2018 JOINT STAFF REPORT:
STOCK STATUS AND FISHERIES FOR SPRING CHINOOK, SUMMER CHINOOK, SOCKEYE, STEELHEAD, AND OTHER SPECIES

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Oregon Department of Fish & Wildlife

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INTRODUCTION

This report describes winter, spring, and summer season fisheries in the mainstem Columbia River, including a review of 2017 winter/spring and summer fisheries. This is the second report of an annual series produced by the Joint Columbia River Management Staff of the Oregon Department of Fish & Wildlife (ODFW) and Washington Department of Fish & Wildlife (WDFW) prior to each major Columbia River Compact/Joint State hearing. Members of the *US v Oregon* Technical Advisory Committee (TAC) have reviewed this report.

THE COMPACT

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 the Oregon and Washington agency directors, or their delegates, 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 fisheries.

When addressing commercial seasons for Columbia River fisheries, the Compact must consider the effect of the commercial fishery on escapement, treaty rights, and the impact on species listed under the Endangered Species Act (ESA). Working together under the Compact, the states have the responsibility to address the allocation of limited resources between recreational, commercial, and treaty 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 January 30 hearing, the Select Area commercial winter, spring, and summer fisheries were adopted; the mainstem Columbia River recreational spring Chinook fishery will be considered in a hearing scheduled for February 21. Other general permanent fishery rules may also be considered. Modifications to seasons adopted at this hearing and other recreational and commercial seasons will be considered at future hearings as additional information on fish runs and ongoing fisheries become available.

STOCKS CONSIDERED

Spring Chinook

Spring Chinook primarily enter freshwater during February through June to spawn in Columbia River tributaries during August through October. Juveniles generally emigrate from freshwater as yearlings. Returning adults are comprised of lower river (downstream from Bonneville Dam) and upriver (upstream from Bonneville Dam) stocks. Adult returns are comprised of Age-4, Age-5, and Age-6 fish. Age-3 fish are referred to as “jacks” and are typically male fish that have returned after spending only one year in the ocean. Spring Chinook entering the lower Columbia River during mid-February through March are predominantly larger, Age-5 fish destined for lower river tributaries. Age-5 Chinook are dominant throughout March and reach peak abundance in the lower Columbia River by late March. Smaller Age-4 fish enter in increasing numbers after mid-March,

reaching peak abundance during April. Upriver spring Chinook of all ages returning to areas upstream of Bonneville Dam begin to enter the Columbia River in substantial numbers after mid-March and generally reach peak abundance at Bonneville Dam in late April to early May. Most wild spring Chinook entering the Columbia River are listed under the federal ESA.

Willamette River Spring Chinook

The Willamette River spring Chinook run passes through the lower Columbia River from February through June, with peak abundance during mid-April through early May. Migration through the lower Willamette River varies with water conditions but typically occurs from mid-March through late May. Passage through the Willamette Falls fishway primarily occurs from April through July, with peak passage typically in mid-May.

Visual stock identification (VSI) and coded-wire tag (CWT) recoveries indicate that spring Chinook destined for the Willamette River typically comprised a large percentage of the spring Chinook caught during past winter commercial seasons and during March in Columbia River recreational fisheries. Willamette River fish exhibit a broader migration pattern and usually contain a greater proportion of early-returning Age-5 fish than other spring Chinook runs. In recent years the proportion of Willamette River fish in early season fisheries has decreased, presumably due to relatively large upriver runs since 2000 and a lower proportion of Age-5 fish in recent Willamette returns.

Historically, wild spring Chinook spawned in nearly all eastside Willamette tributaries upstream of Willamette Falls. During 1952–1968, the U.S. Army Corps of Engineers (USACE) constructed dams on all major eastside tributaries upstream of Willamette Falls, blocking more than 400 stream miles of wild spring Chinook rearing area. Some residual spawning areas remain, including about two-thirds of the McKenzie River and about one-quarter of the North Santiam River; however, upstream dams affect these areas through alteration of flows and temperature. The majority of the Clackamas River Basin remains accessible, although a three-dam hydroelectric complex (river miles (RM) 23–31) has impacted migration and rearing conditions in the mainstem Clackamas River. The percentage of wild fish in the Willamette spring Chinook population was previously estimated at about 10–12%, with the majority destined for the McKenzie River. However, the wild percentage of the run has been higher in recent years, averaging 20% (range 15–28%) since 2008. Passage over Leaburg Dam on the McKenzie River and North Fork Dam on the Clackamas River, plus redd counts and dam counts in the North Santiam River, are currently used to index the status of wild spring Chinook populations in the Willamette River Basin. The National Marine Fisheries Service (NMFS) classified spring Chinook destined for the Willamette River upstream of Willamette Falls and the Clackamas River into a single ESU and listed the wild component as a threatened species under the ESA effective May 24, 1999.

Accurate Willamette River spring Chinook run size estimates prior to 1946 are not available. Prior to 1990, the 1953 run was generally believed to be the largest on record, at 125,000 fish, and the run was predominantly wild. The 1953 run was eclipsed by a return of 130,600 spring Chinook in 1990, comprised mainly of hatchery fish. A new record run was established in 2004 with a return of 144,400 fish, again comprised primarily of hatchery fish.

Four large hatcheries upstream from Willamette Falls produce up to 5.0 million smolts annually, plus additional fingerlings to seed reservoir and stream areas. About 75% of this hatchery production is funded by USACE as mitigation for lost production areas. Downstream of Willamette Falls, hatchery releases in the Clackamas River total about 0.6 million smolts annually. Hatchery egg-take needs for the combined Willamette and Clackamas River programs have been met annually since 1980, with the exception of 1984 and 1994.

2017 Return

The Willamette River return of 53,653 spring Chinook entering the Columbia River in 2017 was 8% greater than the 2016 return of 49,768 fish and was 34% greater than the preseason forecast of 40,190 (Table 2). The return was made up of 2,879 Age-3, 31,711 Age-4, 18,550 Age-5, and 513 Age-6 Chinook. Approximately 24% (11,598) of the 2017 Willamette spring Chinook returning to the mouth of the Columbia River were non-fin-clipped fish. The estimated return to the Columbia River mouth includes fish destined for the Clackamas River.

2017 Escapement

Passage of spring Chinook over Willamette Falls in 2017 totaled 36,628 fish (Tables 3 and 4). From 1980 to 2017, the number of spring Chinook passing Willamette Falls has ranged from 14,672 to 95,970 and averaged 43,495 fish. Of the fish passing Willamette Falls in 2017, about 30,291 were hatchery fish, which exceeded the 22,000 hatchery fish escapement goal specified in the Willamette Fishery Management and Evaluation Plan (FMEP).

2018 Forecast

The ODFW staff forecasts a return of 55,950 Willamette River spring Chinook (adults and jacks) to the Columbia River mouth in 2018 which would be lower than the 10-year average (2008–2017) total return of 60,000 fish and 4% greater than the 2017 return (Table 2). Age-specific returns for 2018 are expected to include 2,130 Age-3, 28,920 Age-4, 24,750 Age-5s and 150 Age-6 fish. The 2018 return is expected to include about 11,190 non-fin-clipped fish (20 of total return), based on the proportions of unmarked fish observed in 2012–2017.

Clackamas River Spring Chinook

2017 Return

The run entering the Clackamas River has generally increased from an annual average of approximately 2,600 in the 1970s, 8,200 in the 1980s, and 8,500 in the 1990s, to 11,400 in the 2000s. In the 2010s the annual average fell to 6,800. (Table 3). The increase in returns beginning in the 1980s are due to production from Clackamas Hatchery at McIver Park, which came on-line in 1979, and programs developed to increase passage of wild fish over North Fork Dam yielding increased natural production. In 2017, 4,522 fish (including 805 hatchery fish) returned to the Clackamas River.

2017 Escapement

The North Fork Dam count of 3,694 spring Chinook in 2017 included 3,586 unmarked fish that were passed upstream and 212 marked fish that were transported directly to Clackamas Hatchery where the swim-in return was 317 fish. An estimated six fish (marked and unmarked) remained downstream of North Fork Dam to spawn naturally. During 1980–1998, passage over North Fork Dam included unknown numbers of hatchery fish. Since 1999, only unmarked spring Chinook have been passed over North Fork Dam while marked hatchery fish have been recycled through fisheries to the fullest extent possible. The first year in which all returning hatchery adults except double-index tag (DIT) groups were mass-marked with an adipose fin clip was 2003. DIT groups from Clackamas Hatchery were discontinued following the 2003 brood year.

2018 Forecast

The ODFW staff forecasts a return of 4,490 spring Chinook to the Clackamas River in 2018. These fish are included as a component of the total estimated return of Willamette Basin spring Chinook to the Columbia River mouth.

Sandy River Spring Chinook

Beginning in 1976, spring Chinook smolts from hatchery stocks in the Willamette River system were released into the Sandy River to supplement the depressed native spring Chinook run. These releases doubled in the mid-1980s and were mass-marked with an adipose-fin clip beginning in 1999. Subsequently, the Marmot Dam count increased from an average of 120 fish during 1954–1970, to 1,000 during the 1980s, 2,900 during the 1990s, and 3,600 during 2000–2007. Beginning with the 2000 brood (2002 release), releases of spring Chinook smolts from wild, local broodstock were initiated at Sandy River Hatchery. However, this program ended after the 2010 release and since 2011 only hatchery-origin spring Chinook have been used for broodstock. Wild spring Chinook in the Sandy River are part of the Lower Columbia ESU and are ESA listed.

Prior to 2008, the minimum spring Chinook run entering the Sandy River was calculated by summing of the Marmot Dam count, Sandy Hatchery return, and recreational catch downstream of Marmot Dam. Recreational catch in the Sandy River is estimated from angler catch cards, which often have a delay of up to three years before catch estimates are available. Because of this inherent delay, an average harvest rate based on the most recent five years available is used to estimate annual catch. Once final catch estimates derived from angler catch cards become available, the run reconstructions are updated. As a result of the removal of Marmot Dam in late 2007, dam counts of spring Chinook on the Sandy River are no longer available.

Since annual Marmot Dam counts are no longer possible, ODFW has developed a modified methodology to reconstruct abundance estimates for 2008 and beyond. Estimates are now made by summing natural-spawn estimates derived from redd count expansions, returns of hatchery fish to Sandy Hatchery, hatchery fish trapped lower in the system and transported to Sandy Hatchery, and estimates of angler harvest derived from catch record cards.

The 2017 adult spring Chinook return to the Sandy River is estimated at 8,124 adults; this is the highest return since 2004 and the third highest since at least 1980. The 2018 pre-season forecast is 5,300 adult fish, based on 2015–2017 average returns. Both the return estimate and forecast are

preliminary and are subject to change. Sandy River returns are shown in Table 1, and recreational catch estimates are shown in Table 26.

Washington Lower River Spring Chinook

Spring Chinook returning to the Washington tributaries of the lower Columbia River are destined for the Cowlitz, Kalama, and Lewis rivers. These genetically similar runs are part of the Lower Columbia ESU and are listed under the ESA. Washington lower river spring Chinook migrate earlier than upriver Columbia River stocks with the majority of the run passing through the lower Columbia River during March and April. Once in their natal tributaries, these spring Chinook will spawn during August and September. Virtually all of the production in the Washington portion of the lower Columbia River is of hatchery origin. Adult returns are shown in Table 1. Forecasted and actual returns are shown in Table 2. Catch from Columbia River fisheries are shown in Table 20 for commercial fisheries and Table 25 for recreational fisheries. Recreational tributary catch and harvest rates are shown in Table 26.

Cowlitz River Return and Forecast

The 2017 Cowlitz River spring Chinook return of 14,026 adults (1% wild) was less than the preseason forecast of 17,100 adults and greater than the recent 10-year (2007–2016) average of 10,200 adult fish. The minimum hatchery escapement goal of 1,550 adults was met with 2,700 adults and 160 jacks returning to the hatchery. A total of approximately 6,100 hatchery and 100 wild adult fish were released into the upper basin. Natural spawn escapement below the salmon hatchery is estimated at 240 adults, which is under the recent 10-year average of 500 fish. The 2018 Cowlitz River pre-season forecast is 5,000 adult spring Chinook to the tributary mouth (5,150 to the Columbia River mouth), which is 45% of the 2008–2017 average and 36% of the 2017 adult return.

Kalama River Return and Forecast

The 2017 Kalama River spring Chinook return of 2,503 adults (1% wild) was under the preseason forecast of 3,100 fish, and slightly above the recent 10-year average return of 2,200 adult fish. The minimum hatchery escapement goal of 450 adults was met. A total of approximately 1,400 adults and 60 jacks returned to the hatchery. Just over 400 adult fish spawned naturally below Kalama Falls Hatchery and 48 unclipped adult fish were passed upstream. The 2018 Kalama River pre-season forecast is 1,400 adult spring Chinook to the tributary mouth (1,450 to the Columbia River mouth), which is similar to the recent 10-year average of 1,600 and lower than the 2017 adult return.

Lewis River Return and Forecast

The 2017 Lewis River spring Chinook return of 2,394 adults was about three times the preseason forecast of 700 fish, and above the recent 10-year average of 2,100 adults. The minimum hatchery escapement goal of 1,445 fish was met. Natural spawning escapement below Merwin Dam is estimated at 70 fish, compared to the recent 10-year average of 144 adult fish. The 2018 Lewis River pre-season forecast is 3,600 adult spring Chinook to the tributary mouth (3,700 to the Columbia River mouth) which is about twice the recent 10-year average of 1,600 and 150% of the 2017 adult return.

Select Area Spring Chinook

The spring Chinook program in the Youngs Bay terminal fishing area began in 1989 and was expanded in 1993 with support from the Bonneville Power Administration (BPA). Implementation of the BPA-funded Select Area Fisheries Evaluation (now Enhancement), or SAFE, project also allowed for the development of other Select Area fishing sites. Select Area spring Chinook are released from net pens located in Youngs Bay, Tongue Point, and Blind Slough in Oregon and Deep River (discontinued in 2014 due to poor survival and limited funding) in Washington. Fish are also released from Gnat Creek Hatchery which is located upstream of Blind Slough. Spring Chinook released from the Oregon Select Area sites are produced from stocks in the Willamette River basin and the releases from the Washington Select Area sites were from Cowlitz and/or Lewis stocks. Smolts for the Oregon Select Areas originate from eggs taken from surplus broodstock at Willamette basin hatcheries. Most Select Area spring Chinook are reared at Gnat Creek Hatchery and transferred to net-pens for release; however, a group has been overwintered and released directly from Gnat Creek Hatchery since 2013 to test potential survival benefits of this rearing strategy. Starting with the 2008 brood, additional smolts from Willamette basin hatcheries have been transferred directly to net-pens for acclimation and release. This additional hatchery production has been in response to reforms in hatchery and fishery management in the lower Columbia River.

Releases of Hatchery Fish

Releases of spring Chinook in all Select Areas combined ranged between 1,057,608 and 1,850,963 smolts during 2007–2017 (brood years 2005–2015), with an average release of 1,484,527 smolts (Table 27). As a result of lower Columbia River hatchery reforms and reprogramming of spring Chinook production, smolt releases into Oregon Select Area sites increased by 35% from an average of 1,078,571 (broods 2005 to 2007) to 1,451,707 (broods 2008 to 2010). Since 2011, average smolt releases increased another 20% to 1,747,792 (broods 2011 to 2015) as a result of Columbia River fisheries management reform. In 2017, the total release was 1,805,731 smolts (2015 brood), which was 93% of the 2017 release goal of 1,950,000 smolts. As outlined in the 2017 fisheries reform objectives, the long term hatchery production goal of this program is to release up to 3,450,000 smolts annually, which represents a 77% increase over current production goal.

2017 Returns

Select Area spring Chinook fisheries are designed to maximize harvest, minimize straying, and maximize economic return from the release of hatchery fish in the Select Areas. Returns of spring Chinook to Select Area fisheries is measured by harvest in Select Area commercial and recreational fisheries. Commercial landings of Chinook salmon in 2017 Select Area winter/spring/summer fisheries totaled 17,597 Chinook (17,525 spring Chinook, the remainder were summer Chinook and early-returning Select Area Bright (SAB) fall Chinook). This was the greatest total landings in the last 5 years and 179% of the recent 10-year (2007–2016) average of 9,843 Chinook (Table 25). An estimated 1,339 spring Chinook were kept in recreational fisheries in Select Areas, bringing the combined (commercial and recreational) harvest to 18,936 in Select Areas in 2017.

2018 Forecast

The 2018 pre-season forecast for Select Area spring Chinook is 12,300 adult fish returning to Select Area commercial fisheries. This return will consist primarily of Age-4 adults from the release of 1.85 million smolts in 2016 (2014 brood) and Age-5 adults from 1.61 million smolts released in 2015 (2013 brood) (see Table 27). Approximately 7,400 fish are predicted to return to Youngs Bay, 2,700 fish to Blind Slough/Knappa Slough, 2,200 fish to Tongue Point/South Channel. No fish are expected to return to Deep River in 2018 and therefore no fisheries are planned. The estimated total of Select Area commercial landings of 14,500, which includes harvest of non-local stocks and SAB fall Chinook, is expected to be greater than the recent 5- and 10-year averages of 10,900.

Upriver Spring Chinook

Upriver spring Chinook begin entering the Columbia River in late February and early March and typically reach peak abundance at Bonneville Dam in late April or early May. Historically, all Chinook passing Bonneville Dam from March through May were counted as upriver spring Chinook (Figure 1). Since 2005, the upriver spring Chinook run size has included Snake River summer Chinook due to similarities in run timing among the stocks, and is calculated as the sum of the Bonneville Dam count plus the number of upriver origin fish landed in lower river fisheries (kept catch plus release mortalities) from January 1 through June 15. Abundance tables (pre-2005) for upriver spring and summer Chinook contained in this report have been adjusted to account for the change in counting period. Table 2 remains unmodified to allow comparison of past annual forecasts with actual returns.

The upriver spring run is comprised of stocks from several ESUs and three geographically separate production areas: 1) the Columbia River system upstream of the Yakima River (upper Columbia), 2) the Snake River system, and 3) Columbia River tributaries between Bonneville Dam and the Yakima River, excluding the Snake River (mid-Columbia). Snake River summer Chinook are destined for areas upstream of Lower Granite Dam. Snake River wild spring/summer Chinook outside the Clearwater River and upper Columbia wild spring Chinook are federally-listed under the ESA. In each of the three geographic areas, production is now a mix of hatchery and wild/naturally-produced fish. Although no estimates of hatchery contribution to upriver runs are available prior to 1977, those runs are assumed to have been predominantly wild. Hatchery production in the 1960s and early 1970s was very limited in comparison to current production. Since the late 1970s, spring Chinook hatchery production of upriver stocks has expanded. Beginning in 2002, the majority of the hatchery production returning to the Columbia River has been mass-marked with an adipose fin clip.

Upriver spring Chinook returns have ranged widely in recent decades. Upriver runs were considered poor in the 1980s, averaging 84,501 fish per year (range 52,357–128,314), and declined further during the 1990s when annual returns averaged 68,998 fish (range 12,792–124,321). The 1995 run marked an all-time low of 12,792 fish. The average annual return during the 2000s improved substantially to 210,020 adults (range 86,247–440,336). The 2001 run marked a high (since counting began in 1938) of 440,336 adult upriver spring Chinook (Tables 1 and 7).

Run timing of upriver spring Chinook at Bonneville Dam was fairly consistent through the end of the 1990s. During the 1980s and 1990s, the average 50% passage date was April 27 (ranging from April 20–May 6 during this 20-year period). During the 2000s, the average 50% passage date was May 2 (range April 18–May 13), nearly one week later than observed over the prior two decades. The trend of later-timed passage began in 2005. The average 50% passage date at Bonneville Dam over the past ten years (2008–2017) is May 8, indicating the late-timing trend has continued into the 2010s.

Upper Columbia River spring Chinook spawn and rear in the mainstem Columbia River and its tributaries (Wenatchee, Entiat, and Methow rivers) between Rock Island Dam and Chief Joseph Dams (RM 453–545). Chief Joseph Dam (completed in 1961) now blocks the upriver migration of these fish, which was previously blocked by Grand Coulee Dam (RM 597). On average, the Upper Columbia River spring Chinook return has represented 15% of the aggregate upriver spring Chinook run since 1980 but has dropped to 11% based on the recent 10-year average. Returns of upper Columbia spring Chinook to the Columbia River mouth in the 1980s averaged 20,343 adults (37% wild). Returns declined severely during the 1990s, averaging 9,496 adults (20% wild). During the 2000s, the annual returns improved, averaging 21,725 adults, including on average 2,202 wild fish (10% wild). Data are provided in Table 6.

The year 2013 marked the first brood-year for the Chief Joseph Hatchery spring Chinook program. In April 2016, 526,126 yearling smolts were released from Chief Joseph Hatchery and an additional 203,311 yearling smolts were released as part of the Okanogan re-introduction program. Releases during April 2017 (2015 BY) included 744,000 spring Chinook yearling smolts from Chief Joseph Hatchery and an additional 200,000 yearling smolts for the Okanogan re-introduction program. Spring Chinook released from Chief Joseph Hatchery were 100% ad-clipped for both 2014 BY and 2015 BY releases. Of the fish released in 2016 and 2017, respectively, 200,000 received coded-wire tags (CWT) and 5,000 were PIT-tagged. All re-introduction 2014 BY and 2015 BY spring Chinook were implanted with CWTs and an additional 5,000 smolts in each release cohort received PIT tags.

On average, the Snake River spring/summer Chinook return has represented 48% of the aggregate upriver spring Chinook run since 1980 compared to the recent 10-year average of 56%. Returns of Snake River spring/summer Chinook to the Columbia River mouth in the 1980s averaged 39,849 adults (53% wild). Returns declined during the 1990s averaging 29,890 adults (46% wild). During the 2000s, annual returns improved, averaging 110,813 adults (27% wild). Data are provided in Table 7.

2017 Return

The 2017 upriver spring Chinook return to the Columbia River totaled 115,821 adults (Table 5) and consisted of 90,900 Age-4 fish, 22,103 Age-5 fish, and 2,818 Age-6 fish. The return included 51,948 (6,261 wild) adult Snake River spring/summer Chinook and 11,166 (2,514 wild) adult upper Columbia spring Chinook. The remainder of the run was destined for tributaries in the mid-Columbia. The 2017 upriver spring Chinook return was 72% of the forecast of 160,400 fish and only 57% the recent 10-year average (2007–2016) of 201,635 adults. The 2017 return ranked 19th out of all returns since 1980.

The Snake River spring/summer return was 46% of the recent 10-year average return (112,332 fish) and ranked 20th out of returns since 1980. The Snake River wild component was only 22% of the recent 10-year average (27,849 fish) and represented 12% of the 2017 Snake River run. The upper Columbia spring Chinook return was 49% of the recent 10-year average return (22,798 fish) and ranked 30th out of returns since 1980. The upper Columbia wild component was 69% of the recent 10-year average (3,639 fish) and represented 23% of the aggregate 2017 upper Columbia run. See Tables 7, 8, and 9.

The 2017 upriver spring Chinook passage at Bonneville Dam totaled 107,524 adult fish and was not 50% complete until May 21 (much delayed compared to the 10-year average 50% passage date of May 7). The peak count occurred on May 22 (6,539 fish). Chinook jack counts at Bonneville Dam totaled 21,692 fish, which was similar to both the recent 5-year average of 23,514 and the average counts observed in the 2000s (21,311).

The Idaho Department of Fish and Game (IDFG) independently develops abundance estimates of Snake River-origin spring Chinook at Bonneville Dam annually. IDFG estimates tend to differ from the estimates developed by TAC reported here. To date, IDFG's alternate methodology has not been reviewed within TAC.

2018 Forecast

The 2018 pre-season forecast for upriver spring Chinook is 166,700 adults to the Columbia River mouth (Table 2). This forecast includes 20,100 upper Columbia spring Chinook (3,400 wild) and 107,400 Snake River fish (18,500 wild), with the remainder of the run (39,200) comprised of spring Chinook returning to mid-Columbia tributaries. The overall return is expected to include 152,300 Age-4 fish and 14,400 Age-5 fish; no estimate for the Age-6 component was made. If accurate, this forecast of 166,700 adult fish would be the 14th highest return since 1980 and 81% of the average return observed over the past decade (2008–2017).

The forecast for adult upper Columbia spring Chinook of 20,100 fish is 86% of the recent 10-year average; the wild component represents 88% of the 10-year average return. The wild component is forecasted to represent 17% of the upper Columbia spring run, compared to the recent 10-year average of 16%.

The forecast for Snake River spring/summer Chinook of 107,400 fish is 95% of the recent 10-year average (112,983 fish) and the wild forecast of 18,500 is 67% of the recent 10-year average (27,428). The wild component is forecasted to represent 17% of the total Snake River run, which is less than the recent 10-year average percentage (24%). The upper Columbia return is expected to represent 12% of the aggregate upriver spring Chinook return and the Snake River component is expected to represent 64% of the aggregate return. These forecasted stock proportions contain a higher proportion of Snake River fish compared to the 5-year average (55% Snake River origin, 11% upper Columbia origin).

Washington Tributaries Upstream of Bonneville Dam

The Washington tributary returns and forecasts listed below are included in the aggregate 2017 return and 2018 forecast for upriver spring Chinook.

Wind River Return and Forecast

The Wind River enters the Columbia River 155 miles upstream from its mouth. Wind River is included in the Lower Columbia ESU but Wind River spring Chinook are excluded from the ESA listing. Spring Chinook were introduced into the Wind River with production beginning in the late 1950s at the Carson National Fish Hatchery. Since the 1980s Carson Hatchery has produced spring Chinook exclusively. Hatchery returns of adult spring Chinook to the mouth of the Wind River during the most recent decade (2008–2017) averaged 6,500 fish (range 3,100–11,800). The 2017 return of spring Chinook to the Wind River was 5,400 adults, compared to the preseason forecast of 3,600 adults. The 2018 pre-season forecast to the tributary mouth is 5,300 adult fish, which is almost equal to the 2017 actual return and slightly under the recent 10-year average.

Little White Salmon River (Drano Lake) Return and Forecast

Prior to the construction of Bonneville Dam in 1938, a limited amount of natural production occurred in the Little White Salmon River downstream of the falls located approximately two miles upstream from the historic mouth of the river. That section of the river was inundated by the construction of Bonneville Dam, forming what is commonly referred to as Drano Lake. Hatchery spring Chinook return to the Little White Salmon National Fish Hatchery, which was built in 1898 and is one of the oldest on the Columbia River system. The program is currently self-supporting, as broodstock are guided into the hatchery by a barrier dam. The Little White Salmon River is included in the Lower Columbia ESU; however, Little White Salmon River spring Chinook are excluded from the ESA listing.

The 2017 return of spring Chinook to the mouth of the Little White Salmon River was 8,900 adults. The return was more than the preseason forecast of 7,500 adults, and less than the recent 10-year average of 11,300 adult fish. The 2018 pre-season forecast to the tributary mouth is 10,200 adult fish, which would be slightly less than the average return observed over the past ten years.

Klickitat River Return and Forecast

The Klickitat River spring Chinook return consists of hatchery-origin fish from the Klickitat Hatchery and a smaller, depressed wild population that spawns upstream of the hatchery. The Klickitat River is included in the mid-Columbia ESU but Klickitat River spring Chinook are not ESA-listed. Prior to 1920, there were large spring Chinook runs in the Klickitat River and a significant tribal fishery occurred at Lyle Falls, despite difficult passage at the falls. By 1951, the annual spring Chinook run varied from 1,000 to 5,000 adults. In 1952, the Klickitat Hatchery and two fishways at Lyle Falls were constructed using Mitchell Act funds. Indigenous Klickitat spring Chinook were trapped at the upper fishway each year from 1952 through at least 1959. Since then, collection of broodstock has relied upon fish returns (primarily of hatchery origin) to the on-site hatchery trap. Plans call for hatchery upgrades and collection of natural-origin fish for broodstock in the near future. Since 1977, estimates of adult spring Chinook returning to the Klickitat River mouth have ranged from 500 to 5,250 fish, and averaged about 1,900 fish annually, with 60–80% of the run being hatchery fish.

The 2017 return of spring Chinook to the Klickitat River was 2,281 adults, compared to the forecast of 2,100 adults. The 2018 pre-season forecast is for a return of 2,000 adults, which is equal to the recent ten-year average, and similar to the 2017 return.

Yakima River Return and Forecast

The Yakima River Basin spring Chinook return is comprised of three unique spring Chinook populations: upper Yakima River, Naches River, and American River. The Yakima River is included in the mid-Columbia ESU, but Yakima River spring Chinook are not ESA-listed. Historical Yakima spring Chinook returns (all stocks) ranged from approximately 50,000 to 200,000 fish. An integrated hatchery supplementation program (Cle Elum Supplementation and Research Facility (CESRF)) in the upper Yakima was initiated in 1997, with the first Age-4 adults returning from this program in 2001. The program uses only natural-origin fish for brood stock, hatchery-origin returns are allowed to spawn naturally. The Naches River and American River populations are predominantly wild and few, if any, hatchery-origin fish are known to stray to Naches sub-basin spawning areas.

In 2017 the forecast was for a return of 6,320 adult (Age-4 and Age-5) spring Chinook to the mouth of the Yakima River. The actual return in 2017 is estimated to be 5,460 adult spring Chinook (86% of forecast). The forecast for 2018 is 6,340 adult spring Chinook which is a relatively conservative forecast and is at the lower end of the range of other forecast methods (4,370–10,590). The 2018 forecast is 4,340 wild/natural and 2,000 hatchery-origin adult (Age-4 and Age-5) spring Chinook returns to the Yakima Basin.

Upper Columbia River Summer Chinook

Upper Columbia River summer Chinook are destined for production areas and hatcheries upstream of Priest Rapids Dam. Historically, these fish spawned in the mainstem Columbia, Wenatchee, Okanogan, and Similkameen rivers. Access to over 500 miles of the upper mainstem Columbia River was blocked by the construction of Grand Coulee Dam in 1941. The building of Chief Joseph Dam further reduced available mainstem habitat. Since completion of the Columbia River hydropower system, summer Chinook redds are found in the Columbia, Wenatchee, Okanogan, Methow, Similkameen, Chelan, and Entiat rivers. The upper Columbia summer Chinook run size remained at low levels throughout the 1980s and 1990s, with average returns of 19,243 and 15,090 fish, respectively. The average run size during the 2000s was 59,805 adults, which was approximately three times greater than the average run size of the 1980s and four times greater than the average run size of the 1990s (Table 8). Supplementation programs and improved natural habitat have played a significant role in the increased abundance trends observed since 1999. Since 2002, the majority of the hatchery production has been mass-marked with an adipose fin clip. Natural-spawning populations also contribute significantly to the run and the stock is managed as a composite population.

The year 2013 marked the first brood-year for the Chief Joseph Hatchery summer Chinook program. In May 2014, 265,656 sub-yearling smolts were released from the hatchery, with an additional 186,050 sub-yearling smolts released from the Omak acclimation site. In April 2015, releases included 416,289 yearling smolts from the hatchery and an additional 290,665 yearlings from the Omak acclimation site. In April of 2016, 401,215 yearling smolts were released from the

hatchery and an additional 488,647 integrated yearlings from the Similkameen and Omak acclimation sites. Yearling summer Chinook released in April of 2017 included 232,000 from the hatchery and 360,000 from the Similkameen and Omak acclimation sites.

The Columbia River summer Chinook run consists only of the upper Columbia component (Snake River summer Chinook are included in the upriver spring run). The Columbia River return is calculated as the sum of the Bonneville Dam count and the number of Chinook mortalities resulting from lower river fisheries during June 16 through July 31. Upper Columbia summer Chinook are not ESA-listed, and the population is currently considered healthy. See Table 8 for abundance, harvest, and escapement data.

2017 Return

The 2017 upper Columbia summer Chinook return was the ninth largest since 1980, totaling 68,204 adults, compared to the preseason forecast of 63,100 adults. The adult return was comprised of 29,207 Age-4, 27,739 Age-5, and 11,259 Age-6 fish. The 2017 return was 95% of the recent 10-year average (2007–2016) of 72,145 adults. The 2017 jack return of 7,066 fish at Bonneville Dam was less than the recent 10-year average (15,317). The 2017 adult return was slightly less than the average of returns observed since 2001, but still nearly four times greater than the average returns during the years 1980–2000.

2018 Forecast

The 2018 pre-season forecast for upper Columbia summer Chinook is 67,300 adults to the Columbia River mouth. The overall return is expected to include 30,000 Age-4 fish, 30,300 Age-5 fish, and 7,000 Age-6 fish. If accurate, this projection would represent the 11th highest return since 1980 and 89% of the average returns observed over the past decade.

Wild Winter Steelhead

Winter steelhead enter the Columbia River from November through April and spawn from March through June. Juvenile wild winter steelhead usually rear in freshwater for one to three years before outmigrating to the ocean as smolts during March through June. Most lower Columbia River winter steelhead spend two summers in the ocean before returning as adults to spawn in natal streams. The range of winter steelhead includes all tributaries of the Columbia River upstream to Fifteen Mile Creek in Oregon and the Klickitat River in Washington. All wild winter steelhead are ESA-listed, except those within the Southwest Washington Distinct Population Segment (DPS). The Southwest Washington DPS includes populations in river basins of, and tributaries to, Grays Harbor, Willapa Bay, and the Columbia River downstream of the Cowlitz River in Washington and downstream of the Willamette River in Oregon. All steelhead handled downstream of Bonneville Dam during November through April, and in Bonneville Pool from November through March, are managed as winter steelhead. Steelhead passing Bonneville Dam between November 1 and March 31 are counted as winter steelhead. Unclipped steelhead passing Bonneville during this time period are as assumed to be wild fish. Columbia River wild winter steelhead returns during the past 10 years (2007–2016) averaged 16,779 fish and ranged between 11,575 and 22,379 fish (Table 9). Passage of wild winter steelhead at Willamette Falls during the same 10-year period has averaged 5,618 fish, ranging from 2,813 to 7,616 fish.

2016–2017 Run Year Return and 2017–2018 Run Year Forecast

The 2016–17 wild winter steelhead return to the Columbia River mouth totaled 9,448 fish. The return was less than (79%) the pre-season forecast of 11,900 fish and 52% of the recent 5-yr average of 18,082 fish. Returns were generally lower than average for Oregon and Washington tributaries. Passage at Willamette Falls totaled 822 fish (only 15% of the recent 5-year average) and represented 9% of the total Columbia River return. The 2017–18 pre-season forecast is for 11,700 wild winter steelhead returning to the Columbia River mouth.

Summer Steelhead

The Columbia River summer steelhead run includes populations from lower river and upriver tributaries. Summer steelhead enter freshwater year-round, with the majority of the run entering from June through October. The Columbia River return of summer steelhead is estimated as the sum of lower river tributary returns (lower river stocks), number of steelhead mortalities resulting from lower river mainstem fisheries during May–October (lower river and upriver stocks), and Bonneville Dam counts during April–October (upriver stocks).

The lower river component of the run tends to be earlier timed than the upriver stocks, with abundance peaking during May and June. Skamania stock hatchery summer steelhead are widely planted in lower Columbia tributaries, including the Willamette Basin. Skamania stock hatchery fish are also released annually in some tributaries upstream of Bonneville Dam (primarily the Klickitat River in recent years). Wild lower river summer steelhead are present in the Kalama, Lewis, Washougal, and Wind rivers in Washington and in the Hood River in Oregon. The lower Columbia River steelhead DPS was listed as threatened by the NMFS on May 24, 1999. All steelhead handled in fisheries downstream of Bonneville Dam during May and June are managed as lower-river Skamania stock. See Table 14 for minimum abundance estimates of lower river summer steelhead.

NMFS categorizes the upriver wild summer steelhead run into three DPSs: 1) the middle Columbia DPS, which includes steelhead destined for Columbia River tributaries upstream of the Wind and Hood rivers to, and including, the Yakima River (listed as threatened in May 1999), 2) the upper Columbia DPS, which includes steelhead destined for Columbia River tributaries upstream of the Yakima River (listed as endangered in May 1999, reviewed and downgraded as threatened in 2009), and 3) the Snake River DPS, which includes steelhead returning to the Snake River basin (listed as threatened in October 1997). Currently, there is no reliable method available to segregate the steelhead run at Bonneville Dam into individual DPSs.

Upriver summer steelhead pass Bonneville Dam from April 1 through October 31 each year (Figure 1). Summer steelhead passing Bonneville Dam between April 1 and June 30 are managed as upper Skamania stock steelhead, which are primarily destined for tributaries within Bonneville Pool. Summer steelhead passing Bonneville Dam between July 1 and October 31 are categorized as either A-Index or B-Index. A-Index steelhead are defined as any steelhead measuring less than 78cm fork length. A-Index steelhead are destined for tributaries throughout the Columbia and Snake basins and typically spend one or two years in the ocean. B-Index steelhead are defined as any steelhead measuring at least 78cm fork length. Most B-Index steelhead return to the Clearwater and Salmon rivers in Idaho, are typically later-timed than A-Index steelhead, and

typically spend two or three years in the ocean. B-Index steelhead return to all tributaries throughout the basin. See Table 12 for Bonneville Dam passage estimates by group.

Tables 12, 13a and 13b provide estimates of lower river and upriver summer steelhead harvest and incidental release mortalities, as well as associated impacts to ESA-listed wild fish during non-treaty winter/spring and summer fisheries.

Summer steelhead passage (returns) over Bonneville Dam is shown in Table 12, and passage over Lower Granite Dam is shown in Table 13. Stock distribution and hatchery/wild determination are based on (and dependent on) biological sampling at each of the hydro-electric facilities mentioned.

2017 Return

The total return to Bonneville Dam (April–October passage) of upriver summer steelhead in 2017 was 116,841 fish, compared to the preseason forecast of 130,700 fish (89% of forecast). Upriver summer steelhead passage at Bonneville Dam in 2017 was the lowest observed since 1979 and only 36% of the recent 10-year average return of 327,964 fish. Unclipped steelhead counts at Bonneville Dam during April through October, which include unclipped hatchery fish, totaled 33,877 fish (29% of total passage). At time this report was being finalized, TAC had not completed the run reconstruction analysis of the 2017 upriver summer steelhead return; detailed information regarding the return of wild fish, and the A-Index and B-Index components of the run will be included in the Joint Staff Report for fall fisheries and fish stocks.

The 2017 Bonneville Dam passage of upriver Skamania stock steelhead totaled 3,491 fish including 1,236 (35%) wild fish. Passage timing over Bonneville Dam was atypical, with about 45% of the fish passing prior to June 1 (normally a much larger majority of the passage occurs during June). The Skamania return was only 27% of the recent 10-year average return (12,880 fish) and ranked last of in the 34 years since 1984.

The majority of summer steelhead passage at Bonneville Dam occurs during July through October. During these months in 2017, a total of 113,350 steelhead passed Bonneville Dam, compared to the recent 10-year average of 315,084 fish and the expected total passage of 119,400. Passage was 50% complete on August 25, compared to the 10-year average 50% date of August 14.

Steelhead passage at Lower Granite Dam (LRG) for the 2017–18 run year is counted from July 1, 2017 to June 30, 2018 (and corresponds to A-Index and B-Index fish passing Bonneville Dam from July 1 to October 31, 2017). About 95% of the total run passes LRG between July 1 and December 31. The adult fish ladder at LRG is usually dewatered in January and February. The preliminary estimate of steelhead passage at LRG from July 1, 2017 to June 30, 2018 is 69,568 fish which is 42% of the recent 10-year average (Table 13).

2018 Forecast

The 2018 pre-season forecast for the summer steelhead return to Bonneville Dam was not available at the time this report was finalized.

Sockeye

Sockeye salmon have been adversely impacted by hydroelectric development in the Columbia Basin, and their abundance has declined substantially from historic levels. Most of the historic production of sockeye occurred in nursery lakes located in the uppermost reaches of the Columbia and Snake River basins. Upstream passage was blocked by the construction of several key dams including: Grand Coulee in the upper Columbia system, and by Swan Falls (completed 1901), Sunbeam (completed 1913, removed in 1934), Black Canyon (completed 1914), Wallowa Dam (completed in 1929), and Brownlee (completed 1958) in the Snake River system. Landlocked sockeye salmon, commonly called kokanee, are still produced in many of the areas that formerly contained anadromous runs.

Until recently, the Columbia River sockeye run consisted only of the Okanogan, Wenatchee, and Snake River stocks. Sockeye have recently been re-introduced in the Yakima River and passage has been re-established at Round Butte Dam on the Deschutes River. The Okanogan and Wenatchee stock abundance is typically cyclic, with occasional strong return years followed by years of low returns. The upper Columbia River sockeye run (Okanogan and Wenatchee) consists of four age groups. Fish returning to Osoyoos Lake in the Okanogan Basin are typically Age-3 and Age-4 fish. Those returning to Lake Wenatchee in the Wenatchee Basin are typically Age-4 and Age-5 fish. The Snake River sockeye run, primarily returning to Redfish Lake within Idaho's Stanley Basin, is extremely depleted. The majority of returning adults are progeny of the captive broodstock program. However, adults trapped at the Redfish Lake Creek weir and released into Redfish Lake also contribute to the returns. The Snake River stock was federally-listed as endangered in November 1991. The upper Columbia stocks are considered healthy populations and are not ESA-listed. Sockeye in the Yakima and Deschutes Rivers are also not ESA-listed.

Sockeye salmon migrate through the lower Columbia River during June and July, with normal peak passage at Bonneville Dam around July 1 (Figure 1). The Wenatchee stock generally migrates earlier than the Okanogan stock although the run timing of both stocks overlap. Sockeye counts at Ice Harbor Dam (on the Snake River) and Priest Rapids Dam (on the upper Columbia River) both extend from early June through mid-July, which suggests that the run timing of the Snake River component is similar to the upper Columbia sockeye. The escapement goal of 65,000 sockeye salmon at Priest Rapids Dam requires that 75,000 sockeye migrate past Bonneville Dam. The Wenatchee River, which enters the Columbia River upstream of Rock Island Dam (RM 454), has a current escapement goal of around 23,000 adult sockeye. On average, the Wenatchee return represented 45% of the upper Columbia return during the 1980s and 50% during the 1990s. During the 2000s, the Wenatchee stock represented 28% of the upper Columbia return, largely due to increased returns of Okanogan stock beginning in 2008. During the 1990s, the number of sockeye entering the Columbia River destined for the Snake River basin averaged eight fish per year (range 1–19). During the 2000s, Snake River sockeye returns averaged 323 fish (range 20–1,490), which was mainly driven by the increased returns in 2008 and 2009 (Table 15).

2017 Return

The 2017 return of sockeye to the Columbia River of 88,263 adults was lower than the preseason forecast of 198,500 adults, and only 27% of the recent 10-year average return. The 2017 return included 34,861 Wenatchee stock, 52,272 Okanogan stock, and 445 Snake River stock returning

to the Columbia River. At Prosser Dam on the Yakama River, 372 sockeye were counted. On the Deschutes River, 66 sockeye reached Round Butte Dam and were passed upstream. The Wenatchee return was 64% of forecast; the escapement objective of 23,000 fish to the Wenatchee River was met, with 23,854 sockeye reported at Tumwater Dam. The Okanogan return was 38% of forecast. The Snake River return of was 32% of forecast and 31% of the recent 10-year average. Sockeye counts at Lower Granite Dam totaled only 228 fish. Standard methods developed by TAC were used to determine the relative proportion of Snake River sockeye in the overall run; independent estimates by IDFG and CRITFC are similar (450–570 at Bonneville Dam).

2018 Forecast

The 2018 pre-season forecast for the Columbia River sockeye run is for a return of 99,000 adults to the Columbia River, including 25,700 Wenatchee stock, 72,600 Okanogan stock, and 600 Snake River stock. The forecast is 30% of the 2008–2017 average return of 328,800 fish. The Wenatchee component is forecasted to be greater than the escapement objective but less than the 10-year average return of 68,100 fish. The return of Okanogan-origin fish is expected to be approximately 29% of the recent 10-yr average (250,000 fish). A return of 600 fish to the Snake River would be 41% of the recent 10-year average return. Nominal returns to the Yakima and Deschutes rivers are also expected.

American Shad

American Shad are an introduced species brought to the West Coast from Pennsylvania in the late 19th century. The American Shad is an anadromous fish, spending three to four years at sea before returning to spawn. Since the extensive development of mainstem hydroelectric projects, American Shad runs have increased markedly in abundance and have extended their range into the upper Columbia River and into Hells Canyon of the Snake River. Since the late 1970s, runs have met or exceeded one million fish per year, with a peak of over six million in 2005. American Shad run timing extends from mid-May through early August at Bonneville Dam, with peak daily counts occurring in June (Figure 1). Since the timing of the run overlaps with upriver Chinook, sockeye, and steelhead runs, harvest opportunities for American Shad are regulated to minimize impacts to ESA-listed salmonids. Recently, work has been conducted to explore the feasibility of using alternative gear types to increase opportunities to harvest the abundant American Shad runs while minimizing impacts to salmonids. American Shad were harvested with seines in 2011, 2012 (primarily purse seine), 2014 (beach seine), and 2016 (purse seine) under experimental gear permits issued by ODFW. In 2013, one experimental gear permit for a purse seine was issued, but no fishing occurred due to a lack of market demand. It is expected that harvest opportunity using these alternative gear types would be allowed in future fisheries if demand exists.

2017 Return

The 2017 minimum American Shad run size was 3.3 million, with a minimum escapement of 3.1 million fish upstream of Bonneville Dam; the minimum run size estimate does not include unknown numbers of American Shad spawning downstream of Bonneville Dam and Willamette Falls. The 2017 run in the Columbia River was the largest since the nearly 4 million fish run in 2013 and also above the recent 5-year average of 2.5 million (Table 16). The non-treaty (lower Columbia and lower Willamette) recreational and commercial combined catch of 201,200 American Shad (6% of the total run) continued a trend of increasing harvest.

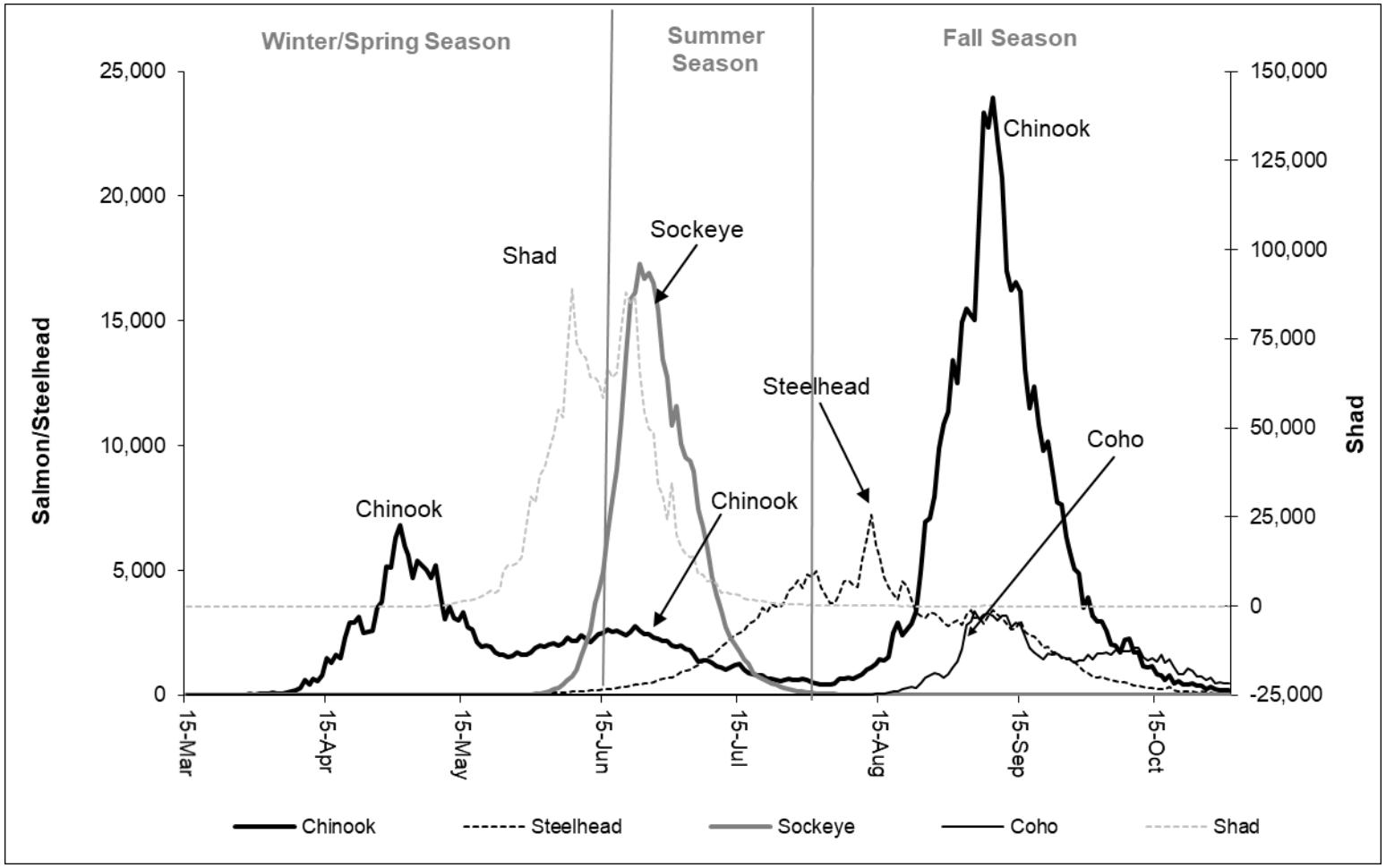

Figure 1. Average daily counts of salmon, steelhead, and American Shad at Bonneville Dam, 2008–2017.

MANAGEMENT GUIDELINES

Endangered Species Act

The majority of Columbia Basin salmon and steelhead stocks are listed under the ESA as shown in the table below. 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 since 1992.

Federally-listed Species Found in Columbia River Fishery Management Areas			
Species – *ESU/DPS*	Current Designation	Listing Date	Effective Date
Chinook			
Snake River Fall	Threatened	April 22, 1992	May 22, 1992
Snake River Spring/Summer	Threatened	April 22, 1992	May 22, 1992
Upper Columbia Spring	Endangered	March 24, 1999	May 24, 1999
Upper Columbia Summer/Fall	Not warranted	--	--
Middle Columbia Spring	Not warranted	--	--
Lower Columbia River Spring/Fall	Threatened	March 24, 1999	May 24, 1999
Upper Willamette Spring	Threatened	March 24, 1999	May 24, 1999
Deschutes River Summer/Fall	Not warranted	--	--
Steelhead			
Snake River Basin	Threatened	August 18, 1997	October 17, 1997
Upper Columbia River[1]	Threatened	August 18, 1997	October 17, 1997
Lower Columbia River	Threatened	March 19, 1998	May 18, 1998
Middle Columbia River	Threatened	March 25, 1999	May 24, 1999
Southwest Washington	Not warranted	--	--
Upper Willamette	Threatened	March 25, 1999	May 24, 1999
Sockeye			
Snake River	Endangered	November 20, 1991	Dec. 20, 1991
Okanogan River	Not warranted	--	--
Lake Wenatchee	Not warranted	--	--
Chum – Columbia River	Threatened	March 25, 1999	May 24, 1999
Coho – Columbia River	Threatened	June 28, 2005	August 26, 2005
Green Sturgeon- Southern DPS	Threatened	April 7, 2006	July 7, 2006
Eulachon - Southern DPS	Threatened	March 18, 2010	May 17, 2010

[1]*Status downgraded to threatened per U.S. District Court order in June 2009.*

The most recent BA concerns Columbia River treaty Indian and non-treaty fisheries, as described in the 2008–2017 *U.S. v Oregon* Management Agreement (2008–2017 MA). A new BA was submitted in June 2017 to address fisheries described in the *U.S. v Oregon* Management Agreement (2018–2027 MA) which is currently being finalized. The NMFS expects to issue a new Biological Opinion (BO) by March 2018. In the interim, the *U.S. v Oregon* parties have

agreed to extend the 2008–2017 MA for two months, through February 2018. The TAC submitted an amendment to the 2008–2017 BA for January–February 2018 which allowed the federal agencies to extend ESA coverage through February 2018 given no additional effects beyond those described in the 2008–2017 BO are expected.

Columbia River Salmonid Management Guidelines

The parties to *U.S. v Oregon* operate under the 2008–2017 MA through December 31, 2017; the new 2018-2027 MA takes effect when signed by all parties and entered as an order of the Court which is anticipated by the end of February 2018. This agreement provides specific fishery management constraints for upriver spring, summer, and fall Chinook, Coho, sockeye, and steelhead. Excerpts from the *U.S. v Oregon* MA and other agreements applicable to fisheries considered in this report are highlighted below.

Upriver Spring Chinook

The 2008–2017 MA and the 2018–2027 MA provide for a minimum annual mainstem treaty entitlement to the Columbia River treaty tribes of 10,000 spring and summer Chinook that may be used ceremonial and subsistence (C&S) purposes. This is framed as if run sizes and allowed harvest rates do not allow the treaty mainstem fishery to harvest at least 10,000 spring and summer Chinook, the states will provide excess hatchery fish to meet this objective. Tributary harvest of spring and summer Chinook is not included in this entitlement.

Non-treaty and treaty winter and spring season fisheries are managed in accordance with the harvest rate schedule provided in Table A1 of the 2008–2017 MA and the 2018–2027 MA. This harvest rate schedule was the first to incorporate a sliding scale, with increasing or decreasing allowable impact rates dependent on the total upriver spring Chinook run size. This harvest rate schedule and the preseason forecast for upriver spring Chinook are used to plan fisheries based on the available impacts allocated to treaty and non-treaty fisheries. Beginning in 2010, modifications to Table A1 were implemented, which required non-treaty fisheries to meet the catch balance provisions in the MA for upriver spring Chinook. Under these provisions, non-treaty fisheries are managed to remain within ESA impacts and to not exceed the total allowable catch available for treaty fisheries. In addition, prior to the first run size update from TAC, non-treaty fisheries will managed for the allowed treaty catch guideline based on a run size that is 70% of forecast (i.e. 30% run size buffer). The following table is the revised version of Table A1 of the MA, reflecting the new catch balancing provisions implemented in 2010.

2008–2017 Harvest Rate Schedule for Chinook in Spring Management Period							
Total Upriver Spring and Snake River Summer Chinook Run Size[6]	Snake River Natural Spring/Summer Chinook Run Size[1]	Treaty Zone 6 Total Harvest Rate [2,5]	Treaty Catch Guideline	Non-Treaty Natural Harvest Rate[3]	Non-Treaty Mortality Guideline	Total Natural Harvest Rate[4]	Non-Treaty Natural Limited Harvest Rate[4]
<27,000	<2,700	5.00%		<0.5%		<5.5%	0.50%
27,000	2,700	5.00%	1,350	0.50%	1,350	5.50%	0.50%
33,000	3,300	5.00%	1,650	1.00%	1,650	6.00%	0.50%
44,000	4,400	6.00%	2,640	1.00%	2,640	7.00%	0.50%
55,000	5,500	7.00%	3,850	1.50%	3,850	8.50%	1.00%
82,000	8,200	7.40%	6,068	1.60%	6,068	9.00%	1.50%
109,000	10,900	8.30%	9,047	1.70%	9,047	10.00%	
141,000	14,100	9.10%	12,831	1.90%	12,831	11.00%	
217,000	21,700	10.00%	21,700	2.00%	21,700	12.00%	
271,000	27,100	10.80%	29,268	2.20%	29,268	13.00%	
326,000	32,600	11.70%	38,142	2.30%	38,142	14.00%	
380,000	38,000	12.50%	47,500	2.50%	47,500	15.00%	
434,000	43,400	13.40%	58,156	2.60%	58,156	16.00%	
488,000	48,800	14.30%	69,784	2.70%	69,784	17.00%	

[1]If the Snake River natural spring/summer forecast is less than 10% of the total upriver run size, the allowable mortality rate will be based on the Snake River natural spring/summer Chinook run size. In the event the total forecast is less than 27,000 or the Snake River natural spring/summer forecast is less than 2,700, Oregon and Washington would keep their mortality rate below 0.5% and attempt to keep actual mortalities as close to zero as possible while maintaining minimal fisheries targeting other harvestable runs.

[2]Treaty Fisheries include: Zone 6 Ceremonial, subsistence, and commercial fisheries from January 1–June 15. Harvest impacts in the Bonneville Pool tributary fisheries may be included if TAC analysis shows the impacts have increased from the background levels.

[3]Non-treaty Fisheries include: Commercial and recreational fisheries in Zones 1–5 and mainstem recreational fisheries from Bonneville Dam upstream to the Hwy 395 Bridge in the Tri-Cities and commercial and recreation SAFE (Selective Areas Fisheries Evaluation) fisheries from January 1–June 15; Wanapum tribal fisheries, and Snake River mainstem recreational fisheries upstream to the Washington-Idaho border from April through June. Harvest impacts in the Bonneville Pool tributary fisheries may be included if TAC analysis shows the impacts have increased from the background levels.

[4]If the Upper Columbia River natural spring Chinook forecast is less than 1,000, then the total allowable mortality for treaty and non-treaty fisheries combined would be restricted to 9% or less. Whenever Upper Columbia River natural fish restrict the total allowable mortality rate to 9% or less, then non-treaty fisheries would transfer 0.5% harvest rate to treaty fisheries. In no event would non-treaty fisheries go below 0.5% harvest rate.

[5]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.

[6]If the total in river run is predicted to exceed 380,000, the Parties agree to consider increasing the total allowed harvest rate and to reinitiate consultation with NOAA Fisheries if necessary.

Upper Columbia River Summer Chinook

Mainstem Columbia River summer Chinook fisheries occurring from June 16 through July 31 are managed in accordance with the harvest rate schedule provided in Table A2 of the 2008–2017 MA and the 2018–2027 MA. Table A2 follows the general framework described in the table below, but provides a more detailed description of incremental harvest rates and escapement past fisheries. The parties agree to manage upper Columbia River summer Chinook based on an interim management goal of 29,000 hatchery and natural origin adults, as measured at the Columbia River mouth. The management goal is based on an interim combined spawning escapement goal of 20,000 hatchery and natural adults upstream of Priest Rapids Dam. Current escapement goals may be reviewed by the parties to *U.S. v. Oregon* during the course of the new agreement. The following table outlines the current framework for upper Columbia summer Chinook harvest rates.

Upper Columbia Summer Chinook Fishery Framework		
Run Size at River Mouth	Allowed Treaty Harvest	Allowed Non-Treaty Harvest
<5,000	5%	<100 Chinook
5,000–<16,000	5%	<200 Chinook
16,000–<29,000	10%	5%
29,000–<32,000	10%	5-6%
32,000–<36,250 (125% of 29,000 goal)	10%	7%
36,250-50,000	50% of total harvestable[1]	50% of total harvestable[1]
>50,000	50% of 75% of margin above 50,000 plus 10,500[2]	50% of 75% of margin above 50,000 plus 10,500[2]

[1]The total number of harvestable fish is defined as the run size minus 29,000 for run sizes of 36,250 to 50,000.

[2]For the purposes of this Agreement, the total number of harvestable fish at run sizes greater than 50,000 is to be determined by the following formula: (0.75 * (run size-50,000)) + 21,000.

Based on this framework, the sharing formula allows for greater numbers of fish to escape when runs are greater than 50,000 fish. Non-treaty PFMC area ocean fisheries and all in-river fisheries are included in the treaty/non-treaty sharing of upper Columbia summer Chinook.

Sockeye

The management goal for upper Columbia River sockeye is for a return of 65,000 adult sockeye at Priest Rapids Dam, which under average migration conditions requires a passage of 75,000 fish over Bonneville Dam. Combined non-treaty impacts on ESA-listed Snake River sockeye will be minimized, and shall not exceed 1% of the run entering the Columbia River. Fisheries conducted by the Columbia River treaty tribes will be managed according to the following schedule and all fishery impacts on sockeye will be included in the specified harvest rates.

Treaty Indian Sockeye Harvest Rate Schedule, 2008-2017.	
Upriver Sockeye Run Size	Harvest Rate
<50,000	5%
50,000-75,000	7%
>75,000	7%, with further discussion

If the upriver sockeye run is projected to exceed 75,000 adults over Bonneville Dam any party may propose harvest rates exceeding the aforementioned harvest rates. If harvest rate modifications are proposed, parties shall prepare a revised BA of proposed Columbia River fishery impacts on ESA-listed sockeye and shall submit the BA to NMFS for consultation under Section 7 of the ESA.

Winter Steelhead

Non-treaty fisheries conducted during the winter/spring season incidentally handle wild winter steelhead while targeting hatchery Chinook or hatchery steelhead. While the largest impacts on wild winter steelhead populations occur in the tributaries of the Columbia River where hatchery steelhead are a recreational target species, lesser impacts also occur during mainstem recreational and commercial spring Chinook seasons. Tributary recreational fisheries are conducted under separate permits issued by NMFS and the associated steelhead impacts are considered separately from mainstem fisheries. When lower Columbia and upper Willamette steelhead were listed under the federal ESA, a 2% annual impact rate was established for all combined non-treaty mainstem fisheries in the BAs and BOs for mainstem fisheries.

For treaty fisheries, there are no specific annual impact limits for wild winter steelhead prescribed. However, ESA impacts are expected to remain with an average range of 0.2-1.0%.

Summer Steelhead

During the winter/spring and summer fisheries (November–June), there is a 2% ESA limit on wild upriver summer steelhead handled in non-treaty mainstem fisheries downstream of the Highway 395 Bridge. There is also a 2% impact limit on lower Columbia River summer steelhead (lower Skamania stock), which are handled in non-treaty mainstem fisheries downstream of Bonneville Dam during the months of May and June.

Commission Guidance Regarding Non-Treaty Fisheries

In 2008, after the *U.S. v OR* parties signed the 2008-2017 Management Agreement, a Columbia River Fish Working Group (CRFWG) was formed consisting of six members of the Oregon and Washington fish and wildlife commissions, agency staff, and advisors from the recreational, commercial, and conservation communities to develop a near-term strategy for managing Columbia River spring Chinook fisheries. A consensus recommendation emerged from this process which, in part, identified objectives and priorities, strategies to manage uncertainty, and a sharing schedule for allocation of upriver spring Chinook impacts for the commercial and recreational sectors. Both commissions relied on these recommendations to set policies regarding management of Columbia River spring Chinook fisheries for the next several years.

In August 2012, Oregon Governor John Kitzhaber asked the OFWC to initiate a public rulemaking process to consider a new fisheries management and reform framework for Columbia River recreational and non-tribal commercial fisheries. Consequently, the fish and wildlife commissions of Oregon and Washington established a Columbia River Fishery Management Workgroup in September 2012 and tasked it with developing a set of recommendations for managing these fisheries in 2013 and beyond. This task was much broader in scope and scale than the 2008 process. Governor Kitzhaber further asked that the Workgroup formulate a plan to: 1) Prioritize

recreational fisheries in the mainstem Columbia and commercial fisheries in off-channel areas, 2) phase out the use of commercial gill nets in the mainstem Columbia, while retaining their use in off-channel areas, 3) improve off-channel fisheries by increasing hatchery production in those areas, as well as expanding fishery areas and/or seasons, and 4) continue development and use of alternative fishing gears for mainstem commercial fisheries. In November 2012, the Workgroup unanimously endorsed, and subsequently forwarded to the Oregon and Washington commissions, recommendations for management strategies for Columbia River recreational and non-tribal commercial fisheries for 2013 and beyond. The management strategies, collectively known as the "Harvest Reform Policy", were approved by the Oregon and Washington Fish and Wildlife Commissions in late 2012 and early 2013, respectively.

Non-Treaty Impact Allocations of Upriver Spring Chinook

The Oregon and Washington Fish and Wildlife commissions (Commissions) provide staff with policy guidance when shaping fisheries preseason and managing fisheries in-season. Current policy guidelines for non-treaty spring Chinook fisheries were adopted by the Commissions in 2013, and include (as in previous years) allocation guidelines for assigning available ESA impacts for upriver spring Chinook among the various fisheries. In order to comply with catch-balancing provisions of the 2008–2017 MA and the 2018–2027 MA, Washington and Oregon translate the ESA-based guidance received from the Commissions into shares of available upriver-stock harvest (kept catch plus release mortalities) available to each non-treaty fishery. The following schedule reflects the current policy.

Allocation Schedule for Upriver Spring Chinook ESA Impacts based on Commission Policy		
	Allocation	**Pre-update buffers**
2013 [1]	65%/35% recreational/commercial 75% of recreational share to area downstream of Bonneville Dam	Commission Buffer = 20% of recreational fishery impact and 40% of commercial fishery impact *U.S. v OR* run size buffer = 70% of pre-season forecast
2014-2016	70%/30% recreational/commercial 75% of recreational share to area downstream of Bonneville Dam	Commission Buffer = 20% of recreational fishery impact and 40% of commercial fishery impact *U.S. v OR* run size buffer = 70% of pre-season forecast
2017-beyond	80%/20% recreational/commercial 75% of recreational share to area downstream of Bonneville Dam	*U.S. v OR* run size buffer = 70% of pre-season forecast Run size buffer not applied to Select Area commercial impacts

[1]Implementation of the new policy was delayed which caused the states to maintain the 2012 policy sharing guidelines for the 2013 season. Based on the 2012 guidelines, ESA impacts were shared 60% sport and 35% commercial, with 5% unallocated. The pre-update buffers remained as described.

Upper Columbia River Summer Chinook Harvest Sharing Guidelines

The harvest allocation for non-treaty fisheries is determined through a three-tier process that utilizes policy guidelines set forth in the 2008–2017 MA and the 2018–2027 MA, the Upper Columbia Management Agreement (UCMA; parties are WDFW and the Confederated Tribes of the Colville Reservation), and by current Commission policies. The harvest rate schedule under the 2008–2017 MA and the 2018–2027 MA determines the sharing formula of harvestable fish between treaty and non-treaty fisheries (shown in previous section). When calculating the

harvestable shares, harvest in non-treaty ocean fisheries south of Canada is considered part of the non-treaty share.

The UCMA provides a harvest-sharing matrix also based on run strength of upper Columbia summer Chinook. Once the share for non-treaty fisheries is established through the MA matrix, the UCMA matrix allocates harvestable Chinook to non-treaty and tribal fisheries upstream and downstream of Priest Rapids Dam.

Non-Treaty Harvest Allocations and framework for Upper Columbia Summer Chinook				
River mouth run size[1]	Harvest guide Above PRD[2]	Harvest regime below PRD	Description of expected fisheries above PRD	Proportion > PRD to Colville Tribes
0–29,000	> 90%	No directed harvest	C&S for Colville and Wanapum, potential selective recreational	90%
29,001– 50,000	90%	Limited recreational	C&S for Colville and Wanapum, limited recreational	70%
50,001– 60,000	90% -70%[3]	Recreational and/or commercial	C&S for Wanapum and Colville, recreational	50%
60,001– 75,000	70 - 65%	Recreational and/or commercial	C&S for Wanapum and Colville, recreational	50%
75,001– 100,000	65% - 60%	Recreational and/or commercial	C&S for Wanapum and Colville, recreational	55%
100,001+	60%	Recreational and/or commercial	C&S for Wanapum and Colville, recreational	>55%[4]

[1]Increases in spawning escapement) will require a corresponding increase in river mouth run size.

[2]PRD = Priest Rapids Dam. Changes in percent of harvest does not diminish existing fisheries in total fish available for harvest, rather it provides for additional harvest opportunities in other areas, consistent with the increase in run size.

[3]Range is reflective of harvest holding steady or increasing slightly above PRD as harvest rates increase below PRD. Total number harvest available for harvest is > than previous break point in run size at mouth.

[4]Actual proportion to be negotiated by the Parties prior to fishing.

The Commissions provide staff with policy guidance in the sharing of harvestable fish available for non-treaty fisheries downstream of Priest Rapids Dam. For several years (through 2012), the Commissions determined that these fish should be shared equally (50/50) between commercial and recreational fisheries. Beginning in 2013, the Commissions adopted a new policy regarding the sharing of harvestable fish available for non-treaty fisheries downstream of Priest Rapids Dam (see following table).

Allocation Schedule for Upper Columbia Summer Chinook based on Commission Policy					
	Recreational		Commercial		
	Share	Area	Share	Area	Gear
2013 [1]	60%	Mainstem, downstream of Priest Rapids Dam	40%	Mainstem, downstream of Bonneville Dam; Select Areas	Gillnet
2014-2016	70%	Mainstem, downstream of Priest Rapids Dam	30%	Mainstem, downstream of Bonneville Dam; Select Areas	Gillnet
2017-beyond	80%	Mainstem, downstream of Priest Rapids Dam	20%	Mainstem, downstream of Bonneville Dam; Select Areas	Alternative gear in mainstem

[1]Implementation of the new policy was delayed which caused the States to agree to manage the 2013 fisheries based on a 55/45 sport/commercial split.

Non-Treaty Impact Allocations of Sockeye

The following schedule reflects the current Commission policies for non-treaty sockeye fisheries. Prior to 2013, impacts were not directly assigned, but were allocated to meet fisheries objectives. In addition to specifying allocation shares, the new policy prohibits sockeye-directed commercial fisheries.

Allocation Schedule for Snake River Sockeye ESA Impacts based on Commission Policy				
	Recreational		Commercial [1]	
	Share	Area	Share	Area
2013-2016	70%	Mainstem, downstream of Snake River	30%	Mainstem, downstream of Snake River; Select Areas
2017-beyond	≈80%	Mainstem, downstream of Snake River	≈20%	Mainstem, downstream of Snake River; Select Areas

[1]For incidental sockeye harvest in Chinook-directed fisheries. No commercial sockeye-directed fisheries allowed.

Willamette Spring Chinook Management

Fishery Management and Evaluation Plan for Willamette Spring Chinook

Following the ESA-listing of wild Willamette Basin spring Chinook, the state of Oregon completed a Fishery Management and Evaluation Plan (FMEP) to comply with Section 4(d) of the ESA. The FMEP set forth maximum freshwater impact limits for wild Willamette River spring Chinook of 20% for 2001 and 15% for 2002 and beyond. These limits apply to impacts associated with recreational fisheries occurring in the Willamette River Basin and with recreational and commercial fisheries occurring in the mainstem Columbia River and Select Areas. In addition to the impact limits, the FMEP requires that all wild Willamette River spring Chinook landed in mainstem Columbia River and Willamette River fisheries be released. In accordance with the FMEP, recreational and commercial fisheries are managed to ensure that cumulative freshwater mortality does not exceed 15% of the combined wild spring Chinook run destined for the Willamette River.

Willamette River Basin Fish Management Plan

The original Willamette River Basin Fish Management Plan (WFMP) was adopted in 1981, readopted in 1988, and revised in 1992 and 1999. Beginning in 2001, freshwater fisheries were

managed in accordance with the new FMEP, which superseded the prior management plan. The operating policies and objectives of the mainstem WFMP for spring Chinook were revised by the OFWC in December 2001 in accordance with the FMEP. Revisions included the adoption of escapement goals for hatchery-produced spring Chinook over Willamette Falls and to the Clackamas River and determination of the recreational/commercial harvest allocation of hatchery-produced spring Chinook in excess of the escapement goal. These revisions were designed to allow for the orderly implementation of live-capture and mark-selective fishing strategies for all freshwater fisheries beginning in 2002. The escapement goals adopted by the OFWC are shown in the table below.

Hatchery Spring Chinook Escapement Goals at Willamette Falls and the Clackamas River

Predicted Hatchery Return	Hatchery Fish Escapement		
	Willamette Falls	Clackamas River	Total
<40,000	20,000	3,000	23,000
40,000-49,999	22,000	3,300	25,300
50,000-59,999	24,000	3,600	27,600
60,000-69,999	26,500	4,000	30,500
70,000-79,999	29,000	4,400	33,400
80,000-89,999	32,000	4,900	36,900
90,000-100,000	35,000	5,400	40,400
>100,000	39,000	6,000	45,000

These escapement levels are designed to provide for full mark-selective recreational fisheries in the Willamette River and its tributaries upstream of Willamette Falls and meet hatchery broodstock goals. The increase in escapement goals as the hatchery run size increases allows fisheries upstream of Willamette Falls to share in the benefits available to lower Willamette River and mainstem Columbia River fisheries created at higher abundances of hatchery fish.

The recreational and commercial allocations of hatchery-produced Willamette spring Chinook at various hatchery fish run sizes are shown in the table below. Recreational fisheries include the lower Columbia River downstream of Bonneville Dam, the lower Willamette River downstream of Willamette Falls, and the lower Clackamas River downstream of North Fork Dam. Commercial fisheries include the mainstem Columbia River downstream of Beacon Rock and Select Area fisheries. The allocation plan provides recreational fisheries in the mainstem Willamette and Clackamas rivers at hatchery run sizes greater than 23,000 fish and an incrementally larger commercial share (up to 30%) as the run of hatchery fish increases. Limitations on upriver spring Chinook generally restrict access to the commercial share of the Willamette hatchery surplus in the mainstem Columbia River. At low run sizes (<40,000 hatchery fish), the commercial fishery is restricted to <1% of the predicted return to allow for minimal incidental harvest of Willamette hatchery fish during other commercial fisheries.

Allocation of Willamette Hatchery Spring Chinook		
	Allocation of Harvestable Numbers	
Predicted Hatchery Return	Recreational Fishery	Commercial Fishery
<23,000	<1%	<1% of predicted return as incidental for other fisheries
23,000-39,999	100%	<1% of predicted return as incidental for other fisheries
40,000-44,999	85%	15%
45,000-49,999	80%	20%
50,000-59,999	76%	24%
60,000-75,000	73%	27%
>75,000	70%	30%

Lower Columbia River White Sturgeon Management

For detailed information, see the ***2018 Joint Staff Report Concerning Stock Status and Fisheries for Sturgeon and Smelt*** dated January 18, 2018. The report can be accessed from the ODFW website at http://www.dfw.state.or.us/fish/OSCRP/CRM/reports and at the WDFW website at http://wdfw.wa.gov/fishing/crc/.

REVIEW OF MAINSTEM, SELECT AREA, AND TRIBUTARY FISHERIES

Non-Treaty Fisheries

Past Mainstem Commercial Salmon Seasons

Winter season commercial salmon fisheries have occurred since 1878. Beginning in 1957, all non-treaty commercial fisheries have been restricted to Zones 1–5 (Columbia River mouth upstream to Beacon Rock) and treaty commercial fisheries to Zone 6 (Bonneville Dam to McNary Dam; Figure 2). To reduce catch of upriver spring Chinook, no commercial salmon fishing was allowed upstream of Kelley Point at the Willamette River mouth during winter salmon seasons from 1975–2007. A minimum gillnet mesh size restriction of 7¼-inches was enacted in 1970 to reduce steelhead handle. Subsequent to the prohibition of sales of steelhead in 1975, the minimum mesh size was increased to 8-inches to further reduce steelhead handle. This mesh size remained in effect until the introduction of small mesh tangle nets and live-capture techniques to the fishery in 2001. No winter gillnet salmon seasons occurred in the lower river during 1995 and 1997–1999; however, small numbers of spring Chinook were landed in conjunction with winter target sturgeon seasons during those years. Winter and spring season fishing dates, mesh size restrictions, and landings are included in Table 17.

The adoption of the Willamette River spring Chinook FMEP in 2001 required the release of unmarked spring Chinook in commercial and recreational freshwater fisheries. The first spring season mark-selective commercial fishery for Chinook occurred in 2001 using tangle nets. This live-capture fishery consisted of a permit fishery with participation limited to 20 vessels; all fishing activities were fully monitored by ODFW/WDFW observers. The fishery consisted of one weekly 8-hour fishing period during the 4-week period from April 23 through May 18.

The first full fleet live-capture commercial fishery took place in 2002. The fishery was limited to commercial fishers who held appropriate licenses and gear and had completed a state-sponsored workshop concerning live-capture techniques. The 2002 fishery regulations included a 5½-inch maximum mesh size restriction, 150-fathom (900 feet) maximum net length, soak times not to exceed 45 minutes, use of recovery boxes on lethargic or bleeding fish, and allowed sales of sturgeon and adipose fin-clipped Chinook. The 2003 winter/spring salmon fishery incorporated many of the general fishery regulations adopted in 2002, except gear regulations were modified in response to the high steelhead handle observed in 2002. Large mesh nets (8-inch minimum) were required during the early part of the season to minimize steelhead handle, and the maximum mesh size for tangle nets was reduced from 5½ inches to 4¼ inches to improve capture condition by minimizing the frequency of gill-capture for steelhead. The voluntary use of tangle nets fitted with steelhead exclusion panels was also initiated in 2003. Beginning in 2004, test fishing was implemented as a tool to help determine the optimum time for fishing periods based on observed Chinook and steelhead catch rates.

In December 2003, the TAC reviewed preliminary results of post-release mortality studies conducted from 2001–2003 and concluded, for 8-inch-mesh gillnets, the best available information supported the use of an estimated release mortality of 40% for Chinook and 30% for steelhead. Upon considering similarities in the 4¼-inch tangle net capture profiles of steelhead and Chinook, the TAC concluded the most appropriate post-release mortality rate estimate for both species

should be 18.5% until steelhead-specific studies could be conducted. Based on a review of the data, TAC further concluded that 8-inch nets reduced the capture of steelhead compared to Chinook and fisheries using 9-inch or larger mesh would be expected to capture even fewer steelhead. In 2007, additional data became available to TAC indicating the mortality rate estimate for Chinook released from tangle nets should be revised to 14.7%. Given this new information, the mortality rate for Chinook released from tangle nets was reduced from 18.5% to 14.7% beginning in 2008. The release mortality rate for steelhead caught in tangle nets remained at 18.5%. Release mortality rates for fish caught with large mesh gear (8-inch minimum) remained unchanged at 40% for Chinook and 30% for steelhead.

Since 2004, winter/spring salmon seasons have been conducted according to an evolving suite of guiding principles and fishery management objectives adopted by the WFWC and OFWC. These principles and objectives provide the Joint Staff with guidance when shaping and managing fisheries. From 2004–2016, a fishing plan was developed annually in cooperation with the Columbia River Commercial Advisory Group giving the commercial industry a plan for marketing and providing a basis for making in-season management decisions. This plan typically outlined a weekly schedule of test fishing to determine the relative abundances of fin-marked and unmarked spring Chinook and steelhead. After test fishing results were known, the decisions of whether or not to fish and what gear to use could be made. Fishing periods were scheduled to maximize retention of hatchery spring Chinook and minimize handle of steelhead and unmarked Chinook. This process continued until either the upriver Chinook impact allocation, the hatchery Willamette harvest allocation, or the wild winter steelhead impact limit were reached; however, the upriver spring Chinook impact allocation was typically the most constraining factor.

2017 Winter/Spring Mainstem Commercial Salmon Season

No spring mainstem commercial fishery occurred in 2017 due to existing Commission guidance which limits the commercial upriver spring Chinook impact allocation to 20% of the non-treaty total, prioritizes use of these impacts in Select Area commercial fisheries, and is inconsistent regarding the prosecution of mainstem commercial spring Chinook fisheries.

Past Lower Columbia River Spring Chinook Recreational Fisheries

Under permanent regulations, the mainstem Columbia River from Buoy 10 to the I-5 Bridge (RM 106) is open for spring Chinook retention during January 1 through March 31, and the area from the I-5 Bridge upstream to the Oregon/Washington border above McNary Dam is closed effective January 1 (since 1993). The purpose of these regulations is to target early-migrating Willamette spring Chinook and reduce the catch of upriver spring Chinook. During 1995–1999, recreational fisheries for spring Chinook on the lower Columbia River were all but eliminated to protect a weak return of upriver spring Chinook in 1995 and low Willamette spring Chinook runs during 1996–1999. In 2000, biologists predicted the largest upriver run since 1977 (134,000 preseason projection) and an improved Willamette River run size of 59,900; and the OFWC allocated 1,200 Willamette spring Chinook to the mainstem Columbia River recreational fishery. Problems with the issuance of a Biological Opinion (BO) from NMFS, however, resulted in an early (March 16) closure of the 2000 recreational fishery and a catch of only 322 adult spring Chinook.

The expected return of 430,400 adult spring Chinook to the Columbia River in 2001, including 364,600 upriver spring Chinook with a majority of fin-clipped hatchery fish, prompted the states to adopt the first mark-selective recreational fishery for spring Chinook on the lower Columbia River effective March 12–April 30, 2001. At the same time, the states opened the area of the Columbia from the I-5 Bridge upstream to Bonneville Dam to spring Chinook angling. The recreational fishery had not been open upstream of the I-5 Bridge during the month of April since 1977. The 2001 recreational spring Chinook fishery was both extremely popular and highly successful, with record-high angler effort and catch rates; and in-season management was necessary to maintain the fishery within ESA guidelines. The states also provided a limited fishery for the mainstem Columbia River from The Dalles Dam upstream to McNary Dam during May 6–8, 2001.

Mark-selective recreational fisheries for spring Chinook have occurred annually since 2001. These fisheries were generally characterized by high effort and catch rates, as well as excellent compliance among anglers with the mark-selective fishing regulations. In 2002, mark-selective (adipose-fin clipped only) regulations for spring Chinook were permanently adopted for the lower Columbia River. In 2004, the states adopted a regulation prohibiting the removal of unmarked fish from the water to provide additional protection for released fish. To date, there has been no research conducted to evaluate the mortality of salmon and steelhead released in the mainstem Columbia River recreational fishery. In the absence of Columbia River-specific post-release mortality studies, TAC conducted extensive literature reviews and concluded that a post-release mortality rate of 10% should be applied to mainstem recreational fisheries for salmon and steelhead during the spring management timeframe.

The daily bag limit for the recreational spring Chinook fishery downstream of Bonneville Dam was two adult Chinook or steelhead in combination during 2000–2007, except for 2005 when a one-fish bag limit was adopted for the area between Rooster Rock and Bonneville Dam. Beginning in 2008, the daily bag limit was changed to one adult spring Chinook effective during March through June 15. In-season management has been necessary in most years to maintain the recreational catch within ESA guidelines, non-treaty harvest-sharing allocations, and/or catch-balancing agreements with the Columbia River treaty tribes. During all years, the states have provided opportunity for anglers upstream of Bonneville Dam. Regulations for 2002–2017 Columbia River recreational spring Chinook fisheries are listed in Table 21, and catch and effort totals are shown in Tables 22 and 24. Information for recreational fisheries above Bonneville Dam is shown in Table 21 and/or Table 23.

2017 Lower Columbia River Spring Chinook Recreational Fishery

In 2017 the spring Chinook run forecast was 227,900 adults to the mouth of the Columbia, comprised of an upriver component of 160,400 fish and a lower river component of 67,500 fish. The lower river component included 38,100 Willamette spring Chinook (30,900 Willamette hatchery spring Chinook), and a weak return of 700 fish to the Lewis River in Washington, which was below the hatchery escapement goal. According to the Willamette FMEP, a total of 9,550 Willamette hatchery spring Chinook were available to recreational fisheries in the lower Willamette and lower Columbia. The 2008–2017 MA provided a 1.9% impact to ESA-listed upriver spring Chinook in all non-treaty fisheries in 2017, based on the upriver spring Chinook run size forecast.

The OFWC and WFWC provided guidance for spring Chinook fisheries in 2017 (see Non-Treaty Impact Allocations of Upriver Spring Chinook). This guidance, combined with run size buffer provisions from the 2008–2017 MA, provided 6,905 upriver spring Chinook (kept plus release mortalities) to the recreational fishery below Bonneville Dam prior to a run size update with an expected impact of 0.43% to ESA-listed upriver spring Chinook.

Regulations for the 2017 spring Chinook fishery were adopted at the February 23 Compact/Joint State hearing. The permanent regulations for the Columbia River from Buoy 10 to the I-5 Bridge began January 1 and remained in effect through February 28. At the hearing, the states adopted a March 1–April 6 season for the lower Columbia River between Buoy 10 and Beacon Rock, plus the Oregon and Washington banks between Beacon Rock and Bonneville Dam. The states adopted a closure around the mouth of the Lewis River (RM 87) since the Lewis run size forecast was less than the hatchery escapement goal. The two-fish daily bag limit was modified to one adult spring Chinook between Buoy 10 and Bonneville Dam effective March 1. The retention of American Shad and hatchery steelhead was allowed for the duration of the spring Chinook season.

Snowpack was above average across most of the Columbia River basin at the beginning of 2017, but flows were moderate, clear and very cold. Record rainfall during February caused the lower Columbia and its tributaries to become very high and muddy, and angling conditions were poor throughout the month. The total catch in February was zero adult spring Chinook and zero winter steelhead from 1,892 angler trips, which was the lowest effort total for February since 2000.

The first spring Chinook was sampled March 4 at Kalama, but angler effort and catch rates on the lower Columbia were typically low at the beginning of March. Heavy rainfall during March 7-9 and 13-15 pushed the lower Columbia to flood stage by March 17 at Vancouver, and flows remained above flood stage into early April. With catches totaling fewer than 50 spring Chinook, the states held a Joint State hearing on March 26 and extended the sport fishery through April 10 (four days). The total catch during March was 59 adult spring Chinook (53 kept and six released) and 61 winter steelhead (18 kept and 43 released) from 10,120 angler trips, which was the lowest catch total for March since 1999. Based on VSI sampling, upriver spring Chinook comprised about 33% of the kept catch during March.

The Columbia dropped below flood stage by April 3 and angler effort began to increase with about 250 boats counted on April 4 and almost 800 boats on April 9. While test netting in the lower river showed that Chinook abundance was increasing, angling conditions remained challenging in the high, turbid river flows, averaging about one Chinook kept for every five boats. Through April 10, anglers had caught 1,123 spring Chinook with 702 upriver spring Chinook mortalities, or just over 10% of the guideline. On April 12, the states met and proposed four more days during April 13-16, projecting a handle of 1,200-2,400 more fish. The days-per-week approach would allow opportunity while Chinook abundance was increasing with less chance of exceeding the guideline. At the hearing, sport anglers requested more opportunity, and the states ultimately adopted two fishing periods during April 13-17 (five days) and April 20-23 (four days) with a checkpoint on April 19.

Flows at Bonneville averaged almost 390 kcfs with 2.5 feet of visibility during the April 13-17 opener, and effort increased moderately with 339 boats on Thursday April 13 and 964 on Saturday April 15. Catch rates improved to 0.5 fish per boat river-wide during the four-day period, and

boats in the gorge averaged over a Chinook per boat. The catch during April 13-17 was just under 2,000 fish handled, which brought the total upriver impact to 2,300 fish, or about one-third of the guideline; the states decided to cancel the April 19th hearing and allow the sport fishery to continue during April 20-23.

On Thursday April 20, catch rates improved to just over one fish per boat river-wide, and effort was just under 1,500 boats. The water level at Bonneville was rising again and catch rates dropped to 0.7 fish per fish per boat on Friday, and 0.5 fish per boat through the weekend. Effort on Sunday April 23 subsequently dropped to just under 1,300 boats. During the final four-day fishing period, anglers made 27,000 trips and caught 6,355 adult spring Chinook (5,784 kept and 571 released). The cumulative catch through April 23 was 9,990 adult spring Chinook (9,047 kept and 943 released) and 250 winter steelhead (137 kept and 113 released) from 63,300 angler trips, which was the lowest angler trip total since 2000. The upriver spring Chinook catch was estimated at 7,196 fish (kept and release mortalities) or 104% of the pre-update guideline. Through April 23, the Bonneville count was only 1,517 adult Chinook.

Chinook passage at Bonneville Dam increased markedly during early May, but the cumulative passage was well below expectations. With the sport fishery over its impact guideline to upriver spring Chinook, the states met on May 11 and postponed the recreational summer steelhead fishery, which would have normally opened below the I-5 Bridge on May 16 under permanent rules. On May 15, TAC updated the upriver run size to a minimum of 83,000 adults; however TAC subsequently upgraded the run to 108,000 on May 25 and 118,000 on May 30. The final upriver spring Chinook run was 115,821 and the final sport impact below Bonneville Dam was 0.683% compared to the allowable impact of 0.900%; however, the harvest of 7,198 upriver spring Chinook used 114% of the 6,334 catch balance guideline for this fishery.

2017 Spring Chinook Recreational Fisheries upstream of Bonneville Dam

Following Commission guidance, 25% of the recreational ESA impact allocation is allocated to fisheries upstream of Bonneville Dam, including the Columbia River upstream to the Oregon and Washington border (located approximately 40 miles upstream of McNary Dam) and fisheries in Washington waters of the Snake River. Similar to past years, these impacts (25% of allowed) were shared 40% mainstem Columbia and 60% Snake River. For 2017, the pre-update ESA impact allowance totaled 0.33% impact.

<u>Bonneville Dam upstream to the Oregon-Washington border</u>

Since 2011, the Columbia River Zone 6 recreational fishery has included the area from McNary Dam upstream to the Oregon/Washington border, and the Oregon and Washington banks between Bonneville Dam and Tower Island. Prior to 2017, in-season catch estimates were based on a limited creel efforts and updated post-season with catch record card data when available. Beginning in 2017, estimates of catch and effort are provided by robust creel programs implemented by ODFW (area between Bonneville Dam and McNary Dam) and WDFW (area upstream of McNary Dam).

In 2017, a total of 0.132% upriver spring Chinook ESA impacts were set aside for this fishery to use prior to a run size update, which translated to 921 Chinook (kept + release mortalities) allocated

to the fishery. The fishery opened under mark-selective regulations on March 16 and was scheduled to continue through May 5. The daily bag limit for adult Chinook was one fish. Washington's permanent regulations allowing only hand-casted lines to be used on the Washington shore when the area is open for hatchery spring Chinook, including the provision that no floating devices would be allowed to set lines for salmon or steelhead, were in place for 2017.

The fishery was tracking well behind expectations in early May; however, with the upriver spring Chinook return tracking late and smaller than expected, the states opted not to extend the fishery.

Season total catch estimates for adult Chinook include 15 kept and 27 released from approximately 1,150 angler trips in the area between Bonneville and McNary dams; no Chinook harvest was observed in the area upstream of McNary Dam (Table 23). ESA impacts associated with this fishery totaled 0.004%, or 3% of the 0.120% post-season impact guideline for this fishery. Kept and release mortalities totaled 18 fish or 2% of allowed.

Snake River Recreational Fisheries (Washington waters)

Since 2001, springtime recreational fisheries have occurred in Washington waters of the Snake River for hatchery Chinook. As with all fisheries, seasons are dependent on the run size, allowable ESA limits, allocations, and current policy. A creel program is used to track catch and effort.

In 2017, prior to a run size update, 0.198% ESA impacts were set aside for this fishery, which translated to 863 Chinook allowed (kept plus release mortalities). The fishery was initially open in three sections of the Snake River in Washington waters. Each section was open two days per week with an initial adult daily limit of one hatchery Chinook. No closure dates were set, but the fishery is typically expected to remain open for four to six weeks; with the closure date dependent on catch rates and associated impacts. On April 28, the area downstream of Ice Harbor Dam opened to hatchery Chinook retention followed by the April 30 opening of the area downstream of Little Goose Dam and the area near Clarkston, Washington. On May 15, the run was downgraded from the 160,400 preseason forecast. With the run downgrade and accrued harvest and impact levels from lower river fisheries, all sections of the Snake River were closed on May 15 after the third fishing period.

Season total catch estimates for adult Chinook include 65 kept and 8 released (Table 23). ESA impacts associated with this fishery totaled 0.013%, or 7% of the 0.180% post-season impact guideline for this fishery. Kept and release mortalities totaled 66 fish (12% of allowed 568).

Lower Columbia River Washington Tributary Spring Chinook Fisheries

Tributary spring Chinook recreational fisheries downstream of Bonneville Dam have been mark-selective since 2001. The 2017 preseason forecasts for the Cowlitz and Kalama rivers allowed for a daily bag limit of two adult Chinook throughout the spring Chinook season (January 1 – July 31). The Lewis River was closed March 1 – May 31 and reopened June 1 – July 31 with a one Chinook daily limit.

Preliminary hatchery adult spring Chinook recreational catch estimates for Washington lower Columbia River tributaries are based upon creel sampling and escapement data until catch record card data are available.

An estimated 5,909 hatchery adult spring Chinook were harvested in Washington lower Columbia River tributaries in 2017 including 5,002 fish from the Cowlitz, 607 from the Kalama, and 300 from the Lewis (Table 26). The combined hatchery adult spring Chinook harvest rate in these Washington tributaries was 31%, compared to the 10-year average of 35%.

Wanapum Tribal Spring Chinook Fishery

Wanapum tribal fisheries occur on the mainstem Columbia River in McNary Pool between Priest Rapids Dam and Vernita Bridge; harvest may also be permitted in the area immediately upstream of Priest Rapids Dam. Salmon are used for ceremonial and subsistence use only. Permits are issued annually by WDFW that regulate the times for and manner of taking the salmon. Harvest in 2017 included 35 adult upper Columbia spring Chinook (27 hatchery and 8 wild). ESA impacts associated with this fishery total 0.313%.

Past Summer Mainstem Commercial Salmon Seasons

Historical summer commercial seasons in the mainstem Columbia River harvested summer Chinook, sockeye, steelhead, and American Shad. Prior to 2005, no commercial summer Chinook season had occurred downstream of Bonneville Dam since a two-day season in 1964 (in 2004, two 12-hour fishing periods occurred downstream of Beacon Rock targeting sockeye but also allowed the retention of Chinook). The 2005 season consisted of six 10-hour fishing periods between June 23 and July 26 in Zones 1–5 with an 8-inch minimum mesh size requirement. The 2006 season consisted of thirteen 10–12 hour fishing periods between June 26 and July 31, with the same area and gear requirements used in 2005, including a white sturgeon landing limit. From 2007 through 2016, the season structure averaged three fishing periods (range one to five) in Zones 1–5 with an 8-inch minimum mesh restriction. Weekly white sturgeon landing limits were in place for Chinook-directed fisheries when sturgeon were available for harvest. Sockeye sales were allowed in years where escapement goals are expected to be met and ESA impacts were available. Current Commission policy does not allow for sockeye-directed commercial fisheries.

2017 Summer Mainstem Commercial Salmon Season

No summer season mainstem commercial fishery occurred in 2017 due to existing Commission guidance which limits the commercial allocation to 20% of the in-river harvestable surplus (below Priest Rapids Dam) and a requirement for non-gillnet gears, which have not been identified.

Past Columbia River Summer Steelhead and Summer Chinook Recreational Fisheries

The recreational summer steelhead fishery has been mark-selective since the mid-1980s. Since then, the only closures of the summer steelhead fishery have risen from the need to protect upriver spring Chinook. Under permanent regulations, the mainstem Columbia River is open to the retention of hatchery steelhead beginning May 16 from the Tongue Point/Rocky Point line upstream to the I-5 Bridge and June 16 from the I-5 Bridge upstream to the Oregon/Washington border above McNary Dam. The steelhead fishery is closed under permanent regulations during April 1 – May 15 between Buoy 10 and the I-5 Bridge and April 1–June 15 upstream of I-5, when spring Chinook abundance is high. When spring Chinook fisheries are open during these timeframes, the retention of adipose fin-clipped steelhead is allowed in conjunction with those opportunities. Conversely, when too few upriver spring Chinook impacts remain to allow

incidental hooking mortality of Chinook during the target steelhead fishery, the steelhead fishery is delayed (as late as June 16), as was the case in 2005, 2008, and 2009. The retention of sockeye is prohibited in all Columbia River recreational fisheries under permanent regulations. The states may allow sockeye retention in the recreational fishery when the run size exceeds 75,000 fish at Bonneville Dam as long as combined non-treaty impacts remain less than 1% of the run.

The Columbia River recreational summer Chinook fishery was closed to retention of adult Chinook under permanent regulations during June 1–July 31 every year during 1974–2001. In 2002, the states opened a recreational summer Chinook fishery between Tongue Point and Bonneville Dam during June 28–July 31 for the first time since 1973. The high mark rate for summer Chinook allowed the states to adopt mark-selective fishery regulations to provide an opportunity to harvest abundant hatchery Chinook while limiting the impact to ESA-listed Snake River wild summer Chinook to less than 1%. The states also opened the area from Bonneville Dam upstream to the Oregon/Washington border to the retention of adipose fin-clipped summer Chinook during July 2002.

Mark-selective recreational fisheries for summer Chinook also occurred in 2003 and 2004 under the same 1% impact limit on wild Snake River summer Chinook allowed in the Interim Management Agreement. In both years, the states adopted mark-selective summer Chinook fisheries for the Columbia River from Tongue Point upstream to McNary Dam during June 16–July 31 to match regulations for the summer steelhead season upstream of the I-5 Bridge.

Beginning in 2005, the management period for summer Chinook at or below Bonneville Dam was reclassified from June 1–July 31 to June 16–July 31 because new information indicated that the June 1–June 15 portion of the summer run typically contained significant numbers of listed Snake River spring/summer Chinook, while the later portion of the run was mostly upper Columbia summer Chinook, which are not listed under the ESA. This reclassification allowed the states to maintain protections for listed Snake River spring/summer Chinook, while allowing more substantial fisheries on the upper Columbia summer Chinook run. On June 2, 2005, the states adopted a recreational summer Chinook fishery for the Columbia River from Tongue Point upstream to McNary Dam during June 16–July 31 with a daily bag limit of two adipose fin-clipped summer Chinook. While mark-selective regulations were no longer required during the summer Chinook management period, the states initially adopted conservative regulations for the Columbia recreational fishery due to concern that the summer run might follow the pattern shown by the 2005 spring Chinook run, which returned at less than half of the preseason forecast. By late June, the summer Chinook run size forecast appeared to be on target, and the states allowed the retention of both clipped and unclipped summer Chinook during July 1–31, 2005.

Non-mark-selective summer Chinook fisheries also occurred during 2006–2009. The 2006 fishery was open during June 16–July 31 and produced a catch of 4,924 adult Chinook, which was the highest on record (since at least 1969). Summer Chinook run sizes during 2007–2009 were not large enough to allow full, non-selective recreational fisheries, and seasons were shortened to an average of twelve days during those years with catches of 2,200 fish. In an effort to expand the recreational fishing opportunity for summer Chinook, the states adopted mark-selective (adipose fin-clipped) regulations for fisheries during 2010–2016 and extended the open area from Tongue Point downstream to the Astoria-Megler Bridge. Also beginning in 2010, the states assigned a 15% mortality rate for adult summer Chinook released in recreational fisheries based on literature

reviews conducted by TAC. The 2010 summer Chinook fishery was open the entire summer season (June 16–July 31); however, the 2011–2013 fisheries closed between July 1 and July 18 each year to remain within harvest sharing guidelines. The 2014 summer Chinook fishery was open during June 16–30, July 3–6 and July 11–31. The 2015 summer Chinook fishery was initially scheduled to be open June 16–July 6, but was subsequently extended through July 31 because the run size was larger than forecast. In addition, the states adopted non-selective regulations during July 3–31 of the 2015 summer Chinook fishery to allow the sport fishery to access a greater portion of their allocation. The 2016 summer Chinook fishery was open for hatchery Chinook during June 16-July 31 and produced a catch of 7,250 adult Chinook (3,080 kept and 4,170 released) from 58,100 angler trips, which was the third highest summer Chinook handle on record.

2017 Lower Columbia River Summer Steelhead and Summer Chinook Recreational Fisheries

The states delayed opening the 2017 summer steelhead fishery because the lower Columbia River recreational spring Chinook fishery utilized its guideline for upriver spring Chinook, and no impacts remained to allow for the incidental mortality of Chinook caught and released during the steelhead fishery. The summer steelhead fishery opened in conjunction with the summer Chinook fishery between the Astoria-Megler Bridge and Bonneville Dam effective June 16. In addition to the delayed opener for summer steelhead, the states enacted a number of other management strategies for summer steelhead in 2017 in anticipation of a poor return of wild B-Index summer steelhead, which were expected to be the limiting factor for all non-treaty fisheries during the fall of 2017. Effective June 16, the summer steelhead bag limit was reduced to one fish daily, and night angling for all species, except Northern Pikeminnow, was prohibited. Furthermore, summer steelhead retention was prohibited during August, which is typically one of the highest months of summer steelhead catch in the recreational fishery below Bonneville Dam.

The 2017 recreational summer Chinook fishery was scheduled to open for adipose-fin clipped Chinook during June 16–July 31 from the Astoria-Megler Bridge upstream to Bonneville Dam with a daily limit of two adult hatchery fish. The guideline for the recreational fishery below Bonneville Dam was 2,656 adult summer Chinook (including release mortality) based on the adult run size forecast of 63,100 fish. Sockeye retention was allowed in conjunction with the summer Chinook fishery through July 31 based on the forecast for 198,500 fish.

Flows in the Columbia were relatively high and cool during June 16–30, averaging 307 kcfs and 62°F. Summer Chinook catches started strong in the high flows with boat anglers averaging better than 0.5 fish kept per boat river-wide. Catch rates for boat anglers in the gorge and Westport areas often exceeded one fish per boat average, and bank anglers also made fair to good catches in the higher flows. The mark rate for summer Chinook in the fishery was also higher than expected at just under 66%. As a result, summer Chinook catches accumulated quickly with 2,045 fish kept and 1,056 released through June 25. Despite better than expected passage of summer Chinook at Bonneville Dam, the states held a Joint State hearing on June 28 and closed the summer Chinook fishery effective July 1, 2017. Fisheries for summer steelhead, summer Chinook jacks and sockeye remained open during the closure. The final catch for June 16-30 was 4,385 summer Chinook (2,864 kept and 1,521 released), 270 Chinook jacks (kept), 486 summer steelhead (401 kept and 85 released) and 314 sockeye (243 kept and 71 released) from 23,438 trips.

On July 5, the TAC revised the summer Chinook forecast to 74,100 and the sockeye forecast to 90,400 based on passage at Bonneville Dam. The increase in the summer Chinook run size allowed the states to reopen summer Chinook retention in the lower Columbia sport fishery effective July 7-31. Despite the decrease in the sockeye run size forecast, sockeye retention remained open due to low catches in the recreational fishery below Bonneville. Catch rates for summer Chinook slowed down markedly during the reopener since most of the summer Chinook run had passed Bonneville, and the mark rate in the fishery declined to about 50%. In addition, river flows had dropped and the water temperature increased, averaging 178 kcfs and 69°F at Bonneville Dam during July 7-31. The total catch for July was 1,379 adult Chinook (652 kept and 727 released), 1,926 summer steelhead (1,038 kept and 888 released) and 21 sockeye (kept) from 18,157 angler trips.

During June 16–July 31, salmon/steelhead anglers made 41,595 trips and caught 5,764 adult summer Chinook (3,516 kept and 2,248 fish released), 350 hatchery Chinook jacks (kept), 335 sockeye (264 kept and 71 released), 2,481 summer steelhead (1,439 kept and 1,042 released) and five adult Coho (released). The summer Chinook handle and kept catch were the third and fourth highest respective totals since 2000 (Table 24). The summer steelhead catch was the lowest since the mid-1970s when the fishery was closed entirely, and the sockeye catch was the lowest since 2007.

2017 Summer Season Fisheries upstream of Bonneville Dam

Bonneville Dam upstream to Priest Rapids Dam Recreational Summer Chinook Fishery

Since 2002, a summer Chinook fishery has occurred upstream of Bonneville Dam, extending to Priest Rapids Dam beginning in 2006. Recreational fisheries also occur upstream of Priest Rapids Dam, but are not reported on in detail here. Prior to 2017, in-season catch estimates were based on a limited creel efforts and updated post-season with catch record card data when available. Beginning in 2017, estimates of catch and effort are provided by robust creel programs implemented by ODFW (area between Bonneville Dam and McNary Dam) and WDFW (area upstream of McNary Dam). The current release mortality rate for Chinook is estimated at 15% in recreational fisheries downstream of Priest Rapids Dam. The 2017 observed mark rate at Bonneville Dam for the summer management period was 56% for adult summer Chinook.

Summer season recreational fisheries were open June 16–July 31 from Bonneville Dam upstream to Priest Rapids Dam. This Chinook fishery was mark-selective for Chinook, allowing retention of hatchery Chinook, as well as any sockeye. Catch estimates total 248 adult summer Chinook kept (94 released) and 888 sockeye kept from 5,173 angler trips.

The recreational summer fishery upstream of Priest Rapids Dam was primarily mark selective for Chinook; catch estimates (including tributaries) includes 4,072 Chinook kept (including 987 unmarked) with 1,689 released; additionally, 870 sockeye were kept (1,739 released).

Non-Treaty Tribal Summer Fisheries

Wanapum tribal fisheries occur on the mainstem Columbia River in McNary Pool between Priest Rapids Dam and Vernita Bridge; harvest may also be permitted in a the area immediately upstream of Priest Rapids Dam. Salmon are harvested for ceremonial and subsistence use only. Based on

the Wanapum Fishing Framework, a harvest matrix is used to determine the allowable catch by Wanapum tribal members. Permits are issued annually by WDFW that regulate the open seasons with time, area, and gear restrictions. Preseason, a total of 175 summer Chinook and 300 sockeye were allocated to the Wanapum Tribe. The 2017 catch include 158 adult summer Chinook (90 unclipped) and 263 sockeye (all unclipped).

Colville tribal summer fisheries typically occur on the mainstem Columbia River upstream of Wells Dam. In recent years, Colville tribal fisheries have utilized hook & line, tangle net, and purse seine gear. Based on the preseason forecast and the sharing principles under the Upper Columbia Harvest Agreement, 50% of the harvestable fish available to fisheries upstream of Priest Rapids Dam were allocated to the Colville tribes, which amounted to 4,347 adult summer Chinook (including release mortalities). Post-season, based on the actual run size, 50% of the harvestable fish available to fisheries upstream of Priest Rapids Dam were allocated to the Colville Tribe, amounting to 4,884 fish. The 2017 catch estimates include 1,388 adult summer Chinook (904 released) and 4,329 sockeye.

Past Select Area Winter, Spring, and Summer Commercial Seasons

Spring Chinook commercial fisheries in the Select Areas were initiated in Youngs Bay in 1992. Initially, Youngs Bay fisheries were restricted to the spring season, with periods from late April through early June with less than 15 days annually and landings from 155–851 spring Chinook. As smolt releases increased, winter and summer seasons were added to harvest more returning hatchery adults. Winter seasons during late February through early March were initiated in 1998 to harvest early returning spring Chinook. Starting in 2006, the Youngs Bay winter season was extended from mid-March through early-April through in-season management in years when usage of impacts to upriver fish remained below expectations. Initially, additional fishing periods were either confined to upstream areas of Youngs Bay or limited to short periods (≤4 hours; proximate to low tide) to reduce harvest of non-local fish. In recent years, both strategies have been used simultaneously. Beginning in 1999, summer seasons from mid-June through July were adopted to provide opportunity to harvest late returning spring Chinook and early returning SAB fall Chinook. During 2000–2016, the harvest of Chinook in Youngs Bay winter, spring and summer fisheries has ranged from 3,100–20,800 fish (excluding 2005). See Table 25 for Chinook harvest during winter, spring, and summer seasons for all Select Area sites since 1993.

Spring commercial fisheries for in Blind Slough began in 1998 and winter periods were added in 2000. Since 2006, the winter season has been expanded into the late-March/early–April with minimal increase in impacts to ESA-listed upriver stocks. Beginning in 2013, the winter season expanded to include Knappa Slough. The spring season fishing area was initially limited to Blind Slough but was expanded downstream to include the waters of Knappa Slough in 1999 as returns increased. Fishing periods were adopted to minimize interactions with recreational boaters and are typically concurrent with the other Select Area sites to spread out opportunity and minimize crowding. A one-year trial summer season was adopted in Blind and Knappa sloughs in 1999 but resulted in a harvest of only three spring Chinook. In 2015 and 2016, late-spring fisheries in Blind /Knappa Slough were extended into the summer timeframe (mid-June–July). Harvests in Blind/Knappa Slough in late-spring fisheries totaled 336 fish in 2015 and 858 fish in 2016. Annual winter/spring season landings have ranged from 500–3,500 Chinook since 2000.

Trial winter periods in Tongue Point were initiated in 2000 and continued through 2001. Results from the trial fisheries were not substantial enough to continue winter fisheries at the site. To expand fishing opportunity, experimental winter fisheries were initiated again in 2013. Up to ten winter periods have occurred in Tongue point from 2013–2016 with an average harvest of 71 fish. Spring commercial fisheries in Tongue Point were initiated in 1998 and continued through 2003. In most years, periods and open hours were consistent with Blind/Knappa Slough and Youngs Bay. The spring season fishing area was expanded to include the South Channel in 1999 to reduce congestion during peak fishing periods. Annual Chinook harvest increased annually with peak landings of 3,003 fish in 2002. Higher than expected abundance of upriver spring Chinook in the Tongue Point/South Channel site during the 2003 spring fishery resulted in the cancellation of the season after one fishing period. No commercial fisheries were conducted from 2004–2007 due to high abundance of upriver fish, although low numbers of smolt releases were maintained throughout the closure. In 2008, ODFW evaluated the feasibility of reestablishing the Tongue Point fishery with a more restrictive lower boundary and delayed spring season opening dates through test fishing and full-fleet test fisheries. In addition to the fishery modifications, mandatory check-in station and call-in programs were established to provide more complete stock composition information to aid in-season management. Promising results from the test fisheries in 2008-2011 prompted increased smolt releases beginning in 2013. An evaluation of the 2008–2013 test fishery data supported the feasibility of reinstating the commercial fishery at Tongue Point/South Channel in 2014.

In Deep River, winter seasons have been adopted annually since 2006 and spring fisheries have been conducted since 2003. In 2014, releases of spring Chinook into Deep River were discontinued due to poor survival and restricted funding. The final potential adults (Age-6) from that last Deep River spring Chinook smolt release in 2013 returned in 2017. Consequently, no spring fishery is planned in Deep River for 2018.

The majority of fish harvested in Select Area commercial fisheries are from Select Area production. Since 2000, 85.6% of the Chinook harvested in winter-summer seasons have been Select Area-origin with another 10.5% other lower river stocks (Table 29.

2017 Youngs Bay Winter/Spring/Summer Seasons

The 2017 Youngs Bay commercial fishing periods were scheduled primarily during daylight hours. This approach aligns with public input received from the commercial fishing industry over the past several years. The 2017 winter season commenced with fifteen 12- to 24-hour periods between February 6 and March 3, three 12- to 18-hour periods during March 6 to 9, and seven 4-hour periods during March 13 to 27; these periods were adopted pre-season. Upriver impacts accumulated slower than expected and six additional 3- to 4-hour periods were adopted in-season from March 30 to April 17. The short (3- to 4-hour) fishing periods were set proximal to low tide when non-local stocks may be less abundant. This strategy appears to be an effective alternative to closing the fishery entirely during mid to late-March. The fishing area was also reduced (open above the Alternate Highway 101 Bridge only) for the periods in April in an effort to reduce upriver impacts and provide consistent fishing opportunity into April. Mesh size regulation was 7-inch minimum during all winter season periods in Youngs Bay, with a maximum net length of 250 fathoms and maximum weights/anchors/leadline of two pounds per fathom of net. The net length and weights restrictions are consistent throughout the Youngs Bay area and seasons except

that additional weights are allowed upstream of the mouth of the Walluski River. The twenty-eight fishing periods in the Youngs Bay winter season resulted in landings of 630 spring Chinook, which was 56% greater than the average landings (404) since winter seasons began in 1998.

The 2017 spring season in Youngs Bay began with one 4-hour period on April 20. Two twelve-hour fisheries were scheduled for the last week in April but the hours for the April 27th period were reduced to 4 hours because of high upriver impacts. The pre-season schedule included three 12- to 18-hour periods during the first week of May, a 4-day period each week from May 8 to June 9, and a 3-day period during the last week of the spring season (June 12 to June 15). In-season management (for upriver impacts) reduced the periods to three 4- to 6-hour periods during the first week of May, four 4-hour periods per week for the rest of May, one 18-hour period on June 1 and four 6-hour periods during June 5 to June 8. The final week of the spring season occurred as scheduled. The 2017 Youngs Bay spring fishery landed 7,346 Chinook. The Chinook harvest was better than pre-season expectations and was 30% greater than the recent 10-year average of 5,634 fish. Throughout the spring and summer seasons, mesh size was restricted to a maximum of 9¾-inches in Youngs Bay.

The 2017 summer season in Youngs Bay was open for four days per week from June 19 through June 30, three days per week from Monday July 3 through July 6, and two days per week from July 11 to July 27. The Youngs Bay summer fishery landed 2,822 Chinook, ranking it as the best year for landings in Youngs Bay since the inception of summer seasons in 1999.

The winter/spring/summer fisheries in Youngs Bay landed 10,798 Chinook, which ranks as the second highest since 1993 (Table 25). Stock composition of the landings is estimated by VSI and CWT analysis from 5,095 Chinook (47% of the Chinook landings) examined for fin marks and CWTs with 379 CWTs collected during all season combined. The stock composition of the 2017 combined winter/spring/summer Youngs Bay landings was estimated at 83.8% spring Chinook and 0.2% SAB fall Chinook originating from Select Area sites, 3.4% upriver spring and summer Chinook (caught before June 15), 0.3% upper Columbia summer Chinook (after June 15), 10.8% Willamette River spring Chinook, and 1.6% spring Chinook from the Cowlitz, Kalama, Lewis, and Sandy Rivers (CKLS) and Cathlamet Channel. Based on scale readings and CWT correction, the estimated age composition of the Chinook landings was 1.4% Age-3, 59.6% Age-4, 38.0% Age-5, and 1.0% Age-6 fish.

2017 Blind Slough/Knappa Slough Winter/Spring Seasons

Commercial fishing periods in Blind and Knappa Slough in the winter/spring/summer are typically 12 hours long from 7 PM to 7 AM the following morning. The 2017 winter season in Blind Slough and Knappa Slough opened with three periods per week from February 9 to March 10 and two periods per week from March 13 to March 28. The three periods from March 20 to March 28 were originally (pre-season) planned as Blind Slough only but the Knappa Slough Area was added to the first two under in-season management. Also in-season, a period in Blind and Knappa Slough was added on March 30 and five additional periods in Blind Slough were added from April 3 to April 18. The Blind Slough fishing area was confined above the railroad trestle during the period on April 10. The additional periods were added due to the low harvest of upriver fish in March and reflects ongoing efforts to expand the fishery. Mesh size regulation is 7-inch minimum during the winter season in Blind Slough, with a maximum net length of 100 fathoms and no restrictions on

additional weights/anchors on the leadline. The net length requirement is consistent throughout the Blind and Knappa Slough areas and seasons. During the 26 winter fishing periods, a total of 136 spring Chinook were landed, which was slightly above of the recent 10-year (2007–2016) average Chinook harvest (130) in Blind Slough/Knappa Slough.

Similar to the winter season, the spring Blind Slough season included Knappa Slough (downstream to the east end of Minaker Island) to increase fishing area and maximize the opportunity to harvest local Select Area-origin spring Chinook. As in previous years, the lower deadline in Knappa Slough was extended further downstream to the western end of Minaker Island in early May when encounters of upriver fish have subsided. Throughout the spring and summer seasons, mesh size was restricted to a maximum of 9¾-inches. The 2017 spring fishery was originally scheduled to include sixteen fishing periods between April 20 and June 13. The season continued without any rescinded periods or reductions in time. The fishing area for part (8 of the 12 hours) of two periods was reduced to avoid further upriver impacts; the May 22 and May 26 periods was limited to Blind slough only. During the 2017 Blind/Knappa Slough spring fishery, 1,964 spring Chinook were landed. This is 31% greater than the recent 10-year average of 1,475.

For the third consecutive year, additional periods were set during the summer timeframe in Blind and Knappa Slough. This extension into the summer is because of high harvest and low upriver impacts during the late spring season. The summer periods were set in-season and consisted of twelve additional periods, two per week, from June 19 to July 28. Landings from the summer periods in Blind/Knappa Slough totaled 1,161 Chinook.

The Blind Slough/Knappa Slough fisheries in winter, spring, and summer seasons landed a total 3,261 Chinook. This was the second highest landings total on record and likely related to the extended summer season (Table 25). Stock composition of the landings is based on VSI and CWT analysis of sampled fish. A total of 1,918 Chinook (60% of the combined landings) were examined for fin-marks and CWTs and 280 CWTs were collected. The stock composition of the landings was estimated at 96.7% spring Chinook and 0.1% SAB fall Chinook originating from Select Area sites, 0.5% upriver spring Chinook, 1.9% Willamette River spring Chinook, and 0.8% CKLS-origin fish. Based on scale readings and CWT correction, the estimated age composition of the spring Chinook landings was 0.9% Age-3, 62.2% Age-4, 36.1% Age-5, and 0.8% age-6.

2017 Tongue Point/South Channel Winter/Spring Seasons

As part of the ongoing effort to expand fishery opportunities in the Select Areas, the winter season initially adopted for Tongue Point and South Channel in 2013 was continued in 2017. The 2017 winter season consisted of ten 12-hour periods from February 6 to March 10. A 4-hour period was originally planned for March 13 in an effort to expand opportunity in the winter season. In response to lower upriver impacts two additional 4-hour periods were added in-season on March 22 and March 30. The mesh size regulation in Tongue Point/South Channel is 7-inch minimum during the winter season. Maximum net length is restricted to 250 fathoms in Tongue point and 100 fathoms in South Channel and additional weights on the leadline are allowed in South Channel only. The net length and weight restrictions are consistent throughout the Tongue Point and South Channel seasons. A total of 82 spring Chinook were landed in the winter season, which was 16% greater than the average from 2013–2016 (71 fish) and was the second highest landings since the winter fishery was reinitiated in 2013.

The spring season in Tongue Point/South Channel opened, as planned, with a 4-hour period on April 20 and was scheduled for sixteen 12-hour periods from April 25 to June 13. To manage for upriver impacts the two periods during May 22 and May 26 were rescinded. Throughout the spring and summer seasons, mesh size was restricted to a maximum of 9¾-inches. During the 2017 Tongue Point/South Channel spring fishery, 1,952 spring Chinook were landed. This is the second highest spring landings on record and is over three times the recent 5-year average of 607 Chinook.

For the second consecutive year, additional periods were set during the summer timeframe in Tongue Point and South Channel. This extension into the summer is a management response to high harvest and low upriver impacts during late spring season. The summer periods were set in-season and consisted of twelve additional periods, two per week, from June 19 to July 28. Landings from these periods were 1,483 Chinook, which was much greater than 2016.

The 2017 winter, spring, and summer season fisheries in Tongue Point/South Channel harvested a total of 3,517 spring Chinook, which was the highest on record (Table 25). Stock composition of the landings is based on VSI and CWT analysis of sampled fish. A total of 1,915 Chinook (54% of the landings) were examined for fin marks and CWTs and 288 CWTs were detected and recovered. The estimated stock composition of the landings was 90.1% spring Chinook and 0.1% SAB fall Chinook originating from Select Area sites, 2.3% upriver spring Chinook, 2.6% Willamette River spring Chinook, and 4.5% CKLS-origin fish. Based on scale readings and CWT correction, the estimated age composition of the spring Chinook landings was 1.0% Age-3, 53.2% Age-4 and 45.0% Age-5 fish and 0.8% age-6.

2017 Deep River Winter/Spring Seasons

Winter fishing sessions were again set for the 2017 season in Deep River, continuing the effort to increase harvest opportunity that started in 2006. The winter season consisted of fifteen 12-hour fishing periods on Monday and Thursday nights from February 6 through March 28.

The spring season consisted of nine nightly 12-hour fishing periods on Tuesday and Thursday nights from April 20-28 and on Monday and Thursday nights from May 1 through May 19. Seven fishing periods, originally scheduled for Monday and Thursday nights May 22 through June 13, were rescinded by Compact action on May 18, 2017 to reduce potential impacts to upriver stocks.

The fishing area during all periods was restricted to the area from navigation marker #16 upstream to the Highway 4 Bridge. Gear regulations included a 100-fathom maximum net length, a 7-inch minimum mesh size for the winter season, and a 9¾-inch maximum mesh size for the spring season. The use of additional weights or anchors was allowed. Retention of white sturgeon was prohibited. As has been the case since the inception of the Deep River spring fishery in 2003, fishers were required to submit all landed catch for biological sampling before being transported out of the fishing area. A WDFW sampling station was set up in the area for this purpose.

The total of 21 Chinook landed during the combined winter and spring seasons was the lowest of the 15 Deep River Seasons (2003-2017; Table 25) and only 19% of the average of the previous 14 years. There were only 8 Chinook landed during the winter season and 13 during the spring season. Estimated stock composition for the 2017 winter/spring fishery in Deep River was 10% upriver spring Chinook and 90% Select Area origin spring Chinook. There is some limitation to the

precision of this estimate because of the low number of fish sampled, only a single CWT recovery, and a VSI correction resulting from CWT data. Based on scale readings and one CWT validation, the estimated age composition of the catch in Deep River was 35.0% Age-4, 60.0% Age-5, and 5.0% Age-6.

Select Area Recreational Fisheries

Beginning in 1998, a year-round recreational season was opened for Chinook and adipose fin-clipped Coho in Youngs Bay, Tongue Point, and Blind Slough. Similar seasons were adopted for South Channel and Knappa Slough in 1999 and for Deep River in 2000. In 2003, regulations were adopted to allow year-round angling for adipose fin-clipped steelhead in all Oregon Select Areas. To maintain consistency with mainstem fisheries, mark-selective regulations were permanently adopted for Select Area spring Chinook recreational fisheries effective January 1, 2004. Also in 2004, classification of Tongue Point and South Channel as Select Area recreational fishing sites was rescinded due to discontinuation of production-level spring Chinook releases and because these areas are already open to angling concurrent with the mainstem Columbia River.

Recreational harvest of Chinook in the winter, spring, and summer seasons is reported in Table 25. Impacts to non-local Chinook and steelhead (including wild fish) are expected to be minimal or near-zero since the majority of fishing effort is concentrated in upper tidewater areas or in the tributaries. Effort and harvest in Select Area recreational fisheries has increased in recent years (2015–2017) as returns of adult spring Chinook and productive fishing opportunities have increased. Recreational harvest is estimated from catch record cards (also referred to as "punch cards"), which are turned in voluntarily by anglers. Reported catch is expanded by a reporting rate to come up with an estimate of total recreational harvest. Catch record card data are not available for at least one year, so preliminary estimates are made for the current year by correlating trends in previous year estimates, Select Area commercial landings, and spring Chinook run-size information. The 2017 recreational harvest estimate for spring Chinook in all Select Area sites is 1,339 adult fish, which is 44% greater than the recent 5-year (2012–16) average of 931 fish (Table 25).

2017 Commercial American Shad Season

Under permanent regulations, the lower Columbia River was open to commercial fishing for American Shad in Area 2S (upstream of navigation aid #50 near Gary Island) from 3:00 p.m. to 10:00 p.m. daily, Monday through Friday, from May 10 through June 20 (except on the observed Memorial Day holiday). Since 1996, regulations for the Area 2S American Shad fishery have included the following gear specifications designed to minimize the handle of salmonids: mesh size restriction of 5⅜ to 6¼-inches, ten-pound mesh breaking strength, and net not to exceed 40 meshes in depth or 150 fathoms in length. The shallower and shorter nets have proven to substantially reduce the handle of salmonids compared to gear used in American Shad fisheries prior to 1996. Only American Shad may be kept and sold, and all salmon, steelhead, walleye, and sturgeon are required to be released immediately. The 2017 fishery produced landings of 2,007 American Shad, which is the 6th lowest harvest since at least 1980 and 43% of the recent 10-year average. The recent trend of low harvest is likely due to a relatively low market value for American Shad (Table 16).

2017 Non-Treaty Impacts to ESA-Listed Stocks

The management intent for 2017 spring Chinook fisheries was to facilitate conservation of wild Columbia River salmon and steelhead runs, remain within the ESA impact rates and catch limits of upriver stocks allowed in the MA, and reach the objectives outlined in Commission guidance.

The 2017 preseason forecast for upriver spring Chinook was 160,400 adult fish to the Columbia River. Based on the *U.S. v. Oregon* Management Agreement, non-treaty fisheries were limited to an ESA impact of 1.9% and a catch balance limit of 14,596 upriver fish (kept plus release mortalities). As the Snake River natural-origin spring/summer Chinook return was forecasted to be less than 10% of the total upriver return, the stipulation identified in Footnote 1 of Table A1 in the MA was in effect this year. Therefore, the allowable harvest rate was based on the abundance of Snake River natural-origin spring/summer Chinook rather than the aggregate upriver run. After applying a 30% run size buffer (as mandated by the MA), non-treaty fisheries were planned based on a total of 9,319 upriver spring Chinook harvest mortalities and an ESA impact limit of 1.7% available prior to a run-size update. Commission guidance regarding impact allocation and application of run size buffer effects were applied to produce the allowable take by each fishery prior to a run-size update.

The actual 2017 preseason (buffered) catch allocation and ESA guidelines for upriver spring Chinook (kept plus release mortalities) used for managing fisheries prior to a run-size update are provided in the following table:

2017 Non-Treaty Fisheries - Comparison of PRE-Season Allowed and Buffered ESA-impacts and Catch (kept plus release mortalities) of Adult Upriver Spring Chinook.							
	PRE-Season						
	(160.4 K run size, 1.9% impact limit)						
	(Buffered - 112.28 K run size, 1.7% impact limit)[1]						
2017 Non-Treaty Fishery	ESA Impact	Impact buffered	% of Allowed		Catch Balance	Catch Balance (buffered)	% of Allowed
Mainstem	0.000%	0.000%	--		0	0	--
Select Areas	0.380%	0.380%	100%		610	610	100%
Commercial total (20% of total)	**0.380%**	**0.380%**	**100%**		**610**	**610**	**100%**
Downstream of Bonneville Dam	1.140%	0.990%	87%		11,089	6,905	62%
Bonneville Dam to OR/WA border	0.152%	0.132%	87%		1,479	921	62%
Upper Columbia/Snake	0.228%	0.198%	87%		1,419	884	62%
Recreational total (80% of total)	**1.520%**	**1.320%**	**87%**		**13,987**	**8,710**	**62%**
Non-Treaty Total	**1.900%**	**1.700%**	**89%**		**14,596**	**9,319**	**64%**
[1] Per Commission rule/policy, the effects of run size buffering are not applied to Select Area commercial fisheries							

As the season progressed, TAC provided regular in-season run updates and fisheries continued to be managed conservatively while providing opportunity to harvest hatchery Chinook. The post-season details are provided in the following table:

2017 Non-Treaty Fisheries - Comparison of Post-Season Allowed and Actual ESA-impacts and Catch (kept plus release mortalities) of Adult Upriver Spring Chinook.						
	POST Season					
	(115.8 K run size, 1.5% impact limit)					
2017 Non-Treaty Fishery	ESA Impact	Actual	% of Allowed	Catch Balance	Actual	% of Allowed
Mainstem	0.000%	0.000%	--	0	0	--
Select Areas	0.300%	0.400%	133%	347	463	133%
Commercial total (20% of total)	**0.300%**	**0.400%**	**133%**	**347**	**463**	**133%**
Downstream of Bonneville Dam (LCR)	0.900%	0.683%	76%	6,334	7,198	114%
Bonneville Dam to OR/WA border	0.120%	0.004%	3%	845	18	2%
Upper Col/Snake	0.180%	0.313%	174%	582	101	17%
Sport total (80% of total)	**1.200%**	**1.000%**	83%	**7,760**	**7,316**	**94%**
Non-Treaty Total	**1.500%**	**1.400%**	**93%**	**8,107**	**7,779**	**96%**

Post-season, the final non-treaty impact rate was 1.10% for the Snake River ESU and 1.40% for the upper Columbia ESU, compared to the 1.50% allowed. Non-treaty fisheries used 92% of the impacts allowed under the ESA. Since non-treaty fisheries are managed to remain within both the allowable ESA limit and the catch-balance guidelines outlined in the MA, fisheries are halted once either of the two constraints are met. Similar to past years, 2017 recreational fisheries were well within their ESA allocation, and more constrained by catch balancing mortalities of upriver Chinook. For commercial fisheries, since all impacts were allocated to the Select Area fisheries in 2017, ESA-impact and catch-balance limitations were equally constraining. Under the catch balance provisions outlined in the MA, non-treaty fisheries used 96% (7,779) of the 8,107 upriver spring Chinook mortalities available. Impacts to wild Willamette River spring Chinook were 1.4% and 0.1% for lower Columbia commercial and recreational fisheries, respectively.

Impacts to wild steelhead are accrued from incidental release mortalities during non-treaty mainstem fisheries. As has been the case for the past several years, impacts to wild winter steelhead were minimal in 2017, estimated at 0.30%, which was well within the 2.0% ESA impact rate limit (Table 9). Impact rates of Skamania Run unclipped summer steelhead were also very low in 2017 non-treaty fisheries: 0.1% and 0.00% for lower river and upriver Skamania stocks, respectively (Table 10). Winter, spring, and summer season non-treaty fisheries impact A- and B-Index summer steelhead in July from the Columbia River mouth to the Highway 395 Bridge; and in January through June of the subsequent year from The Dalles Dam to the Highway 395 Bridge. Summer steelhead run reconstruction was not complete at the time this report was finalized, therefore stock-specific impact rates are not available for 2017 fisheries. Impact rates for prior years are provided in Tables 11a and 11b.

Non-treaty fisheries upstream to the Highway 395 Bridge near Pasco, Washington harvested 0.34% of the sockeye return, compared to the allowable harvest rate of 1.00%.

Summer Chinook populations from the upper Columbia River are not listed under the ESA; however, harvest impacts are detailed in this section out of convenience since they are managed by the *U.S. v. Oregon* Management Agreement. Fisheries targeting upper Columbia River summer Chinook operated under principles described in the Management Guidelines section of this report. The preseason harvest allocation for non-treaty fisheries was 17,100 adult summer Chinook

(mortalities), which included 4,500 expected in ocean fisheries and 12,600 allocated for in-river harvest. The in-river harvest was allocated 31.0% downstream of PRD, which equated to 3,906 fish (adult mortalities). These fish were further allocated 80/20 sport/commercial based on commission policy. Post-season, the actual Columbia River return of 68,204 adult summer Chinook increased the non-treaty allocation to 19,014 fish, of which 32.7% were allocated downstream of PRD. The non-treaty harvest for Columbia River fisheries is estimated to be 10,224 fish, which is 70% of the allowed harvestable surplus. Allowed ocean harvest is estimated based on past harvest rates and actual catch (for this report) is assumed to be equal to the amount allowed until a final catch estimate is available.

2017 Non-Treaty Summer Chinook Fisheries Summary
(All data preliminary; estimates include kept + release mortalities)

	Pre	**Post**		
Run size at Columbia River mouth:	63,100	68,204		
	Allowed		Actual	Actual/
Fishery	Pre	Post	Take	Allowed
PFMC Ocean Fisheries	4,500	4,500	4,500	
Below Priest Rapids Dam (PRD)	*31.0%*	*32.7%*		
Commercial below BON	781	949	47	5%
Recreational Below Bonneville	2,656	3,227	3,853	119%
Recreational BON to PRD	469	570	262	46%
Below PRD Total	3,906	4,746	4,162	88%
Above Priest Rapids Dam (PRD)	*69.0%*	*67.3%*		
Wanapum Tribal	300	300	158	53%
Colville Tribal	4,347	4,884	1,578	32%
Recreational above PRD	4,047	4,584	4,325	94%
Above PRD Total	8,694	9,768	6,061	62%
Non-Treaty Total	**17,100**	**19,014**	**14,724**	**77%**

Treaty Fisheries

The winter/spring management period extends from January 1 through June 15. The summer management period extends from June 16 through July 31. Abundance based harvest rates for chinook and sockeye are determined by the *U.S. v. Oregon* Management Agreement. The 2008-2017 Management Agreement was in place for 2017 fisheries and a "roll-over" 2018-2027 Management Agreement will be in place for 2018 fisheries. The Chinook and sockeye harvest rate schedules are the same in each agreement.

In the winter/spring management period there are the following fishery sectors:

1. A sturgeon setline fishery that occurs in January.
2. A platform and hook and line fishery in all of the Zone 6 management area that occurs January 1- June 15 for subsistence and possibly commercial purposes.

3. A winter gillnet fishery that is primarily a sturgeon target fishery. This fishery normally occurs in all three pools of Zone 6 at various times between February 1 and March 21 depending on sturgeon harvest guidelines.
4. A ceremonial permit fishery occurs beginning around March 22. This fishery targets a set number of Chinook for ceremonial and subsistence purposes based on specific permits issued by the treaty tribes.

Additionally, the following fisheries occur in some years:

5. A bank fishery using hook and line gear in the area immediately downstream of Bonneville Dam. This fishery could be for subsistence or commercial purposes.
6. A commercial gillnet fishery may be authorized depending on the number of spring Chinook available for harvest.

Treaty harvest of spring Chinook occurs in ceremonial and subsistence (C&S) fisheries, and in years of higher abundance, such as in 2000–2004 and 2008–2016, commercial fisheries have been allowed. Steelhead and a few spring Chinook are sometimes incidentally harvested in the winter season sturgeon gillnet fishery. Sockeye are occasionally harvested in late spring management period fisheries. Summer management period fisheries harvest Chinook, sockeye, and steelhead for both subsistence and commercial purposes.

Sockeye catch accounting is relatively simple. Any sockeye caught in any treaty mainstem fisheries count towards the overall harvest rate limit for sockeye. Chinook catch accounting is also relatively simple. Any adult Chinook caught between January 1 and June 15 in any treaty mainstem fishery counts towards the harvest rate limit for the Spring Management Period. Any adult Chinook caught between June 16 and July 31 in any treaty mainstem fishery counts towards the harvest rate limit in the Summer Management Period.

Steelhead catch accounting is more complex. While fisheries from January 1- July 31 are the focus of this document, steelhead caught in the Bonneville Pool or downstream of Bonneville Dam between November 1 and March 31 are counted as winter steelhead. There is no specific annual harvest rate limit in treaty fisheries for winter steelhead, but there are incidental take expectations for natural origin winter steelhead in both the Biological Opinion for 2008-2017 fisheries and the Biological Opinion that will be in place for 2018-2017 fisheries.

Steelhead harvested in fisheries in the Bonneville Pool or downstream of Bonneville Dam from April 1-June 30 are counted as upriver Skamania Stock steelhead. There are no specific annual treaty harvest rate limits for this group, but there are incidental take expectations in the Biological Opinions.

Upriver A-Index and upriver B-Index steelhead are managed on a length basis with fish less than 78 cm fork length classified as A-Index and fish measuring 78 cm or greater being B-Index. They are also managed based on a run year from July 1-October 31 at Bonneville Dam. Portions of this run have an extended upriver run timing in upriver areas that can continue into the following spring. Steelhead harvested in any mainstem fisheries upstream of The Dalles Dam between January 1 and June 30 are counted with harvest impacts on the July 1-October 31 run from the previous calendar year. There are not specific annual harvest rate limits for A-Index or B-Index harvest in this time period, but there are natural origin harvest rate expectations in the Biological Opinions.

Treaty fisheries, are managed individually by the four Columbia River treaty tribes through either a permit system or a general regulation system. The tribes have defined regulations concerning lawful gear, fishing area, and other miscellaneous regulations concerning the tribal C&S and commercial fisheries. Tribal staff monitor the fisheries and provide in-season accounting of catch and impacts. The tribes implement commercial spring or summer fisheries depending on the Chinook and sockeye run sizes and bring any commercial plan before the Compact to approve purchase of harvested fish by non-treaty buyers. Since 2004, the tribes have had directed commercial gillnet fisheries in the summer season targeting upper Columbia River summer Chinook. The tribes typically also use some portion of their allowed sockeye harvest rate for commercial purposes. The tribes monitor and provide accounting for C&S and any commercial fisheries that occur.

2017 Treaty Winter Season Fisheries

The 2017 winter sturgeon setline fishery was open in Zone 6 from January 1 to January 31. There was no recorded effort or catch. No salmonids are caught on setline gear.

The winter commercial gillnet fishery opened February 1 in The Dalles and John Day pools. The season continued through March 4. The Bonneville Pool was open from March 5 through March 17. No mesh restrictions were in place and sales of platform and hook-and-line caught fish were allowed during open gillnet periods. The Bonneville pool platform and hook and line fishery also allowed commercial sales through March 21 for salmonids. Landings totaled 857 White Sturgeon, 128 winter steelhead, zero A- and B-Index steelhead, 14 walleye, and zero Chinook from the winter gillnet fishery. The winter season steelhead catch has generally been low in recent years, due to most fishers targeting sturgeon (Table 33). Winter catch is shown by pool in the table below, and combined in Table 30.

2017 Treaty Winter Commercial Landings
From Setline, Gillnet, Platform and Hook & Line

Pool	White Sturgeon				Chinook	Steelhead	Walleye
	Guideline	Total	*January Setline*	*Gillnet*			
Bonneville	325	368	*0*	368	0	128	14
The Dalles	325	326	*0*	326	0	0	0
John Day	295	163	*0*	163	0	0	0
Total		**857**	**0**	**857**	**0**	**128**	**14**

2017 Treaty Mainstem Spring and Summer Chinook and Sockeye Fisheries

The tribal intent for 2017 spring and summer season fisheries was to remain within impact rates allowed by the 2008–2017 MA based on the actual river mouth run sizes for Chinook and sockeye.

The four tribes issued permits for gillnet C&S fisheries for spring Chinook from early April through mid- May. The platform and hook-and-line fishery retained spring Chinook and steelhead

for subsistence purposes throughout the spring season. The tribes did not authorize commercial sales of platform-caught fish in the spring management period. Platform fisheries downstream of Bonneville Dam were not opened during the spring in 2017. Tribal staff accompanying non-treaty commercial test fishing operations below Bonneville Dam kept 16 Chinook that were distributed to the tribes for C&S purposes. Catch from the permit gillnet fisheries (C&S gillnet) is estimated at 3,993 spring Chinook. Catch estimates for the Zone 6 platform and hook-and-line fisheries totals 4,100 spring Chinook upstream of Bonneville.

Total harvest of upriver spring Chinook was 8,109 fish out of 8,107 allowed which is a 7.0 % total harvest rate compared to a 7.0% management limit (Table 5). The impact on the ESA-listed wild Snake River spring/summer Chinook and ESA listed upper Columbia spring Chinook was 7.49%. The difference between the total harvest rate and the wild harvest rate results from the differential harvest of marked and unmarked Chinook in mark-selective fisheries between the Columbia River mouth and Bonneville Dam.

During the summer management period, the Zone 6 platform and hook-and-line fishery was open throughout the season. The commercial season consisted of six weekly periods (3.5 days/week) from June 19–July 28. Platform and hook and line fishing also occurred downstream of Bonneville. Summer Chinook landings totaled 16,328 (23.9% of the river mouth return; Table 8). The harvest was less than the 19,014 allowed. The allowed harvest is based on the river mouth run size plus the estimate of non-treaty harvest in PFMC area fisheries.

There were 4,480 sockeye caught in Zone 6 platform/hook-and-line and commercial gillnet fisheries as well as fisheries downstream of Bonneville. The catch was 5.1% of the river mouth return, compared to the allowed harvest rate of 7%. TAC estimated that 23 of the sockeye caught were Snake River sockeye (Table 15).

Steelhead harvest during winter and spring fisheries was low, estimated at 128 winter steelhead in Bonneville Pool winter season commercial fisheries, with 7 winter steelhead harvested in winter season platform/hook-and-line fisheries from November 1–March 31 (Table 30). No summer steelhead were harvested upstream of The Dalles Dam from January 1–March 31 (Table 33). A total of 605 summer steelhead were harvested in spring season fisheries from April 1–June 15 (Table 34). The summer season steelhead harvest was estimated at 671 steelhead, including 38 B-Index steelhead (Table 35). The summer season harvest is a mixture of steelhead passing Bonneville Dam during the Skamania counting period and A/B-Index counting period, which begins July 1.

2017 Treaty Tributary Fisheries

Tributary spring Chinook fisheries were also conducted by the treaty tribes in the Wind, Little White Salmon (Drano Lake), Hood, Klickitat, Deschutes, John Day, Umatilla, and Yakima rivers, as well as in Icicle Creek (Wenatchee River) and various Snake Basin tributaries. Total tributary harvest in tributaries outside of the Snake Basin is estimated at 2,937 adult Chinook and 255 steelhead of which 72 were unclipped. Snake basin chinook harvest was 2,746 adults.

2017 Ceremonial and Subsistence Safety Net

The 2008–2017 MA, as well as the expired CRFMP, identify a minimum C&S annual "safety net" to the Columbia River treaty tribes defined as the opportunity to harvest 10,000 spring and summer Chinook or be provided with hatchery fish of equivalent quality. After spring and summer fisheries are accounted for, the balance of the "safety net" is to be provided to the tribes by the states of Oregon and Washington. The 2017 upriver spring and summer Chinook returns were sufficient to allow the harvest in treaty fisheries to exceed the "safety net" level.

2017 Ceremonial and Subsistence "Safety Net" Summary	
Fishery	**# Adult Chinook**
C&S permit gillnet spring fishery	3,993
Winter commercial gillnet fishery	0
Zone 6 Platform/hook and line winter/spring fishery	4,100
Zone 5 Platform/hook and line/ fishery *(includes fish donated from NI test fishery)*	16
Spring commercial gillnet fishery	0
Spring Chinook Subtotal	**8,109**
Zone 5 Platform/hook and line summer fishery	160
Zone 6 commercial gillnet and Platform/ hook and line/ fishery	16,168
Zone 6 C&S Permit fishery	0
Summer Chinook Subtotal	**16,328**
Total spring and summer adult Chinook	***24,437***

2017 American Shad Fisheries

American Shad were caught in the Zone 6 platform fishery and in the summer season commercial gillnet fisheries. These were either sold to commercial buyers or directly to the public, or retained for subsistence. In 2017, 3,739 American shad were sold to wholesale buyers (7,475 lbs). There are no precise estimates of American shad sold directly to the public or retained for personal use.

2017 Treaty Mainstem ESA Impacts on Upriver Spring Chinook

Stock	Allowed Harvest Rate	Actual Harvest Rate
Total Upriver Harvest	7.0%	7.0%
Natural-Origin Snake River Spring/Summer Chinook	7.8%	7.5%
Natural-Origin Upper Columbia Spring Chinook	7.8%	7.5%

Note: ESA impact rates may be up to 0.8% higher than allowed total harvest rate due to effects of mark-selective fisheries in the lower Columbia River.

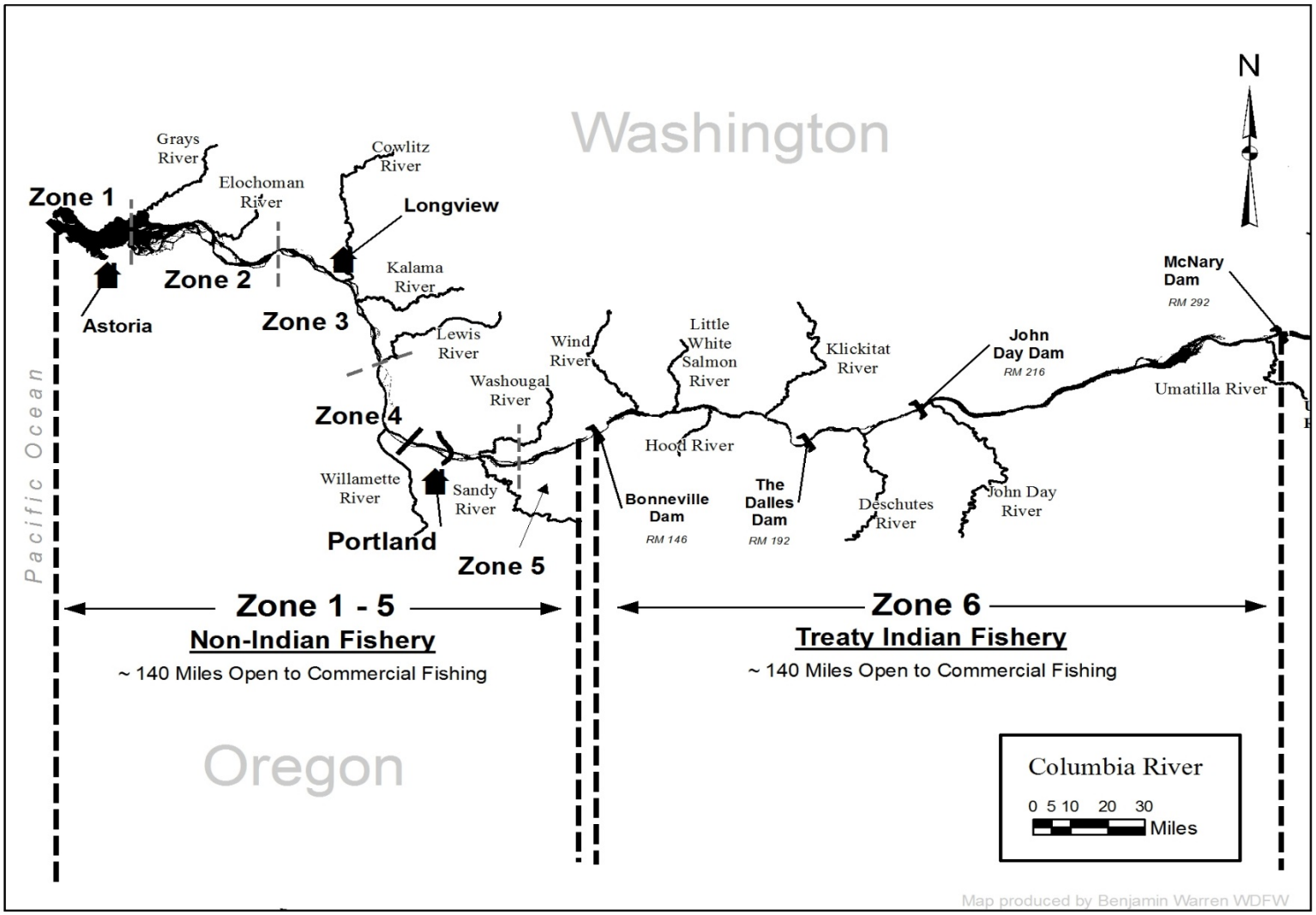

Figure 2. Map of the Columbia River downstream of McNary Dam showing areas open to commercial fishing.

2018 WINTER, SPRING, AND SUMMER SEASON EXPECTATIONS

2018 Management Guidelines

All fisheries conducted in 2018 will be managed in accordance with the 2008–2017 and 2018–2027 MAs, Willamette FMEP, UCMA, and Commission guidance as applicable.

According to the harvest rate schedule in the 2018–2027 MA and the 2018 upriver spring Chinook preseason forecast (166,700 adult fish), winter/spring season fisheries will be managed not to exceed a total ESA impact limit of 11.0% (1.9% for non-treaty fisheries and 9.1% for treaty fisheries) of the upriver spring Chinook run. In addition, non-treaty fisheries will be managed to meet the catch balance provisions in the 2018–2027 MA for upriver spring Chinook. Under these provisions, non-treaty fisheries will be managed to remain within ESA impact limits and catch balance guidelines. Early-season non-treaty fisheries will operate with a 30% run-size buffer in place, which will limit spring Chinook catch prior to a run size update. Fisheries harvesting Willamette spring Chinook will be managed to ensure hatchery escapement targets and wild fish impact limitations outlined in the Willamette River FMEP are achieved. Impacts to wild winter steelhead will be limited to 2% of the wild run size.

Mainstem summer Chinook fisheries will be managed based on a forecasted run size of 67,300 adult upper Columbia summer Chinook to the Columbia River mouth and an expected ocean harvest of 4,800 fish. Approximately 14,000 harvestable fish will be available for non-treaty harvest in the Columbia River, of which 67.6% (~9,500 fish) are allocated to fisheries upstream of Priest Rapids Dam. Treaty fisheries will be allocated approximately 18,800 fish.

Based on the preseason forecast, sockeye harvest will be limited but retention may be allowed in some non-treaty fisheries and will be allowed in treaty fisheries. Impacts of up to 1% will be available for non-treaty fisheries and 7% for treaty Indian fisheries.

Impacts to ESA-listed upriver summer steelhead in Columbia River non-treaty recreational and commercial fisheries from Buoy 10 upstream to the Highway 395 Bridge near Pasco, Washington occur as release mortalities. Take limitations for these fisheries during January through July are 2% for both the wild A-Index and wild B-Index returns.

Recognizing the complexities of managing mixed stock fisheries, the Compact will continue to be cautious and conservative by shaping and adopting seasons that maintain impacts to ESA-listed and depressed runs within applicable guidelines while maximizing opportunities to harvest abundant hatchery fish.

2018 Non-Treaty Fisheries

Mainstem Spring Chinook Commercial Fishery

- Guidance from OFWC and WFWC is non-concurrent. The majority of the commercial spring Chinook allocation is expected to be accrued in Select Area commercial fisheries.

Lower Columbia River Spring Chinook Recreational Fishery
(Joint State consideration at the February 21, 2018 hearing)

- Retention of hatchery spring Chinook is allowed downstream of the I-5 Bridge from January through March under permanent regulations, although temporary regulations are adopted annually and become effective March 1.
- The 2018 season structure is expected to be similar to recent years. Staff met with the Columbia River Recreational Advisory Group (CRRAG) in mid-February to solicit input for developing a 2018 fishing plan.
- Given the pre-season forecast for the Lewis River, a closure area at the Lewis River mouth is not expected to be necessary this year.
- Chinook stock-specific average wild impact rate expectations for 2018 are presented below and are based on recent-year averages :
  - Upriver spring Chinook (January–June 15): 0.69% (2015–17 average)
  - Willamette spring Chinook (January–June 15): 0.38% (2015–17 average)

Bonneville Dam to OR/WA State Line Spring Chinook Recreational Fishery
(Joint State consideration at the February 21, 2018 hearing)

- Chinook retention during January 1 through June 15 is closed under permanent regulations.
- Retention of hatchery spring Chinook is typically allowed beginning March 15 annually.
- The 2018 season structure is expected to be similar to recent years. Staff met with the CRRAG in mid-February to solicit input for developing a fishing plan.
- Chinook stock-specific average wild impact rate expectations for 2018 are presented below and are based on recent-year averages:
  - Upriver spring Chinook (January–June 15): 0.10% (2014–16 average)

Lower Snake River (WA state waters) Spring Chinook Recreational Fishery
(Washington State action in late March 2018)

- Chinook retention during January 1 through June 15 is closed under permanent regulations.
- Retention of hatchery spring Chinook is typically allowed in mid- to late-April annually under temporary regulations.
- The 2018 season structure will be developed with input from affected stakeholders based on the impact allocations.
- Chinook stock-specific average wild impact rate expectations for 2018 are presented below and are based on recent-year averages:
  - Snake River spring Chinook (January–June 15): 0.09% (2015–17 average)

Wanapum Tribal Spring Chinook Fishery
(Washington State action in late April – early May 2018)

- The 2018 season structure is expected to be similar to recent years.
- Chinook stock-specific average wild impact rate expectations for 2018 are presented below and are based on recent-year averages:
  - Upper Columbia River spring Chinook (January–June 15): 0.18% (2015–17 average)

Columbia River Steelhead Recreational Fishery

- From the mouth upstream to the Bonneville Dam, steelhead retention (hatchery fish only) is open November 1 through March 31 under permanent regulations. Catch and effort is minimal through February.
  - Annual temporary regulations extending the lower river spring Chinook retention season generally allow for steelhead retention, continuing the fishery into April. Recreational effort is considerably higher during this timeframe but steelhead catch is incidental to spring Chinook effort.
  - Steelhead retention reopens May 16 downstream of the I-5 Bridge (and June 16 from I-5 to Bonneville) each year under permanent regulations, unless impacts to upriver spring Chinook have previously been exhausted, in which case steelhead retention may remain closed through June 15. If spring Chinook impacts are available, temporary regulations may be adopted that allow for Chinook retention concurrent with steelhead.
- From Bonneville Dam upstream to the Highway 395 Bridge, steelhead retention is prohibited from April 1 through June 15, unless spring Chinook retention is open under temporary rule, in which case, hatchery steelhead retention is also allowed.
- Steelhead stock-specific wild impact rate expectations for 2017-2018 are presented below and are based on recent-year averages:
  - Wild winter steelhead (below Bonneville; November–April): 0.30% (2015–17 average)
  - Wild winter steelhead (Bonneville Pool; November–April): 0.03% (2015–17 average)
  - Skamania summer steelhead (below Bonneville; May–June): 0.30% (2015–17 average)
  - Skamania summer steelhead (Bonneville Pool; April–June): 0.02% (2015–17 average)
  - A-Index steelhead (The Dalles Dam to Highway 395 Bridge; January–June): 0.04% (2014–16 average)
  - B-Index steelhead (The Dalles Dam to Highway 395 Bridge; January–June): 0.04% (2014–16 average)
  - A-Index steelhead (CR mouth to Highway 395 Bridge; July): 0.51% (2014–16 average)
  - B-Index steelhead (CR mouth to Highway 395 Bridge; July): 0.11% (2014–16 average)

Mainstem Summer Chinook Commercial Fishery

- Guidance from OFWC and WFWC does not allow use of gillnets for summer season mainstem commercial fisheries. At time of publication no other gears are readily available to the commercial fleet therefore no fishery is expected to occur. However, discussions with industry will continue and this expectation may change later in the year.

Columbia River Summer Chinook Recreational Fisheries

- Under permanent rules, retention of adult Chinook is not allowed in recreational fisheries during the summer management period. Since 2002, summer Chinook fisheries have been

established under temporary rules annually in the area from the Astoria-Megler Bridge to Priest Rapids Dam; season structure is based on the available allocation and public input.

- Summer Chinook recreational fisheries will likely be mark-selective in most Columbia River fisheries.
- Retention of sockeye may be allowed.
- Season and fishery regulations will be developed during the North of Falcon process in March–April 2018.
- The expected impact rate for sockeye in 2018 is presented below and is based on recent year averages:
  - Sockeye: 0.27% (2015–17 average)

Select Area Commercial Fisheries
(Compact and Oregon State consideration at the January 30, 2018 hearing)

- Winter, spring, and summer seasons were adopted for all Oregon Select Area sites.
- 2018 fisheries targeting spring Chinook during the winter and spring timeframe in Deep River were discontinued since local releases were terminated in 2014 and adult returns ended in 2017.
- Fisheries are structured and managed for stability while minimizing interception of non-target stocks.
- The 2018 season structure is similar to recent years and reflects input from the January 9, 2018 public meeting concerning Select Area spring Chinook fisheries.
- Impacts to ESA-listed salmonids are applied to the commercial share of non-treaty impacts.
- Stock-specific average wild impact rates for combined Select Area commercial fisheries occurring during recent winter, spring, and summer seasons are presented below and represent expectations for 2018 fisheries:
  - Upriver spring Chinook: 0.29% (2015–17 average)
  - Willamette spring Chinook: 1.74% (2015–17 average)
  - Sockeye: 0.01% (2015–17 average)
  - Wild winter steelhead (February–April): 0.03% (2014–16 average)
  - Skamania summer steelhead (May–June): 0.03% (2014–16 average)
  - A-Index and B-Index steelhead (July): 0.01% (2014–16 average)

Mainstem Commercial American Shad Fishery (Area 2S)
(Season as per permanent regulations)

- Open hours of 3 PM–10 PM on all weekdays from May 10 through June 20 (except the observed Memorial Day holiday).
- Stock-specific average wild impact rates for recent Area 2S commercial shad fisheries are presented below and represent expectations for 2018 fisheries:
  - Upriver spring Chinook: 0.00% (2015–17)
  - Sockeye: 0.00% (2015–17)
  - Skamania summer steelhead: 0.00% (2015–17)

2018 Treaty Indian Fisheries

Treaty Winter Commercial Fisheries

- The winter sturgeon setline fishery occurs by permanent regulation from January 1 through January 31.
- The winter gillnet fishery occurs by in Zone 6, typically during various parts of the period from February 1 to March 21. The management of the winter gillnet fishery will be determined in early 2015. The fishery will be managed for pool-specific sturgeon guidelines. The fishery will close early in any pool if sturgeon harvest guidelines are met. The 2018 winter season fisheries are expected to have effort similar to 2017, and to accrue similar low impacts to salmon and steelhead.

Treaty Spring Season Fisheries

- The treaty tribes have not yet determined the structure of the 2018 spring Chinook fisheries.
- Based on the 2018–2027 MA, the tribes will be allowed a 9.1% harvest rate on upriver spring Chinook if the run returns at the pre-season forecast level. The tribes will manage fisheries in-season and make adjustments as necessary based on the agreed harvest rate schedule and the actual river mouth run size.
  Steelhead harvest and stock composition is expected to be comparable to historic levels. Because steelhead harvest is low in spring season fisheries, no active management for steelhead is anticipated to be needed

Treaty Summer Season Fisheries

- The treaty tribes have not yet determined the structure of the 2018 summer Chinook and sockeye fisheries.
- Harvest will be managed in accordance with the 2018–2027 MA and the actual river mouth run size adjusted for expected summer Chinook harvest in PFMC area ocean fisheries.
- The treaty fisheries will manage sockeye fisheries according to the harvest rate schedule in the 2008–2017 MA. The expected harvest rate based on the pre-season forecast is 7%.
- Steelhead harvest is expected be comparable to historic levels. Because steelhead harvest is generally low, no active management of fisheries for steelhead is expected to be needed.

Treaty Shad Fisheries

- Implementation of a shad trap fishery at The Dalles Dam east ladder exit is unlikely and will depend on identifying a market as well as agreements with the USACE.
- Platform shad fisheries are expected, primarily in the Cascade Locks area. These shad are kept for subsistence or sold direct to the public or to commercial buyers.
- The tribes may experiment with new gear types and locations for shad fishing.

Treaty Indian Tributary Fisheries

- Treaty Indian tributary fisheries occur in several tributaries between January 1 and July 31.
- While not directly managed under the terms of the *U.S. v. Oregon* Management Agreement, treaty tributary fisheries outside the Snake Basin are managed under the terms of the Biological Opinion for the *U.S. v. Oregon* Management Agreement.

- Expected tributary fisheries include fisheries in the Wind River, Little White Salmon Drano Lake, Klickitat River, Hood River, Deschutes River, John Day River, Umatilla River, Walla Walla River, Yakima River, and Icicle Creek in the Wenatchee system.
- These fisheries target spring chinook during this time frame but may also harvest small numbers of steelhead. Season structures vary but usually are dependent on Chinook run sizes. Because steelhead harvest is low, there normally is no need for active management specifically for steelhead.

Table 1. Minimum adult spring Chinook run entering the Columbia River, 1990–2017.[1]

Year	Select Areas[2]	Cowlitz River	Kalama River	Lewis River	Sandy River	Willamette River[3]	Upriver Run[4]	Total
1980-84 Ave.	--	*22,737*	*4,165*	*3,834*	*2,057*	*62,935*	*63,521*	*159,248*
1985-89 Ave.	--	*11,176*	*1,552*	*10,312*	*2,005*	*90,803*	*105,481*	*221,329*
1990	--	7,555	1,987	9,299	3,527	127,900	105,715	255,983
1991	--	8,945	2,613	8,334	3,652	105,530	64,479	193,553
1992	245	10,353	2,430	6,025	8,551	72,197	95,691	195,492
1993	629	9,458	2,874	8,195	6,369	62,778	119,963	210,266
1994	128	3,149	1,265	3,068	3,498	48,804	24,095	84,007
1990-94 Ave.	*334*	*7,892*	*2,234*	*6,984*	*5,119*	*83,442*	*81,989*	*187,860*
1995	187	2,102	697	3,726	2,529	40,854	12,792	62,887
1996	705	1,787	627	1,730	3,801	33,358	55,552	97,560
1997	1,597	1,877	505	2,196	4,410	34,540	124,321	169,446
1998	2,034	1,055	407	1,611	3,577	43,497	44,308	96,489
1999	1,346	2,069	977	1,753	3,585	52,584	43,067	105,381
1995-99 Ave.	*1,174*	*1,778*	*643*	*2,203*	*3,580*	*40,967*	*56,008*	*106,353*
2000	5,619	2,199	1,418	2,515	3,641	55,740	186,715	257,847
2001	8,142	1,609	1,796	3,777	5,329	78,502	440,336	539,491
2002	8,661	5,152	2,912	3,514	5,905	120,161	335,214	481,519
2003	6,857	15,954	4,556	5,040	5,472	123,355	242,605	403,839
2004	10,175	16,511	4,286	7,475	12,680	143,240	221,675	416,042
2000-04 Ave.	*7,891*	*8,285*	*2,994*	*4,464*	*6,605*	*104,200*	*285,309*	*419,748*
2005	2,379	9,379	3,367	3,512	7,665	59,471	106,900	192,673
2006	7,002	6,963	5,458	7,301	4,382	59,311	132,583	223,000
2007	6,419	3,975	8,030	7,596	2,841	39,963	86,247	155,071
2008	3,307	2,986	1,623	2,215	5,848	26,615	178,629	221,223
2009	3,115	6,034	404	1,493	2,348	35,432	169,296	218,122
2005-09Ave.	*4,444*	*5,867*	*3,776*	*4,423*	*4,617*	*44,158*	*134,731*	*202,018*
2010	23,138	8,585	977	2,347	7,343	107,675	315,345	465,410
2011	8,941	5,308	776	1,310	4,702	76,549	221,158	318,744
2012	9,139	12,144	889	1,895	4,568	63,037	203,090	294,762
2013	5,408	8,157	1,014	1,570	3,649	44,880	123,136	187,814
2014	2,551	8,310	1,013	1,396	3,054	49,765	242,635	308,724
2010-14 Ave.	*9,835*	*8,501*	*934*	*1,704*	*4,663*	*68,381*	*221,073*	*315,091*
2015	13,628	23,596	3,149	1,006	3,580	84,532	288,994	418,485
2016	9,538	22,478	3,980	473	4,179	47,225	187,816	275,689
2017	16,549	14,026	2,503	2,394	8,124	50,774	115,821	210,191

[1]*Tributary run sizes are to the tributary mouth and include hatchery returns or dam counts, recreational catch estimates, and estimates of natural spawning populations. Willamette return is to the Columbia River mouth.*

[2]*Minimum run size for Select Area spring Chinook is based on harvest of returning Select Area-origin adults in Select Area commercial and recreational fisheries. Estimates of escapement are not available.*

[3]*Includes Clackamas River return.*

[4]*Upriver counts prior to 2005 are adjusted for current spring management period. Counts include Snake River summer Chinook and continue through June 15 at Bonneville Dam. Adjustments may result in data being inconsistent with data found elsewhere in this document.*

Table 2. Forecasted and actual abundance of spring Chinook entering the Columbia River, 1985–2017 and 2018 forecasts.

	Willamette River (All Age Classes)			Cowlitz, Kalama, & Lewis Rivers Combined (Adults)			Upriver (Adults)[2]		
Year	Preseason Forecast	Actual Return	% of Forecast	Preseason Forecast[1]	Actual Return	% of Forecast	Preseason Forecast	Actual Return	% of Forecast
1985	70.0	68.1	97	—	14.4	—	52.6	84.7	161
1986	65.0	73.6	113	—	16.7	—	115.0	120.6	105
1987	78.0	93.6	120	—	37.0	—	79.7	99.8	125
1988	97.0	118.1	122	32.0	24.9	78	53.4	97.0	182
1989	102.0	114.9	113	16.1	22.3	139	92.7	82.6	89
1990	128.0	130.6	102	18.6	18.8	101	120.8	99.1	82
1991	110.0	109.9	100	19.7	19.9	101	61.9	59.2	96
1992	106.0	75.0	71	26.6	18.8	71	71.4	89.8	126
1993	70.0	65.9	94	21.3	20.5	96	76.2	111.0	146
1994	75.0	49.6	66	12.3	7.5	61	49.0	20.8	42
1995	49.0	42.6	87	4.6	6.5	142	12.0	9.8	82
1996	41.0	34.8	85	4.4	4.1	94	37.2	51.5	138
1997	30.0	35.3	118	4.5	4.6	102	67.8	114.0	168
1998	33.7	45.1	134	2.9	3.1	106	36.2	38.3	106
1999	46.5	54.2	117	3.9	4.8	123	24.6	38.7	157
2000	59.9	57.5	96	6.0	6.1	102	134.0	178.6	133
2001	61.0	80.4	132	4.8	7.2	150	364.6	416.5	114
2002	73.8	121.7	165	6.7	11.6	173	333.7	295.1	88
2003	109.8	126.6	115	11.6	25.6	220	145.4	208.9	144
2004	109.4	144.4	132	27.3	28.3	104	360.7	193.4	54
2005	116.9	61.0	52	24.8	16.3	66	254.1	106.9	42
2006	46.5	59.7	128	15.2	19.7	130	88.4	132.6	150
2007	52.0	40.5	78	15.9	19.6	123	78.5	86.2	110
2008	34.1	27.4	80	12.4	6.8	55	269.3	178.6	66
2009	37.6	39.4	105	7.2	7.9	110	298.9	169.3	57
2010	62.7	110.5	176	19.4	11.9	61	470.0	315.3	67
2011	104.1	80.3	77	10.6	7.4	70	198.4	221.2	111
2012	83.4	65.1	78	12.1	14.9	123	314.2	203.1	65
2013	59.8	47.3	79	7.8	10.7	138	141.4	123.1	87
2014	58.7	51.8	88	13.8	10.7	78	227.0	242.6	107
2015	55.4	87.1	157	14.2	27.8	195	232.5	289.0	124
2016	70.1	49.8	71	31.1	26.9	87	188.8	187.8	99
2017	40.2	53.7	133	20.9	18.9	91	160.4	115.8	72
2018	56.0			10.0			166.7		

[1]*Forecast is for return to the tributary mouth.*
[2]*Includes Snake River summer Chinook since 2005 and reflects current spring management period of Jan–Jun 15. Data prior to 2005 have not been adjusted. Adjustments may result in data being inconsistent with data found elsewhere in this document.*

Table 3. Components (in thousands) of the minimum Willamette River spring Chinook run and percentage caught in lower Willamette recreational fishery, 1970–2017. Includes jacks.

Year	Minimum Run Entering Columbia River	Mainstem Columbia River		Run Entering Willamette River	Lower Willamette River Recreational Catch[3]		Willamette Falls Count	Run Entering Clackamas River
		Comm.[1]	Sport[2]		Number[4]	% of Run		
1970–1974 Average	71.6	10.1	2.6	58.9	18.2	31.0	38300.0	2.1
1975–1979 Average	56.6	5.4	1.7	49.5	14.7	30.0	31.1	3.0
1980–1984 Average	64.8	4.4	1.7	57.7	13.7	24.0	35.5	8.7
1985–1989 Average	93.7	9.8	2.2	81.7	19.3	24.0	53.6	7.7
1990–1994 Average	86.2	6.5	3.5	76.2	19.6	26	44.8	10.4
1995–1999 Average	42.4	0.2	0.0	41.9	6.1	15	28.8	6.6
2000	57.5	1.1	0.2	56.1	9.0	16	39.1	7.7
2001	80.4	3.5	3.8	73.0	7.7	11	54.0	10.8
2002	121.7	7.4	5.2	109.1	10.8	10	83.1	14.4
2003	126.6	1.8	7.2	117.6	13.5	11	87.7	15.4
2004	144.4	7.2	5.9	131.3	12.0	9	96.0	21.9
2000–2004 Average	106.1	4.2	4.5	97.4	10.6	11	72.0	14.0
2005	61.0	2.3	2.8	55.8	5.8	10	36.6	12.7
2006	59.7	2.7	2.0	55.0	7.2	13	37.0	10.4
2007	41.0	1.3	1.6	38.1	5.7	15	23.1	8.6
2008	27.4	0.1	0.2	27.1	4.6	17	14.7	7.6
2009	39.4	0.3	1.4	37.7	4.5	12	28.5	4.3
2005–2009 Average	45.7	1.3	1.6	42.7	5.6	13	28.0	8.7
2010	110.5	3.3	5.4	101.8	22.7	22	67.1	11.0
2011	80.3	2.3	2.1	75.9	22.8	30	45.1	6.8
2012	65.1	2.3	3.2	59.6	15.8	27	37.2	5.8
2013	47.3	1.8	1.7	43.8	7.4	17	29.6	6.2
2014	51.8	1.3	2.3	48.2	8.1	17	31.7	5.6
2010–2014 Average	71.0	2.2	2.9	65.9	15.4	23	42.1	7.1
2015	87.1	2.6	3.5	81.0	13.6	17	53.1	8.4
2016	49.8	0.9	1.4	47.4	6.0	13	32.5	5.8
2017	53.7	1.3	1.3	44.2	7.4	17	36.6	4.5

[1]*Includes spring Chinook destined for the Willamette River landed in Select Area commercial fisheries of Youngs Bay (since 1992), Tongue Point (since 1998), and Blind Slough (since 1998). Also, includes estimated release mortalities from Lower Columbia mainstem commercial selective fisheries since 2001.*

[2]*Includes spring Chinook destined for the Willamette River landed in Columbia River boat and/or bank fisheries. Also includes estimated hook and release mortalities in the Lower Columbia mainstem selective recreational fishery since 2001.*

[3]*Lower Willamette recreational fishery managed for quotas in 1996, 1997, 1998, 1999, and 2000. 2009 season was set based on a closure date of April 30 and 3 days per week fishing allowed from March 19–April 30.*

[4]*Includes estimated hook and release mortalities in the Lower Willamette selective recreational fishery since 2000.*

Table 4. Willamette Falls spring Chinook escapement, upper Willamette recreational catch, number returning to hatcheries, and tribal use, 1980–2017. Includes jacks.

		Upper Willamette Recreational Catch		Upper Willamette Hatchery Return				
Year	Willamette Falls Count	Number	% of Will. Falls Count	Number	% of Will. Falls Count	Clackamas Hatchery Return[1]	Received by Columbia River Tribes[2]	
1980	26,973	1,954	7	10,340	38	1,024	–	
1981	30,057	2,241	7	10,246	34	1,065	–	
1982	46,195	3,687	8	15,998	35	573	–	
1983	30,589	1,877	6	11,888	39	1,923	–	
1984	43,452	3,123	7	16,616	38	2,521	–	
1985	34,533	2,510	7	11,614	34	944	–	
1986	39,155	2,708	7	14,653	37	776	–	
1987	54,832	6,442	12	19,514	36	1,005	–	
1988	70,451	8,536	12	29,396	42	1,253	3,700	
1989	69,180	9,375	14	31,574	46	865	2,520	
1990	71,273	10,856	15	36,904	52	1,847	1,425	
1991	52,516	8,323	16	25,044	48	2,776	2,992	
1992	42,004	7,424	18	19,589	47	4,535	2,206	
1993	31,966	8,161	26	18,173	57	4,635	1,386	
1994	26,102	4,273	16	11,321	43	3,675	3,193	[3]
1995	20,592	3,380	16	10,379	50	3,112	1,504	[4]
1996	21,605	5,041	23	11,501	53	3,044	4,386	[5]
1997	26,885	4,022	15	15,928	59	2,670	539	
1998	34,461	6,125	18	18,288	53	4,530	7,590	
1999	40,410	6,367	16	20,636	51	4,562	7,689	
2000	39,073	5,119	13	16,548	41	4,296	0	
2001	53,973	5,538	10	21,247	39	6,155	0	
2002	83,136	12,262	15	31,358	38	6,219	0	
2003	87,749	10,786	12	28,315	32	5,336	0	
2004	95,970	13,026	14	36,947	38	11,231	0	
2005	36,633	4,386	12	15,821	43	6,792	0	
2006	37,041	5,523	15	17,036	46	7,359	0	
2007	23,098	2,130	9	10,248	44	6,106	0	
2008	14,672	279	2	8,392	57	5,223	0	
2009	28,514	3,110	11	14,936	52	2,853	0	
2010	67,059	9,484	14	28,362	42	5,484	0	
2011	45,147	4,857	11	23,334	52	3,908	0	
2012	37,213	4,900	13	21,767	58	2,954	0	
2013	29,561	2,271	8	18,107	61	2,888	0	
2014	31,669	3,467	11	17,889	56	4,136	0	
2015	53,088	5,737	11	26,683	50	5,354	0	
2016	32,478	3,168	10	13,011	40	1,696	0	
2017	36,628	4,124	11	19,285	53	529	0	

[1]*Includes fish transferred from North Fork trap.*
[2]*Given toward the treaty tribes' minimum ceremonial and subsistence entitlement per the Columbia River Fish Management Plan.*
[3]*Columbia treaty tribes at Willamette Falls also harvested 759 Chinook and 396 marked summer steelhead.*
[4]*Columbia treaty tribes at Willamette Falls also harvested 29 Chinook June 12–17 and 112 summer steelhead.*
[5]*Columbia treaty tribes at Willamette Falls also harvested 12 Chinook.*

Table 5. Estimated numbers of adult upriver spring Chinook entering the Columbia River 1980-2017.

		Harvest impact downstream of Bonneville Dam (Zones 1–5)						Harvest impact from Bonneville Dam upstream to McNary Dam (Zone 6)						
		Non-Treaty Harvest[1]						Treaty Harvest[2]					Escapement past Zone 6 fisheries	
Return Year	Upriver Run[3]	Comm.	Sport	Misc.[4]	Treaty	Grand Total	Bonneville Dam Count	Non-Treaty Sport	Winter Gillnet	Comm. Gillnet	C&S & Platform	Zone 6 Total	Total[5]	%Run
80–84	*63,521*	*1,027*	*320*	*105*		*1,452*	*62,069*	*0*	*1,008*	*0*	*2,306*	*3,313*	*58,756*	*93%*
85–89	*105,481*	*2,416*	*805*	*113*		*3,334*	*102,146*	*0*	*208*	*0*	*5,991*	*6,199*	*95,948*	*91%*
90–94	*81,989*	*862*	*1,332*	*95*		*2,289*	*79,700*	*0*	*13*	*0*	*4,991*	*5,004*	*74,696*	*91%*
1995	12,792	1	9	1		11	12,781	0	13	0	620	633	12,148	95%
1996	55,552	34	10	12		56	55,496	0	0	0	2,911	2,911	52,585	95%
1997	124,321	34	16	19		69	124,252	0	14	0	8,309	8,323	115,929	93%
1998	44,308	27	14	0		41	44,267	0	1	0	2,224	2,225	42,042	95%
1999	43,067	28	16	0		44	43,023	0	1	0	1,983	1,984	41,039	95%
2000	186,715	245	124	6		375	186,340	0	31	1,348	9,973	11,352	174,988	94%
2001	440,336	2,054	22,719	484		25,257	415,079	168	160	43,630	10,985	54,943	360,137	82%
2002	335,214	10,070	16,268	81		26,419	308,795	1,716	48	24,209	9,208	35,181	273,614	82%
2003	242,605	3,161	9,611	332		13,104	229,501	1,860	857	8,348	9,090	20,155	209,346	86%
2004	221,675	6,223	17,146	9		23,379	198,296	1,596	2	8,368	9,114	19,080	179,216	81%
2005	106,900	2,267	7,224	22		9,513	97,387	464	1	0	6,163	6,628	90,759	85%
2006	132,583	2,222	4,187	17		6,425	126,158	1,362	0	0	8,401	9,763	116,395	88%
2007	86,247	1,483	3,927	7		5,418	80,829	1,445	3	0	5,624	7,072	73,757	86%
2008	178,629	6,134	19,612	158	830	26,734	151,895	2,068	0	12,314	8,247	22,629	129,267	72%
2009	169,296	4,310	15,246	233	2,018	21,807	147,489	644	0	0	11,083	11,727	135,762	80%
2010	315,345	8,933	23,535	349	5,139	37,956	277,389	3,692	0	25,008	12,807	41,507	235,882	75%
2011	221,158	3,706	9,506	224	2,291	15,727	205,431	2,564	7	0	13,235	15,806	189,626	86%
2012	203,090	4,596	10,422	225	1,399	16,642	186,448	1,282	2	818	15,482	17,584	168,865	83%
2013	123,136	1,756	5,343	96	3,007	10,202	112,934	1,093	0	0	6,275	7,368	105,566	86%
2014	242,635	3,623	13,572	475	19	17,689	224,946	4,208	0	13,807	10,877	28,892	196,054	81%
2015	288,994	6,528	15,689	290	929	23,436	265,558	1,647	7	20,320	9,925	31,899	233,660	81%
2016	187,816	3,285	10,167	223	1,527	15,202	172,614	1,480	0	1,993	13,546	17,019	155,596	83%
2017	115,821	463	7,198	620	16	8,297	107,524	18	0	0	8,093	8,111	99,413	86%

[1]*Includes kept plus release mortalities.*

[2]*Ceremonial and subsistence includes catch by gillnet, dipnet, and hook-and-line since 1982.*

[3]*Run sizes adjusted to reflect the counting period from January 1–June 15. Run includes upriver spring Chinook and Snake River summer Chinook.*

[4]*Includes mortalities from mainstem test fishing and research activities occurring downstream of Bonneville Dam.*

[5]*Bonneville count minus Zone 6 harvest.*

Table 6. Estimated numbers of adult upper Columbia wild spring Chinook entering the Columbia River 1980-2017.

	Return to Columbia River		Non-Treaty Wild Harvest[1]		Treaty Wild Harvest[2]		Total Wild Harvest		Wild Passage Loss[3]		Wild Escapement[4]	
Year	Total	Wild	No.	% of Run	No.	% of Run	No.	% of Run	No.	% of Run	No.	% of Run
1980	16,946	7,128	12	0.2	229	3.2	241	3.4	4,114	57.7	2,772	38.9
1981	14,140	6,044	82	1.4	305	5.0	387	6.4	2,405	39.8	3,253	53.8
1982	15,850	6,314	110	1.7	434	6.9	543	8.6	2,756	43.6	3,015	47.7
1983	16,160	7,292	350	4.8	293	4.0	643	8.8	2,362	32.4	4,286	58.8
1984	16,776	6,706	230	3.4	445	6.6	676	10.1	1,422	21.2	4,608	68.7
1985	28,948	10,290	371	3.6	350	3.4	721	7.0	628	6.1	8,941	86.9
1986	29,404	7,903	161	2.0	458	5.8	619	7.8	1,764	22.3	5,519	69.8
1987	25,485	8,777	135	1.5	530	6.0	665	7.6	1,760	20.1	6,352	72.4
1988	21,043	7,503	479	6.4	496	6.6	975	13.0	870	11.6	5,658	75.4
1989	18,681	7,455	176	2.4	557	7.5	733	9.8	2,591	34.8	4,130	55.4
1990	12,013	4,437	223	5.0	291	6.6	513	11.6	1,115	25.1	2,808	63.3
1991	8,665	2,437	96	3.9	146	6.0	242	9.9	662	27.2	1,533	62.9
1992	20,723	4,261	69	1.6	256	6.0	325	7.6	773	18.1	3,163	74.2
1993	25,997	4,050	33	0.8	246	6.1	280	6.9	669	16.5	3,102	76.6
1994	3,421	1,044	41	3.9	50	4.8	91	8.7	342	32.7	611	58.5
1995	1,640	223	0	0.1	11	4.9	11	4.9	104	46.7	108	48.3
1996	3,427	575	1	0.1	30	5.2	31	5.4	228	39.6	317	55.1
1997	9,673	1,222	1	0.1	82	6.7	83	6.8	393	32.2	746	61.1
1998	4,514	550	1	0.1	28	5.0	28	5.1	155	28.1	367	66.7
1999	4,890	420	0	0.1	19	4.6	20	4.8	116	27.6	284	67.7
2000	22,500	1,370	3	0.2	83	6.1	86	6.3	380	27.7	904	66.0
2001	51,935	6,287	89	1.4	821	13.1	910	14.5	578	9.2	4,807	76.5
2002	37,028	3,015	58	1.9	321	10.7	380	12.6	685	22.7	1,957	64.9
2003	23,845	2,233	35	1.6	175	7.9	211	9.4	443	19.8	1,581	70.8
2004	15,652	2,353	50	2.1	203	8.6	254	10.8	460	19.6	1,641	69.8
2005	16,631	2,905	48	1.6	181	6.2	229	7.9	596	20.5	2,080	71.6
2006	15,132	1,463	22	1.5	96	6.6	118	8.1	413	28.2	933	63.7
2007	6,489	463	7	1.4	32	6.9	38	8.2	27	5.9	398	85.9
2008	15,410	833	18	2.2	114	13.7	132	15.9	26	3.2	675	81.1
2009	12,632	1,099	20	1.8	94	8.6	114	10.4			1,100	100.0
2010	37,286	3,110	62	2.0	461	14.8	523	16.8	116	3.7	2,476	79.6
2011	16,036	2,655	37	1.4	195	7.3	232	8.7	257	9.7	2,167	81.6
2012	25,663	5,686	71	1.2	527	9.3	598	10.5	850	14.9	4,238	74.5
2013	18,406	3,472	47	1.4	271	7.8	319	9.2	637	18.3	2,517	72.5
2014	33,046	6,276	105	1.7	679	10.8	784	12.5	1,083	17.3	4,415	70.3
2015	37,713	7,235	141	1.9	830	11.5	970	13.4	184	2.5	6,090	84.2
2016	25,300	5,563	93	1.7	534	9.6	627	11.3	842	15.1	4,100	73.7
2017	11,166	2,514	34	1.4	188	7.5	222	8.8	479	19.0	1,819	72.4

[1]*Includes incidental release mortalities in mainstem recreational and commercial fisheries. Includes Wanapum tribal harvest.*
[2]*Since 1982 C&S catch includes gill net, dip net and hook and line. Includes harvest downstream of Bonneville Dam from C&S fishery.*
[3]*Bonneville Dam through McNary Dam: calculated by Zone 6 escapement minus Rock Island Dam passage.*
[4]*Estimated Rock Island Dam passage.*

Table 7. Estimated numbers of adult Snake River wild spring/summer Chinook entering the Columbia River 1980-2017.

	Return to Columbia River		Non-Treaty Wild Catch[1]		Treaty Wild Catch[2]		Total Wild Catch		Wild Passage Loss[3]		Wild Escapement[4]	
Year	Total	Wild	No.	% of Run	No.	% of Run	No.	% of Run	No.	% of Run	No.	% of Run
1980	27,323	20,968	35	0.2	674	3.2	709	3.4	13,604	64.9	6,646	31.7
1981	35,147	24,753	336	1.4	1,248	5.0	1,583	6.4	11,004	44.5	12,153	49.1
1982	39,908	27,601	479	1.7	1,897	6.9	2,376	8.6	13,400	48.5	11,819	42.8
1983	28,099	20,936	1,004	4.8	842	4.0	1,846	8.8	8,664	41.4	10,424	49.8
1984	20,971	14,119	485	3.4	937	6.6	1,422	10.1	4,427	31.4	8,266	58.5
1985	40,694	14,865	536	3.6	505	3.4	1,041	7.0	2,547	17.1	11,273	75.8
1986	64,510	20,085	409	2.0	1,164	5.8	1,574	7.8	6,517	32.4	11,989	59.7
1987	52,284	15,870	244	1.5	958	6.0	1,203	7.6	3,948	24.9	10,716	67.5
1988	54,076	17,368	1,108	6.4	1,148	6.6	2,256	13.0	3,536	20.4	11,573	66.6
1989	35,477	14,707	348	2.4	1,099	7.5	1,447	9.8	6,424	43.7	6,833	46.5
1990	41,304	17,581	882	5.0	1,152	6.6	2,034	11.6	5,689	32.4	9,850	56.0
1991	23,665	13,106	516	3.9	788	6.0	1,303	9.9	5,785	44.1	6,013	45.9
1992	39,679	20,637	334	1.6	1,242	6.0	1,575	7.6	5,998	29.1	13,056	63.3
1993	41,148	17,900	147	0.8	1,089	6.1	1,236	6.9	3,832	21.4	12,827	71.7
1994	7,711	3,721	146	3.9	179	4.8	325	8.7	1,443	38.8	1,954	52.5
1995	5,244	3,384	3	0.1	167	4.9	170	5.0	2,027	59.9	1,186	35.0
1996	16,799	9,037	9	0.1	474	5.2	483	5.3	4,771	52.8	3,783	41.9
1997	82,853	9,172	5	0.1	614	6.7	619	6.8	3,586	39.1	4,968	54.2
1998	26,828	13,781	13	0.1	692	5.0	705	5.1	5,712	41.4	7,365	53.4
1999	13,666	5,793	6	0.1	267	4.6	273	4.7	2,664	46.0	2,856	49.3
2000	64,349	13,956	27	0.2	849	6.1	876	6.3	4,825	34.6	8,255	59.1
2001	261,695	63,500	874	1.4	8,295	13.1	9,169	14.4	9,209	14.5	45,273	71.3
2002	172,315	52,611	957	1.8	5,607	10.7	6,564	12.5	15,593	29.6	30,213	57.4
2003	139,901	51,452	821	1.6	4,039	7.9	4,861	9.4	13,857	26.9	32,324	62.8
2004	128,377	33,750	732	2.2	2,918	8.6	3,650	10.8	8,510	25.2	21,367	63.3
2005	51,501	15,695	267	1.7	978	6.2	1,245	7.9	4,256	27.1	10,131	64.6
2006	53,305	16,846	259	1.5	1,107	6.6	1,366	8.1	5,843	34.7	9,485	56.3
2007	45,440	10,473	146	1.4	721	6.9	867	8.3	2,351	22.4	7,093	67.7
2008	100,971	24,037	523	2.2	3,283	13.7	3,806	15.8	2,349	9.8	17,574	73.1
2009	90,275	20,489	339	1.7	1,756	8.6	2,095	10.2	3,353	16.4	14,947	72.9
2010	166,348	34,890	659	1.9	5,168	14.8	5,826	16.7	2,000	5.7	26,622	76.3
2011	123,769	30,707	452	1.5	2,257	7.3	2,708	8.8	3,114	10.1	24,526	79.9
2012	115,649	35,751	490	1.4	3,317	9.3	3,806	10.6	6,062	17.0	25,634	71.7
2013	68,888	22,464	314	1.4	1,756	7.8	2,069	9.2	5,622	25.0	14,576	64.9
2014	137,618	45,926	784	1.7	4,966	10.8	5,750	12.5	7,250	15.8	32,065	69.8
2015	163,856	30,150	583	1.9	3,458	11.5	4,041	13.4	3,354	11.1	22,577	74.9
2016	110,507	23,606	402	1.7	2,267	9.6	2,669	11.3	4,576	19.4	16,161	68.5
2017	51,948	6,261	70	1.1	469	7.5	539	8.6	1,295	20.7	4,425	70.7

[1]*Includes incidental mortalities in mainstem recreational and commercial fisheries and lower Snake River (WA waters) recreational fisheries.*

[2]*Since 1982 C&S catch includes gill net, dip net and hook-and-line. Includes harvest downstream of Bonneville Dam from C&S fishery.*

[3]*Bonneville Dam to Lower Granite Dam: calculated by Zone 6 escapement-(Snake River recreational+Tucannon River escapement+Lower Granite Dam escapement).*

[4]*Lower Granite Dam passage plus Tucannon River escapement.*

Table 8. Estimated numbers of adult upper Columbia summer Chinook entering the Columbia River, 1980-2017.

Year	Upriver Run[1]	Zones 1–5: Harvest downstream of Bonneville Dam (BON) Non-Treaty (NT) Sport	Comm.	Misc[2]	Treaty	BON Dam Count	Zone 6 Harvest BON–McNary (MCN) NT Sport	Treaty Catch[3]	Zone 6 Escapement[4]	MCN to Priest Rapids Dam (PRD) Sport	Wanapum Tribal (< PRD)	PRD to Grand Coulee Dam Sport	Colville Tribal (>PRD)
80–84	*17,505*	*0*	*0*	*51*	*0*	*17,453*	*0*	*919*	*16,535*	*0*	*0*	*0*	*0*
85–89	*20,982*	*9*	*0*	*75*	*0*	*20,900*	*0*	*1,170*	*19,730*	*0*	*0*	*0*	*0*
90–94	*14,252*	*13*	*0*	*33*	*0*	*14,206*	*0*	*165*	*14,041*	*0*	*0*	*0*	*0*
1995	12,455	14	0	0	0	12,441	0	417	12,024	0	0	0	0
1996	12,080	34	0	15	0	12,031	0	374	11,657	0	0	0	0
1997	17,709	16	0	6	0	17,687	0	270	17,417	0	0	0	0
1998	15,536	27	0	1	0	15,508	0	335	15,173	0	0	0	0
1999	21,867	51	0	1	0	21,815	0	395	21,420	0	0	0	0
2000	22,595	17	0	0	0	22,578	0	209	22,369	0	39	1,092	442
2001	52,960	64	0	1	0	52,895	0	692	52,203	0	82	4,380	2,346
2002	89,524	1,447	0	8	0	88,069	113	2,093	85,863	36	197	4,535	2,720
2003	83,058	1,945	0	36	0	81,077	415	4,297	76,365	40	223	5,187	2,178
2004	65,623	1,246	219	3	0	64,155	260	8,394	55,501	36	157	5,849	1,874
2005	60,272	1,621	2,787	0	0	55,864	423	7,642	47,799	2	338	2,192	894
2006	77,573	4,926	4,819	9	0	67,819	276	16,319	51,224	19	216	3,864	1,340
2007	37,035	2,214	1,122	0	0	33,699	136	5,375	28,188	12	294	3,900	1,070
2008	55,532	2,140	1,370	59	0	51,963	942	9,029	41,992	55	188	2,597	1,861
2009	53,881	2,341	2,524	22	0	48,994	175	11,650	37,169	90	185	2,458	1,190
2010	72,346	2,738	4,720	20	230	64,638	435	15,569	48,634	451	48	2,481	3,524
2011	80,574	5,576	5,004	0	0	69,994	303	20,645	49,046	86	55	5,546	1,208
2012	58,300	3,281	1,692	23	0	53,304	231	7,824	45,249	65	23	3,980	3,400
2013	67,603	2,058	1,954	33	50	63,508	176	13,347	49,985	148	240	2,899	3,452
2014	78,254	2,385	2,743	45	210	72,871	308	19,179	53,384	146	150	2,875	3,574
2015	126,882	6,152	3,938	105	30	116,657	609	37,733	78,315	177	284	4,823	10,410
2016	91,048	3,706	2,990	60	100	84,192	361	20,415	63,416	205	218	4,214	3,541
2017	68,204	3,853	0	47	160	87,571	136	16,168	71,267	126	158	4,325	1,578

[1]*Includes only upper Columbia summer Chinook and reflects current summer management period of Jun 16–Jul 31. All data has been adjusted. Adjustments may result in data being inconsistent with data found elsewhere in this document. Non–treaty catch includes incidental release mortalities.*

[2]*Includes incidental non-retention mortality in commercial test, research, American Shad, and sockeye fisheries, and harvest in Select Area fisheries.*

[3]*Includes commercial and C&S catches.*

[4]*Bonneville counts minus Zone 6 harvest.*

Table 9. Winter steelhead harvest and incidental release mortalities in mainstem Columbia River non-treaty fisheries, run years 2001/02–2016/17.[1]

		Commercial	Recreational Downstream of Bonneville Dam[2]		Recreational in Bonneville Pool[3]		Total		Natural-Origin Winter Steelhead Impact Rate	
Run Year	Natural-Origin Columbia River Return	Unclipped Release Mortalities[4]	Clipped Hatchery Kept	Unclipped Release Mortalities	Clipped Hatchery Kept	Unclipped Release Mortalities	Clipped Hatchery Kept	Unclipped Release Mortalities	Actual[5]	Allowed
2000–01	21,825	100	1,772	56	82	3	1,854	158	0.7%	2.0%
2001–02	33,711	3,095	2,073	82	278	3	2,351	3,180	9.4%	2.0%
2002–03	23,452	217	1,312	64	186	2	1,498	283	1.2%	2.0%
2003–04	29,566	238	1,620	70	72	1	1,692	309	1.0%	2.0%
2004–05	14,660	65	548	32	66	1	614	98	0.7%	2.0%
2005–06	16,709	15	639	37	51	1	690	53	0.3%	2.0%
2006–07	15,072	75	817	36	26	1	843	112	0.7%	2.0%
2007–08	13,943	9	562	20	119	7	681	36	0.3%	2.0%
2008–09	11,575	4	664	22	55	3	719	28	0.2%	2.0%
2009–10	20,035	89	1,274	44	121	5	1,395	139	0.7%	2.0%
2010–11	16,752	23	1,236	81	153	10	1,389	114	0.7%	2.0%
2011–12	17,332	70	1,771	59	39	2	1,810	131	0.8%	2.0%
2012–13	15,655	27	432	22	60	3	492	52	0.3%	2.0%
2013–14	14,928	58	460	39	51	3	511	100	0.7%	2.0%
2014–15	20,117	52	704	77	97	9	801	138	0.7%	2.0%
2015–16	22,379	48	771	56	58	4	829	108	0.5%	2.0%
2016–17	9,448	0	307	26	44	2	351	28	0.3%	2.0%

[1]*2015-16 and 2016-17 data are preliminary; all data are subject to change.*
[2]*Estimates for fisheries occurring from November–April. Kept catch based on catch record card data or creel when available.*
[3]*Winter steelhead upper range extends into Bonneville Pool. Estimates for fisheries occurring from November–April. Kept catch based on catch record card data. .*
[4]*Incidental release mortality estimates based on observation data.*
[5]*Harvest rate based on Columbia River natural-origin winter steelhead return.*

Table 10. Skamania Run summer steelhead harvest in mainstem Columbia River non-treaty fisheries, 1999-2017.[1]

	Downstream of Bonneville Dam (May–June)						**Bonneville Pool (April–June)**		**Impact Rates**			
	Commercial		Recreational		Total Mortalities		Recreational[2]		Clipped Hatchery		Unclipped	
Year	Clipped Release Mortalities	Unclipped Release Mortalities	Clipped Hatchery Kept	Unclipped Release Mortalities	Clipped	Unclipped	Clipped Hatchery Kept	Unclipped Release Mortalities	Lower River Skamania	Upriver Skamania	Lower River Skamania[3]	Upriver Skamania
1999	0	0	1,282	20	1,282	20	3	0	4.9%	0.1%	0.5%	0.01%
2000	0	0	1,619	38	1,619	38	47	2	4.4%	0.4%	0.4%	0.04%
2001	0	0	1,966	61	1,966	61	50	2	2.8%	0.2%	0.3%	0.02%
2002	0	0	4,404	61	4,404	61	42	3	3.8%	0.3%	0.4%	0.03%
2003	0	0	2,691	59	2,691	59	17	0	3.5%	0.1%	0.4%	0.01%
2004	4	1	2,954	51	2,958	52	27	1	2.6%	0.2%	0.3%	0.02%
2005	40	10	2,055	45	2,095	55	24	1	3.7%	0.3%	0.4%	0.03%
2006	57	4	3,021	24	3,078	28	17	0	3.9%	0.2%	0.4%	0.02%
2007	20	3	2,695	34	2,715	37	32	1	6.5%	0.4%	0.6%	0.04%
2008	25	6	2,035	53	2,060	59	52	2	3.2%	0.5%	0.3%	0.05%
2009	54	18	1,381	47	1,435	65	45	2	2.5%	0.4%	0.2%	0.04%
2010	112	32	4,220	108	4,332	140	45	2	5.2%	0.2%	0.5%	0.02%
2011	135	43	4,371	100	4,506	143	13	1	7.3%	0.2%	0.7%	0.02%
2012	45	7	4,049	99	4,094	106	29	1	5.9%	0.4%	0.6%	0.04%
2013	53	19	2,391	47	2,444	65	22	1	6.6%	0.5%	0.7%	0.05%
2014	34	31	3,816	109	3,850	140	32	2	4.8%	0.4%	0.5%	0.04%
2015	72	97	1,728	64	1,800	161	10	1	3.8%	0.2%	0.4%	0.02%
2016	65	43	3,332	65	3,397	108	25	2	4.0%	0.3%	0.4%	0.03%
2017	0	0	401	9	401	9	1	0	1.3%	0.0%	0.1%	0.00%

[1]*Steelhead handled downstream of Bonneville Dam during May and June are considered lower river Skamania stock. Steelhead handled in Bonneville Pool during April through June are considered upriver Skamania stock.*
[2]*Kept data based on catch record cards. Estimates of unclipped fish based on clip rate at observed at Bonneville Dam.*
[3]*Abundance estimates for unclipped lower river Skamania stock summer steelhead are not available. To estimate the impact rate on unclipped fish, it is assumed the harvest rate of clipped hatchery-origin fish equals the handle rate of unclipped fish and a release mortality rate of 10% is applied.*

Table 11a. A-Index summer summer steelhead harvest in mainstem Columbia River non-treaty fisheries during winter, spring, and summer seasons, 1999-2017.[1]

	Below Bonneville Dam (July)					Bonneville Dam – Hwy 395 (July)			The Dalles Dam – Hwy 395 (January – June of year+1)						
	Commercial		Recreational			Recreational[2]			Recreational[3]			Mortalities		Harvest/Impact Rates	
	Hatchery-Origin Release Mortalities (clipped and	Natural-Origin Release	Hatchery-Origin		Natural-Origin	Hatchery-Origin		Natural-Origin	Hatchery-Origin		Natural-Origin	Hatchery-	Natural-	Hatchery-	Natural-
Year	unclipped)	Mortalities	Kept	Rel. Mort.	Rel. Mort.	Kept	Rel. Mort.	Rel. Mort.	Kept	Rel. Mort.	Rel. Mort.	Origin	Origin	Origin	Origin
1999	0	0	1,729	--	129	244	--	17	610	--	29	2,584	175	2.2%	0.3%
2000	0	0	3,112	--	242	873	--	62	700	--	29	4,685	334	3.1%	0.5%
2001	0	0	4,339	--	416	2,200	--	128	2,592	--	94	9,130	638	2.4%	0.5%
2002	0	0	3,785	--	230	608	--	41	1,862	--	69	6,255	339	2.7%	0.4%
2003	0	0	2,695	--	169	806	--	63	1,524	--	43	5,025	274	2.1%	0.4%
2004	2	1	3,267	--	183	741	--	65	714	--	23	4,725	272	2.5%	0.4%
2005	22	12	2,700	--	167	762	--	49	1,053	--	32	4,537	260	2.4%	0.4%
2006	55	26	2,749	--	137	581	--	42	1,275	--	45	4,660	249	2.6%	0.4%
2007	7	3	3,190	--	190	1,015	--	64	1,228	--	52	5,440	310	3.0%	0.4%
2008	11	6	4,370	52	331	1,239	12	75	522	4	21	6,209	434	3.5%	0.6%
2009	0	0	8,186	85	675	1,267	11	87	1,593	10	53	11,152	815	2.7%	0.6%
2010	0	0	7,974	68	623	1,703	16	145	753	6	45	10,521	813	5.5%	0.8%
2011	0	0	8,549	104	621	628	9	54	986	11	45	10,288	719	4.5%	0.8%
2012	0	0	10,295	145	851	451	5	32	783	10	36	11,688	918	8.6%	1.7%
2013	3	4	4,202	70	499	311	6	40	318	3	21	4,912	564	3.7%	0.7%
2014	21	19	5,221	64	511	708	9	74	607	5	39	6,635	643	4.0%	0.7%
2015	27	29	3,575	12	248	437	2	49	709	4	36	4,766	363	3.0%	0.5%
2016	20	10	2,979	19	136	410	3	22	370	3	12	3,803	179	3.8%	0.6%
2017 [4]	0	0	--	--	--	--	--	--				--	--	--	--

[1]*Steelhead handled in fisheries during the month of July are considered A-Index or B-Index upriver summer steelhead from the current run year. Steelhead handled in fisheries between The Dalles Dam and the Highway 395 Bridge during the months of January through June are considered A-Index or B-Index upriver summer steelhead from the prior run year. Stock composition and clip rates of handled steelhead are based on sampling data collected at Bonneville Dam if not available from fisheries sampling programs. All natural-origin steelhead are expressed as handle/release mortalities. Estimates of release mortality for unclipped hatchery-origin steelhead are not available prior to 2008. 2016 and 2017 data are preliminary and all data are subject to change.*

[2]*Includes mortalities in "dip-in" areas. Kept data based on catch record cards.*

[3]*Kept data based on catch record cards.*

[4]*At time of publication, the 2017 upriver summer steelhead run reconstruction was not available therefore the stock composition of July catches cannot be made. No commercial fisheries occurred in July, 2017 so catches are known to be zero.*

Table 11b. B-Index summer steelhead harvest in mainstem Columbia River non-treaty fisheries during winter, spring, and summer seasons, 1999-2017.[1]

	Below Bonneville Dam (July)					Bonneville Dam – Hwy 395 (July)			The Dalles Dam – Hwy 395 (January – June of year+1)						
	Commercial		Recreational			Recreational[2]			Recreational[3]			Mortalities		Harvest/Impact Rates	
Year	Hatchery-Origin Release Mortalities (clipped and unclipped)	Natural-Origin Release Mortalities	Hatchery-Origin Kept	Hatchery-Origin Rel. Mort.	Natural-Origin Rel. Mort.	Hatchery-Origin Kept	Hatchery-Origin Rel. Mort.	Natural-Origin Rel. Mort.	Hatchery-Origin Kept	Hatchery-Origin Rel. Mort.	Natural-Origin Rel. Mort.	Hatchery-Origin	Natural-Origin	Hatchery-Origin	Natural-Origin
1999	0	0	33	--	3	5	--	0	94	--	2	131	5	0.7%	0.1%
2000	0	0	53	--	4	15	--	0	149	--	4	217	8	0.7%	0.1%
2001	0	0	73	--	9	37	--	0	510	--	8	621	17	0.8%	0.1%
2002	0	0	150	--	15	24	--	0	770	--	26	944	41	1.0%	0.1%
2003	0	0	0	--	2	0	--	0	197	--	4	197	6	0.6%	0.1%
2004	0	0	41	--	0	9	--	0	106	--	3	155	3	0.6%	0.0%
2005	0	0	0	--	0	0	--	0	215	--	5	215	5	0.5%	0.1%
2006	1	1	58	--	6	12	--	0	462	--	6	534	13	0.8%	0.2%
2007	0	0	19	--	6	6	--	0	284	--	6	309	12	0.7%	0.1%
2008	0	0	107	0	2	30	0	0	244	2	5	383	7	0.5%	0.0%
2009	0	0	35	0	12	5	0	2	124	1	5	165	18	0.5%	0.2%
2010	0	0	96	0	17	21	0	4	254	1	8	372	30	0.6%	0.2%
2011	0	0	0	0	10	0	0	1	117	1	2	118	13	0.4%	0.3%
2012	0	0	10	5	14	0	0	1	119	3	3	138	18	0.6%	0.4%
2013	0	0	17	0	2	1	0	0	22	1	0	40	2	0.4%	0.2%
2014	0	0	33	0	4	5	0	1	123	3	2	164	7	0.4%	0.1%
2015	0	0	0	0	2	0	0	0	44	1	2	46	5	0.4%	0.1%
2016	0	0	0	1	4	0	0	1	136	2	1	139	7	0.4%	0.2%
2017 [4]	0	0	--	--	--	--	--	--				--	--	--	--

[1]*Steelhead handled in fisheries during the month of July are considered A-Index or B-Index upriver summer steelhead from the current run year. Steelhead handled in fisheries between The Dalles Dam and the Highway 395 Bridge during the months of January through June are considered A-Index or B-Index upriver summer steelhead from the prior run year. Stock composition and clip rates of handled steelhead are based on sampling data collected at Bonneville Dam if not available from fisheries sampling programs. All natural-origin steelhead are expressed as handle/release mortalities. Estimates of release mortality for unclipped hatchery-origin steelhead are not available prior to 2008. 2016 and 2017 data are preliminary and all data are subject to change.*

[2]*Includes mortalities in "dip-in" areas. Kept data based on catch record cards.*

[3]*Kept data based on catch record cards.*

[4]*At time of publication, the 2017 upriver summer steelhead run reconstruction was not available therefore the stock composition of July catches cannot be made. No commercial fisheries occurred in July, 2017 so catches are known to be zero.*

Table 12. Upriver summer steelhead passage at Bonneville Dam (April–October), 1984–2017.

Year	Skamania Index		A-Index		B-Index		Total Passage		
	Wild	Total	Wild	Total	Wild	Total	Wild	Hatchery	Total
1984	2,490	20,780	52,447	195,751	13,768	98,011	68,705	245,837	314,542
1985	3,690	19,990	51,922	281,504	12,986	40,870	68,598	273,766	342,364
1986	5,520	24,830	56,570	287,508	9,984	64,016	72,074	304,280	376,354
1987	7,380	17,790	106,690	238,283	13,990	44,959	128,060	172,972	301,032
1988	4,180	22,360	64,331	173,151	17,742	81,643	86,253	190,901	277,154
1989	3,770	15,730	57,513	193,079	12,367	77,604	73,650	212,763	286,413
1990	3,690	18,710	27,102	115,628	8,811	47,174	39,603	141,909	181,512
1991	1,220	10,880	60,264	234,048	6,207	28,265	67,691	205,502	273,193
1992	2,940	14,910	44,294	241,524	12,715	57,438	59,949	253,923	313,872
1993	1,250	14,360	28,650	136,701	4,378	36,169	34,278	152,952	187,230
1994	1,380	12,330	21,212	120,971	5,152	27,463	27,744	133,020	160,764
1995	1,150	8,220	25,997	180,037	1,847	13,221	28,994	172,484	201,478
1996	1,310	10,830	25,721	174,464	3,912	18,693	30,943	173,044	203,987
1997	930	11,890	30,852	208,209	3,913	36,663	35,695	221,067	256,762
1998	1,610	9,440	34,836	134,687	3,415	40,241	39,861	144,507	184,368
1999	1,310	7,160	56,626	176,466	3,740	22,137	61,676	144,087	205,763
2000	5,728	16,619	63,628	216,723	8,368	40,909	77,724	196,527	274,251
2001	7,952	28,725	137,230	515,079	12,047	86,426	157,229	473,001	630,230
2002	9,671	24,991	87,276	323,124	32,333	129,882	129,280	348,717	477,997
2003	1,801	14,154	67,049	305,795	6,417	37,228	75,267	281,910	357,177
2004	3,289	20,148	60,421	250,615	9,202	37,398	72,912	235,249	308,161
2005	2,123	11,221	58,917	251,631	9,619	48,968	70,659	241,161	311,820
2006	2,181	9,882	63,735	245,168	8,466	74,128	74,382	254,796	329,178
2007	1,727	9,475	77,268	258,848	9,015	51,073	88,010	231,386	319,396
2008	4,489	15,832	81,648	245,823	18,529	93,429	104,666	250,418	355,084
2009	3,528	13,884	154,045	543,195	13,727	44,540	171,300	430,319	601,619
2010	10,357	29,270	120,531	304,002	22,364	77,146	153,252	257,166	410,418
2011	2,814	9,750	101,263	318,125	7,771	36,996	111,848	253,023	364,871
2012	3,023	10,958	55,464	192,134	6,813	27,723	65,300	165,515	230,815
2013	1,661	5,738	90,496	214,074	2,907	11,511	95,064	136,259	231,323
2014	4,783	13,526	109,279	260,130	13,341	47,057	127,403	193,310	320,713
2015	3,664	8,131	84,896	234,382	5,842	18,848	94,402	166,959	261,361
2016	4,822	12,238	29,146	128,890	3,469	42,916	37,437	146,607	184,044
2017 [1]	1,236	3,491	--	--	--	--	--	--	116,841

[1]*At time of publication, TAC had not yet completed the reconstruction of the A-Index/B-Index component of the upriver summer steelhead return.*

Table 13. Summer steelhead passage at Lower Granite Dam, 1991–2017.

	A-Index		B-Index		Total		
Run Year[1]	Wild	Total	Wild	Total	Hatchery[2]	Wild	Total
1984–85					79,900	24,500	104,400
1985–86					89,600	26,700	116,300
1986–87	16,613	87,513	5,463	42,432	107,869	22,076	129,945
1987–88	20,164	52,582	5,347	18,820	45,891	25,511	71,402
1988–89	15,700	60,443	4,614	26,620	66,749	20,314	87,063
1989–90	16,937	83,440	8,042	47,908	106,369	24,979	131,348
1990–91	4,806	30,383	4,483	26,498	47,592	9,289	56,881
1991–92	14,135	84,020	3,182	15,065	81,768	17,317	99,085
1992–93	13,617	97,037	5,777	31,343	108,986	19,394	128,380
1993–94	7,332	41,989	1,790	17,685	50,552	9,122	59,674
1994–95	5,873	37,829	2,231	9,409	39,134	8,104	47,238
1995–96	6,721	69,494	1,334	9,651	71,090	8,055	79,145
1996–97	5,980	73,055	1,645	13,856	79,286	7,625	86,911
1997–98	7,424	74,443	1,325	12,203	77,897	8,749	86,646
1998–99	7,074	50,906	2,301	19,756	61,287	9,375	70,662
1999–00	10,184	64,303	914	9,748	62,953	11,098	74,051
2000–01	17,689	97,288	2,886	20,014	96,727	20,575	117,302
2001–02	37,545	234,615	3,174	33,851	227,747	40,719	268,466
2002–03	28,308	150,577	13,623	71,599	180,245	41,931	222,176
2003–04	21,892	140,066	7,254	32,444	143,364	29,146	172,510
2004–05	18,297	121,688	4,774	29,958	128,575	23,071	151,646
2005–06	14,586	125,133	3,544	33,032	140,035	18,130	158,165
2006–07	7,877	108,321	1,633	40,845	139,656	9,510	149,166
2007–08	11,242	128,259	2,924	26,883	140,976	14,166	155,142
2008–09	18,217	125,500	5,659	53,370	154,994	23,876	178,870
2009–10	38,210	299,598	4,529	23,784	280,643	42,739	323,382
2010–11	34,549	163,020	9,584	45,276	164,163	44,133	208,296
2011–12	35,241	156,208	4,198	24,112	140,881	39,439	180,320
2012–13	19,806	88,184	3,337	21,002	86,043	23,143	109,186
2013–14	23,469	99,129	1,886	9,025	82,799	25,355	108,154
2014–15	39,286	132,746	8,822	31,722	116,360	48,108	164,468
2015–16	32,497	123,067	4,279	13,082	99,373	36,776	136,149
2016–17	12,575	68,956	3,001	32,870	86,250	15,576	101,826
2017–18[3]	10,179	65,211	362	4,357	59,027	10,541	69,568

[1]Run yea is July 1 through June 30 of following year.
[2]Hatchery-origin includes fish with clipped and unclipped adipose fins.
[3]Values are preliminary and based on visual sampling at Lower Granite Dam. Final estimates will be based on genetic analysis in December 2018.

Table 14. Minimum numbers (in thousands) of lower river hatchery-origin summer steelhead entering the Columbia River, 1980–2017.

Year	Lower Col. Recreational Kept Catch (May–June)[1]	Recreational Kept Catch[2]		Tributary Dam Counts[3]	Hatchery Returns[4]		Minimum Run
		OR	WA		OR	WA	
1980–84 avg	1.5	3.5	15.6	23.0	0.2	4.8	48.4
1985	1.8	3.9	15.9	32.3	0.2	3.0	57.1
1986	3.0	4.4	26.9	53.3		2.3	89.9
1987	1.6	4.2	17.4	33.6		1.6	58.4
1988	2.7	7.0	14.2	50.7		3.3	77.9
1989	1.7	3.5	12.6	13.4		3.8	35.0
1990	2.2	5.1	17.2	31.8		5.6	61.9
1991	1.2	3.0	15.0	10.4		2.2	31.8
1992	1.2	3.0	17.6	23.1		3.1	48.0
1993	1.8	3.2	20.0	17.3		4.7	47.0
1994	1.2	2.1	23.0	15.4		5.6	47.3
1995	1.4	1.5	13.0	15.1	0.1	7.8	38.9
1996	1.2	1.0	15.1	7.8	0.2	9.9	35.2
1997	1.9	1.4	6.0	17.5	0.1	3.7	30.6
1998	1.2	1.4	5.0	15.3		5.4	28.3
1999	1.3	1.5	6.3	12.4		4.6	26.1
2000	1.6	1.7	10.2	13.1	0.4	9.6	36.6
2001	2.0	3.1	19.7	28.4	1.9	16.4	71.5
2002	4.4	6.0	33.3	35.2	2.8	33.8	115.5
2003	2.7	2.7	26.1	17.5	4.5	23.0	76.5
2004	3.0	5.6	42.4	36.4	2.4	23.1	112.9
2005	2.1	2.0	15.3	14.6	4.1	18.8	56.9
2006	3.0	4.3	29.5	17.0	1.3	24.8	79.9
2007	2.7	3.5	12.4	13.1	1.2	9.2	42.1
2008	2.0	5.1	22.6	13.9	0.9	20.6	65.2
2009	1.4	4.3	18.1	14.2	0.7	19.1	57.8
2010	4.2	3.6	23.5	24.0	1.0	26.3	82.6
2011	4.4	2.7	17.5	20.5	0.6	17.1	62.7
2012	4.0	4.8	17.3	24.1	1.2	18.5	69.9
2013	2.4	3.1	9.5	13.6	1.6	7.0	37.2
2014	3.8	4.0	25.3	22.0	1.1	24.0	80.2
2015	1.7	2.3	17.4	4.3	1.9	21.3	47.2
2016	3.3	4.4	29.0	24.2	1.6	24.6	87.3
2017	0.4	1.4	19.7	2.6	0.9	3.1	28.1

[1]*Catch in lower Columbia recreational fisheries during May and June is assigned to lower river stock.*
[2]*From Oregon and Washington catch record card estimates. 2016 and 2017 data are preliminary.*
[3] *Willamette Falls (Willamette R.), North Fork Dam (Clackamas R.), and Marmot Dam (Sandy R; through 2007 only).*
[4]*Washington: Skamania, Lewis River, and Cowlitz hatcheries and, beginning in 1998, Kalama River hatcheries. Oregon: Sandy (1999 onward) and Clackamas (1984-1987 and 1995 onward) hatcheries*

Table 15. Estimated number of sockeye entering the Columbia River, mainstem harvest, and escapement, 1980-2017.

Year	Columbia River Mouth[1]	Non-treaty Catch[2]	Bonneville Dam Count	Treaty Catch[3]	Snake River Sockeye: At Col. R. Mouth	Snake River Sockeye: Non-treaty Catch[2]	Snake River Sockeye: Treaty Catch[3]	Snake River Sockeye: Lower Granite Escapement[4]	Spawning Escapement: Wenatchee[5]	Spawning Escapement: Okanogan[6]
1980	58,886	4	58,882	636	107	0	1	96	22,751	26,540
1981	56,037	0	56,037	1,507	236	0	6	218	16,490	28,004
1982	50,319	100	50,219	775	257	0	4	211	23,732	18,865
1983	100,628	83	100,545	3,349	241	0	8	216	60,418	27,697
1984	161,886	9,345	152,541	24,616	148	8	23	105	35,802	81,006
1985	200,759	32,213	166,340	49,969	59	9	15	35	49,123	52,945
1986	59,963	1,840	58,123	6,672	24	1	3	20	16,876	34,694
1987	145,546	28,553	116,993	39,560	55	11	15	29	28,753	40,052
1988	99,780	17,632	79,714	30,990	45	8	14	23	15,087	33,953
1989	47,479	36	41,884	2,138	4	0	0	4	21,184	15,952
1990	49,754	173	49,581	2,716	1	0	0	1	34,847	7,588
1991	76,484	3	76,481	3,271	10	0	0	9	34,679	27,464
1992	85,000	8	84,992	2,185	2	0	0	2	26,555	41,926
1993	91,727	64	80,178	5,020	18	0	1	17	37,311	27,829
1994	12,861	1	12,678	472	3	0	0	3	9,296	1,529
1995	9,913	1	8,773	445	5	0	0	5	4,474	4,826
1996	30,942	25	30,255	1,414	3	0	0	3	7,759	17,641
1997	47,487	12	46,927	2,046	18	0	1	17	9,890	25,733
1998	13,220	2	13,218	425	4	0	0	3	3,685	4,649
1999	19,094	1	17,877	704	19	0	1	18	4,260	12,388
2000	93,757	366	93,391	2,910	352	1	11	337	20,979	59,918
2001	120,549	1,691	114,933	7,300	49	1	3	45	35,353	74,490
2002	50,557	24	49,610	2,564	77	0	4	73	31,883	10,659
2003	39,375	0	39,375	1,090	28	0	1	26	5,074	28,774
2004	130,231	682	123,320	4,317	118	1	4	113	26,663	77,453
2005	77,400	4	72,448	2,766	20	0	1	19	15,646	53,011
2006	37,067	1	37,066	1,596	60	0	3	16	9,756	22,052
2007	26,604	0	24,376	1,414	58	0	3	55	4,439	22,202
2008	214,465	978	213,607	9,017	978	1	41	907	27,875	163,964
2009	179,745	1,201	177,823	9,731	1,497	2	81	1,406	27,489	116,834
2010	392,208	483	386,355	26,125	2,581	0	163	2,406	38,543	264,205
2011	187,365	1,872	185,796	12,853	1,800	1	123	1,502	18,634	108,677
2012	521,159	5,504	515,673	45,352	512	0	45	446	35,120	278,803
2013	186,191	725	185,505	8,046	1,137	1	49	757	22,965	119,394
2014	651,146	1,452	614,176	30,985	2,937	1	140	2,786	80,323	441,549
2015	512,455	1,575	510,706	30,095	1,743	2	101	440	42,468	136,645
2016	355,364	1,327	342,497	16,683	946	1	43	815	74,416	216,034
2017	88,263	296	87,693	4,480	445	0	21	228	26,517	39,690

[1]*Upriver run is the larger of Bonn. Count+Zones 1–5 harvest or Priest Rapids count+Snake River count+Zone 1–6 harvest.*
[2]*Non-treaty harvest may include kept fish and incidental release mortalities in Zones 1–6, upstream to Highway 395.*
[3]*Treaty harvest includes sockeye kept in Zones 1–6, which includes harvest downstream of Bonneville Dam.*
[4]*Prior to 1992, Lower Granite Dam sockeye counts may include kokanee. Since 1992 video counts or length measurements are used to identify true sockeye.*
[5]*The Wenatchee estimate is based on Rock Island or Priest Rapids Dam counts minus Rocky Reach Dam totals, or Tumwater Dam counts, except Priest Rapids count minus Wells count in 1995. Tributary harvest is subtracted to estimate spawning escapement.*
[6]*The Okanogan estimate is based on the Wells Dam counts minus any harvest.*

Table 16. Columbia River American Shad harvest and passage (in thousands), 1980–2017.

Year	Commercial Catch			Recreational Kept Catch		Treaty Harvest	Columbia River Dam Count[3]
	Area 2S	Washougal Reef[1]	Other [2]	Columbia River	Willamette River		
1980	21.9	—	1.3	24.3	15.5	0.2	1,160.8
1981	15.5	—	6.3	28.7	20.4	0.0	1,089.0
1982	72.5	—	2.5	33.9	21.7	1.5	1,002.8
1983	84.9	—	0.1	28.7	36.9	0.3	1,932.0
1984	14.4	—	3.7	22.3	19.9	3.1	1,275.8*
1985	33.7	—	1.7	13.7	16.4	0.0	1,389.5
1986	80.5	7.6	0.1	18.9	5.9	0.7	1,361.9
1987	103.2	4.1	1.4	14.3	5.1	12.3	1,289.7
1988	97.4	8.9	2.1	27.5	11.5	19.2	2,008.6
1989	36.2	15.4	0.0	64.4	18.3	0.1	2,971.0
1990	161.8	6.0	0.0	113.8	23.1	0.2	3,706.9
1991	38.8	4.9	0.0	100.6	27.9	<0.1	2,191.1
1992	130.2	11.1	0.0	88.3	16.3	0.3	2,824.3
1993	139.2	5.3	0.2	111.4	20.8	1.0	2,394.4
1994	46.9	10.8	0.0	103.8	33.2	15.3	1,801.5
1995	54.4[4]	6.7	0.0	101.4	37.4	49.6	1,959.6
1996	60.1	1.0	0.0	129.8	66.4	282.8	2,648.6
1997	20.3	4.6	0.0	98.9	53.0	10.2	2,571.3
1998	24.4	0.0	0.1	83.4	47.9	24.1	2,149.1
1999	39.7	0.0	0.0	79.3	42.8	13.8	1,718.7
2000	30.4	0.0	0.1	58.0	64.4	0.1	1,556.6
2001	17.0	—	9.2	98.6	58.7	5.6	2,724.9
2002	37.1	—	0.0	148.2	26.8	14.5	3,218.1
2003	79.2	—	0.0	115.9	46.5	105.8	4,558.6*
2004	48.4	—	0.0	123.0	36.5	30.0[5]	5,472.4
2005	48.8	0.0	0.0	164.9	42.8	30.0[5]	6,067.0
2006	21.1	—	0.0	169.4	31.8	NA	4,611.6
2007	14.1	—	0.0	118.2	32.4	NA	3,592.0
2008	12.5	—	0.0	104.4	7.4	NA	2,144.8*
2009	1.4	—	0.0	81.1	2.7	NA	1,641.4
2010	2.5	—	0.0	62.4	12.8	NA	1,241.8
2011	8.9	0.0	7.8	71.3	13.0	NA	948.1
2012	0.8	—	28.4	129.7	15.9	NA	2,432.4
2013	0.7	—	5.3	194.9	12.5	NA	3,751.4
2014	4.8	—	1.2	103.8	12.5	NA	2,603.3
2015	0.6	—	0.5	47.3	18.2	NA	1,815.0
2016	0.3	—	2.8	88.0	25.4	NA	1,770.3
2017	2.0	—	0.0	169.8	29.4	NA	3,135.4

[1]*Washougal Reef landings are included in Area 2S landings until 1986. No seasons have been set in recent history, except for 2005 and 2011 which resulted in no fish landed.*

[2]*Includes any landings from experimental gear permits, research, spring Chinook seasons, sockeye seasons, Select Area fisheries, and John Day River American Shad fisheries.*

[3]*For years 1980-2010, the count shown is the greater passage of American shad at either Bonneville or The Dalles dams. Due to large numbers of American Shad passing through the Bonneville locks in most years, The Dalles count was usually higher; however, Bonneville counts were higher in 1984, 2003, and 2008 and noted (*). Counting of American Shad at The Dalles Dam was discontinued in 2011; counts beginning in 2011 are from Bonneville Dam.*

[4]*Limited experimental fishery with three boats.*

[5]*Precise catch estimates not available.*

Table 17. Season dates, gear restrictions, and commercial landings during non-treaty winter (January–March) and spring (April–June 15) mainstem seasons, 1975–2017.

Year	Season	Fishing Days	Mesh Size[2]	Commercial Landings[1]	
				Chinook	White Sturgeon[11]
1975-1979 Avg		8	8” min.	7,900	2,100
Range	Feb 26–Mar 11	5–11		4,700–13,500	1,000–2,700
1980–1984 Avg		8	8” min.	6,000	2,300
Range	Feb 16–Mar 11	1–12		400–9,600	900–3,700
1985–1989 Avg		12		13,200	1,500
Range	Jan 25–Mar 11	8–17	8” min.–9” min.	400–18,300	500–1,700
1990–1994 Avg		13		7,900	1,300
Range	Jan 25–Mar 11	6–20	8” min.–9” min.	1,500–18,300	700–3,000
1995–1999 Avg		7		<100	1,600
Range	Jan 11–Feb 26	0–13	8” min.–9” min.	0–100	600–2,700
2000–2004 Avg		16	4¼”–5½” max	7,306	2,287
Range	Jan 07–Mar 30	7–26	8” min.–9” min.	496–14,384	1,517–3,059
2005	Jan 18–Feb 25	7	9” min.	94	473
	Mar 01–Mar 16	5	9” min.	1,489	58
	Mar 29–Apr 01	2	4¼” max.	3,606	12
2006	Jan 10–Feb 22	10	9” min.	39	288
	Feb 23–Mar 15	5	8” min.	994	88
	May 16–Jun 02	6	8” min.	3,356	1,563
2007	Jan 09–Feb 23	9	9” min.	186	1,424
	Mar 06	1	8” min.	434	19
	Mar 20–Mar 23	2	4¼” max.	2,255	15
	Jun 14–Jun 15	1	8” min.	30	13
2008	Jan 08–Feb 29	11	9” min.	14	869
	Apr 01–Apr 15	3	4¼” max.	5,658	17
2009	Jan 06–Feb 13	8	9” min.	18	1,697
	Mar 29–Apr 14	3	4¼” max.	4,150	21
2005–2009 Avg		15		4,465	1,311
2010	Jan 19–Feb 17	5	9” min.	75	518
	Mar 30–Apr 07	2	4¼” max.	8,966	28
2011	Jan 18–Feb 09	4	9” min.	88	50
	Mar 29–Apr 06	2	4¼” max.	2,021	7
	May 12–May 19	2	8” min.	2,430	118
2012	Jan 30–Feb 07	3	9” min.	7	40
	Apr 03–Apr 10	2	4¼” max.	6,111	14
2013	Jan 01 – Feb 07	3	9” min.	0	15
	Apr 09–May 15	2	4¼” max.	1,537[3]	30
	May 22–May 30	2	8” min.	648[4]	244
2014	Apr 01–May 07	2	4¼” max.	2,915[5]	—
	May 20–Jun 05	3	8” min.	1,085[6]	—
2010–2014 Avg		6		5,177	266
2015	Mar 31–May 13	5	4¼” max.	5,106[7]	—
	May 27–Jun 11	3	8” min.	2,125[8]	—
2016	Mar 29–May 12	3	4¼” max.	2,394[9]	—
	May 24–Jun 08	3	8” min.	1,219[10]	—
2017	No Season	0	No Season	—	—

[1]*Sale of steelhead prohibited since 1975. Catches ranged from 2,100 to 8,500 steelhead during 1970–74.*
[2]*Since 1997, maximum mesh size of 9¾" unless specified otherwise.*
[3] *Includes 264 jacks.*
[4]*Includes six jacks.*
[5]*Includes 465 jacks.*
[6]*Includes 21 jacks.*
[7]*Includes 756 jacks.*
[8]*Includes 15 jacks.*
[9]*Includes 286 jacks.*
[10]*Includes 12 jacks.*
[11]*All non-treaty commercial fisheries downstream of Bonneville Dam were closed to the retention of White Sturgeon during 2014–16 based on Oregon Fish and Wildlife Commission and Washington Fish and Wildlife Commission action/policy.*

Table 18. Fishing periods, gear, and associated salmon and White Sturgeon landings during mainstem Columbia River commercial salmon seasons, 2017.

Season	Fishing Period	Week	Hours	Zones	Mesh Size	WSTG Limit [1]	Del.	Chinook	Coho	Sockeye	Pink	Chum	White Sturgeon [2]
								ChS Adults	*ChS Jacks*				
Spring	No season.	--	--	--	--	--	—	—	—	—	—	Prohibited	Prohibited
				Spring Season Totals (and average number of deliveries):			**0**	**0**	**0**	**0**	**0**	**0**	**0**
								Chinook	Coho				
Summer	No season.	--	--	--	--	--	—	—	—	—	—	Prohibited	Prohibited
				Summer Season Totals (and average number of deliveries):			**0**	**0**	**0**	**0**	**0**	**0**	**0**
August	Aug 22, 9 PM–Aug 23, 6 AM	*34*	9	4–5	9"–9 3/4"	6	112	2,478	20	—	0	Prohibited	154
	Aug 24, 9 PM–Aug 25, 6 AM	*34*	9	4–5	9"–9 3/4"	6	114	2,569	37	—	0	Prohibited	78
	Aug 27, 9 PM–Aug 28, 6 AM	*35*	9	4–5	9"–9 3/4"	6	122	5,544	129	—	0	Prohibited	126
	Aug 29, 9 PM–Aug 30, 6 AM	*35*	9	4–5	9"–9 3/4"	6	112	1,805	20	—	0	Prohibited	69
	Aug 31, 9 PM–Sep 1, 6 AM	*35*	9	4–5	9"–9 3/4"	6	96	1,563	12	—	0	Prohibited	58
				August Season Totals (and average number of deliveries):			**111**	**13,959**	**218**	**0**	**0**	**0**	**485**
Late-Fall	Sep 17, 8 PM - Sep 18, 6 AM	*38*	10	4–5	9"–9 3/4"	5	107	3,651	404	—	0	Prohibited	176
	Sep 19, 8 PM - Sep 20, 6 AM	*38*	10	4–5	9"–9 3/4"	5	69	1,788	309	—	0	Prohibited	63
				Late-Fall Season Totals (and average number of deliveries):			**88**	**5,439**	**713**	**0**	**0**	**0**	**239**
							Ave.Del.	**Chinook**	**Coho**	**Sockeye**	**Pink**	Chum	White Sturgeon [2]
						FALL TOTALS:	**105**	**19,398**	**931**	**0**	**0**	**0**	**724**
								Chinook	**Coho**	**Sockeye**	**Pink**	Chum	White Sturgeon [2]
						2017 Grand Totals:		**19,398**	**931**	**0**	**0**	**0**	**724**

[1] *White Sturgeon possession and sales limit (per vessel per week).*

[2] *Commercial fisheries downstream of Bonneville Dam were closed to the retention of White Sturgeon during 2014–16 (OFWC/WFWC action) and reopened in 2017 for August and late-fall mainstem seasons.*

Table 19. Lower Columbia River commercial landings, 2017.

Winter/Spring/Summer

(Prelim/FINAL — OR/WA Fish Tickets — January 16, 2018)

Season	CHINOOK		Z 1—5 Spring Chinook		SOCKEYE		SHAD		WHITE STURGEON [1]	
Mainstem	**Numbers**	Pounds	***Adults***	*Jacks*	**Numbers**	Pounds	**Numbers**	Pounds	**Numbers**	Pounds
Winter Sturgeon *(no season during 2017)*	**0**	0	—	—	**0**	0	**0**	0	*No Retention*	--
Spring *(no season during 2017)*	**0**	0	***0***	***0***	**0**	0	**0**	0	*No Retention*	--
Summer *(no season during 2017)*	**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
Select Areas										
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	**2,822**	31,889			**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	**17,597**	195,609			**15**	54	**0**	0	**266**	8,430
Lower Columbia River Commercial GRAND TOTALS Winter/Spring/Summer 2017	**Chinook**				**Sockeye**		**Shad**		**White Sturgeon [1]**	
	17,597	195,609			**15**	54	**2,007**	5,417	**266**	8,430

Fall

(Prelim/FINAL — OR/WA Fish Tickets — January 16, 2018)

Season	CHINOOK		COHO		PINK		CHUM		WHITE STURGEON [1]	
Mainstem	**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
August Subtotals	**13,959**	227,268	**218**	1,373	**0**	0	*No Retention*		**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
Late-Fall Subtotals	**5,439**	85,924	**713**	5,489	**0**	0	*No Retention*		**239**	7,745
Fall Mainstem Totals	**19,398**	313,192	**931**	6,862	**0**	0	**0**	0	**724**	22,806
Select Areas										
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 Fall 2017	**Chinook**		**Coho**		**Pink**		**Chum**		**White Sturgeon [1]**	
	31,432	441,673	**38,910**	291,650	**6**	23	**0**	0	**961**	30,520

PRELIMINARY GRAND TOTALS 2017	CHINOOK		COHO		PINK		CHUM [2]		WHITE STURGEON [1]	
	Numbers	Pounds	**Numbers**	Pounds	**Numbers**	Pounds	**Numbers**	Pounds	**Numbers**	Pounds
	49,029	637,282	**38,910**	291,650	**6**	23	**1**	9	**1,227**	38,950
for Lower Columbia R. Commercial Fisheries	**SOCKEYE**		**SHAD**		**SMELT** (Mainstem)				**GREEN STURGEON**	
	Numbers	Pounds	**Numbers**	Pounds	Pounds				**Numbers**	Pounds
	15	54	**2,007**	5,417	5,019				*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 verfied by ODFW biologists.*

Table 20. Stock composition of hatchery spring Chinook (in thousands) landed during non-treaty mainstem commercial fisheries, 1990–2017.

Year	Spring Season Kept Catch by Stock				
	Willamette River	C,K,L,S[1]	Upriver	Select Area[2]	Total
1990	15.5	0.7	2.1	—	18.3
1991	11.2	0.5	0.9	—	12.6
1992	3.9	1.0	0.2	—	5.1
1993	0.8	0.4	0.2	—	1.4
1994	1.0	0.4	0.4	—	1.8
1995	—	—	—	—	—
1996	0.1	<0.1	<0.1	—	0.2
1997	0.1	0.0	<0.1	—	<0.2
1998	<0.1	0.0	0.0	—	<0.1
1999	<0.1	<0.1	<0.1	—	0.1
2000	0.4	<0.1	0.1	<0.1	0.5
2001	2.8	0.2	1.6	0.8	5.4
2002	5.4	0.5	8.3	0.3	14.5
2003	0.8	0.1	2.1	<0.1	3.1
2004	5.7	1.3	5.3	0.9	13.2
2005	2.1	1.1	2.0	0.0	5.2
2006	2.1	1.0	1.2	<0.1	4.4
2007	0.9	0.6	1.3	0.1	2.9
2008	<0.1	<0.1	5.7	0.0	5.7
2009	<0.1	<0.1	4.1	0.0	4.2
2010	1.5	0.2	7.3	0.0	9.0
2011	1.1	0.2	3.1	0.1	4.5
2012	1.6	0.1	4.1	0.3	6.1
2013[3]	0.5	<0.1	1.3	0.1	1.9
2014[3]	0.6	0.2	2.7	0.0	3.5
2015[3]	1.3	0.4	4.7	0.1	6.5
2016[3]	0.4	0.3	2.4	0.2	3.3
2017	—	—	—	—	—

[1]*C=Cowlitz River, K=Kalama River, L=Lewis River, and S=Sandy River. May infrequently include coastal stocks.*
[2]*Select Area stocks included in Willamette R. stock category prior to 2000.*
[3]*Adults only.*

Table 21. Columbia River recreational spring Chinook fishing regulations, 2002–2017.

Year	Buoy 10 to Tongue Point	Tongue Point to I-5 Bridge	I-5 Bridge to Bonneville Dam	Bonneville Dam to McNary Dam
2002	Open January 1–April 28 and May 5–15. Two adipose fin-clipped adult spring Chinook daily bag limit.	Open January 1–April 28 and May 5–15. Two adipose fin-clipped adult spring Chinook daily bag limit.	Open March 16–April 28 and May 5–15. Two adipose fin-clipped adult spring Chinook daily bag limit.	Open March 16–May 15 from The Dalles Dam upstream to McNary Dam and April 3–May 15 from Tower Is. powerlines to The Dalles Dam. Two adipose fin-clipped adult spring Chinook daily bag limit.
2003	Open January 1–April 5 and April 9–12, 16–19, 23–26, 30–May 3, May 7–10, and May 14–15. Two adipose fin-clipped adult spring Chinook daily bag limit.	Open January 1–April 5 and April 9–12, 16–19, 23–26, 30–May 3, May 7–10, and May 14–15. Two adipose fin-clipped adult spring Chinook daily bag limit.	Open February 15–April 5. Two adipose fin-clipped adult spring Chinook daily bag limit.	Open February 15–May 3, May 7–10, and May 14–15 from Tower Is. powerlines upstream to McNary Dam plus the Oregon Bank from Bonneville to Tower Is. Two adipose fin-clipped adult spring Chinook daily bag limit.
2004	Open January 1–April 30. Two adipose fin-clipped adult spring Chinook daily bag limit. Unlawful to remove unclipped fish from the water (added as permanent regulation).	Open January 1–April 30. Two adipose fin-clipped adult spring Chinook daily bag limit. Unlawful to remove unclipped fish from the water (added as permanent regulation).	Open March 16–April 21. Two adipose fin-clipped adult spring Chinook daily bag limit. Unlawful to remove unclipped fish from the water (added as permanent regulation).	Open March 16–May 6 from Tower Is. powerlines upstream to McNary Dam plus the Oregon Bank from Bonneville Dam to Tower Is. Two adipose fin-clipped adult spring Chinook daily limit. Unlawful to remove unclipped fish from the water (added as permanent regulation).
2005	Open January 1–April 20. Two adipose fin-clipped adult spring Chinook daily bag limit.	Open January 1–April 20 and June 4–15. Two adipose fin-clipped adult spring Chinook daily bag limit.	Open March 16–April 20 and June 4–15. Open Sunday, Monday and Tuesday only with a one–fish daily salmonid limit during March 16–April 20 between Rooster Rock and Bonneville Dam. Otherwise, two adipose fin-clipped adult spring Chinook daily bag limit.	Open March 16–April 20 and June 4–15 from Tower Is. powerlines upstream to McNary Dam plus the Oregon Bank between Bonneville Dam and Tower Is. Two adipose fin clipped adult spring Chinook daily bag limit.
2006	Open January 1–April 13. Two adipose fin-clipped adult spring Chinook daily bag limit.	Open January 1–April 13 and May 17–June 15. Two adipose fin-clipped adult spring Chinook daily bag limit.	Open May 17–June 15. Two adipose fin-clipped adult spring Chinook daily bag limit.	Open March 16–April 30 and May 13–June 15 from Tower Is. powerlines upstream to McNary Dam plus the Oregon bank between Bonneville Dam and Tower Is. Two adipose fin-clipped adult spring Chinook daily bag limit.
2007	Open January 1–April 15. Two adipose fin-clipped adult spring Chinook daily bag limit.	Open January 1–April 15 and May 16–June 15. Two adipose fin-clipped adult spring Chinook daily bag limit.	Open June 6–15. Two adipose fin-clipped adult spring Chinook daily bag limit.	Open March 16–May 3 and June 6–15 from Tower Is. powerlines upstream to McNary Dam plus the Oregon bank between Bonneville Dam and Tower Is. Two adipose fin clipped adult spring Chinook daily bag limit.
2008	Open January 1– February 24 under permanent rules, then March 24–April 4 with one adipose fin-clipped adult spring Chinook in the daily bag limit.	Open January 1– February 24 under permanent rules, then March 24–April 4 upstream to Hayden Island powerlines with one adipose fin-clipped adult spring Chinook in the daily bag limit.	Open March 16–April 20 from Hayden Island powerlines upstream to Bonneville Dam (except closed Tuesdays March 25, April 1, 8, and 15). One adipose fin-clipped adult spring Chinook in the daily bag limit.	Open March 16–May 10 from Tower Is. powerlines upstream to McNary Dam plus the Oregon and Washington banks between Bonneville Dam and Tower Is. Two adipose fin-clipped adult spring Chinook daily bag limit.

Table 21. Columbia River recreational spring Chinook fishing regulations, 2002–2017 continued.

Year	Buoy 10 to Tongue Point	Tongue Point to I-5 Bridge	I-5 Bridge to Bonneville Dam	Bonneville Dam to McNary Dam
2009	Open January 1–February 28 under permanent rules. Open March 1–15, 19–21, 26–28, April 2–4, 9–11, and 16–18 with one adipose fin-clipped adult spring Chinook in the daily bag limit.	Open January 1–February 28 under permanent rules. Open March 1–15, 19–21, 26–28, April 2–4, 9–11, and 16–18 upstream to the Hayden Island powerlines with one adipose fin-clipped adult spring Chinook in the daily bag limit.	Open March 1–22, 25–28, April 1–4, 8–11, 15–18, and 22 from Hayden Island powerlines upstream to Bonneville Dam with one adipose fin-clipped adult spring Chinook in the daily bag limit.	Open March 16–April 30 from Tower Is. powerlines upstream to McNary Dam plus the Oregon and Washington banks between Bonneville Dam and Tower Is. Two adipose fin-clipped adult spring Chinook daily bag limit.
2010	Open January 1–February 28 under permanent rules. Open March 1–April 18 (except closed Tuesdays March 9, 16, 23, and 30) with one adipose fin-clipped adult spring Chinook in the daily bag limit.	Open January 1–February 28 under permanent rules. Open March 1–April 18 (except closed Tuesdays March 9, 16, 23, and 30) with one adipose fin-clipped adult spring Chinook in the daily bag limit.	Open from I-5 to I–205 plus the Oregon and Washington banks between I–205 and Bonneville Dam during March 1–14, 18–20, 25–27, and April 1–3 (except closed Tuesday March 9) with one adipose fin-clipped adult spring Chinook in the daily bag limit.	Open March 16–May 9 from Tower Is. powerlines upstream to McNary Dam plus the Oregon and Washington banks between Bonneville Dam and Tower Is. Two adipose fin-clipped adult spring Chinook daily bag limit.
2011	Open January 1–February 28 under permanent rules. Open March 1–April 4 and April 8–19 with one adipose fin-clipped adult spring Chinook in the daily bag limit.	Open January 1–February 28 under permanent rules. Open March 1–April 4, April 8–19, and May 15–June 15 with one adipose fin-clipped adult spring Chinook in the daily bag limit.	Open March 1–April 4 and April 8–19 from the I-5 Bridge to Rooster Rock plus the Oregon and Washington banks between I-5 and Bonneville Dam. Open May 15–26 from the I-5 Bridge to Beacon Rock plus the Oregon and Washington banks between Beacon Rock and Bonneville Dam. Open May 27–June 15 from the I-5 Bridge to Bonneville Dam. One adipose fin-clipped adult spring Chinook in the daily bag limit throughout the entire season.	Open March 16–May 1, May 7–10, and May 28–June 15 from Tower Is. powerlines upstream to the McNary Dam plus the Oregon and Washington banks between Bonneville Dam and Tower Is. powerlines. Two adipose fin-clipped adult spring Chinook daily bag limit.
2012	Open January 1–February 29 under permanent rules. Open March 1–April 22 (except closed Tuesdays March 20, 27, and April 3, 10, and 17) and May 26–27 with one adipose fin-clipped adult spring Chinook in the daily bag limit.	Open January 1–February 29 under permanent rules. Open March 1–April 22 (except closed Tuesdays March 20, 27, and April 3, 10, and 17) and May 26–27 with one adipose fin-clipped adult spring Chinook in the daily bag limit.	Open March 1–April 22 (except closed Tuesdays March 20, 27, and April 3, 10, and 17) and May 26–27 from I-5 upstream to Beacon Rock plus the Oregon and Washington banks between Beacon Rock and Bonneville Dam with one adipose fin-clipped adult spring Chinook in the daily bag limit.	Open March 16–May 6 and May 19–20 from Tower Is. powerlines upstream to McNary Dam plus the Oregon and Washington banks between Bonneville Dam and Tower Is. powerlines. Two adipose fin-clipped adult spring Chinook daily bag limit.
2013	Open January 1–February 28 under permanent rules. Open March 1–April 12 (except closed Tuesdays March 26, April 2 and 9) with one adipose fin-clipped adult spring Chinook allowed in the daily bag limit.	Open January 1–February 28 under permanent rules. Open March 1–April 12 (except closed Tuesdays March 26, April 2 and 9) and May 25–June 15 with one adipose fin-clipped adult spring Chinook allowed in the daily bag limit.	Open March 1–April 12 (except closed Tuesdays March 26, April 2 and 9) and May 25–June 7 from I-5 upstream to Beacon Rock plus the Oregon and Washington banks between Beacon Rock and Bonneville Dam. Open June 8–15 from I-5 to Bonneville Dam. One adipose fin-clipped adult spring Chinook in the daily bag limit for the entire season.	Open March 16–May 5 from Tower Is. powerlines upstream to McNary Dam plus the Oregon and Washington banks between Bonneville Dam and Tower Is. powerlines with two adipose fin-clipped adult spring Chinook in the daily bag limit, and June 8–15 with one adipose fin-clipped adult spring Chinook in the daily bag limit.

Table 21. Columbia River recreational spring Chinook fishing regulations, 2002–2017 continued.

Year	Buoy 10 to Tongue Point	Tongue Point to I-5 Bridge	I-5 Bridge to Bonneville Dam	Bonneville Dam to McNary Dam
2014	Open January 1–February 28 under permanent rules. Open March 1–April 14 and April 19 (except closed Tuesdays March 25, April 1 and 8) with one adipose fin-clipped adult spring Chinook allowed in the daily bag limit.	Open January 1–February 28 under permanent rules. Open March 1–April 14, April 19, May 9–10 and May 15–June 15 (except closed Tuesdays March 25, April 1 and 8) with one adipose fin-clipped adult spring Chinook allowed in the daily bag limit.	Open March 1–April 14 (except closed Tuesdays March 25, April 1 and 8) from I-5 upstream to Beacon Rock plus the Oregon and Washington banks between Beacon Rock and Bonneville Dam); April 19 and May 9–10 from I-5 upstream to Rooster Rock plus the Oregon and Washington banks between Rooster Rock and Bonneville Dam; and May 15–June 15 from I-5 to Bonneville Dam with one adipose fin-clipped adult spring Chinook allowed in the daily bag limit.	Open March 16–May 9 and May 31–June 15 from Tower Is. powerlines upstream to McNary Dam plus the Oregon and Washington banks between Bonneville Dam and Tower Is. powerlines with one adipose fin-clipped adult spring Chinook in the daily bag limit.
2015	Open January 1–February 28 under permanent rules. Open March 1–April 11 and April 16 (except closed Tuesdays March 24, 31 and April 7) with one adipose fin-clipped adult spring Chinook allowed in the daily bag limit.	Open January 1–February 28 under permanent rules. Open March 1–April 11 and April 16 (except closed Tuesdays March 24, 31 and April 7), May 2, 3, 9 and May 16–June 15. One adipose fin-clipped adult spring Chinook allowed in the daily bag limit January 1–June 2. Two adult spring Chinook bag limit June 3–15.	Open March 1–April 11 (except closed Tuesdays March 24, 31 and April 7), April 16, May 2, 3, 9 and May 16–29 from I-5 upstream to Beacon Rock plus the Oregon and Washington banks between Beacon Rock and Bonneville Dam. Open May 30–June 15 from I-5 upstream to Bonneville Dam. One adipose fin-clipped adult spring Chinook allowed in the daily bag limit January 1–June 2. Two adult spring Chinook bag limit June 3–15.	Open March 16–May 10 and May 28–June 15 from Tower Is. powerlines upstream to McNary Dam plus the Oregon and Washington banks between Bonneville Dam and Tower Is. Powerlines. One adipose fin-clipped adult spring Chinook in the daily bag limit March 16–June 2. Two adult spring Chinook bag limit June 3–15.
2016	Open January 1–February 29 under permanent rules. Open March 1–April 8 (except closed Tuesdays March 29 and April 5) with one adipose fin-clipped adult spring Chinook allowed in the daily bag limit.	Open January 1–February 29 under permanent rules. Open March 1–April 8 (except closed Tuesdays March 29 and April 5), May 13–15, May 20–22, May 27–30 and June 3–15 with one adipose fin-clipped adult spring Chinook allowed in the daily bag limit. No angling near the mouth of the Lewis River May 13-15.	Open March 1–April 8 (except closed Tuesdays March 29 and April 5), May 13–15, May 20–22, May 27–30 and June 3–9 from I-5 upstream to Beacon Rock plus the Oregon and Washington banks between Beacon Rock and Bonneville Dam. Open June 10–15 from I-5 upstream to Bonneville Dam. One adipose fin-clipped adult spring Chinook allowed in the daily bag limit.	Open March 16–May 8 and May 13–15 from Tower Island powerlines upstream to McNary Dam plus the Oregon and Washington banks between Bonneville Dam and Tower Island with one adipose fin-clipped adult Chinook allowed in the daily bag limit. In Washington, hand-casted lines only when angling from shore.
2017	Open February 1-28 under permanent rules. Open March 1-April 10, April 13-17, and April 20-23 with one adipose fin-clipped adult spring Chinook in the daily bag limit.	Open February 1-28 under permanent rules. Open March 1-April 10, April 13-17, and April 20-23 with one adipose fin-clipped adult spring Chinook in the daily bag limit. Angling closed near the mouth of the Lewis River March 1-April 23.	Open March 1-April 10, April 13-17, and April 20-23 from I-5 upstream to Beacon Rock plus the Oregon and Washington Bank between Beacon Rock and Bonneville Dam with one adipose fin-clipped adult spring Chinook in the daily bag limit.	Open March 16-May 5 from Tower Island powerlines upstream McNary Dam plus the Oregon and Washington banks between Bonneville Dam and Tower Island powerlines with one adipose fin-clipped adult Chinook in the daily bag limit. In Washington, hand-casted lines only when angling from shore.

Table 22. Salmonid angler trips and adult Chinook catch by month in the lower Columbia River, 2003–2017.

Year	Month	Angler Trips	Adult Chinook Kept	Adult Chinook Released
2003	Feb	9,573	209	223
	Mar	65,841	5,597	3,193
	Apr	66,351	9,110	4,729
	May	24,875	1,976	1,122
	Jun 1–15	7,776	0	106
	Jun 16–30	15,114	1,348	908
	Jul	24,053	506	763
	Total	213,583	18,746	11,044
2004	Feb	9,467	48	31
	Mar	44,576	2,614	727
	Apr	102,058	21,078	6,482
	May	5,891	0	180
	Jun 1–15	2,046	0	59
	Jun 16–30	17,929	619	844
	Jul	21,875	500	422
	Total	203,842	24,859	8,745
2005	Feb	7,551	39	0
	Mar	36,865	1,899	542
	Apr	65,705	8,653	2,389
	May	4,082	0	143
	Jun 1–15	10,492	724	486
	Jun 16–30	12,824	669	485
	Jul	25,681	902	15
	Total	163,200	12,886	4,060
2006	Feb	2,471	19	0
	Mar	27,418	1,810	413
	Apr	33,750	3,595	712
	May	12,225	634	345
	Jun 1–15	10,971	927	991
	Jun 16–30	19,088	3,360	5
	Jul	24,714	1,564	11
	Total	130,637	11,909	2,477
2007	Feb	4,405	24	0
	Mar	27,949	1,110	311
	Apr	34,890	4,507	924
	May	10,989	505	234
	Jun 1–15	4,777	330	179
	Jun 16–30	23,732	2,214	0
	Jul	16,036	0	219
	Total	122,778	8,690	1,867
2008	Feb	4,150	3	1
	Mar	35,453	4,107	668
	Apr	63,369	15,930	2,463
	May	0	0	0
	Jun 1–15	0	0	0
	Jun 16–30	30,505	2,051	463
	Jul	20,783	0	427
	Total	154,260	22,091	4,022
2009	Feb	4,539	34	1
	Mar	55,061	3,906	933
	Apr	82,693	12,983	2,304
	May	0	0	10
	Jun 1–15	4,109	0	148
	Jun 16–30	23,569	1,749	381
	Jul	39,644	507	469
	Total	209,615	19,179	4,246
2010	Feb	7,614	128	40
	Mar	65,160	6,646	989
	Apr	99,001	22,473	3,407
	May	6,196	0	311
	Jun 1–15	7,005	0	608
	Jun 16–30	26,932	1,866	845
	Jul	43,729	673	483
	Total	255,637	31,786	6,683
2011	Feb	5,598	280	47
	Mar	59,971	3,349	1,099
	Apr	48,962	4,026	928
	May	21,237	1,687	385
	Jun 1–15	19,127	2,352	695
	Jun 16–30	30,858	3,787	1,731
	Jul	44,960	1,373	1,040
	Total	230,713	16,854	5,925
2012	Feb	8,188	37	23
	Mar	39,600	1,560	309
	Apr	57,357	11,105	1,810
	May	15,024	630	739
	Jun 1–15	7,750	0	595
	Jun 16–30	31,298	2,698	1,521
	Jul	49,435	199	1,037
	Total	208,652	16,229	6,034
2013	Feb	4,856	46	11
	Mar	40,955	1,462	431
	Apr	28,895	3,634	845
	May	13,751	461	458
	Jun 1–15	21,198	1,347	921
	Jun 16–30	26,473	1,820	1,172
	Jul	25,564	12	336
	Total	161,692	8,782	4,174
2014	Feb	3,292	0	0
	Mar	25,275	910	246
	Apr	60,429	10,652	2,525
	May	33,799	2,727	1,978
	Jun 1–15	22,847	1,439	2,027
	Jun 16–30	23,645	1,669	2,074
	Jul	30,016	311	629
	Total	199,303	17,708	9,479
2015	Feb	5,133	24	6
	Mar	40,963	2,594	423
	Apr	50,470	10,800	1,691
	May	38,991	4,853	1,875
	Jun 1–15	15,616	1,315	1,057
	Jun 16–30	18,726	1,673	1,028
	Jul	31,829	4,255	463
	Total	201,728	25,514	6,543
2016	Feb	6,399	151	19
	Mar	45,166	3,950	658
	Apr	33,964	5,916	990
	May	25,886	1,428	1,049
	Jun 1–15	15,411	1,221	1,060
	Jun 16–30	25,157	1,920	2,080
	Jul	32,910	1,160	2,090
	Total	184,893	15,746	7,946
2017	Feb	1,892	0	0
	Mar	10,120	53	6
	Apr	51,291	8,994	937
	May	0	0	0
	Jun 1–15	0	0	0
	Jun 16–30	23,438	2,864	1,521
	Jul	18,157	652	727
	Total	104,898	12,563	3,191

Table 23. Recreational fisheries upstream of Bonneville Dam, 2002–2017.

Year	Kept	Released	Season	General Area
Zone 6 Spring Chinook Recreational Fishery				
2002	1,609	1,073	Mar 16–May 15	The Dalles Dam–McNary Dam
2003	1,744	1,163	Feb 15–May 16 (4d/wk in May)	BON–McNary
2004	1,539	569	Mar 16–May 6	BON–McNary
2005	438	263	Mar 16–Apr 21, June 4–15	BON–McNary, BON–Hwy 395
2006	1,290	716	Mar 16–Apr 30, May 12–jun 15	BON–McNary, BON–Hwy 395
2007	1,401	439	Mar 16–May 3, June 6–15	BON–McNary
2008	2,014	535	Mar 16–May 10	BON–McNary
2009	647	129	Mar 16–April 30	BON–McNary
2010	3,646	741	Mar 16–May 10	BON–McNary
2011	2,508	773	Mar 16–May 1, May 7–10, May 28–Jun 15	BON–Oregon/Washington border
2012	1,310	467	Mar 16–May 6, May 19–20	BON–Oregon/Washington border
2013	1,078	420	Mar 16–May 5, Jun 8–15	BON–Oregon/Washington border
2014	4,199	1,352	Mar 16–May 9, May 31–Jun 15	BON–Oregon/Washington border
2015	1,705	500	Mar 16–May 10, May 28–Jun 15	BON–Oregon/Washington border
2016	1,446	335	Mar 16–May 8, May 13–15	BON–Oregon/Washington border
2017	15	27	Mar 16–May 5	BON–Oregon/Washington border
Snake River Spring Chinook Recreational Fishery				
Year	Kept	Released	Season	General Area
2002	866	351	Apr 25–Jun 2 (4d/wk)	LGO
2003	513	405	Apr 26–Jun 15	LGO
2004	1,224	337	April 16–May 7	LGO
2005	77	83	June 11–30	LGO
2006	192	100	May 17– Jun 30	LGO
2007	284	67	May 9–Jun 30	LGO
2008	515	128	Apr 22/Apr 24–May 11	Ice Harbor (IHD)/ LGO
2009	498	100	April 24–May 17	LGO
2010	1,663	199	April 20/24–May 21	IHD/ LGO/LRG/Clarkston
2011	1,913	357	April 20/25–May 13/15, May 28–Jun 2	IHD/ LGO/Clarkston
2012	2,338	448	April 20/25–May 18/20/22	IHD/ LGO/LRG/Clarkston
2013	353	125	Apr 26/28–May 11/13/27, ~Jun 14–28 (days/wk)	IHD/ LGO/Clarkston
2014	1,454	553	Apr 24/27–May 14/25/27, ~Jun 4–28 (days/wk)	IHD/ LGO/LRG/Clarkston
2015	1,900	383	Apr 19/23–May 5/9/12, Jun 4–30 (days/wk)	IHD/ LGO/LRG/Clarkston
2016	1,328	343	Apr 29/May 1, May 25/30 closure, Reopen June 12–13 (days/wk)	IHD/ LGO/LRG/Clarkston
2017	65	8	Apr 28-May 1, May 5-8, May 12-15	IHD/ LGO/LRG/Clarkston
Zone 6 Summer Chinook Recreational Fishery (includes MCN–PRD)				
Year	Kept	Released	Season	General Area
2002	129	194	July 9–July 31	BON–Hwy 395
2003	396	594	June 16–July 31	BON–Hwy 395
2004	257	386	June 16–July 31	BON–Hwy 395
2005	377	480	June 16–July 31	BON–Hwy 395
2006	295	0	June 16–July 31	BON–Priest Rapids Dam (PRD)
2007	148	0	June 16–July 3	BON–PRD
2008	997	0	June 16–July 1	BON–PRD
2009	265	0	July 1–31	BON–PRD
2010	811	497	June 16–July 31	BON–PRD
2011	343	304	June 16–July 31	BON–PRD
2012	268	186	June 16–July 31	BON–PRD
2013	281	289	June 16–July 31	BON–PRD
2014	361	615	June 16–July 31	BON–PRD
2015	741	297	June 16–July 31	BON–PRD
2016	470	636	June 16–July 31	BON–PRD
2017	248	94	June 16–July 31 (BON-McN), June 16–August 15 (McN-PRD)	BON–PRD

Table 24. Recreational fisheries downstream of Bonneville Dam, 2000–2017.[1,2]

Lower Columbia River Recreational Fishery—Spring Chinook[3]			
Year	Anglers	Kept	Released
2000	16,039	322	92
2001	177,642	25,711	15,517
2002	180,127	20,936	14,221
2003	166,640	16,892	9,267
2004	161,992	23,740	7,420
2005	124,695	11,315	3,560
2006	86,835	6,985	2,461
2007	83,010	6,476	1,648
2008	102,972	20,040	3,132
2009	146,402	16,923	3,396
2010	186,132	29,247	5,355
2011	154,895	11,694	3,154
2012	127,919	13,332	3,476
2013	109,655	6,950	2,666
2014	145,642	15,728	6,776
2015	151,173	19,586	5,052
2016	126,826	12,666	3,776
2017	63,303	9,047	943
Lower Columbia River Recreational Fishery—Summer Chinook[4]			
Year	Anglers	Kept	Released
2000	28,038	0	341
2001	32,312	0	889
2002	54,839	1,352	1,840
2003	46,943	1,854	1,777
2004	41,850	1,119	1,325
2005	38,505	1,571	500
2006	43,802	4,924	16
2007	39,768	2,214	219
2008	51,288	2,051	890
2009	63,213	2,256	850
2010	70,661	2,539	1,328
2011	75,818	5,160	2,771
2012	80,733	2,897	2,558
2013	52,037	1,832	1,508
2014	53,661	1,980	2,703
2015	50,555	5,928	1,491
2016	58,067	3,080	4,170
2017	41,595	3,516	2,248

[1]*Adult fish only.*
[2]*Includes steelhead-target angler trips during non-retention periods for Chinook.*
[3]*February through May 31 during 2000–2004 and February–June 15 since 2005.*
[4]*June 1 through July 31 during 2000–2004 and June 16–July 31 since 2005.*

Table 25. Stock composition of hatchery spring Chinook (in thousands) kept during mainstem lower Columbia recreational fisheries, 1990–2017.

Year	Spring Season Kept Catch by Stock				
	Willamette River	C,K,L,S[1]	Upriver	Select Area[2]	Total
1990	8.8	0.3	3.1	—	12.2
1991	3.5	0.6	1.5	—	5.6
1992	3.1	1.0	1.2	—	5.3
1993	0.9	0.5	0.4	—	1.8
1994	1.3	0.4	0.4	—	2.1
1995	0.0	0.0	0.0	—	0.0
1996	0.0	0.0	0.0	—	0.0
1997	0.0	0.0	0.0	—	0.0
1998	<0.1	<0.1	0.0	—	0.1
1999	0.0	0.0	0.0	—	0.0
2000	0.2	<0.1	0.1	—	0.3
2001	3.6	0.6	21.6	—	25.7
2002	5.0	0.5	14.9	—	20.5
2003	7.0	1.1	8.8	—	16.9
2004	5.5	1.6	16.6	—	23.7
2005	2.8	1.6	6.9	—	11.3
2006	2.0	1.0	4.0	—	7.0
2007	1.6	1.0	3.8	0.1	6.5
2008	0.2	0.5	19.3	0.0	20.0
2009	1.4	0.6	15.0	<0.1	16.9
2010	4.9	1.1	23.2	0.0	29.2
2011	2.1	0.4	9.2	<0.1	11.7
2012	3.0	0.1	10.2	<0.1	13.3
2013	1.7	0.1	5.1	0.1	7.0
2014	2.2	0.4	12.9	0.2	15.7
2015	3.4	0.8	15.2	0.1	19.6
2016	1.4	1.2	9.8	0.2	12.7
2017	1.2	0.5	7.1	0.2	9.0

[1]*C=Cowlitz River, K=Kalama River, L=Lewis River, and S=Sandy River. May include occasional coastal stocks.*
[2]*Select Area stocks not estimated prior to 2007.*

Table 26. Adult spring Chinook recreational catch and harvest rates for the Cowlitz, Kalama, Lewis, and Sandy rivers, 1980-2017.

	Cowlitz River		Kalama River		Lewis River		Sandy River		Total	
Year[1]	Kept Catch	Harvest Rate	Kept Catch	Harvest Rate	Kept Catch	Harvest Rate	Kept Catch	Harvest Rate	Kept Catch	Harvest Rate
1980-84 Ave.	7,094	32%	1,292	32%	2,554	65%	1,269	62%	12,215	32%
1985-89 Ave.	2,888	26%	568	43%	6,262	64%	815	43%	10,549	42%
1990	2,636	35%	887	45%	7,143	77%	2,058	58%	12,724	57%
1991	3,417	38%	1,404	54%	6,201	74%	1,950	53%	12,972	55%
1992	2,134	21%	749	31%	4,385	73%	2,223	26%	9,491	35%
1993	2,897	31%	1,472	51%	6,102	74%	2,416	38%	12,887	48%
1994	1,076	34%	229	18%	1,942	63%	1,322	38%	4,569	42%
Ave.	2,432	32%	948	40%	5,155	72%	1,994	43%	10,529	47%
1995	33	2%	3	0%	2,437	65%	1,134	45%	3,607	40%
1996	29	2%	190	30%	351	20%	1,290	34%	1,860	23%
1997	144	8%	5	1%	781	36%	1,186	27%	2,116	24%
1998	0	0%	0	0%	228	14%	998	28%	1,226	18%
1999	491	24%	8	1%	692	39%	1,481	41%	2,672	32%
Ave.	139	7%	41	7%	898	35%	1,218	35%	2,296	27%
2000	538	24%	397	28%	1,260	50%	1,268	35%	3,463	35%
2001	54	3%	407	23%	2,020	53%	1,580	30%	4,061	32%
2002	1,598	31%	539	19%	1,372	39%	1,588	27%	5,097	29%
2003	2,996	19%	833	18%	1,916	38%	1,595	29%	7,340	24%
2004	1,926	12%	921	21%	3,035	41%	4,452	35%	10,334	25%
Ave.	1,422	18%	619	22%	1,921	44%	2,097	31%	6,059	29%
2005	1,327	14%	1,044	31%	1,569	45%	1,845	24%	5,785	24%
2006	838	12%	1,385	25%	2,788	38%	925	21%	5,936	25%
2007	747	19%	2,070	26%	3,588	47%	393	14%	6,798	30%
2008	607	20%	251	15%	825	37%	724	12%	2,407	19%
2009	1,880	31%	117	29%	416	28%	293	12%	2,706	26%
Ave.	1,080	19%	973	25%	1,837	39%	836	17%	4,726	25%
2010	2,154	25%	417	43%	520	22%	788	11%	3,879	20%
2011	2,558	48%	222	29%	253	19%	1,352	29%	4,385	36%
2012	5,465	45%	521	59%	381	20%	1,159	25%	7,526	39%
2013	3,377	41%	0	0%	103	7%	506	14%	3,986	28%
2014	2,817	34%	0	0%	14	1%	380	12%	3,211	23%
Ave.	3,274	39%	232	26%	254	14%	837	18%	4,597	29%
2015	8,417	36%	1,088	35%	104	10%	192	5%	9,801	31%
2016[2]	9,269	41%	541	14%	69	15%	441	11%	10,320	33%
2017[2]	5,002	36%	607	24%	300	13%	1,000	12%	6,909	26%

[1]*1995–2001 and 2008 harvest rates reflect fishery restrictions due to extremely low returns.*
[2]*Data are preliminary.*

Table 27. Smolt releases at Select Area fisheries sites, brood years 2000–2015.

		Release Site									
		Youngs Bay			Blind Slough			Tongue Point	Deep River		
Brood Year	Species[1]	South Fork Klaskanine Hatchery	Klaskanine Hatchery	Youngs Bay Net Pens	Big Creek Hatchery	Blind Slough Net Pens	Gnat Creek Hatchery	Tongue Point Net Pens	Deep River Net Pens	Grays River Hatchery	**Select Area Total**
2005	CHS	—	—	417,662	—	272,226	—	104,149	263,600	—	1,057,637
	SAB	628,888	—	476,497	—	—	—	—	—	—	1,105,385
	CHF	—	—	—	5,850,219	—	—	—	—	—	5,850,219
	CO	—	—	1,157,746	529,697	304,558	—	174,547	449,200	157,500	2,773,248
2006	CHS	—	—	543,803	—	312,962	—	79,343	121,500	—	1,057,608
	SAB	708,412	—	564,641	—	—	—	—	—	—	1,273,053
	CHF	—	—	—	4,467,016	—	—	—	—	—	4,467,016
	CO	278,944	232,455	768,960	559,717	310,133	—	597,754	368,000	132,188	3,248,151
2007	CHS	—	—	457,161	—	280,437	—	103,060	279,811	—	1,120,469
	SAB	674,181	—	574,020	—	—	—	—	—	—	1,248,201
	CHF	—	—	—	4,286,153	—	—	—	—	—	4,286,153
	CO	370,796	609,400	1,014,141	540,169	300,036	—	477,830	706,150	158,000	4,176,522
2008	CHS	—	—	804,665	—	265,832	—	101,700	363,000	—	1,535,197
	SAB	714,118	—	702,659	—	—	—	—	—	—	1,416,777
	CHF	—	—	—	5,666,218	—	—	—	700,000	—	6,366,218
	CO	347,494	561,968	783,092	516,206	417,506	—	483,412	747,000	153,000	4,009,678
2009	CHS	—	—	702,609	—	253,503	—	100,557	234,000	—	1,290,669
	SAB	685,056	—	229,105	—	—	—	—	—	—	914,161
	CHF	—	2,093,575	—	3,948,579	—	—	—	700,000	—	6,742,154
	CO	368,980	392,314	796,443	538,402	388,505	—	479,365	692,000	155,000	3,811,009
2010	CHS	—	—	612,330	—	258,923	—	253,002	405,000	—	1,529,255
	SAB	672,829	—	684,030	—	—	—	—	—	—	1,356,859
	CHF	—	1,932,616	—	3,255,120	—	—	—	862,000	—	6,049,736
	CO	390,610	489,060	757,474	532,082	372,265	—	491,330	800,000	163,000	3,995,821
2011	CHS	—	—	601,862	—	326,490	99,190	481,617	320,000	—	1,829,159
	SAB	704,594	—	653,452	—	—	—	—	—	—	1,358,046
	CHF	—	1,954,732	—	3,614,747	—	—	—	893,000	—	6,462,479
	CO	386,668	607,824	769,971	571,616	586,277	—	849,381	600,000	165,000	4,536,737
2012	CHS	—	—	631,337	—	370,858	150,834	493,595	—	—	1,646,624
	SAB	680,806	481,663	687,801	—	—	—	—	—	—	1,850,270
	CHF	—	1,986,471	—	2,956,068	—	—	—	2,620,000	—	7,562,539
	CO	336,856	732,994	774,533	537,811	623,649	—	928,589	725,000	155,000	4,814,432
2013	CHS	—	—	560,520	—	437,583	142,959	465,420	—	—	1,606,482
	SAB	697,554	822,825	706,974	—	—	—	—	—	—	2,227,353
	CHF	—	1,644,974	—	2,837,901	—	—	—	930,000	—	5,412,875
	CO	260,289	903,119	684,306	537,661	569,921	—	935,023	654,000	165,000	4,709,319
2014	CHS	—	275,973	627,857	—	128,700	380,848	437,585	—	—	1,850,963
	SAB	672,387	525,600	472,678	—	—	—	—	—	—	1,670,665
	CHF	—	4,118,792	—	3,120,715	—	—	—	975,000	—	8,214,507
	CO	209,923	1,552,458	766,193	568,328	574,243	—	842,341	920,000	156,000	5,589,486
2015	CHS	—	—	910,343	—	116,114	379,653	399,621	—	—	1,805,731
	SAB	160,487	461,441	—	—	—	—	—	—	—	621,928
	CHF	—	2,802,981	—	3,090,605	—	—	—	875,000	—	6,768,586
	CO	209,745	1,487,362	550,062	536,144	349,156	—	747,057	855,000	53,000	4,787,526

[1]*CHS=Spring Chinook, CHF=Fall Chinook (tule stock unless noted), SAB=Select Area Bright Fall Chinook, CO=Coho.*

Table 28. Winter/spring/summer season commercial and recreational Chinook harvest in Select Area sites, 1993–2017.

	Commercial					Recreational[2]	
Year	Youngs Bay	Blind Slough	Tongue Point[1]	Deep River	*subtotal*	*subtotal*	Sum
1993	851	0	0	0	851	0	851
1994	155	0	0	0	155	0	155
1995	201	0	0	0	201	0	201
1996	789	0	0	0	789	0	789
1997	1,821	0	0	0	1,821	0	1,821
1998	2,167	60	31	0	2,258	55	2,313
1999	1,298	458	199	0	1,955	25	1,980
2000	4,731	818	947	0	6,496	255	6,751
2001	5,593	2,045	1,631	0	9,269	500	9,769
2002	6,643	2,053	3,003	0	11,699	552	12,251
2003	5,300	2,041	345	118	7,804	994	8,798
2004	6,916	3,531	0	115	10,562	1,081	11,643
2005	969	1,377	0	60	2,406	157	2,563
2006	5,798	1,419	0	28	7,245	336	7,581
2007	5,209	1,536	0	29	6,774	194	6,968
2008	3,195	1,004	259	28	4,486	232	4,718
2009	3,123	797	133	122	4,175	274	4,449
2010	20,751	2,999	727	415	24,892	1,999	26,891
2011	8,751	1,611	656	100	11,118	418	11,536
2012	8,588	961	503	44	10,096	646	10,742
2013	6,648	936	374	124	8,082	341	8,423
2014	4,034	467	72	65	4,638	315	4,953
2015	9,083	3,120	1,262	204	13,669	2,507	16,176
2016[3]	6,694	2,617	1,106	79	10,496	844	11,340
2017[3]	10,798	3,261	3,517	21	17,597	1,339	18,936

[1]*No winter, spring, or summer seasons occurred in Tongue Point/South Channel from 2004–2007. Volunteer test fishing in mid-April 2008 resulted in a full-fleet experimental fishery beginning in late April and continuing through the remainder of the spring season. Abbreviated full-fleet experimental fisheries occurred in late April 2009, and in late April–early June, 2010–2013 following test fishing activities. Winter and spring fisheries were reinstated beginning in 2014.*

[2]*From 1998–2007, annual estimates of recreational harvest were made starting when effort was first observed in a particular site. Since 2008, the estimate is based on expanded punch card data.*

[3]*Recreational harvest estimate is preliminary and will be updated when punch card data are available.*

Table 29. Stock composition of Chinook landed in winter, spring, and summer Select Area commercial fisheries, 2000–2017.

Year	Stock					
	Select Area[1]	Willamette River	C,K,L,S[2]	Upriver[3]	Summer Chinook[3]	Coastal Stocks
2000	84.9%	11.6%	2.8%	0.7%	0.0%	0.0%
2001	87.6%	5.8%	1.5%	4.4%	0.3%	0.5%
2002	73.8%	16.6%	4.0%	4.8%	0.5%	0.3%
2003	77.5%	13.1%	2.8%	5.1%	0.8%	0.6%
2004	90.0%	5.7%	2.0%	1.9%	0.4%	0.0%
2005	91.8%	5.8%	1.8%	0.6%	0.1%	0.0%
2006	93.2%	3.8%	1.4%	1.6%	0.1%	0.0%
2007	93.6%	4.7%	0.9%	0.7%	0.1%	0.0%
2008	88.3%	2.2%	2.6%	5.3%	1.5%	0.0%
2009	85.2%	6.6%	3.8%	3.7%	0.7%	0.0%
2010	86.6%	6.7%	0.6%	6.1%	0.1%	0.0%
2011	86.3%	9.4%	1.2%	2.7%	0.3%	0.0%
2012	88.9%	7.0%	0.8%	3.3%	0.0%	0.0%
2013	80.1%	15.3%	1.2%	3.2%	0.1%	0.0%
2014	77.7%	14.1%	1.6%	5.6%	1.0%	0.0%
2015	81.8%	9.2%	2.0%	5.9%	1.1%	0.0%
2016	85.4%	5.3%	5.1%	3.3%	0.9%	0.0%
2017	87.6%	7.5%	2.0%	2.7%	0.3%	0.0%
All year Average	85.6%	8.4%	2.1%	3.4%	0.5%	0.1%

[1]*Select Area stock group includes Select Area spring Chinook and Select Area Bright fall Chinook.*
[2]*C=Cowlitz River, K=Kalama River, L=Lewis River, and S=Sandy River.*
[3]*From 2009 to present, summer Chinook caught before June 15th are included in the upriver stock grouping. Prior to 2009, all summer Chinook were counted in the summer Chinook stock grouping.*

Table 30. Winter season commercial landings in treaty fisheries, 1977–2017.

Year	Season[1]	Peak Net Count	Numbers of Fish Sold Commercially[2]			
			Chinook	Steelhead	Sturgeon	Walleye
1977–1981 Ave.	Feb 1–Apr 1[3]	170	1,400	3,700	110	—
Range		87–246	30–2,800	2,600–4,900	20–220	
1982–1986 Ave.	Feb 1–Mar 21[4,5]	107	50	4,700	670	—
Range		61–180	5–100	3,000–7,800	70–1,700	
1987–1991 Ave.	Feb 1–Mar 21[4,5]	183	100	6,700	2,100	500
Range		124–299	0–280[6]	2,100–10,800	1,300–3,100	130–1,030
1992	Feb 1–Mar 21 (48 days)	161 (Mar 9)	47	4,600	625[7]	350
1993	Feb 1–Mar 20 (47 days)	78 (Mar 18)	0	2,400	2,000	180
1994	Feb 1–Mar 19 (34 days)	120 (Mar 16)	10	2,100	1,500	190
1995	Feb 1–Mar 18 (33 days)	83 (Mar 16)	13	2,100	1,950	730
1996	Feb 1–Mar 16 (32 days)	—	0	90	480	230
1997	Feb 3–Mar 21 (35 days)	—	14	220	2,600	190
1998	Feb 2–Mar 14 (30 days)	—	1	150	2,800	120
1999	Feb 1–Mar 20 (40 days)	—	1	89	1,700	160
2000	Feb 1–Mar 21 (48 days)	—	31	2	2,251	307
2001	Feb 1–Mar 14 (41 days)	—	160	230	1,961	86
2002	Feb 1–Mar 21 (48 days)	—	45	78	1,529	76
2003	Feb 1– Mar 21 (48 days)	—	857	788	1,339	113
2004	Feb 2–Mar 10 (37 days)	—	2	70	1,748	48
2005	Feb 1–Mar 16 (44 days)	—	1	8	1,754	27
2006	Feb 1–Mar 21 (48 days)	—	1	139	815	186
2007	Feb 1–Mar 21 (49 days)	—	3	558	1,114	85
2008	Feb 1–Mar 21 (48 days)	—	0	334	1,588	20
2009	Feb 2–Mar 21	—	0	0	1,602	1
2010	Feb 1–Mar 3	—	0	12	2,889	2
2011	Feb 1–Mar 21	—	7	247	2,869	103
2012	Feb 1–Mar 21	—	2	100	4,153[8]	14
2013	Feb 1–Mar 21	—	0	0	2,974[9]	3
2014	Feb 1–Mar 21	—	0	98	2,115[10]	5
2015	Feb 2–Mar 21	—	6	171	1,355[11]	7
2016	Feb 1-Mar 21	—	0	20	1,098[12]	10
2017	Feb 1–Mar 17	—	0	128	857[13]	14

[1]*Season dates during 1994–1999 (except March, 1999) include weekend closures of 42–48 hours.*
[2]*Treaty sales to licensed fish buyers.*
[3]*The 1980 season ended on March 15. The ending date for all other years was April 1.*
[4]*The 1989 season ended on March 26. The end date for all other years was March 21.*
[5]*Walleye sales not accounted for prior to 1989.*
[6]*Includes two late fall Chinook in 1991.*
[7]*Sturgeon sales prohibited beginning noon March 5.*
[8]*John Day Pool fishery through March 1, Bonneville Pool fishery through March 6, The Dalles Pool fishery through March 21.*
[9]*John Day Pool fishery through February 27, Bonneville Pool fishery through March 6, The Dalles Pool fishery through March 21.*
[10]*John Day Pool fishery through February 26, Bonneville Pool fishery through March 15, The Dalles Pool fishery through March 21(except closed between March 3–12).*
[11]*The Dalles and John Day Pool fishery Feb 2–24. Bonneville Pool fishery Feb. 23–March 21.*
[12]*The Dalles and John Day Pool fishery Feb 1–March 12. Bonneville Pool fishery Mar 14–March 21.*
[13]*The Dalles and John Day Pool fishery Feb 1–March 4. Bonneville Pool fishery Mar 5–March 17.*

Table 31. Spring season commercial landings in treaty fisheries, 2009–2017.[1]

Spring Season					
		Numbers of Fish Sold Commercially to wholesale fish buyers			
Year	Season	Chinook[2]	Steelhead	Sockeye	Walleye
2009	June 1–June 14	1,039	44	11	1
2010	April 27–May 19	2,090	46	0	1
2011	May 10–June 15	10,519	124	0	0
2012	May 15– June 15	4,910	77	968	7
2013	June 8– June15	694	26	265	0
2014	May 6–June 15	14,447	144	39	16
2015	March 12–June 15	19,028	55	97	9
2016	May 16-June 15	5472	107	3	4
2017	None	0	0	0	0

[1]*Includes platform and hook and line fisheries since 2010.*
[2]*Includes both adult and jack Chinook.*

Table 32. Summer season commercial landings in treaty fisheries, 2009–2017.[1]

Summer Season					
		Numbers of Fish Sold Commercially to wholesale fish buyers			
Year	Season	Chinook[2]	Steelhead	Sockeye	Walleye
2009	Jun 16–July 17	9,730	1,040	5,958	6
2010	June 16–July 29	15,569	10,957	21,843	57
2011	June 16–July 31	17,521	2,683	4,763	55
2012	June 16–July 12	6,474	548	18,931	33
2013	June 16–July 25	12,057	1,691	3,278	28
2014	June 16–July 31	15,389	4,361	21,448	15
2015	June 16–July 31	31,545	2,142	22,884	28
2016	June 16-July 31	17,988	2,426	13,021	40
2017	June 16-July 31	14,755	3,251	1,051	28

[1]*Includes platform and hook and line fisheries since 2010.*
[2]*Includes both adult and jack Chinook.*

Table 33. Winter season harvest of winter and summer steelhead in treaty fisheries in Zone 6, 2001–2017.

	Bonneville Pool Winter Steelhead[1]			The Dalles and John Day Pool Summer Steelhead [2]		
Run Year	Clipped	Unclipped	Total	Clipped	Unclipped	Total
2001-2	74	22	96	0	0	0
2002-3	481	95	576	173	47	220
2003-4	49	11	60	12	4	16
2004-5	8	2	10	0	0	0
2005-6	94	18	112	24	7	31
2006-7	217	83	300	195	75	270
2007-8	20	14	34	216	90	306
2008-9	2	2	4	0	0	0
2009-10	9	9	18	8	4	12
2010-11	24	17	41	173	76	249
2011-12	60	33	93	11	5	16
2012-13	3	3	6	0	0	0
2013-14	66	38	104	0	0	0
2014-15	95	90	185	0	0	0
2015-16	19	15	34	0	0	0
2016-17	66	35	101	0	0	0

[1]*Clipped and unclipped winter steelhead based on Bonneville Dam clip rate. Includes Platform & Hook and Line from Nov. 1-Mar 31 and winter gillnet.*
[2]*Includes catch during winter gillnet fishery. Summer steelhead harvest is on fish passing Bonneville Dam in the previous calendar year.*

Table 34. April-June treaty steelhead harvest, 2001–2017.[1]

Year	Total	Clipped	Unclipped
2001	617	450	167
2002	411	257	154
2003	385	258	127
2004	400	245	155
2005	216	137	79
2006	422	301	121
2007	323	256	67
2008	99	71	28
2009	382	328	54
2010	331	250	81
2011	167	160	7
2012	387	323	64
2013	267	202	65
2014	397	318	79
2015	147	106	41
2016	226	204	22
2017	605	446	159

[1]*Clipped and unclipped based on Bonneville Dam clip rate for Skamania stock. Includes spring Drano Lake harvest since 2005.*

Table 35. Summer season treaty steelhead harvest in Zone 6 and in bank fisheries downstream of Bonneville Dam, 1999–2017.[1]

Year	Clipped A-Index	Unclipped A-Index	Clipped B-Index	Unclipped B-Index	Total Clipped	Total Unclipped	Total
1999	—	—	—	—	—	—	2,952
2000	—	—	—	—	—	—	1,670
2001	—	—	—	—	—	—	8,220
2002	—	—	—	—	—	—	4,967
2003	—	—	—	—	—	—	4,455
2004	—	—	—	—	—	—	5,514
2005	—	—	—	—	—	—	3,552
2006	—	—	—	—	—	—	1,345
2007	—	—	—	—	—	—	1,039
2008	1,753	614	694	142	2,447	756	3,203
2009	2,193	527	605	210	2,798	737	3,535
2010	5,067	1,857	3,022	1,011	8,089	2,868	10,957
2011	1,848	658	943	545	2,791	1,203	3,994
2012	921	399	112	80	1,033	479	1,512
2013	2,975	2,256	87	55	3,062	2,311	5,373
2014	4,670	3,173	575	370	5,245	3,543	8,788
2015	1,431	1,107	257	71	1,688	1,178	2,866
2016	1,866	1,020	243	33	2,109	1,053	3,162
2017	445	182	36	2	481	184	671

[1]*Stock proportions from 2008 on based on creel sampling data. B-Index steelhead are defined as steelhead of any origin that measure 78cm or greater in fork length. Beginning 2017, catch includes July only.*