	707	88%	437	376	86%	645	424	66%
Lower Gorge-Washington ⁴	453	392	87%	415	352	85%	808	636	79%

Population	2014			2015			2016		
	Total	Unmarked	% unmarked	Total	Unmarked	% unmarked	Total	Unmarked	% unmarked
Youngs Bay	NA	NA	--	NA	NA	--	NA	NA	--
Big Creek	NA	NA	--	NA	NA	--	NA	NA	--
Clatskanie	3,397	3,246	96%	249	240	96%	491	464	95%
Scappoose	1,587	1,587	100%	487	487	100%	1,242	1,200	97%
Clackamas	12,444	10,670	86%	2,014	1,784	89%	1,787	1,628	91%
Sandy	6,111	5,942	97%	464	443	95%	970	939	97%
Lower Gorge-Oregon	739	362	49%	48	30	63%	425	395	93%
Upper Gorge/Hood	174	42	24%	11	4	36%	163	57	35%
Grays/Chinook	3,431	2,158	63%	342	125	37%	1,065	454	43%
Elochoman/Skamokawa	3,236	2,115	65%	279	148	53%	613	325	53%
MAG	1,789	1,575	88%	455	422	--	840	731	--
L. Cowlitz (tribs. only)	18,453	17,201	93%	1,726	1,576	91%	4,674	4,340	93%
Coweeman	4,254	3,545	83%	783	606	77%	2,599	2,154	83%
Toutle/Green	6,321	4,296	68%	1,389	604	43%	4,154	1,592	38%
SF Toutle	9,138	7,343	80%	1,741	906	52%	3,532	2,692	76%
Upper Cowlitz/Cispus	29,510	6,923	23%	1,335	381	29%	10,441	906	9%
Tilton	14,855	9,074	61%	2,514	1,392	55%	7,837	2,666	34%
Kalama ³	639	59	9%	122	12	10%	257	62	24%
NF Lewis (Cedar Ck)	1,335	1,016	76%	205	160	78%	567	427	75%
EF Lewis	3,029	2,472	82%	294	212	72%	592	246	42%
Salmon Creek	2,818	2,790	99%	484	474	98%	1,196	1,169	98%
Washougal	1,653	477	29%	241	70	29%	720	178	25%
Lower Gorge-Washington ⁴	1,655	1,157	70%	373	324	87%	1,019	950	93%

¹ Proportion unmarked does not include substantial numbers of unmarked adults from RSI programs in the Lower Cowlitz, NF Lewis, and Salmon Creek populations.

² Washington tributary estimates for 2011-2015 updated using new methods.

³ In 2011, no carcasses were recovered to determine proportion unmarked.

⁴ Includes Hamilton, Hardy, and Duncan creeks

Table 12. Columbia River Chum abundance in select Washington tributaries, 2005-2017.

Location	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017 prelim
Crazy Johnson Creek	1,418	3,819	870	1,093	996	865	2,304	3,475	1,925	1,541	4,193	5,987	3,681
WF Grays River	1,407	1,377	1,902	793	1,130	1,814	5,996	2,817	1,857	1,145	6,297	19,023	1,930
Mainstem Grays River	1,379	1,510	1,227	721	750	3,701	2,509	1,717	1,352	2,107	1,091	6,129	1,051
Grays R. broodstock take	132	119	135	88	107	288	294	220	250	246	128	128	118
I-205 area	923	869	576	644	1,154	2,148	4,912	2,586	1,466	1,472	4,757	5,245	1,647
Multnomah area	214	321	148	31	106	458	647	120	222	334	1,142	1,162	93
St Cloud area	97	180	3	1	29	126	343	1	84	85	344	242	103
Horsetail area	13	65	25	36	6	54	119	92	59	75	420	656	56
Ives area	288	466	132	295	171	214	162	230	175	409	1,306	1,914	347
Duncan Creek	7	42	9	2	26	48	85	4	27	24	153	208	7
Hardy Creek	74	109	12	3	46	175	157	75	56	108	350	354	14
Hamilton Creek	178	251	133	118	142	404	542	352	255	260	249	332	162
Hamilton Spring Channel	88	227	47	114	94	190	325	137	392	678	1,397	1,265	742
Grays return I-205 to Bonneville return	4,336	6,825	4,134	2,695	2,983	6,668	11,103	8,229	5,384	5,039	11,709	31,267	6,780
Sum	6,218	9,355	5,219	3,939	4,757	10,485	18,395	11,826	8,120	8,484	21,827	42,645	9,951

Table 13. Treaty fall Zone 6 mainstem commercial gillnet seasons, 2017.

Gillnet Salmon and Setline Sturgeon Fisheries				
Days	Season	Dates	Special Regulations	
			Gear	Area/Other
	Fall Salmon			
4.5		Aug 21, 6 AM - Aug 25, 6 PM	Gillnets. 8-inch minimum mesh size restriction.	All of Zone 6. Standard dam and river mouth sanctuaries are in effect, including the large Spring Creek sanctuary. Salmon, steelhead, shad, yellow perch, bass, walleye, catfish, and carp may be sold. Same. Same. Same. Same. Same. Same.
4.5		Aug 28, 6 AM - Sep 1, 6 PM	Same.	
4.5		Sep 4, 6 AM - Sep 8, 6 PM	Same.	
4.5		Sep 11, 6 AM - Sep 15, 6 PM	Same.	
4.5		Sep 18, 6 AM - Sep 22, 6 PM	Same.	
4.5		Sep 25, 6 AM - Sep 29, 6 PM	Same.	
3.5		Oct 2, 6 AM - Oct 5, 6 PM	Same.	
	Fall Sturgeon			
12	Bonneville Pool: The Dalles Pool: John Day Pool:	none none Aug 1, 6 AM - Aug 12, 6 PM	Setline gear, with hook size 9/0 or larger.	Standard sanctuaries applicable to setline gear. Sturgeon between 43 - 54 inches in fork length in the John Day pool may be kept and sold. Same as described above. Same as described above. Same as described above.
35	Bonneville Pool:	Nov 27, 6 AM - Dec 31, 6 PM	Same.	
10	The Dalles Pool:	Nov 16, 6 AM - Nov 25, 6 PM	Same.	
20	John Day Pool:	Dec 11, 6 AM - Dec 30, 6 PM	Same.	

Table 14. Non-treaty fall commercial fishing seasons, 2017.

Main-Stem Commercial Seasons				
Days	Season	Dates	Special Regulations	
			Gear	Area/Other
9 hrs	Early Fall Gill Net	Aug 22, 9 PM - Aug 23, 6 AM	9" min. and 9 3/4" max. mesh size restriction. The multiple net rule is not in effect. Lighted buoys are required between official sunset and sunrise.	Zones 4-5. The Washougal and Sandy River sanctuaries are in effect. Chinook, coho, pink, and sockeye salmon, white sturgeon, and shad may be sold. A maximum of six white sturgeon may be possessed or sold by each participating vessel during each calendar week. The six white sturgeon possession and sales limit applies to mainstem fisheries only.
9 hrs		Aug 24, 9 PM - Aug 25, 6 AM	Same.	Same.
9 hrs		Aug 27, 9 PM - Aug 28, 6 AM	Same.	Same.
9 hrs		Aug 29, 9 PM - Aug 30, 6 AM	Same.	Same.
9 hrs		Aug 31, 9 PM - Sep 1, 6 AM	Same.	Same.
10 hrs	Late Fall Gill Net	Sep 17, 8 PM - Sep 18, 6 AM	9" minimum mesh size restriction. The multiple net rule is in effect. Nets that are fished between the official sunset and official sunrise must have a lighted buoy at each end of the net that is not attached to the boat.	Zones 4-5. Sandy and Washougal River sanctuaries are in effect. Chinook, coho, pink, and sockeye salmon, white sturgeon, and shad may be sold. A maximum of five white sturgeon may be possessed or sold by each participating vessel during each calendar week. The five white sturgeon possession and sales limit applies to mainstem fisheries only.
10 hrs		Sep 19, 8 PM - Sep 20, 6 AM	Same.	Same.
Select Area Commercial Seasons				
Days	Season	Dates	Special Regulations	
			Gear	Area/Other
1 1/2	Youngs Bay - Fall	Aug 1, 7 PM - Aug 3, 7 AM	9 3/4" max. mesh size restriction. Nets may not exceed 250 fathoms in length. Leadline not to exceed 2 lbs per fathom. Use of additional weights or anchors attached directly to the leadline is allowed upstream of markers located approximately 200 yards upstream of the mouth of the Walluski River and the upper deadline at Battle Creek Slough, in the lower Walluski River upstream to the Highway 202 Bridge, and in the Lewis and Clark River from the Alternate Highway 101 Bridge upstream to the overhead power lines immediately upstream of Barrett Slough. Red corks are required at 25-fathom intervals and red corks must be in contrast to corks in the remainder of the net. Nets that are fished between the official sunset and official sunrise must have a lighted buoy at the end of the net that is not attached to the boat. Multiple net rule is in effect.	Youngs Bay select fishing area includes all waters from the new Highway 101 Bridge upstream to the upper boundary markers at Battle Creek Slough; including the lower Walluski river upstream to the Highway 202 Bridge and the lower Lewis and Clark River upstream to the overhead powerlines immediately upstream of Barrett Slough. All waters are under State of Oregon jurisdiction and are open to Oregon and Washington fishers who possess the appropriate licenses. Chinook, coho, pink, and sockeye salmon, white sturgeon and shad may be sold. A maximum of three white sturgeon with a fork length of 44-50 inches may be possessed or sold by each participating vessel during each calendar week. The three white sturgeon possession and sales limit includes all Select Area fisheries.
1 1/2		Aug 8, 7 PM - Aug 10, 7 AM	Same.	Same.
1 1/2		Aug 15, 7 PM - Aug 17, 7 AM	Same.	Same.

Table 14. continued

Select Area Commercial Seasons (continued)				
Days	Season	Dates	Special Regulations	
			Gear	Area/Other
1 1/2	Youngs Bay - Fall (cont.)	Aug 22, 7 PM - Aug 24, 7 AM	Same as Aug 15 - 17 (previous page).	Same as Aug 15 - 17 (previous page).
12 hrs		Aug 28, 7 PM - Aug 29, 7 AM	Same, except 6" max. mesh size restriction in effect.	Same.
12 hrs		Aug 29, 7 PM - Aug 30, 7 AM	Same.	Same.
12 hrs		Aug 30, 7 PM - Aug 31, 7 AM	Same.	Same.
57		Sep 4, 7 PM - Oct 31, noon	Same.	Same, except the possession/sale of white sturgeon was prohibited effective 12:01 AM Sunday October 1.
12 hrs	Tongue Point / South Channel - Fall	Aug 28, 7 PM - Aug 29, 7 AM	Tongue Point: 6" max. mesh size restriction. Nets may not exceed 250 fathoms in length and headline may not exceed 2 lbs per fathom. South Channel: 6" max. mesh size restriction. Nets may not exceed 250 fathoms in length and there is no weight restriction on the headline. Use of additional weights or anchors attached directly to the headline is allowed. In both fishing sites, nets that are fished between the official sunset and official sunrise must have a lighted buoy at the end of the net that is not attached to the boat. The multiple net rule is in effect.	Tongue Point Basin/South Channel select fishing areas (concurrent waters). Fishers in Tongue Point area may have on-board un-stored gill nets legal for the South Channel fishing area. Permanent transportation rules are in effect. Chinook, coho, pink, and sockeye salmon, white sturgeon and shad may be sold. A maximum of three white sturgeon with a fork length of 44-50 inches may be possessed or sold by each participating during each calendar week. The three white sturgeon possession and sales limit includes all Select Area fisheries.
12 hrs		Aug 30, 7 PM - Aug 31, 7 AM	Same.	Same.
12 hrs		Sep 4 - Sep 8, 7 PM - 7 AM nightly	Same.	Same.
Nightly		Sep 11 - Sep 15, 4 PM - 10 AM nightly	Same.	Same.
18 hrs		Sep 18 - Sep 22, 4 PM - 10 AM nightly	Same.	Same.
Nightly		Sep 25 - Sep 29, 4 PM - 10 AM nightly	Same.	Same.
18 hrs		Oct 2 - Oct 6, 4 PM - 10 AM nightly	Same.	Same, except the possession/sale of white sturgeon was prohibited effective 12:01 AM Sunday October 1.
Nightly		Oct 9 - Oct 13, 4 PM - 10 AM nightly	Same.	Same.
18 hrs		Oct 16 - Oct 20, 4 PM - 10 AM nightly	Same.	Same.
Nightly		Oct 23 - Oct 27, 4 PM - 10 AM nightly	Same.	Same.

Table 14. continued

Select Area Commercial Seasons (continued)				
Days	Season	Dates	Special Regulations	
			Gear	Area/Other
12 hrs	Blind Slough / Knappa Slough - Fall	Aug 28 - Aug 29, 7 PM - 7 AM	9 3/4" max. mesh size restriction. Nets may not exceed 100 fathoms in length. No weight restriction on leadline. Use of additional weights and anchors attached to the leadline is allowed. Nets that are fished between the official sunset and official sunrise must have a lighted buoy at the end of the net that is not attached to the boat. The multiple net rule is in effect.	Blind Slough includes all waters from markers at the mouth of Gnat Creek to the markers at the mouth of Blind Slough. Knappa Slough includes all waters bounded by a line from the north marker at the mouth of Blind Slough, westerly to a marker on Karlson Island downstream to boundary lines defined by markers on the west end of Minaker Island to markers on Karlson Island and the Oregon shore. The area within a 100 foot radius at the mouth of Big Creek is closed. Chinook, coho, pink, and sockeye salmon, white sturgeon and shad may be sold. A maximum of three white sturgeon with a fork length of 44-50 inches may be possessed or sold by each participating vessel during each calendar week. The three white sturgeon possession and sales limit includes all Select Area fisheries.
12 hrs		Aug 30 - Aug 31, 7 PM - 7 AM	Same.	Same.
12 hrs Nightly		Sep 4 - Sep 8, 7 PM - 7 AM nightly	Same.	Same.
14 hrs Nightly		Sep 11 - Sep 15, 6 PM - 10 AM nightly	Same.	Same.
16 hrs Nightly		Sep 18 - Sep 22, 6 PM - 10 AM nightly	Same.	Same.
16 hrs Nightly		Sep 25 - Sep 29, 6 PM - 10 AM nightly	Same.	Same.
16 hrs Nightly		Oct 2 - Oct 6, 6 PM - 10 AM nightly	Same.	Same, except the possession/sale of white sturgeon was prohibited effective 12:01 AM Sunday October 1.
16 hrs Nightly		Oct 9 - Oct 13, 6 PM - 10 AM nightly	Same.	Same.
16 hrs Nightly		Oct 16 - Oct 20, 6 PM - 10 AM nightly	Same.	Same.
16 hrs Nightly		Oct 23 - Oct 27, 6 PM - 10 AM nightly	Same.	Same.

Table 14. continued

Select Area Commercial Seasons (continued)				
Days	Season	Dates	Special Regulations	
			Gear	Area/Other
12 hrs Nightly	Deep River - Fall	Aug 21 - Aug 25, 7 PM - 7 AM nightly	9 3/4" max. mesh size restriction. Nets may not exceed 100 fathoms in length. No weight restriction on leadline. Use of additional weights and anchors attached to the leadline is allowed. Nets that are fished between the official sunset and official sunrise must have a lighted buoy at the end of the net that is not attached to the boat. The multiple net rule is in effect.	Deep River select fishing area extending from the USCG channel marker #16 upstream to the town of Deep River (concurrent waters up to Highway 4 Bridge, Washington only above). Nets are not allowed to be tied off to any stationary structures and nets may not fully cross the navigation channel. Chinook, coho, pink, and sockeye salmon, white sturgeon and shad may be sold. A maximum of three white sturgeon with a fork length of 44-50 inches may be possessed or sold by each participating vessel during each calendar week. The three white sturgeon possession and sales limit includes all Select Area fisheries.
12 hrs Nightly		Aug 28 - Sep 1, 7 PM - 7 AM nightly	Same.	Same.
15 hrs Nightly		Sep 4 - Sep 9, 6 PM - 9 AM nightly	Same.	Same.
15 hrs Nightly		Sep 11 - Sep 16, 6 PM - 9 AM nightly	Same, except a 6" max. mesh size restriction.	Same.
15 hrs Nightly		Sep 18 - Sep 23, 6 PM - 9 AM nightly	Same.	Same.
15 hrs Nightly		Sep 25 - Sep 29, 6 PM - 9 AM nightly	Same.	Same.
15 hrs Nightly		Oct 2 - Oct 6, 6 PM - 9 AM nightly	Same.	Same, except the possession/sale of white sturgeon was prohibited effective 12:01 AM Sunday October 1.
15 hrs Nightly		Oct 9 - Oct 13, 6 PM - 9 AM nightly	Same.	Same.

Table 15. Kept catch in 2017 fall season mainstem fisheries (includes adults and jacks).

Treaty Fisheries ^{1,2}						
Fishery ¹	Chinook	Coho	Chum	Pink	Summer Steelhead	White Sturgeon
Commercial Gillnet, Platform. and Hook & Line (8/20-10/5)	120,624	8,312	0	0	7,768	25
Platform, Hook & Line (8/1-8/19 and 10/8-11/25)	1,050	419	0	0	671	0
Fall Setline	0	0	0	0	0	46
Treaty Total	121,674	8,731	0	0	8,439	71
Non-Treaty Fisheries						
Fishery ¹	Chinook	Coho	Chum ³	Pink	Summer Steelhead	White Sturgeon
Early Fall Mainstem Commercial	13,959	218	--	--	--	485
Late Fall Mainstem Commercial	5,439	713	--	--	--	239
<i>Subtotal</i>	<i>19,398</i>	<i>931</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>724</i>
Beach Seine Commercial	0	0	--	--	--	--
Purse Seine Commercial	0	0	--	--	--	--
<i>Subtotal</i>	<i>0</i>	<i>0</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>
Select Areas Commercial	12,034	37,979	--	6	--	237
<i>Subtotal</i>	<i>12,034</i>	<i>37,979</i>	<i>--</i>	<i>6</i>	<i>--</i>	<i>237</i>
Buoy 10 Sport ⁴	28,398	18,834	--	--	4	--
Lower River Sport ⁴	27,839	3,176	--	--	237	430
Bonn. Dam to Hwy 395 Sport ⁴	6,828	1,824	--	--	262	--
Hanford Reach Sport ⁴	12,361	28	--	--	n/a	--
<i>Subtotal</i>	<i>75,426</i>	<i>23,862</i>	<i>--</i>	<i>--</i>	<i>503</i>	<i>430</i>
Non-Treaty Total	106,858	62,772	--	--	503	1,391
Grand Total	228,532	71,503	0	0	8,942	1,462

¹ Commercial landings are preliminary. See Tables 13, 14, 16, 20, and 29 for details on specific time, area, and gear restrictions during commercial seasons.

² Includes take-home, sales to wholesale dealers, and direct to public sales.

³ Chum possession and sales prohibited beginning in October 2013.

⁴ Data does not include release mortalities.

Table 17. Lower Columbia River winter/spring/summer/fall commercial landings, 2017.

<i>Winter/Spring/Summer</i>											
<i>(FINAL – OR/WA Fish Tickets – May 21, 2018)</i>											
<i>Season</i>	CHINOOK		<i>Z 1–5 Spring Chinook</i>		SOCKEYE		SHAD		WHITE STURGEON¹		
	<i>Mainstem</i>	Numbers	Pounds	<i>Adults</i>	<i>Jacks</i>	Numbers	Pounds	Numbers	Pounds	Numbers	Pounds
Winter Sturgeon (<i>no season during 2017</i>)		0	0	—	—	0	0	0	0	No Retention	--
Spring (<i>no season during 2017</i>)		0	0	0	0	0	0	0	0	No Retention	--
Summer (<i>no season during 2017</i>)		0	0	—	—	0	0	0	0	No Retention	--
Shad (Area 2S)		—	—	—	—	—	—	2,007	5,417	No Retention	--
Mainstem Totals		0	0	—	—	0	0	2,007	5,417	0	0
<i>Select Areas</i>											
Youngs Bay Winter		630	7,752			0	0	0	0	No Retention	--
Youngs Bay Spring		7,346	79,216			8	29	0	0	No Retention	--
Youngs Bay Summer		2,823	31,902			7	25	0	0	31	969
Tongue Point Winter		82	1,162			0	0	0	0	No Retention	--
Tongue Point Spring		1,952	21,477			0	0	0	0	No Retention	--
Tongue Point Summer		1,483	17,095			0	0	0	0	203	6,495
Blind & Knappa Sloughs Winter		136	1,696			0	0	0	0	No Retention	--
Blind & Knappa Sloughs Spring		1,964	21,231			0	0	0	0	No Retention	--
Blind & Knappa Sloughs Summer		1,161	13,786			0	0	0	0	32	966
Deep River Winter		8	132			0	0	0	0	No Retention	--
Deep River Spring		13	173			0	0	0	0	No Retention	--
Select Area Totals		17,598	195,622			15	54	0	0	266	8,430
Lower Columbia River Commercial GRAND TOTALS											
	Chinook	17,598	195,622			15	54	2,007	5,417	266	8,430
Winter/Spring/Summer 2017											
<i>Fall</i>											
<i>(FINAL – OR/WA Fish Tickets – May 21, 2018)</i>											
<i>Season</i>	CHINOOK		COHO		PINK		CHUM		WHITE STURGEON¹		
	<i>Mainstem</i>	Numbers	Pounds	Numbers	Pounds	Numbers	Pounds	Numbers	Pounds	Numbers	Pounds
August (Zone 4–5; 9-9 3/4 inch gillnet)		13,959	227,268	218	1,373	0	0	No Retention		485	15,061
<i>August Subtotals</i>		13,959	227,268	218	1,373	0	0	<i>No Retention</i>		485	15,061
Late-Fall (Zone 4–5; 9-9 3/4 inch gillnet)		5,439	85,924	713	5,489	0	0	No Retention		239	7,745
<i>Late-Fall Subtotals</i>		5,439	85,924	713	5,489	0	0	<i>No Retention</i>		239	7,745
Fall Mainstem Totals		19,398	313,192	931	6,862	0	0	0	0	724	22,806
<i>Select Areas</i>											
Youngs Bay		6,277	65,507	13,603	104,747	3	16	No Retention		115	3,738
Tongue Point		2,251	24,170	12,534	93,169	0	0	No Retention		82	2,693
Blind Slough & Knappa Slough		1,636	19,941	2,460	18,093	0	0	No Retention		9	281
Deep River		1,870	18,863	9,382	68,779	3	7	No Retention		31	1,002
Fall Select Area Totals		12,034	128,481	37,979	284,788	6	23	0	0	237	7,714
Lower Columbia River Commercial GRAND TOTALS											
	Chinook	31,432	441,673	Coho	38,910	291,650	Pink	6	23	Chum	0
										961	30,520
Fall 2017											
PRELIMINARY GRAND TOTALS											
	CHINOOK	49,030	637,295	COHO³	38,911	291,657	PINK	6	23	CHUM²	1
										9	1,227
											38,950
2017											
for Lower Columbia R. Commercial Fisheries											
	SOCKEYE	15	54	SHAD	2,007	5,417	SMELT (Mainstem)	5,019		GREEN STURGEON	
										No Retention	

¹ The sale of White Sturgeon was allowed during August and late-fall mainstem commercial seasons below Bonneville Dam; White Sturgeon were also allowed to be sold during Select Area summer and fall seasons from June 19 through September 30.

² During the Knappa Slough summer fishery there was a landing that included one Chum Salmon on July 10, 2017, however it was not verified by ODFW biologists.

³ There was one coho (7 lbs) landed during the Tongue Point winter season on February 17th that has been included in the grand total.

Table 18. Stock composition of adult fall Chinook catch in mainstem Columbia River fisheries, 2017.¹

<i>Non-Treaty Fisheries</i>	LRH	LRW	BPH	URB	MCB ²	Other ³	Total
Buoy 10 Recreational ⁴	4,845	533	4,845	12,153	2,437	3,608	28,421
Lower Columbia Recreational ⁴	1,008	0	422	20,501	4,799	516	27,246
Above Bonneville Dam Recreational ⁵	0	0	0	14,000	3,109	210	17,319
August Commercial	646	0	3,957	7,436	1,027	83	13,149
September/October Commercial	0	0	659	4,404	151	0	5,214
Select Area Commercial	7,271	0	334	830	20	3,117	11,572
<i>Subtotal</i>	13,770	533	10,217	59,324	11,543	7,534	102,921
<i>Treaty Fisheries</i>							
Sales to Licensed Buyers	199	0	19,119	70,315	15,602	504	105,739
C&S, OTB and other non-ticketed catch	0	0	2,338	8,021	1,334	31	11,724
<i>Subtotal</i>	199	0	21,457	78,336	16,936	535	117,463
Grand Total	13,969	533	31,674	137,660	28,479	8,069	220,384

¹ Based on Big Sheet BS17P_3-29-Edits; catch totals may not match data presented elsewhere in this report.

² Includes lower river bright (LRB) stock.

³ Out of basin stocks/strays, including Select Area Bright (SAB) fall Chinook.

⁴ Includes release mortalities.

⁵ Bonneville Dam to McNary Dam and Hanford Reach.

Table 19a. Fall season A-Index summer steelhead harvest and incidental release mortalities in mainstem Columbia River non-treaty fisheries, 1999-2017.¹

Year	Commercial Below BON ²		Recreational Below BON			Recreational BON Pool			Recreational TDA-Hwy 395			Recreational Dip-Ins ³			Fall Season Total	
	Hatchery- Origin Release Mortalities (clipped and unclipped)	Natural- Origin Release Mortalities	Hatchery-Origin		Natural- Origin	Hatchery-Origin		Natural- Origin	Hatchery-Origin		Natural- Origin	Hatchery-Origin		Natural- Origin	Hatchery- Origin	Natural- Origin
			Kept	Rel. Mort.	Rel. Mort.	Kept	Rel. Mort.	Rel. Mort.	Kept	Rel. Mort.	Rel. Mort.	Kept	Rel. Mort.	Rel. Mort.	Total Mort.	Rel. Mort.
1999	125	35	3,577	--	123	472	--	14	3,800	--	113	3,167	--	96	11,141	382
2000	217	67	4,401	--	165	761	--	22	4,106	--	124	9,089	--	264	18,574	642
2001	394	87	4,419	--	192	1,385	--	33	8,979	--	253	17,319	--	412	32,496	978
2002	565	153	2,971	--	139	616	--	21	6,368	--	258	9,230	--	319	19,749	889
2003	1,384	165	3,943	--	182	905	--	35	3,577	--	151	12,772	--	475	22,580	1,007
2004	868	206	2,387	--	95	953	--	39	1,830	--	70	8,362	--	324	14,399	734
2005	549	112	2,462	--	102	686	--	21	4,085	--	136	9,698	--	299	17,480	671
2006	423	120	3,610	--	157	817	--	27	4,009	--	140	9,447	--	308	18,306	751
2007	182	54	4,293	--	158	971	--	29	6,674	--	201	11,586	--	350	23,705	792
2008	404	102	1,952	18	74	1,040	7	30	2,520	23	88	3,950	29	110	9,943	404
2009	781	195	7,068	62	346	1,971	10	53	6,316	60	161	20,180	128	489	36,576	1,244
2010	472	172	4,770	43	230	1,317	10	52	2,116	18	105	6,667	50	262	15,460	820
2011	1,025	290	11,364	167	576	2,860	29	99	4,108	48	140	7,666	82	251	27,349	1,357
2012	417	141	5,166	61	251	918	10	34	4,557	75	152	4,739	59	164	16,002	742
2013	388	175	6,034	51	593	1,107	7	65	2,397	41	101	7,048	67	357	17,140	1,292
2014	572	277	6,184	56	455	1,343	11	75	2,580	28	130	7,426	59	378	18,258	1,316
2015	430	145	4,168	26	228	1,033	5	41	5,451	40	190	10,920	53	418	22,125	1,023
2016	487	125	1,497	20	73	691	5	18	2,076	23	51	3,946	36	84	8,780	350
2017	264	70	198	43	52	70	3	6	171	97	75	329	158	106	1,332	307
5-yr Ave	428	158	3,623	32	280	849	6	41	2,535	46	109	5,934	74	269	13,527	858
10-yr Ave	524	169	4,844	51	288	1,235	10	47	3,229	45	119	7,287	72	262	17,296	885

¹ From target and non-target fisheries occurring in August-October downstream of The Dalles Dam and in August-December upstream of The Dalles Dam. Stock composition derived from data collected during sampling at Bonneville Dam. Prior to 2008, natural-origin release mortalities displayed include an unknown number of unclipped hatchery-origin fish. Estimates for 2016 and 2017 are preliminary, and all data are subject to change. BON = Bonneville Dam, TDA = The Dalles Dam

² Reflects incidental release mortalities (clipped and unclipped). Includes mortalities from pilot beach seine and purse seine fisheries that occurred in 2015 and 2016.

³ Includes dip-in mortalities in select tributaries upstream of Bonneville Dam where non-local steelhead may "dip in" to seek cool-water refuge. Kept catch based on Catch Record Cards.

Table 19b. Fall season B-Index summer steelhead harvest and incidental release mortalities in mainstem Columbia River non-treaty fisheries, 1999-2017.¹

Year	Commercial Below BON ²		Recreational Below BON			Recreational BON Pool			Recreational TDA-Hwy 395			Recreational Dip-Ins ³			Fall Season Total	
	Hatchery- Origin Release Mortalities (clipped and unclipped)	Natural- Origin Release Mortalities	Hatchery-Origin		Natural- Origin	Hatchery-Origin		Natural- Origin	Hatchery-Origin		Natural- Origin	Hatchery-Origin		Natural- Origin	Hatchery- Origin	Natural- Origin
			Kept	Rel. Mort.	Rel. Mort.	Kept	Rel. Mort.	Rel. Mort.	Kept	Rel. Mort.	Rel. Mort.	Kept	Rel. Mort.	Rel. Mort.	Total Mort.	Rel. Mort.
1999	52	9	469	--	5	103	--	1	1,021	--	15	751	--	11	2,396	41
2000	56	14	649	--	31	140	--	4	1,989	--	23	1,979	--	51	4,813	123
2001	214	24	615	--	22	170	--	3	3,199	--	32	4,224	--	53	8,422	134
2002	331	92	550	--	54	191	--	9	5,307	--	154	4,801	--	175	11,181	483
2003	389	62	228	--	19	87	--	5	654	--	25	1,646	--	87	3,004	198
2004	267	69	92	--	6	65	--	3	489	--	16	965	--	38	1,878	132
2005	209	48	179	--	16	101	--	4	1,741	--	59	1,868	--	73	4,098	200
2006	241	26	638	--	15	181	--	3	2,605	--	50	3,802	--	70	7,467	164
2007	145	24	453	--	12	199	--	4	4,795	--	107	4,034	--	84	9,626	231
2008	301	53	639	6	24	322	2	8	2,625	30	35	2,625	21	51	6,570	171
2009	77	24	257	4	26	128	2	5	2,935	60	65	3,141	32	103	6,634	223
2010	245	74	1,264	5	62	433	1	15	2,340	13	65	3,362	14	106	7,678	323
2011	239	29	689	10	21	203	2	4	1,128	21	16	1,468	20	21	3,780	92
2012	63	19	452	10	29	127	3	5	2,477	64	37	1,066	27	27	4,288	116
2013	52	7	105	1	3	49	1	1	693	17	14	698	17	10	1,632	35
2014	151	20	191	6	10	158	4	3	1,184	31	17	1,908	47	32	3,682	83
2015	53	12	44	2	4	46	1	2	987	30	27	645	15	21	1,823	65
2016	64	10	365	15	9	191	3	2	2,107	45	14	2,419	40	21	5,249	56
2017	42	7	30	2	2	10	0	0	13	29	2	41	12	4	179	15
5-yr Ave	73	11	147	5	6	91	2	2	997	30	15	1,142	26	18	2,513	51
10-yr Ave	129	26	404	6	19	167	2	5	1,649	34	29	1,737	24	40	4,151	118

¹ From target and non-target fisheries occurring in August-October downstream of The Dalles Dam and in August-December upstream of The Dalles Dam. Stock composition derived from data collected during sampling at Bonneville Dam. Prior to 2008, natural-origin release mortalities displayed include an unknown number of unclipped hatchery-origin fish. Estimates for 2016 and 2017 are preliminary, and all data are subject to change. BON = Bonneville Dam, TDA = The Dalles Dam

Table 20. Time, area, and gear restrictions for early fall non-treaty commercial mainstem fisheries, 2009-2017.

Year/Fishery	Date(s)	Hours	Area	Mesh Size
2009	Aug 4-5, Aug 6-7	7pm – 7am nightly	Zones 1-5	9” min
	Aug 9-10	"	Zones 2-5	"
	Aug 18-19, Aug 20-21	8pm – 6am nightly	Zones 3-5 upstream of Kalama River	"
	Aug 25-26	"	Zone 5	"
2010	Aug 3-4, Aug 5-6	7pm – 7am nightly	Zones 1-5	9” min
	Aug 8-9	"	"	"
	Aug 10-11	"	Zones 2-5	"
	Aug 19-20	8pm – 6am nightly	Zones 4-5	"
	Aug 22-23, Aug 24-25	9pm – 6am nightly	"	"
2011	Aug 4-5	9pm – 6am nightly	Zones 1-5	9” min
	Aug 16-17, Aug 18-19	"	Zones 4-5	"
	Aug 21-22, Aug 23-24	"	"	"
	Aug 25-26, Aug 28-29	"	"	"
	Aug 30-31	"	"	"
2012	Aug 5-6	9pm – 6am nightly	Zones 1-5	9” min
	Aug 12-13, Aug 14-15	"	Zones 4-5	"
	Aug 16-17, Aug 19-20	"	"	"
	Aug 21-22, Aug 23-24	"	"	"
	Aug 26-27, Aug 28-29	"	"	"
2013	Aug 11-12, Aug 13-14	9pm – 6am nightly	Zones 4-5	9” min
	Aug 15-16, Aug 18-19	"	"	"
	Aug 20-21, Aug 22-23	"	"	"
	Aug 25-26	"	"	"
	Aug 28-29	9pm – 2am	"	"
2014 Gillnet	Aug 3-4, Aug 5-6	9pm – 6am nightly	Zones 4-5	9” min
	Aug 7-8, Aug 10-11	"	"	"
	Aug 12-13, Aug 14-15	"	"	"
	Aug 17-18, Aug 19-20	"	"	"
	Aug 21-22, Aug 24-25	"	"	"
	Aug 26-27, Aug 28-29	"	"	"
	Sep 1-2	9pm – 2am	"	"
2014 Seine	Aug 19, 21, 26, 28	6am – 7:30pm	Zones 1-2	3.5” max
2015 Gillnet	Aug 9-10, Aug 11-12	9pm – 6am nightly	Zones 4-5	9” min
	Aug 13-14, Aug 16-17	"	"	"
	Aug 18-19, Aug 20-21	"	"	"
	Aug 23-24, Aug 25-26	"	"	"
	Aug 27-28	"	"	"
2015 Seine	Aug 31	2am – 6am	Zones 4-5	9” min
	Aug 24-26, 31	6am – 8pm	Zones 2-3	3.5” max
2016 Gillnet	Aug 7-8, Aug 9-10	9pm – 6am nightly	Zones 4-5	9” min
	Aug 11-12, Aug 14-15	"	"	"
	Aug 16-17, Aug 18-19	"	"	"
	Aug 21-22, Aug 23-24	"	"	"
	Aug 25-26, Aug 28-29	"	"	"
2016 Seine	Aug 30-31	"	"	"
	Aug 22, 24, 29, 31	6am – 4pm	Zones 2-3 Beach	3.5” max
2017 Gillnet	"	"	Zones 1, 3 Purse	"
	Aug 22-23, Aug 24-25	9pm – 6am nightly	Zones 4-5	9” min
	Aug 27-28, Aug 29-30	"	"	"
	Aug 31-Sep 1	"	"	"

Table 21. Landed catch from early fall non-treaty commercial mainstem fisheries, 1970-2017.

Year	Season ¹	Fishing Days	Chinook	Coho	Steelhead ²	Sturgeon ³	
						White	Green
1970-74 Ave.	Aug 9-26	12	96,260	29,660	5,800	2,660	1,320
1975-79 Ave.	Aug 8-21	6	51,560	3,320	--	4,500	1,060
1980-84 Ave.	Aug 30-Sep 3 (2 yrs no season)	<0.5	30,600	2,480	--	680	300
1985	None	0	--	--	--	--	--
1986	Jul 30-Aug. 6	4	800	0	--	5,400	5,100
1987	Aug. 9-12	3	11,500	100	--	3,900	3,200
1988	Aug. 14-15	0.5	51,100	300	--	1,700	2,300
1989	Aug. 7-29	13	29,800	100	--	1,800	0
1990	Aug. 12-24	10	6,700	20	--	1,500	0
1991	Aug. 25-29	4	5,400	10	--	500	0
1992	Sept. 8-9	0.5	2,200	400	--	800	1,800
1993	None	0	--	--	--	--	--
1994	None	0	--	--	--	--	--
1995	None	0	--	--	--	--	--
1996	Aug. 26-29	3	4,400	0	--	300	0
1997	Aug. 4 - 25	2	1,300	1	--	1,900	1,500
1998	Aug. 4 - 26	2	1,800	0	--	2,600	700
1999	Aug. 4 - 24	2	1.4	0	--	2,900	500
2000	Aug. 3-23	3	7,400	200	--	2,800	600
2001	Aug. 5-25	7	6,600	660	--	5,700	340
2002	Aug. 4-28	10	19,500	60	--	1,700	0
2003	Aug. 4-28	8	15,700	300	--	2,600	11
2004	Aug. 3-26	8	11,300	40	--	2,500	6
2005	Aug. 4-26	8	11,400	90	--	2,100	30
2006	Aug. 2-25	8	10,700	800	--	1,900	--
2007	Aug. 2-24	4	4,000	60	--	2,700	--
2008	Aug. 3-25	7	14,400	80	--	2,800	--
2009 ⁴	Aug. 4-26	6	28,200	1,300	--	3,000	--
2010	Aug. 3-25	7	21,800	440	--	1,900	--
2011 ⁵	Aug. 4-31	8	25,000	1,600	--	1,300	--
2012	Aug. 5-29	9	23,300	300	--	1,000	--
2013	Aug 11-29	8	44,300	400	--	700	--
2014 ⁶	Aug 3-Sept 2	13	46,900	830	--	--	--
2015 ⁶	Aug 9-31	9.5	33,400	160	--	--	--
2016 ⁶	Aug 7-31	11	46,300	410	--	--	--
2017	Aug 22-Sept 1	5	13,959	218	--	485	--

¹ Minimum mesh size: 1970-1974 7-1/4"; 1975-1979 8"; 1980-2004 see Table 23, 2005 see Table 15.

² Sale of steelhead in non-treaty fisheries prohibited since 1975.

³ Sale of Green Sturgeon prohibited effective July 7, 2006. Retention of White Sturgeon prohibited during 2014-16.

⁴ One Chum salmon was landed during the 2009 August 18-19 fishing period.

⁵ Eight Pink salmon were also landed during August 2011.

⁶ Estimated catch from mainstem Columbia River commercial seine fisheries not included; see Table 24.

Table 22. Landed catch from late fall mainstem and Select Area non-treaty commercial fishing seasons, 1980-2017.

Year	Mainstem Season ¹	Mainstem Fishing Days	Chinook		Coho		Chum ^{3,8}	Steelhead ⁴	Sturgeon	
			Columbia Mainstem	Select Area ²	Columbia Mainstem	Select Area ²			White ⁵	Green ⁶
1980-84 Ave.	Sep 10-Nov 16	21	17,880	15,840	101,540	19,960	1,080	--	5,740	670
1985-89 Ave.	Sep 12-Nov 15	39	165,640	16,100	377,380	40,640	1,520	--	3,780	1,320
1990	Sep 18-Oct 31	26	35,300	3,100	47,400	27,600	800	--	3,100	2,200
1991	Sep 10-Nov 5	32	33,500	2,100	324,400	82,100	400	--	2,400	3,200
1992	Sep 22-Oct 30	22	14,100	1,500	37,900	19,600	700	--	4,200	400
1993	Sep 20-Oct 20	17	16,700	300	20,600	15,500	40	--	7,100	2,200
1994	Oct 9-Oct 19	4	1,500	100	6,000	57,800	20	--	3,400	200
1995	Oct 9 & Oct 12	2	50	500	200	22,300	0	--	6,000	400
1996	Sep 16-Oct 25	17	7,600	5,000	5,600	22,400	20	--	6,700	600
1997	Sep 24-Nov 7	23	3,800	4,000	3,800	17,100	39	--	7,900	100
1998	Oct 7-Nov 6	7	1,000	2,100	300	23,600	11	--	8,200	200
1999	Sep 20-Nov 4	23	4,600	2,100	57,600	23,000	101	--	4,300	400
2000	Sep 18-Nov 1	21	3,440	2,300	110,400	58,300	26	--	5,300	700
2001	Sep 17-Oct 31	27	14,900	3,100	219,100	33,800	116	--	20	0
2002	Sep 16-Oct 31	19	16,100	8,700	99,500	70,400	12	--	4,500	200
2003	Sep 15-Oct 31	23	42,700	9,700	149,500	117,100	6	--	3,600	30
2004	Sep 19-Oct 29	16	29,800	12,600	66,500	51,900	90	--	3,300	50
2005	Sep 19-Oct 28	18	16,100	8,700	32,300	65,800	10	--	3,900	20
2006	Sep 19-Oct 25	10	15,300	4,600	27,500	37,700	3	--	3,600	--
2007	Sep 19-Oct 31	26	8,200	4,500	30,100	10,500	38	--	2,900	--
2008	Sep 18 – Oct 31	23	13,700	14,000	13,000	55,200	22	--	3,300	--
2009	Sep 24 – Oct 28	21	6,800	12,000	43,900	81,000	29	--	2,100	--
2010	Sep 22 – Oct 22	11	9,400	20,700	18,500	58,800	275	--	1,500	--
2011	Sep 18 – Oct 20	10	26,400	22,900	11,800	49,500	144	--	1,200	--
2012	Sep 19 – Oct 22	15	13,500	23,700	2,300	15,400	37	--	400	--
2013	Sep 15 – Nov 1	34	40,700	24,200	9,400	42,300	4 ⁸	--	400	--
2014 ⁷	Sep 14 – Oct 31	40	52,200	24,200	68,900	168,600	-- ⁸	--	-- ⁹	--
2015 ⁷	Sep 15 – Oct 20	10	47,800	18,200	3,700	27,400	-- ⁸	--	-- ⁹	--
2016 ⁷	Sep 18-23	2	11,600	12,400	300	34,700	-- ⁸	--	-- ⁹	--
2017	Sep 17-20	2	5,400	12,000	700	38,000	-- ⁸	--	500	--

¹ Number of Oregon and Washington terminal areas and fishing days vary from year to year, and some early fall fisheries are included. Between 1983 and 1995 only Oregon terminal fisheries occurred. Prior to 1979, landings listed for Youngs Bay are minimal since salmon could be sold outside Youngs Bay during concurrent mainstem fishing periods.

² Includes total fall season landings from Washington terminal (1980-1982), Youngs Bay (1980-present), Tongue Point/South Channel, Blind Slough/Knapka Slough, and Deep River (1996-present), and Steamboat Slough (2000-2005) Select Area fisheries.

³ Includes landings from Select Area fall fisheries beginning in 1997.

⁴ Sale of steelhead in non-treaty commercial fisheries prohibited since 1975.

⁵ Includes landings from Select Area fall fisheries.

⁶ Green Sturgeon retention prohibited since July 7, 2006.

⁷ E estimated catch from mainstem Columbia River commercial seine fisheries not included; see Table 24.

⁸ Chum possession and sales prohibited for non-treaty commercial fisheries beginning in October, 2013.

⁹ White Sturgeon retention prohibited during 2014-16.

Table 23. Estimated landed catch from Columbia River non-treaty commercial seine fisheries, 2014-2016.¹

2014 Commercial Pilot Seine Research Fishery											
Gear	Dates	Fishing				Chinook			Coho		
		Days	Hours	Weeks	Zones	Adults	Jacks	Totals	Adults	Jacks	Totals
Beach Seine	Aug 19-Sep 30	22	12.5-13.5	34-40	1-5	1,133	204	1,337	489	20	509
Purse Seine	Aug 19-Sep 30	22	12.5-13.5	34-40	1-5	1,306	151	1,457	542	19	561
						2,439	355	2,794	1,031	39	1,070
2015 Commercial Seine Fishery											
Gear	Dates	Fishing				Chinook			Coho		
		Days	Hours	Weeks	Zones	Adults	Jacks	Totals	Adults	Jacks	Totals
Beach Seine	Aug 24-Sep 30	23	13-14	35-40	2-4	572	109	681	55	3	58
Purse Seine	Aug 24-Sep 30	23	13-14	35-40	2-4	2,191	121	2,312	509	20	529
						2,763	230	2,993	564	23	587
2016 Commercial Seine Fishery ²											
Gear	Dates	Fishing				Chinook			Coho		
		Days	Hours	Weeks	Zones	Adults	Jacks	Totals	Adults	Jacks	Totals
Beach Seine	Aug 22-Sep 30	20	10	35-40	2-3	1	1	2	13	26	39
Purse Seine	Aug 22-Sep 30	20	10	35-40	1 & 3	1,000	113	1,113	469	96	565
						1,001	114	1,115	482	122	604

¹ Catch estimates based on observation data.

² Seine fisheries allowed one day of non-mark selective Chinook retention and sales: September 14 for beach seine and September 7 for purse seine.

Table 24. Select Area fall commercial fisheries landings, 2009-2017

Year	Site	Chinook	Coho	Pink	Chum	White Sturgeon
2009	Youngs Bay	6,565	49,329		0	72
	Tongue Point	872	16,918		1	11
	Blind Slough ¹	3,991	10,043		0	20
	Deep River	562	4,660		2	11
		11,990	80,950		3	114
2010	Youngs Bay	8,048	27,564		0	37
	Tongue Point	1,402	6,734		0	31
	Blind Slough ¹	10,205	5,201		1	45
	Deep River	1,011	19,260		11	3
		20,666	58,759		12	116
2011	Youngs Bay	12,339	26,538	13	1	No Retention
	Tongue Point	2,527	6,504	19	1	No Retention
	Blind Slough ¹	5,768	1,388	4	2	No Retention
	Deep River	2,295	15,083	6	129	No Retention
		22,929	49,513	42	133	0
2012	Youngs Bay	16,197	5,986		3	No Retention
	Tongue Point	2,466	3,902		0	No Retention
	Blind Slough ¹	3,366	1,534		2	No Retention
	Deep River	1,691	3,932		20	No Retention
		23,720	15,354		25	0
2013	Youngs Bay	14,362	14,254	3	3	39
	Tongue Point	5,843	14,165	5	0	42
	Blind Slough ¹	2,362	3,882	2	1	14
	Deep River	1,595	10,002	5	0	8
		24,162	42,303	15	4	103
2014	Youngs Bay	11,850	65,936	1		No Retention
	Tongue Point	5,471	50,752	0		No Retention
	Blind Slough ¹	4,669	24,620	0		No Retention
	Deep River	2,166	27,262	1		No Retention
		24,156	168,570	2		0
2015	Youngs Bay	6,844	11,500	0		No Retention
	Tongue Point	3,623	9,721	1		No Retention
	Blind Slough ¹	3,407	1,700	1		No Retention
	Deep River	4,305	4,524	1		No Retention
		18,179	27,445	3		0
2016	Youngs Bay	6,398	15,784	0		No Retention
	Tongue Point	2,007	11,284	0		No Retention
	Blind Slough ¹	2,027	1,493	0		No Retention
	Deep River	2,011	6,162	3		No Retention
		12,443	34,723	3		0
2017	Youngs Bay	6,277	13,603	3		115
	Tongue Point	2,251	12,534	0		82
	Blind Slough ¹	1,636	2,460	0		9
	Deep River	1,870	9,382	3		31
		12,034	37,979	6		237

¹ Includes August target Chinook fishing periods in Knappa Slough.

² Chum possession and sales prohibited beginning in October, 2013 in all Select Area fishing sites.

Table 25. Angler trips and catch in the Buoy 10 recreational fishery, 1982-2017.¹

Fishery	Angler Trips	Chinook		Coho		Total	
		Catch	Catch/Trip	Catch	Catch/Trip	Catch	Catch/Trip
1982 Buoy 10 Total	17,336	723	0.04	18,857	1.09	19,580	1.13
1983 Buoy 10 Total	7,128	604	0.08	3,574	0.50	4,178	0.59
1984 Buoy 10 Total	67,365	12,177	0.18	74,370	1.10	86,547	1.28
1985 Buoy 10 Total	32,156	2,655	0.08	25,387	0.79	28,042	0.87
1986 Buoy 10 Total	102,190	15,600	0.15	120,422	1.18	136,022	1.33
1987 Buoy 10 Total	124,594	42,100	0.34	47,170	0.38	89,270	0.72
1988 Buoy 10 Total	186,051	30,770	0.17	143,417	0.77	174,187	0.94
1989 C&H Total	7,922	492	0.06	3,195	0.40	3,687	0.47
1989 Buoy 10 Total	144,848	15,900	0.11	78,720	0.54	94,620	0.65
1989 Grand Total	152,770	16,392	0.11	81,915	0.54	98,307	0.64
1990 C&H Total	3,225	54	0.02	28	0.01	82	0.03
1990 Buoy 10 Total	76,411	5,149	0.07	18,435	0.24	23,584	0.31
1990 Grand Total	79,636	5,203	0.07	18,463	0.23	23,666	0.30
1991 C&H Total	2,759	39	0.01	1,151	0.42	1,190	0.43
1991 Buoy 10 Total	168,921	11,549	0.07	207,527	1.23	219,076	1.30
1991 Grand Total	171,680	11,588	0.07	208,678	1.22	220,266	1.28
1992 Buoy 10 Total	115,481	10,655	0.09	43,082	0.37	53,737	0.47
1993 Buoy 10 Total	75,774	5,288	0.07	20,932	0.28	26,220	0.35
1994 Buoy 10 Total	9,253	0	0.00	1,795	0.19	1,795	0.19
1995 Buoy 10 Total	25,186	607	0.02	5,026	0.20	5,633	0.22
1996 Buoy 10 Total	18,034	1,409	0.08	4,537	0.25	5,946	0.33
1997 Buoy 10 Total	55,725	13,153	0.24	20,357	0.37	33,510	0.60
1998 Buoy 10 Total	29,998	5,784	0.19	3,175	0.11	8,959	0.30
1998 Astoria Bridge Total	11,044	3,484	0.32	3,142	0.28	6,626	0.60
1998 Grand Total	41,042	9,268	0.23	6,317	0.15	15,585	0.38
1999 Buoy 10 Total	49,568	9,850	0.20	8,960	0.18	18,810	0.38
2000 Buoy 10 Total	72,518	6,085	0.08	21,478	0.30	27,563	0.38
2001 Buoy 10 Total	125,829	12,709	0.10	132,035	1.05	144,744	1.15
2002 Buoy 10 Total	84,434	19,438	0.23	6,205	0.07	25,643	0.30
2003 Buoy 10 Total	88,827	16,316	0.18	54,440	0.61	70,756	0.80
2004 Buoy 10 Total	68,818	16,016	0.23	15,169	0.22	31,185	0.45
2005 Buoy 10 Total	55,183	9,287	0.17	6,878	0.12	16,165	0.29
2006 Buoy 10 Total	40,608	1,710	0.04	3,683	0.09	5,393	0.13
2007 Buoy 10 Total	36,064	3,776	0.10	8,356	0.23	12,132	0.34
2008 Buoy 10 Total	32,467	8,349	0.26	8,573	0.26	16,922	0.52
2009 Buoy 10 Total	72,803	5,941	0.08	48,127	0.66	54,068	0.74
2010 Buoy 10 Total	52,300	6,807	0.13	7,980	0.15	14,787	0.28
2011 Buoy 10 Total	49,409	10,919	0.22	7,614	0.15	18,533	0.38
2012 Buoy 10 Total	65,070	18,550	0.29	7,385	0.11	25,935	0.40
2013 Buoy 10 Total	65,767	22,594	0.34	7,620	0.12	30,214	0.46
2014 Buoy 10 Total	107,522	26,788	0.25	57,744	0.54	84,532	0.79
2015 Buoy 10 Total	108,319	36,535	0.34	36,920	0.34	73,455	0.68
2016 Buoy 10 Total	94,950	17,780	0.19	9,182	0.10	26,962	0.28
2017 Buoy 10 Total	93,547	28,398	0.30	18,834	0.20	47,232	0.50

¹ Includes catch and effort from the 1989-1991 Chinook/Hammond fisheries and 1998 Astoria Bridge fishery.

Table 26. Fall salmon angler trips and catch on the lower Columbia River, August-October, 1980-2017.

Year	Angler Trips	Chinook		Coho		Steelhead	
		Adults	Jacks	Adults	Jacks	Kept	Released
1980	25,262	1,155	390	85	81	213	0
1981 ¹	29,213	1,022	1,174	139	579	776	0
1982 ¹	20,909	117	696	96	803	0	0
1983 ¹	26,817	962	1,250	174	2,329	79	0
1984 ¹	38,837	1,472	1,316	715	538	1,747	684
1985 ¹	44,793	2,032	5,449	1,106	444	3,418	593
1986	47,855	2,146	3,136	4,027	503	3,390	1,188
1987	59,322	4,357	1,437	930	3,047	2,274	1,038
1988	51,831	4,443	1,492	475	1,491	3,905	603
1989	64,911	5,523	935	184	382	3,698	897
1990	57,180	3,568	1,257	351	2,919	2,503	588
1991	51,470	2,640	530	1,090	1,277	4,442	850
1992	48,993	1,871	1,401	586	1,511	6,443	879
1993	50,011	3,694	512	551	52	5,958	1,134
1994 ¹	27,678	229	37	941	83	2,854	710
1995 ¹	50,165	4,563	1,172	199	85	5,067	591
1996	55,437	9,324	448	774	61	3,270	386
1997	64,477	8,447	389	813	504	3,065	494
1998 ¹	65,884	6,993	629	595	574	2,747	564
1999 ¹	70,673	8,652	322	1,276	502	4,046	1,282
2000	80,759	7,620	1,332	1,620	2,429	5,050	1,957
2001	97,253	9,355	804	3,068	381	5,034	2,141
2002	110,796	21,182	757	3,011	367	3,521	1,931
2003	113,330	26,195	465	1,145	21	4,171	2,008
2004 ²	87,404	17,719	497	1,273	62	2,479	1,006
2005 ^{1,2}	86,594	18,256	184	586	21	2,641	1,182
2006 ^{1,2}	89,287	13,398	318	1,173	38	4,248	1,723
2007 ^{1,2}	79,793	8,089	634	881	28	4,746	1,693
2008 ^{1,2}	80,772	10,675	770	2,248	327	2,591	1,213
2009 ^{1,2}	117,975	14,711	1,843	3,989	45	7,325	4,380
2010 ^{1,2}	114,285	17,326	949	1,584	19	6,034	3,394
2011 ^{1,2}	147,343	28,169	2,551	1,667	17	12,053	7,729
2012 ^{1,2,3}	128,831	22,438	4,175	884	95	5,618	3,514
2013 ^{2,3}	141,481	31,879	2,583	951	240	6,139	6,471
2014 ^{1,2,3}	143,946	26,336	2,688	5,761	115	6,375	5,269
2015 ^{1,2,3}	131,374	41,525	1,909	995	99	4,212	2,605
2016 ^{1,2,3}	133,300	25,133	1,780	1,317	98	1,852	1,168
2017 ^{2,3}	114,721	26,138	1,701	3,114	62	237	881

¹ Partial Chinook closure year.

² One adult Chinook daily bag limit (adopted during all or part of the fishery).

³ Includes 7-day mark-selective fisheries (MSF) in 2012, 2014, 2015, and 2017, a 20-day MSF in 2013 and a 21-day MSF in 2016.

Table 27. Mainstem fall Chinook recreational fisheries upstream of Bonneville Dam, 2003-2017.

Bonneville Dam to Hwy 395 Recreational Fishery		
Year	Adult Chinook	Chinook Season
2003	4,005	Aug 1 - Dec 31
2004	3,465	Aug 1 - Dec 31
2005	3,515	Aug 1 - Dec 31, Chinook closed Oct 1 - 19
2006	2,224	Aug 1 - Dec 31, Chinook closed Sep 16 - 29
2007	2,763	Aug 1 - Dec 31, Chinook closed Sep 20 - 28
2008	3,125	Aug 1 - Dec 31
2009	3,349	Aug 1 - Dec 31
2010	5,272	Aug 1 - Dec 31
2011	5,212	Aug 1 - Dec 31
2012	5,974	Aug 1 - Dec 31
2013	19,995	Aug 1 - Dec 31
2014	9,864	Aug 1 - Dec 31
2015	13,260	Aug 1 - Dec 31
2016 ¹	5,802	Aug 1 - Dec 31
2017	5,851	Aug 1 - Dec 31
Hanford Reach Recreational Fishery		
Year	Adult Chinook	Chinook Season
2003	6,457	Aug 16 - Oct 22
2004	8,082	Aug 16 - Oct 22
2005	7,542	Aug 16 - Oct 22
2006	4,055	Aug 16 - Oct 22
2007	4,614	Aug 16 - Oct 22
2008	5,638	Aug 1 - Oct 22
2009	6,553	Aug 1 - Oct 15
2010	10,985	Aug 1 - Oct 21
2011	11,614	Aug 1 - Oct 21
2012	13,097	Aug 1 - Oct 21
2013	24,906	Aug 1 - Oct 31
2014	28,679	Aug 1 - Oct 31
2015	33,885	Aug 16 - Oct 31
2016	16,859	Aug 16 - Oct 31
2017	11,489	Aug 16 - Oct 31

¹ Preliminary

Table 28. Treaty fishery open area and Spring Creek Sanctuary restrictions during fall season commercial set gillnet seasons, 1995-2017.

Year	Open Area	Spring Creek Sanctuary
1995	Zone 6	Large sanctuary all season
1996	All of Zone 6 except closed below Hood River Bridge Sep 23-28	Large sanctuary all season
1997	All of Zone 6 except closed below Hood River Bridge Sep 9-13	Large sanctuary Aug 7-Sep 6. Enlarged sanctuary from Light #27 to Light #35, Washington shore to mid-channel, Sep 17-20
1998	All of Zone 6 except closed below Hood River Bridge Sep 8-12	Large sanctuary Sep. 1-12. Enlarged sanctuary from Light #27 to Light #35, Washington shore to mid-channel, September 15-28
1999	Zone 6	Small sanctuary all season
2000	Zone 6	Large sanctuary all season
2001	Zone 6	Large sanctuary Aug 28-Sep 8. Small sanctuary Sep 11-29
2002	Zone 6	Large sanctuary Aug 28-Aug 31. Small sanctuary Sep 11-28
2003	Zone 6	Small sanctuary all season
2004	Zone 6	Small sanctuary all season
2005	Zone 6	Small sanctuary all season
2006	Zone 6	Large sanctuary all season
2007	Zone 6	Large sanctuary all season
2008	Zone 6	Large sanctuary Aug 19 – Sept 26. Sept 30-Oct 10 reduced to 50' radius. No sanctuary Oct 20-23
2009	Zone 6	Large sanctuary 5 of 6 weekly fishing periods. No min. mesh restrictions all season
2010	Zone 6	Small sanctuary all season, except no sanctuary final week (Oct 19-22). 8" min. mesh restrictions on final 3 weekly periods
2011	Zone 6	Standard sanctuary first 5 openings. Small sanctuary final two weeks. 8" min. mesh restrictions all season
2012	Zone 6	Standard sanctuary first 4 openings. Small sanctuary last 3 openings. 8" min. mesh restriction all season.
2013	Zone 6	Standard sanctuary first 3 openings. Small sanctuary last 4 openings. 8" min. mesh restriction all season.
2014	Zone 6	Standard sanctuary first 5 openings. Small Sanctuary last 4 openings. 8" min mesh restriction all season
2015	Zone 6	Standard sanctuary first 5 openings. Small sanctuary last two openings. 8" min mesh restriction all season
2016	Zone 6	Standard sanctuary first 4 openings and 6th opening. Small sanctuary 5th opening and last three openings. 8" min mesh restriction for the first seven out of nine openings.
2017	Zone 6	Standard sanctuary all openings. 8" min mesh restriction for all openings.

Table 29. Fall treaty fishery mainstem Columbia River landings, 1980-2017.

Year	Season ²	Fishing Days ³	Numbers Landed ¹			
			Chinook Adults	Coho	Steelhead ⁴	White Sturgeon ⁵
80-84 ave ⁶	Aug 6- Nov 5	15	41,760	1,640	19,720	260
85-89 ave ⁷⁻¹¹	Aug 23-Oct 15	36.6	116,620	11,880	63,260	3,125
1990 ¹²	Aug. 8-Sept. 29	34	79,300	2,900	30,700	1,700
1991 ¹³	Aug. 12-Oct. 28	20	51,100	12,800	41,100	--
1992	Aug. 10-Oct. 17	32	28,100	1,000	52,400	100
1993	Aug. 9-Oct. 2	26	30,400	1,000	28,800	100
1994 ¹⁴	Aug. 29-Oct. 15	10	33,700	1,300	15,500	500
1995	Aug. 29-Sept. 15	9	41,400	400	20,400	400
1996	Sept. 2-Sept. 28	17	63,200	700	19,000	300
1997	Aug. 27-Sept. 20	16	65,000	600	22,700	<100
1998	Aug. 25-Sept. 25	22	44,700	1,500	12,600	<100
1999	Aug. 31-Oct. 2	22	77,200	2,300	17,300	0
2000	Aug. 30-Sept. 23	17	52,100	6,300	15,500	0
2001 ¹⁵	Aug. 28-Sept. 29	18	103,900	5,400	29,200	806
2002	Aug 28-Sep 28	18.5	129,700	1,600	13,800	300
2003 ¹⁶	Aug 26-Oct 11	27.5	123,600	5,800	14,900	200
2004	Aug 25-Oct 16	30	127,600	10,300	14,600	64
2005	Aug 22-Sept. 30	25	113,500	5,400	13,700	138
2006	Aug 21-Oct 6	29.5	76,290	7,577	21,130	78
2007 ¹⁷	Aug 22-Oct 6	25.5	36,782	8,030	19,457	90
2008 ¹⁷	Aug 19 – Oct 23	37	106,625	21,625	26,339	94
2009 ¹⁷	Aug 24- Oct 1	23	98,622	15,675	36,755	34
2010 ¹⁷	Aug 24- Oct 22	25.5	132,642	11,485	26,733	150
2011 ¹⁷	Aug 22- Oct 6	28.5	114,247	22,941	15,034	853
2012 ¹⁷	Aug 21-Oct 4	22.5	82,879	7,070	15,211	109
2013 ¹⁷	Aug 19-Oct 3	27.5	227,568	8,850	17,156	77
2014 ¹⁷	Aug 18-Oct 16	41.5	264,458	40,480	25,551	76
2015 ¹⁷	Aug 17-Oct 2	33.5	258,957	2,956	16,571	13
2016 ¹⁷	Aug 22-Oct 21	40.5	132,167	6,114	13,555	54
2017 ¹⁷	Aug 21-Oct 5	30.5	117,463	8,731	8,439	71

¹ Includes Spring Creek terminal area fishing since 1975 (1977-83 & 92), sales to the general public and C&S catches beginning in 1994, Klickitat R. dipnet catches during open mainstem seasons, and extended Klickitat River commercial seasons beginning in 1988.

² For Commercial Gillnet openings - Minimum mesh size: 1970-1974 none; 1975 7-1/2"; 1976-1982 8"; 1983 none; 1984 none, except 8" Oct 9-15; 1985 none, except 8" Sep 14-28; 1986 none, except 8" Sep 6-Oct 4; 1987 none; 1988 none, except 8" Aug 17-27 and Sep 18-24 and 8" and 9" test fishery Sep 28-Oct 1; 1989 8" except none Aug 7-12; 1990 8" except none Sep 3-5, Sep 12-15 below Hood River Br., Sep 17-22, and Sep 24-29; 1991-97 none; 1998 8"; 1999 none except 8" Sep 15-18 and Sep 29-Oct 2; 2000-2002 none.

³ Mainstem commercial seasons only, unless otherwise noted.

⁴ Sales to licensed buyers during sockeye and fall seasons only through 1984. Sales to licensed buyers, general public and C&S catch from 1985-present.

⁵ No sturgeon sales allowed in set net fisheries since 1991. Includes landings in fall set-line fisheries.

- ⁶ *Includes Nov 1-5 coho fishery below Klickitat River.*
- ⁷ *Spring Creek sanctuary area open to fishing Aug 23-28 and Aug 29-Sep 3.*
- ⁸ *Includes Sep 29-Oct 4 dipnet and experimental gillnet fishery. An additional catch of 1,000 Chinook occurred above Priest Rapids Dam. Over half of the coho catch (24,100) occurred in the Klickitat River dipnet fishery.*
- ⁹ *An additional catch of 2,200 Chinook occurred above Priest Rapids Dam.*
- ¹⁰ *Includes Sep 28-Oct 1 test fishery in John Day Pool. No sturgeon sales allowed after Sep 3. An additional catch of 2,300 Chinook and an estimated 300 steelhead occurred above Priest Rapids Dam.*
- ¹¹ *No sturgeon sales allowed. An additional catch of 800 Chinook occurred above Priest Rapids Dam. Includes 6,100 coho captured in an extended Klickitat River dipnet season.*
- ¹² *An additional 200 Chinook catch occurred above Priest Rapids Dam. Includes 1,900 coho captured in an extended Klickitat River dipnet season.*
- ¹³ *Includes 5,500 coho captured in an extended Klickitat River dipnet season.*
- ¹⁴ *An additional catch of 570 Chinook and 70 steelhead occurred above Priest Rapids Dam. An additional catch of 220 Chinook and 80 steelhead occurred above McNary Dam.*
- ¹⁵ *Target sturgeon gillnet seasons adopted for Zone 61 (Bonneville Pool) during November 14-30 and Zone 63 (John Day Pool) during November 14-December 7.*
- ¹⁶ *Target sturgeon gillnet season adopted for Zone 61 (Bonneville Pool) during December 1-14. No sturgeon were landed.*
- ¹⁷ *Includes all fall season harvest – Aug 1-Dec 31.*

Table 30. Fall treaty fisheries catch composition, 2017.¹

Fishery			Numbers Landed					
			Chinook ²	Steelhead	Sturgeon	Coho ²	Walleye	
Platform, Hook & Line	Weeks 31-33 (8/1-8/20)	Ticket	405	139	0	0	0	
		Non-Ticket	196	251	0	0	0	
	Late Fall (10/8-12/31)	Ticket	356	43	0	217	0	
		Non-Ticket	93	238	0	202	0	
	PHL Total:		1,050	671	0	419	0	
Commercial Gillnet	Week 34 (8/21-8/25)	Ticket	4,077	333	0	2	5	
		Non-Ticket	408	341	2	20	2	
		Total	4,485	674	2	22	7	
	Week 35 (8/28-9/1)	Ticket	11,428	500	0	43	4	
		Non-Ticket	1,143	88	4	45	5	
		Total	12,571	588	4	88	9	
	Week 36 (9/4-9/8)	Ticket	13,249	385	0	116	1	
		Non-Ticket	1,325	67	0	22	1	
		Total	14,574	452	0	138	2	
	Week 37 (9/11-9/15)	Ticket	38,271	1,020	0	1,405	6	
		Non-Ticket	3,827	179	0	248	3	
		Total	42,098	1,199	0	1,653	9	
	Week 38 (9/18-9/22)	Ticket	24,491	1,703	0	2,622	5	
		Non-Ticket	2,449	833	0	463	2	
		Total	26,940	2,536	0	3,085	7	
	Week 39 (9/25-9/29)	Ticket	12,810	1,016	0	2,065	3	
		Non-Ticket	1,281	570	5	364	5	
		Total	14,091	1,586	5	2,429	8	
	Week 40 (10/2-10/5)	Ticket	4,454	300	0	550	5	
		Non-Ticket	1,411	433	14	347	2	
		Total	5,865	733	14	897	7	
	GN Total:		120,624	7,768	25	8,312	49	
	Fall Setline	Weeks 31-53 (8/1-12/31)			46			
	Grand Total			121,674	8,439	71	8,731	49

¹ Ticketed catch estimates based on preliminary landings. Non-ticketed catch includes C&S (take home) and sales directly to the public. Includes sales from Zone 6 and downstream of Bonneville Dam, consistent with state/tribal MOUs/MOAs. Commercial gillnet catch includes platform and hook and line catch during the statistical week that the gillnet opening occurred.

² Includes adults and jacks

Table 31. Aerial set net counts for Zone 6 treaty Indian fall gillnet salmon fisheries during statistical weeks, 35-40, 1999-2017.

Year	Number of Set Nets		
	Average	Minimum	Maximum
1999	435	366	468
2000	527	485	626
2001	370	296	452
2002	364	306	436
2003	275	183	331
2004	231	113	297
2005	339	187	450
2006	387	205	502
2007	429	205	528
2008	555	443	691
2009	619	403	707
2010	634	441	758
2011	588	434	672
2012	629	343	762
2013	595	403	726
2014	499	412	571
2015	520	401	671
2016	542	423	703
2017	458	396	515

Table 32. Fall season treaty impact rates on natural origin and total B-Index (since 2008) upriver summer steelhead, 1999-2017.¹

	Natural Origin Impacts			B-Index Allowed	
	A-Index	B-Index	Total B	Wild	Total B
1999	5.4%	12.6%		15%	
2000	4.3%	14.3%		15%	
2001	4.0%	11.5%		15%	
2002	2.7%	3.4%		15%	
2003	2.5%	14.9%		15%	
2004	3.2%	11.1%		15%	
2005	3.8%	12.3%		15%	
2006	5.2%	16.0%		15%	
2007	3.6%	11.6%		15%	
2008	4.6%	13.3%	14.7%	NA	15%
2009	5.2%	14.4%	17.1%	NA	20%
2010	4.0%	13.3%	15.5%	NA	20%
2011	5.9%	32.7%	25.0%	NA	20%
2012	6.0%	12.7%	13.1%	NA	15%
2013	6.6%	15.6%	13.8%	NA	13%
2014	7.6%	16.4%	13.4%	NA	20%
2015	6.3%	14.4%	15.1%	NA	13%
2016	8.6%	15.6%	10.0%	NA	20%
2017	6.9%	8.3%	6.0%	NA	13%
5-yr Ave	7.2%	14.1%	11.7%		16%
10-yr Ave	6.2%	15.7%	14.4%		17%

¹ Beginning in 2008, under the U.S. v Oregon Management Agreement, treaty fisheries during the fall season are managed for total B-Index impacts (not just wild). The result is that treaty and non-treaty impacts are no longer additive when comparing to allowed rates. All data subject to change. Includes sales to licensed buyers only prior to 1994. Includes sales to the general public and C&S catch beginning in 1994.

² Run sizes prior to 2016 are not corrected for unclipped hatchery origin fish and is therefore unclipped harvest impacts over-estimate of the true wild impact rate.

Table 33. Fall season non-treaty harvest and impact rates on natural-origin A- and B-Index upriver summer steelhead, 1999-2017.¹

Year	Harvest Mortalities		Harvest Impact Rate		Allowed Impact Rate	
	A-Index	B-Index	A-Index	B-Index	A-Index	B-Index
1999	382	41	0.7%	1.1%	2.0%	2.0%
2000	642	123	1.0%	1.5%	2.0%	2.0%
2001	978	134	0.7%	1.1%	2.0%	2.0%
2002	889	483	1.0%	1.5%	2.0%	2.0%
2003	1,007	198	1.5%	3.1%	2.0%	2.0%
2004	734	132	1.2%	1.4%	2.0%	2.0%
2005	671	200	1.1%	2.1%	2.0%	2.0%
2006	751	164	1.2%	1.9%	2.0%	2.0%
2007	792	231	1.0%	2.6%	2.0%	2.0%
2008	404	171	0.5%	0.9%	2.0%	2.0%
2009	1,244	223	0.8%	1.6%	2.0%	2.0%
2010	820	323	0.7%	1.4%	2.0%	2.0%
2011	1,357	92	1.3%	1.2%	2.0%	2.0%
2012	742	116	1.3%	1.7%	2.0%	2.0%
2013	1,292	35	1.4%	1.2%	2.0%	2.0%
2014	1,316	83	1.2%	0.6%	2.0%	2.0%
2015	1,023	65	1.2%	1.1%	2.0%	2.0%
2016	350	56	1.2%	1.6%	2.0%	2.0%
2017	307	15	1.1%	2.0%	2.0%	2.0%
5-yr Ave	858	51	1.2%	1.3%	2.0%	2.0%
10-yr ave	885	118	1.1%	1.3%	2.0%	2.0%

¹ Harvest mortalities are non-retention mortalities from commercial and recreational fisheries occurring in August-October downstream of The Dalles Dam and in August-December upstream of The Dalles Dam. Prior to 2008, natural-origin release mortalities displayed include an unknown number of unclipped hatchery-origin fish. Estimates for 2016 and 2017 are preliminary, and all data are subject to change.

Table 34. Lower Columbia Natural (LCN) Coho ocean and in-river exploitation rates, 2005-2017.

Year ¹	Exploitation Rates			
	Ocean	In-River ²	Actual	Allowed
2005	11%	7%	18%	21%
2006	7%	7%	13%	15%
2007	12%	7%	19%	20%
2008	4%	4%	7%	8%
2009	11%	11%	21%	20%
2010	8%	7%	14%	15%
2011	6%	8%	14%	15%
2012	10%	3%	13%	15%
2013	10%	3%	13%	15%
2014	12%	5%	17%	23%
2015	17%	7%	24%	23%
2016	8%	2%	9%	18%
2017	7%	4%	11%	18%

¹ LCN Coho listed under the federal Endangered Species Act in August 2005.

² Includes non-treaty mainstem and Select Area commercial and sport fisheries.

Table 35. Lower Columbia River tule fall Chinook exploitation rates, 2006-2017.¹

Year	Exploitation Rates			
	Ocean	Columbia ²	Total	Allowed
2006	35%	11%	46%	49%
2007	41%	9%	50%	42%
2008	27%	7%	35%	41%
2009	23%	11%	34%	38%
2010	29%	6%	35%	38%
2011	24%	11%	35%	37%
2012	33%	10%	43%	41%
2013	24%	9%	33%	41%
2014	33%	7%	40%	41%
2015	28%	7%	35%	41%
2016	26%	10%	36%	41%
2017	28%	8%	36%	41%

¹ Preliminary pending review

² Fall season non-treaty fisheries.

Table 36. Upriver Bright and Snake River natural origin fall Chinook in-river harvest rates, 2007-2017.

Management Guidelines	Pre-Season		Post Season	
	ESA Allowed	Planned Total	ESA Allowed	Actual Total
Fall Chinook ²				
Snake River natural origin	45%	38.7%	45%	42.3%
Non-Treaty	15%	12.0%	15%	16.0%
Treaty	30%	26.7%	30%	26.3%
LCN Tule ER (Ocean and Columbia R.)	41%	36.9%	41%	36.1%
Upriver Summer Steelhead ³				
Non-Treaty natural origin A-Index Steelhead	2%	0.7%	2%	1.1%
Non-Treaty natural origin B-Index Steelhead	2%	1.8%	2%	2.0%
Treaty Total B-Index Steelhead	13%	13.0%	13%	6.0%
LCR Coho ER (Ocean and Columbia R.)	18%	11.3%	18%	10.8%
Lower Columbia Chum	5%	0.0%	5%	0.0%

¹ Adults only. All data preliminary.

² Non-treaty data includes fisheries from Buoy 10 upstream to Hwy. 395, near Pasco, WA.

³ Non-treaty summer steelhead impacts include tributary catch from "dip-ins".

Table 37. Upriver Bright and Snake River natural origin fall Chinook in-river harvest rates, 2007-2017.

Upriver Bright Harvest Rates				
Year	Treaty	Non-Treaty	Total	Post-Season Allowed
2007	16.02%	6.60%	22.62%	31.29%
2008	19.91%	7.63%	27.54%	31.25%
2009 ¹	27.35%	10.59%	37.94%	31.25%
2010	18.02%	7.95%	25.97%	33.25%
2011	19.55%	13.40%	32.95%	45.00%
2012	20.53%	14.22%	34.75%	45.00%
2013	20.60%	11.03%	31.63%	45.00%
2014	22.42%	12.47%	34.90%	45.00%
2015	20.07%	11.46%	31.53%	45.00%
2016	23.30%	14.80%	38.10%	45.00%
2017	26.30%	16.10%	42.40%	45.00%

Snake River Natural Origin Harvest Rates				
Year	Treaty	Non-Treaty	Total	Post-Season Allowed
2007	16.02%	6.60%	22.62%	31.29%
2008	19.91%	7.63%	27.54%	31.25%
2009 ¹	27.35%	10.59%	37.94%	31.25%
2010	18.02%	7.95%	25.97%	33.25%
2011	19.55%	13.40%	32.95%	45.00%
2012	20.53%	14.22%	34.75%	45.00%
2013	20.70%	10.58%	31.29%	45.00%
2014	22.37%	12.23%	34.60%	45.00%
2015	20.12%	11.21%	31.33%	45.00%
2016	23.30%	14.60%	37.90%	45.00%
2017	26.30%	15.95%	42.25%	45.00%

¹ Due to the final SRW abundance, post-season allowed harvest rates were reduced from 27% and 11% for treaty and non-treaty fisheries, respectively.