



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

**2013 JOINT STAFF REPORT:
STOCK STATUS AND FISHERIES FOR
SPRING CHINOOK, SUMMER CHINOOK, SOCKEYE,
STEELHEAD, AND OTHER SPECIES,
AND MISCELLANEOUS REGULATIONS**

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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 and includes a summary of 2012 winter/spring and summer fisheries and management guidelines and expectations for 2013 salmon and summer steelhead returns and 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. A Compact hearing for the 2013 winter/spring and summer management season is scheduled for 10 AM, Wednesday January 30, 2013 at the Sheraton Portland Airport Hotel, 8235 Northeast Airport Way, Portland, Oregon. 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 Indian 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 Indian fishers. This responsibility has become increasingly demanding in recent years. The states maintain a conservative management approach when considering Columbia River fisheries that will affect species listed under the ESA.

SEASONS CONSIDERED

At the January 30 hearing, the following non-Indian seasons will be considered: 1) mainstem Columbia River recreational spring Chinook fishery; 2) mainstem recreational sturgeon fishery 3) mainstem commercial winter sturgeon fishery; and 4) Select Area commercial winter, spring, and summer fisheries. 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 enter fresh water to spawn in Columbia River tributaries and generally emigrate from freshwater as yearlings. Returning adults are comprised of lower river (downstream from Bonneville Dam) and upriver (upstream from Bonneville Dam) components. 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 one year early, prior to adulthood. Spring Chinook entering the lower Columbia River during mid-February to mid-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 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 May, with peak abundance during mid-March to mid-April. Migration through the lower Willamette River varies with water conditions but typically occurs from mid-March through April. 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 predominated because they exhibit a broader migration pattern and usually contained 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 lower returns to the Willamette in some years and a lower proportion of Age-5 fish in recent Willamette returns.

Historically, wild spring Chinook spawned in nearly all east side Willamette tributaries upstream of Willamette Falls. During 1952-1968, the U.S. Army Corps of Engineers (USACE) constructed dams on all major east side tributaries upstream of Willamette Falls, blocking over 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 21% (range 15-27%) 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 0.75 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.

2012 Return

The Willamette River return of 65,115 spring Chinook entering the Columbia River in 2012 was 19% less than the 2011 return of 80,254 fish and was 22% less than the preseason forecast of 83,400 (Tables 1 and 2). The return was made up of 2,078 Age-3, 42,587 Age-4, 20,276 Age-5, and 174 Age-6 Chinook. Approximately 18% (11,417) of the 2012 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.

2012 Escapement

Passage of spring Chinook over Willamette Falls in 2012 totaled 37,213 fish (Table 3). From 1970 to 2012, the number of spring Chinook passing Willamette Falls ranged from 14,700 to 96,700 and averaged 43,300 fish. Of the fish passing Willamette Falls in 2012, about 28,500 were hatchery fish, which exceeded the 26,600 hatchery fish escapement goal specified in the Willamette Fishery Management and Evaluation Plan (FMEP).

2013 Forecast

The ODFW staff has forecasted a return of 59,845 Willamette River spring Chinook to the Columbia River mouth in 2013 which would be lower than the 2003-2012 average actual return (Table 2). Age-specific returns for 2013 are expected to total 2,143 Age-3s, 30,553, Age-4s (range 28,970-49,444), 26,665 Age-5s (range 14,333-35,406), and 484 Age-6s. The 2013 return is expected to include about 12,600 non-fin-clipped fish (21% of total return), based on the proportions of unmarked fish seen in 2008-2012.

Clackamas River Spring Chinook

2012 Return

The run entering the Clackamas River has generally increased from an annual average of 2,600 in the 1970s, 8,200 in the 1980s, and 8,500 in the 1990s, to 15,300 in the 2000s. The larger returns since 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 2012, 5,799 fish (including 3,834 hatchery fish) returned to the Clackamas River (Table 3).

2012 Escapement

The North Fork Dam count of 3,437 spring Chinook in 2012 included 1,909 unmarked fish that were passed upstream, 89 marked fish that were recycled downstream (to provide additional recreational fishing opportunity), and 1,439 marked fish that were taken directly to Clackamas Hatchery where the swim-in return was 1,515 fish. An estimated 60 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 and 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. The return of 3,834 hatchery fish to the Clackamas River did not meet the FMEP escapement goal of 4,000.

2013 Forecast

The ODFW staff is forecasting a return of 7,312 spring Chinook to the Clackamas River. The 7,312 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 averages of 120 fish during 1954-1970, 1,000 during the 1980s, 2,900 during the 1990s, and 3,900 since 2000. Beginning with the 2000 brood, large-scale releases of spring Chinook smolts from wild, local broodstock were initiated at Sandy River Hatchery. Since 2002, only wild spring Chinook have been used for Sandy River Hatchery 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 as the sum 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. Lacking more recent

data, an average harvest rate based on the most recent five years available is used to estimate annual catch. Once final catch estimates 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 currently unavailable.

Because Marmot Dam counts are no longer available, ODFW has developed a different methodology for run reconstructions for 2008 and beyond. Redd count information for areas upstream of the Marmot Dam site were available for eight years prior to the removal of the dam. A linear regression fitted to the Marmot Dam counts and the redd counts was developed to allow for an escapement estimate to be based upon the redd counts directly.

The 2012 adult spring Chinook return to the Sandy River is estimated at 5,038 adults, compared to the 2012 forecast of 5,300 adults. The 2013 forecast is 6,100 adult fish, based on 2010-2012 average returns (Table 1). Recreational catch and harvest rates are shown in Table 25.

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 from 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. Forecast and actual returns are shown in Table 2. Catch from Columbia River fisheries are shown in Table 20 for commercial fisheries and Table 24 for recreational fisheries. Recreational tributary catch and harvest rates are shown in Table 25.

Cowlitz River Return and Forecast

The 2012 Cowlitz River spring Chinook return of 9,184 adults (including 301 wild fish) was slightly higher than the preseason forecast of 8,700 and the recent ten-year (2003-2012) average of 8,563.

The minimum hatchery escapement goal of 1,250 adults was met with 5,610 adipose clipped adults and 620 jacks returning to the hatchery. A total of 3,721 adipose clipped adults and 519 jacks plus 235 wild fish were released into the upper basin. Natural spawning escapement below the salmon hatchery for 2012 is estimated at 1,359 adults, which is approximately nearly half again higher than the recent ten-year average of 940.

The 2013 Cowlitz River forecast is 5,500 adult spring Chinook to the tributary mouth.

Kalama River Return and Forecast

The 2012 Kalama River spring Chinook return of 604 adults (including 91 wild fish) was 86% of the preseason forecast of 700. The 2012 return continued a trend of less than a thousand adults a year since 2009.

The minimum hatchery escapement goal of 400 adults was not met. A total of 267 adipose clipped adults and 22 jacks returned to the hatchery. An estimated 26 fish spawned naturally below Kalama Falls Hatchery and 81 wild fish were passed upstream.

The 2013 Kalama River forecast is 700 adult spring Chinook to the tributary mouth.

Lewis River Return and Forecast

The 2012 Lewis River spring Chinook return of 1,839 adults was approximately two-thirds of the preseason forecast of 2,700 fish and less than half the recent ten-year average of 4,015 adults.

The minimum hatchery escapement goal of 1,300 fish was met. A total of 1,316 adipose clipped adults and 88 jacks plus 8 wild adults returned to the Merwin Dam and Lewis River Salmon Hatchery traps in 2012. Natural spawning escapement below Merwin Dam is estimated to be 200 fish.

The 2013 Lewis River forecast is 1,600 adult spring Chinook to the tributary mouth.

Select Area Spring Chinook

The spring Chinook program in the Youngs Bay terminal fishing area began in 1989 and was expanded in 1993 with the implementation of the Bonneville Power Administration (BPA) funded Select Area Fisheries Evaluation (SAFE) Project. Implementation of the SAFE project also allowed for the development of other Select Area fishing sites. The evaluation phase of the SAFE program was completed in 2006, and the program is now referred to as the Select Area Fisheries Enhancement project (utilizing the same acronym – SAFE). Spring Chinook releases in Oregon Select Area sites are comprised of Willamette stock while the Washington site utilizes Cowlitz and/or Lewis stocks. Currently, most of the Select Area spring Chinook are reared in hatcheries primarily supported by the BPA-funded SAFE Project: Gnat Creek Hatchery (ODFW) in Oregon and Grays River Hatchery (WDFW) in Washington. Production at both hatcheries uses surplus eggs collected at other state facilities that would not otherwise have been hatched and reared. Spring Chinook released in Select Areas are reared and/or acclimated in net pens located in Youngs Bay, Tongue Point, and Blind Slough in Oregon and Deep River in Washington.

Spring Chinook releases in all Select Areas combined ranged between 890,400–1,828,100 smolts annually during 1996–2012, with an average release of 1,196,300. In Youngs Bay, annual releases of spring Chinook during the evaluation phase of the project averaged 449,500 smolts (1994–2006 broods). Since then, releases have increased and now average 644,200 for release years 2009–2012 (2007–2010 broods). Releases of spring Chinook smolts into Tongue Point and Blind Slough began in 1996. Since then, smolt releases into Blind Slough have averaged 293,800 smolts annually. Following the 2003 relocation of the Tongue Point net pen site further into Cathlamet Bay, experimental groups of spring Chinook smolts released from the Tongue Point–MERTS site ranged from 20,900–103,100 annually (2003–2011). Beginning in 2012, releases were increased to approximately 250,000 smolts (a return to pre-2000 levels); this increase was accomplished using the smolts reprogrammed from the Willamette system per Oregon Commission direction in 2008. Releases into Deep River began in 1998 and averaged

98,500 annually through 2004, except in 2000 when no spring Chinook were released. Starting with the 2005 release (2003 brood), smolts from Deep River were released directly into the mainstem Columbia River via towing of the net pens, in an attempt to reduce potential interactions with native juvenile chum; releases have averaged 282,200 since this strategy was initiated.

2012 Returns

Select Area spring Chinook fisheries are designed to maximize harvest of returning hatchery-produced adults to minimize straying and maximize economic return from the production. Returns of Select Area spring Chinook are measured by Select Area commercial and recreational harvest. Commercial landings of Chinook salmon in Select Area winter/spring/summer fisheries totaled 10,057 Chinook (9,610 spring Chinook; remainder primarily early-returning Select Area Bright (SAB) fall Chinook). This was the fifth highest catch on record and was greater than the recent ten-year (2002–2011) average harvest of 9,100 Chinook (Tables 1 and 6). The relatively high harvest was again driven by above average return rates of Age-4 adults from the Youngs Bay net pen release. An estimated 438 Chinook were harvested from recreational fisheries in Select Areas, bringing the total return to 10, 495 fish returning to Select Area sites in 2012.

2013 Forecast

The 2013 Select Area spring Chinook adult return will be comprised of Age-5 and Age-4 adults from releases of 1.54 million smolts in 2010 and 1.29 million smolts in 2011 (Table 5). Based on these releases and recent site- and age-specific return rates, about 9,860 spring Chinook are expected to return to Select Areas in 2013. Approximately 8,500 fish are predicted to return to Youngs Bay, 970 fish to Blind Slough/Knappa Slough, 390 fish to Tongue Point/South Channel, and some fish to Deep River. The combined Select Area commercial harvest is expected to be above average and similar to the number harvested in 2012.

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. 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/natural 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 84,500 fish per year (range 52,400-128,300) and decreased further during the 1990s when annual returns averaged 69,000 fish (range 12,800-124,300). The 1995 run marked an all-time low of 12,800 fish. The average annual return during the 2000s improved substantially to 210,100 adults (range 86,200 to 440,300). The 2001 run marked a high (since counting began in 1938) of 440,300 adult upriver spring Chinook (Table 7).

Run timing of upriver spring Chinook at Bonneville Dam had been fairly consistent up until 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 3 (range April 17-May 12), nearly one week later than observed over the past two decades. The average 50% passage date at Bonneville Dam over the past 10-years (2002-2011) is May 6, which continues the late timing trend observed since the 2000s.

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) 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 16% of the aggregate upriver spring Chinook run since 1980 but has dropped to 10% based on the recent 10-year average. Returns of upper Columbia spring Chinook to the Columbia River mouth in the 1980s averaged around 20,400 adults, including 7,600 wild fish (37% wild). Returns severely declined during the 1990s averaging 10,700 adults (18% wild). During the 2000s, the annual returns improved, averaging 21,600 adults, including 2,200 wild fish (10% wild). Data is provided in Table 8.

On average, the Snake River spring/summer Chinook return has represented 47% of the aggregate upriver spring Chinook run since 1980 compared to the recent 10-year average of around 53%. Returns of Snake River spring/summer Chinook to the Columbia River mouth in the 1980s averaged around 39,900 adults, including 19,200 wild fish. Returns declined during the 1990s averaging 29,800 adults (11,500 wild). During the 2000s, annual returns improved, averaging 112,200 adults including 31,100 wild fish (Table 9).

2012 Return

The 2012 upriver spring Chinook return to the Columbia River mouth totaled 203,100 adults (Table 7) and consisted of 179,700 Age-4 fish, 23,200 Age-5 fish, and 200 Age-6 fish. The return included 109,700 (33,700 wild) adult Snake River spring/summer Chinook and 24,400

(4,800 wild) adult upper Columbia spring Chinook. The remainder of the run was destined for tributaries in the mid-Columbia. The 2012 upriver spring Chinook return was 65% of the forecast of 314,200 fish. The aggregate return was similar to (101%) the recent ten-year average (2002-2011) of 200,100 adults, and the seventh highest since at least 1980. The Snake River spring/summer return was 108% of the 10-year average and also the seventh highest return since at least 1980. The Snake River wild component was 117% of average and the fifth highest return since 1980. The upper Columbia spring Chinook return was 109% of the recent 10-year average and improved over one year prior. The upper Columbia wild component was 213% of the recent 10-year average and represented nearly 20% of the 2012 upper Columbia return (Tables 7, 8 and 9).

The 2012 return followed the late timing trend observed in recent years. The peak count occurred on May 9 (over 18,000 fish), followed two days later by 50% passage completion date on May 11. Chinook jack counts at Bonneville Dam totaled 10,200 fish, which was less than the 10-year average of 25,500, and compares to the count (12,300) observed in 2004.

2013 Forecast

The 2013 forecast for upriver spring Chinook is 141,400 adults to the Columbia River mouth. This forecast includes 58,200 Snake River fish (18,900 wild) and 14,300 upper Columbia spring Chinook (1,600 wild), with the remainder of the run is comprised of spring Chinook returning to mid-Columbia tributaries. The overall return is expected to include 115,400 Age-4 fish and 25,700 Age-5 fish. If accurate, this projection would represent the 11th highest return since 1980, and 75% of the average return observed over the past decade (2003-2012).

The forecast for Snake River spring/summer Chinook is 58% of the recent 10-year average of and the wild forecast is 70% of the recent 10-year average. The wild Snake River component is forecast to represent 32% of total Snake River run, which is greater than the recent 10-year average percentage (27%). The forecast for adult Upper Columbia spring Chinook is 78% of the recent 10-year average; the wild component represents 76% of the 10-year average return. The wild component is forecast at 11% of total Upper Columbia spring run, which matches the recent 10-year average.

Washington Tributaries Upstream of Bonneville Dam

The Washington tributary returns and forecasts listed below are included in the aggregate 2012 return and 2013 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, however Wind River spring Chinook are excluded in 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 (2002-2011) averaged 9,400 fish (range 3,300 - 20,600) each year. The 2012 return of spring Chinook to the Wind River was 5,400 adults,

compared to the preseason forecast of 8,400 adults (actual 64% of forecast). The 2013 forecast to the tributary mouth is 3,000 fish, which is much less than the average return observed over the past ten years (7,900) and the lowest since 1998 (1,800).

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 of the historic mouth of the river. That section of the river was inundated by the construction of Bonneville Dam. 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 in the ESA listing.

The 2012 return of spring Chinook to the mouth of the Little White Salmon River was 9,900 adults. The return was slightly greater than the preseason forecast of 9,500 adults, and similar to the recent 10-year average of 10,900 adult fish. The forecast for 2013 is for a relatively poor return of 4,900 adults to the tributary mouth, which would be the lowest return since 1999.

Klickitat River Return and Forecast

The Klickitat River spring Chinook return consists of hatchery-origin fish from the Klickitat Hatchery (RM 42) 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 (RM 2), 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 (RM 42.5) 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) at 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 1,900 fish annually with 70-80% of the run being hatchery fish.

The 2012 return of adult spring Chinook was about 2,100 adults as estimated by run reconstruction methods, matching the 2012 forecast. The preliminary 2013 forecast is for a return of 2,200 adults to the tributary mouth. Mark-recapture estimates at Lyle Falls on the lower Klickitat River conducted for the past few years produce overall higher total run size estimates, but still indicate a predominantly hatchery-origin run with a small wild run size averaging just over 500 fish.

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 and 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.

An aggregate total of 11,100 (53% wild) adult spring Chinook returned to the Yakima River in 2012, which was less than the 12,000 (53% wild) expected. The 2013 return is forecasted at 7,300 adult spring Chinook, including 4,100 wild fish, compared to the recent ten-year average of 8,500 adults.

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 Columbia River (excluding tributaries) 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 19,200 and 15,100 fish, respectively. Supplementation programs and improved natural habitat have played a significant role in the increased abundance trends observed since 1999. The average run size during the 2000s was 59,800 adults, which was three times greater than the average run size of the 1980s and four times greater than the average run size of the 1990s (Table 10). 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 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 10 for abundance, harvest and escapement data.

2012 Return

The 2012 upper Columbia River summer Chinook return totaled 58,300 adults, compared to the preseason forecast of 91,200 adults (actual 64% of forecast). The adult return was comprised of 48,500 (83%) Age-4 fish and 9,800 (17%) Age-5 fish. The Age-4 component was a higher proportion of the 2012 adult return when compared to the long term average (51%) since 1990.

Also of note is no scales from Age-6 fish were collected during the course of harvest and research biological sampling; Age 6 fish have represented around 3% of the overall return on average over the past 20 years. Overall, the total return was strong and continued the generally upward trend observed since 2000. The 2012 return was the ninth highest since 1980, and 86% of the recent 10-year average (2002-2011) of 67,500 adults. The 2012 jack return of 9,600 fish at Bonneville Dam was less than the recent 10-year average (11,900) which includes two years with very high jack returns. The ad-clip rate at Bonneville Dam in during June 16 through July 31 2012 was estimated at 59%. A large majority of non-ad-clipped fish are of natural origin.

2013 Forecast

The 2013 forecast for Upper Columbia River summer Chinook is 73,500 adults to the Columbia River mouth. The overall return is expected to include 32,300 Age-4 fish and 40,600 Age-5 fish. If accurate, this projection would represent the 5th highest return since 1980 and 114% of the average return 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 on the Oregon shore and the Klickitat River on the Washington shore. All wild winter steelhead are ESA-listed, except those within the Southwest Washington Distinct Population Segment (DPS) that includes populations in Grays Harbor, Willapa Bay, and the Columbia River downstream of the Cowlitz River in Washington and the Willamette River in Oregon. All steelhead handled downstream of Bonneville Dam during November through April are managed as winter steelhead. Steelhead passing Bonneville Dam between November 1 and March 31 are counted as winter steelhead. Columbia River wild winter steelhead returns during 2002 through 2011 averaged 19,500 fish and ranged between 11,600 and 33,700 fish. Passage of wild winter steelhead at Willamette Falls during 2002 through 2011 has averaged 7,600 fish, but has varied widely from 2,800 up to 16,000 fish (Table 11).

2012 Return and 2013 Forecast

The 2012 wild winter steelhead return to the Columbia River mouth totaled 17,300 fish. The return was 113% of the forecast of 15,300 fish. Individual tributary returns were generally less than the recent five year average. Passage in 2012 at Willamette Falls totaled 7,600 fish and represented 44% of the total Columbia River return, which is proportionately greater than the recent 10-year average (38%). The 2013 forecast for wild winter steelhead is 15,700 returning to the Columbia River mouth (Table 11).

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 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 the lower Columbia tributaries, including the Willamette Basin. Skamania stock hatchery fish are also released annually in some tributaries upstream of Bonneville Dam. 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 Skamania-stock.

The NMFS has divided the upriver wild summer steelhead run into three DPSs: 1) the middle Columbia DPS which includes steelhead destined for Columbia River tributaries from upstream of the Wind and Hood rivers upstream 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), 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.

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). Upriver summer steelhead pass Bonneville Dam from April 1 through October 31 each year (Figure 1 and Tables 12 and 14). Summer steelhead passing Bonneville Dam between April 1 and June 30 are managed as Skamania stock steelhead primarily destined for tributaries within Bonneville Pool. Summer steelhead passing Bonneville Dam between July 1 and October 31 are considered to be either Group A or Group B stock. Group A steelhead are destined for tributaries throughout the Columbia and Snake basins, are characteristically smaller (less than 78 cm length) and spend one or two years at sea. Group B steelhead return to the Clearwater and Salmon rivers in Idaho, are generally larger (at least 78 cm length), later-timed than the Group A steelhead, and typically spend two or three years at sea.

Upriver summer steelhead returns to Bonneville Dam have been relatively stable since at least 1984. During 1984-2011 Bonneville Dam passage has ranged from 160,800 fish up to 630,200 fish with an average of 314,600 upriver summer steelhead. The recent 10-year average (2002-2011) is 383,700 fish. The Skamania stock has followed a relatively stable trend similar to the total return, with the annual returns since 1984 averaging 16,000 fish compared to the average in the 1990s of 12,000 fish and 17,000 fish in the 2000s. Since 1984 the Group A return to Bonneville Dam has ranged from 116,000 fish to 543,000 fish, averaging 245,000 fish. The recent 5-year average for Group A steelhead passage has improved to 334,000 fish, mainly due to

the large return of 2009. Group B steelhead returns are much less than the Group A returns. During 1984-2011 Group B passage at Bonneville Dam has ranged from 13,000 fish up to 130,000 fish, averaging 53,000 fish. The recent five-year average has improved to 61,000 fish. The wild component of the Group B run represented 24% of the run during 1984-2011, (14%-43% range). Although the wild component dipped to an average of 20% during the 1990s, the 10- year average (2002-2011) is 27% wild.

2012 Return

The total return to Bonneville Dam (April-October passage) of upriver summer steelhead in 2012 was 230,800 fish, compared to the preseason forecast of 380,300 upriver steelhead (actual 61% of forecast). Upriver summer steelhead passage at Bonneville Dam in 2012 was much less (60%) than the recent 10-year average return of 383,700 fish and the lowest return year since 1999. Window counts of unclipped steelhead include a small portion of unclipped hatchery fish. Unclipped steelhead counts at Bonneville Dam during April through October totaled 83,900 fish (22%). Data in this report is adjusted for unclipped hatchery fish based on sampling data collected at the Bonneville Dam adult fish trap.

Skamania stock steelhead passage at Bonneville Dam in 2012 totaled 10,958 fish including 3,032 (28%) wild fish. The Skamania return was 68% of the recent 10-year average return and slightly greater than the year prior. Recent reductions in upriver Skamania stock production is likely contributing to the lower than average return.

The majority of steelhead passage at Bonneville Dam occurs during July through October. During these months in 2012, a total of 219,857 steelhead passed Bonneville Dam, compared to the recent ten-year average of 367,700 fish and the expected total passage of 364,600. Passage was 50% complete on August 10th, compared to the average 50% date of August 15. Typically peak counts occur during roughly the last week of July and the first few weeks of August, but the 2012 counts were minimal during this time frame when compared to past years. Preliminary analysis suggest that the 1-salt component of the Group A return did not return at the proportion typically expected, which may be an indicator of poor ocean conditions upon entry for the 2010 brood. The Group A and Group B stock components of the 2012 return had not been determined at the time of this report. The data will be published in the annual Fall Joint Staff report, which is typically available in July.

2013 Forecast

The 2013 forecasts for upriver summer steelhead at Bonneville Dam were not available at the time of this report. Forecasts will be published in the annual Fall Joint Staff report, which is typically available in July.

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), and Black Canyon (completed 1914), 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. Recently sockeye have 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 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, largely returning to the Stanley Basin in Idaho, is extremely depleted. A small remnant population of the Snake River sockeye returns to Redfish Lake. Production is maintained through a captive brood program and most returning adults are progeny of this program. The Snake River stock was federally-listed as endangered in November 1991. The upper Columbia stocks (Okanogan and Wenatchee) are considered healthy populations and are not ESA-listed. Sockeye in the Yakama 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 Snake River component has similar run timing 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 from the Washington shore upstream of Rock Island Dam (RM 454), has a current escapement goal of around 23,000 adult sockeye to the Wenatchee River system. Historically, the Wenatchee return was similar in abundance to the Okanogan return. Since 2008, with unprecedented large returns, the Wenatchee stock has represented no more than 20% of the upper Columbia return. During the 1990s the number of sockeye returning to the Snake River basin averaged eight fish per year. During 2000-2007, Snake River sockeye returns improved, but remained severely depressed averaging less than 100 fish annually. During 2008-2011, the Snake River sockeye return has improved steadily, averaging around 1,800 fish annually (Table 16).

2012 Return

The 2012 return of sockeye to the Columbia River of nearly 521,000 adults was greater than the preseason forecast of 462,000 adults. The 2012 return proved to be the highest return on record since at least 1938 and continues the record breaking trend observed since 2008. The 2012 return included 59,800 Wenatchee stock, 460,600 Okanogan stock, and 500 Snake River stock returning to the Columbia River. Both the upper Columbia components exceeded preseason expectations; however the Snake River sockeye return was disappointingly only 26% of forecast. Sockeye counts at Lower Granite Dam totaled 446 fish, which ended the 4-year upward trend

(Table 16). At Prosser Dam on the Yakama River, 46 sockeye were counted. On the Deschutes, 95 sockeye reached Round Butte Dam and were passed upstream.

2013 Forecast

The 2013 forecast for the Columbia River sockeye run is for a strong return of 180,500 adults to the Columbia River, which includes 44,600 fish to the Wenatchee, 134,500 fish to the Okanogan, and 1,250 to the Snake River. The forecast is nearly equal to the 2003-2012 average return of 179,900 fish. The Wenatchee component is forecasted to be well over the escapement objective of 23,000 fish. The Okanogan component, which has shown an impressive increase in run strength since 2008, is expected to continue this trend. Although the Snake River component is a small component within the total run proportionately, a return of 1,250 fish would be 158% of the recent 10-year average return.

Shad

Shad are an introduced species brought to the West Coast from Pennsylvania in the late 19th century. The shad is an anadromous fish; spending three to four years at sea before returning to spawn. Since the extensive development of mainstem hydroelectric projects, 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, all shad runs have met or exceeded one million fish per year, with a peak of over six million in 2005. 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 shad run overlaps with upriver Chinook, sockeye, and steelhead runs, harvest opportunities for shad are regulated to minimize impacts to ESA-listed salmonids.

2012 Return

The 2012 minimum shad run size was 2.6 million, with a minimum escapement of 2.4 million fish upstream of Bonneville Dam, plus an unknown number of spawners downstream of Bonneville Dam and downstream of Willamette Falls. The 2012 shad run in the Columbia River halted the declining trend observed since the 2005 record return of 6.3 million shad (Table 17). The non-Indian (lower Columbia and lower Willamette) recreational and commercial combined catch of 174,800 shad (7% of the total run) was improved over the previous two years, and greater than the recent 5-year average of 110,500 shad kept.

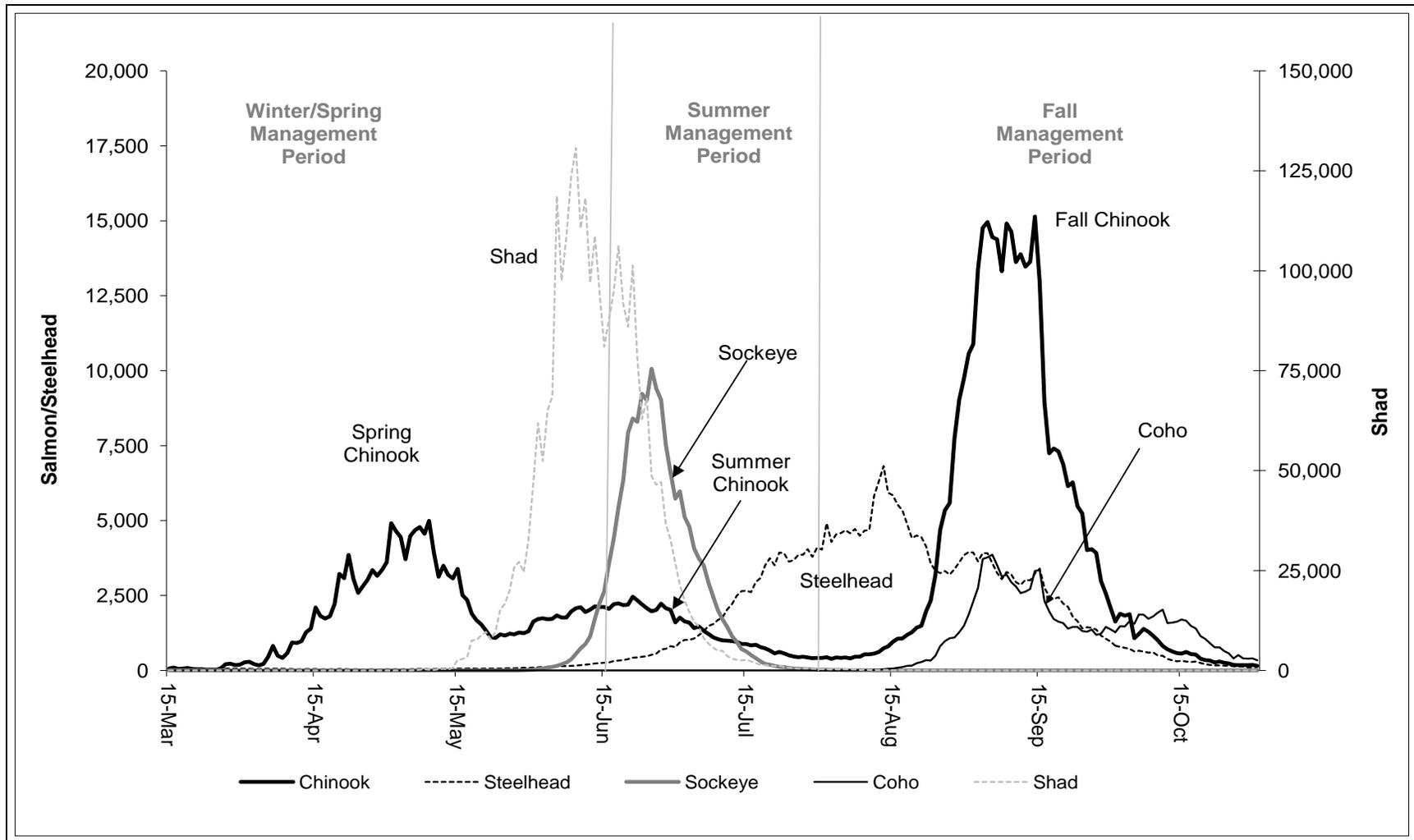


Figure 1. Average Daily Counts of Salmon, Steelhead, and Shad at Bonneville Dam, 2003-2012.

MANAGEMENT GUIDELINES

Endangered Species Act

Status reviews occurring since 1991 have resulted in the majority of Columbia Basin salmon and steelhead stocks being listed under the ESA 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. The TAC has completed BAs for ESA-listed stocks for all mainstem Columbia River fisheries since January 1992. In addition, ODFW has a management plan in place for naturally-produced coho from Oregon tributaries that were listed by the State of Oregon in 1999.

<i>Federally-listed Species Found in Columbia River Fishery Management Areas</i>			
Species – <i>ESU/DPS</i> ¹	Current Designation	Listing Date	Effective Date
<u>Chinook</u>			
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	--	--
<u>Steelhead</u>			
Snake River Basin	Threatened	August 18, 1997	October 17, 1997
Upper Columbia River ²	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
<u>Sockeye</u>			
Snake River	Endangered	November 20, 1991	Dec. 20, 1991
Okanogan River	Not warranted	--	--
Lake Wenatchee	Not warranted	--	--
<u>Chum</u> – Columbia River	Threatened	March 25, 1999	May 24, 1999
<u>Coho</u> – 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 The ESU/DPSs in bold are present in the Columbia River basin during the time when fisheries described in this report occur and therefore may be impacted by these fisheries.

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

The current BA concerns Columbia River treaty Indian and non-Indian fisheries, as described in the “2008-2017 *U.S. v Oregon* Management Agreement for upriver Chinook, sockeye, steelhead, coho, and white sturgeon” (2008-2017 MA). The BA was submitted during the spring of 2008,

and a Biological Opinion (BO) was subsequently issued by NMFS later that year. The current BO expires December 31, 2017, concurrent with the 2008-2017 MA. The BO covering non-Indian fisheries described in the 2008-2017 MA also addresses impacts to green sturgeon.

Wild Winter Steelhead Management

Non-Indian fisheries conducted during the winter season incidentally handle wild winter steelhead while targeting hatchery Chinook or hatchery steelhead. While the highest 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 for all non-Indian mainstem fisheries combined was established in the BAs and BOs for mainstem fisheries.

Columbia River Salmon Management Guidelines

The parties to *U.S. v Oregon* are currently operating under the 2008-2017 MA. This agreement provides specific fishery management constraints for upriver spring, summer, and fall Chinook, coho, sockeye and steelhead. Excerpts from the 2008-2017 MA and other agreements applicable to fisheries considered in this report are highlighted below.

Upriver Spring Chinook

The 2008-2017 MA provides for a minimum annual mainstem treaty Indian C&S entitlement to the Columbia River treaty tribes of 10,000 spring and summer Chinook. It is anticipated that the majority of this entitlement will be taken in treaty Indian fisheries during the winter/spring management period (January 1 through June 15). Tributary harvest of spring and summer Chinook is not included in this entitlement.

Non-Indian and treaty Indian winter and spring season fisheries are managed in accordance with the harvest rate schedule provided in Table A1 of the 2008-2017 MA. This harvest rate schedule was the first to incorporate a sliding scale, with increasing or decreasing allowable impact rates dependant on the total upriver spring Chinook run size. Based on this harvest rate schedule and the preseason forecast for upriver spring Chinook, fisheries are planned based on the available impacts allocated to treaty Indian and non-Indian fisheries. Beginning in 2010, modifications to Table A1 were implemented, which required non-Indian fisheries to meet the catch balance provisions in the MA for upriver spring Chinook. Under these provisions, non-Indian fisheries are managed to remain within ESA impacts, *and* to not exceed the total allowable catch available for treaty Indian fisheries. In addition, non-Indian fisheries are restricted to no more than 70% of the available catch specified for treaty Indian fisheries at the preseason forecasted run size for use prior to a run size update (30% 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	5.0%		<0.5%		<5.5%	0.5%
27,000	2,700	5.0%	1,350	0.5%	1,350	5.5%	0.5%
33,000	3,300	5.0%	1,650	1.0%	1,650	6.0%	0.5%
44,000	4,400	6.0%	2,640	1.0%	2,640	7.0%	0.5%
55,000	5,500	7.0%	3,850	1.5%	3,850	8.5%	1.0%
82,000	8,200	7.4%	6,068	1.6%	6,068	9.0%	1.5%
109,000	10,900	8.3%	9,047	1.7%	9,047	10.0%	
141,000	14,100	9.1%	12,831	1.9%	12,831	11.0%	
217,000	21,700	10.0%	21,700	2.0%	21,700	12.0%	
271,000	27,100	10.8%	29,268	2.2%	29,268	13.0%	
326,000	32,600	11.7%	38,142	2.3%	38,142	14.0%	
380,000	38,000	12.5%	47,500	2.5%	47,500	15.0%	
434,000	43,400	13.4%	58,156	2.6%	58,156	16.0%	
488,000	48,800	14.3%	69,784	2.7%	69,784	17.0%	

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 reinstate 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. Table A2 follows the general framework described in the table below, but provides a much more detailed description of incremental harvest rates and escapement past fisheries. The parties agreed 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 are under review by the parties to *U.S. v. Oregon*, in part due to Chief Joseph Hatchery becoming operational. 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	10%	7%
(125% of 29,000 goal)		
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: $(0.75 * (\text{run size} - 50,000)) + 21,000$.

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-Indian 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.

Non-Indian Impact Allocations of Upriver Spring Chinook

The Oregon and Washington Fish and Wildlife commissions (Commissions) provide staff with policy guidance when shaping fisheries pre-season and managing fisheries in-season. During 2009-2012, impact allocation guidance from the Oregon Commission and Washington Commission has not been identical, so staff has applied the lowest of the two impact allocation guidelines to recreational and commercial fisheries. Policy guidelines for non-Indian spring Chinook fisheries adopted by the Commissions allocated available ESA impacts for upriver spring Chinook among the various fisheries. Of the impacts available, 60% were allocated to sport fisheries and 35% to commercial fisheries, with the remaining 5% un-allocated. In addition to allocating available upriver-stock impacts among the various non-Indian fisheries, guidance from the Commissions specified the proportion of each ESA-impact share that was to be used before and after the run-size update. In order to comply with catch-balancing provisions of the 2008-2017 MA, Washington and Oregon translated the ESA-based guidance received from the Commissions into shares of available upriver-stock harvest (kept catch plus release mortalities) available to each non-Indian fishery. The following matrix was used for determining allocation shares for 2009-2012 fisheries.

Matrix for allocating upriver Spring Chinook ESA impacts based on OFWC and WFWC Policy		
Run Size of Upriver Columbia Spring Chinook	Run Size of Willamette Spring Chinook	
	Low (<50,000)	High (>50,000)
Very Low (<33,000)	Share = 80/15%	Share = 70/25%
	Buffer = 30% of sport fishery impact + 25% of commercial fishery impact	Buffer = 30% of sport fishery impact + 25% of commercial fishery impact
Low (33,000 – 55,000)	Share = 70/25%	Share = 65/30%
	Buffer = 30% of sport fishery impact + 25% of commercial fishery impact	Buffer = 30% of sport fishery impact + 25% of commercial fishery impact
Medium-High (55,000 – 271,000)	Share = 65/30%	Share = 60/35% (base)
	Buffer = 30% of sport fishery impact + 25% of commercial fishery impact	Buffer = 20% of sport fishery impact + 40% of commercial fishery impact
Very High (>271,000)	Share = 55/40%	Share = 50/45%
	Buffer = 20% of sport fishery impact + 40% of commercial fishery impact	Buffer = 20% of sport fishery impact + 40% of commercial fishery impact

Upper Columbia River Summer Chinook Harvest Sharing Guidelines

The allocation for non-Indian fisheries is determined by the 2008-2017 MA and the Upper Columbia Management Agreement (UCMA). The UCMA provides a harvest sharing matrix based on run strength of upper Columbia River summer Chinook. This matrix allocates harvestable Chinook to fisheries upstream and downstream of Priest Rapids Dam. In recent years, pre-season negotiations between WDFW and the Colville Tribe have resulted in additional fish being available for harvest in the areas downstream of Priest Rapids Dam. The Commissions provide staff with policy guidance in the sharing of harvestable fish available for non-Indian fisheries downstream of Priest Rapids Dam. Over the past several years (through 2012), the Commissions have determined that these fish should be shared equally between commercial and recreational fisheries.

Upper Columbia Management Agreement: Non-treaty Harvest Framework for Upper Columbia Summer Chinook			
River mouth run size	Harvest allocation upstream of Priest Rapids Dam	Harvest allocation downstream of Priest Rapids Dam	Description of expected fisheries upstream of Priest Rapids Dam
0 – 29,000	> 90%	No directed harvest	C&S for Colville and Wanapum, potential selective recreational
29,001 – 50,000	90%	Recreational and/or commercial	C&S for Colville and Wanapum, limited recreational
50,001 – 60,000	90% -70%	Recreational and/or commercial	C&S for Wanapum and Colville, recreational
60,001 – 75,000	70 - 65%	Recreational and/or commercial	C&S for Wanapum and Colville, recreational
≥75,001	65% - 60%	Recreational and/or commercial	C&S Wanapum and Colville, recreational

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 from fisheries do 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 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 lower 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		
Predicted Hatchery Return	Allocation of Harvestable Numbers	
	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

A Joint State Agreement has been in effect and renewed every one to three years since 1997 with adjustments as necessary to protect sturgeon populations while maintaining harvest opportunity. For detailed information, see *2013 Joint Staff Report: Stock Status and Fisheries for Sturgeon and Smelt* dated January 15, 2013. The current three-year Accord was adopted in 2011. This Accord is similar in structure to past agreements, with the WFWC, OFWC, and the two state directors providing management guidelines for white sturgeon fisheries. Annual adjustments have been made to the accord in 2012 and 2013.

REVIEW OF MAINSTEM, SELECT AREA, AND TRIBUTARY FISHERIES

Non-Indian Fisheries

Past Mainstem Commercial Winter Sturgeon and Salmon Seasons

Reduced salmon fishing opportunities during the mid-1970s through the late 1990s greatly increased the popularity and importance of white sturgeon for both commercial and recreational fisheries. The healthy white sturgeon population allowed the commercial industry to develop stable fisheries in a time when commercial salmon fishing opportunities had been drastically reduced. A similar lack of stable recreational salmon fisheries and recognition of white sturgeon as a sport fish have increased the popularity of sturgeon angling since the mid-1980s. In recent years, reduced white sturgeon catch guidelines have impacted the stability of all Columbia River white sturgeon fisheries.

Since the adoption of the first Joint State Sturgeon Management Agreement in 1997, the harvestable number of white sturgeon has been allocated 80% to recreational fisheries and 20% to commercial fisheries. Commercial sturgeon fisheries have been managed to remain within catch guidelines while maximizing economic benefit and achieving conservation objectives for other species. Weekly landing limits have remained a valuable tool in maintaining consistent commercial fisheries since 2002. Annual fishing plans for distribution of commercially harvested sturgeon among various seasons are developed each year with industry input to provide predictable commercial fishing opportunities and stable markets throughout the year. The season structure of winter commercial sturgeon fisheries has been similar in recent years, with one or two fishing periods conducted each week from early to mid-January through mid-February.

Winter commercial salmon seasons have been established since 1878. Since 1957, all non-Indian commercial fisheries have been restricted to Zones 1-5 (Columbia River mouth upstream to Beacon Rock) and treaty Indian 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 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 in 2002. 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 season fishing dates, mesh size restrictions, and landings are included in Table 18.

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 Chinook mark-selective commercial fishery occurred in 2001. This live-capture fishery consisted of a permit fishery with participation limited to 20 vessels. The fishery consisted of one 8-hour fishing period per week 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 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 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 Chinook and steelhead catch rates.

Since 2004, winter/spring salmon seasons have been conducted according to 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. In addition, a winter season fishing plan has been developed annually in cooperation with the Columbia River Commercial Fishery Advisory Group which gives the commercial industry a plan for marketing and provides a basis for making in-season management decisions. This plan typically outlines a weekly schedule of test fishing to determine the relative abundances of hatchery spring Chinook, wild spring Chinook, and steelhead. After test fishing results are known, the decisions of whether to fish or not and what gear to use can be made. Fishing periods are scheduled to maximize retention of hatchery spring Chinook and minimize handle of steelhead and unmarked Chinook. This process continues until either the upriver Chinook impact allocation, the hatchery Willamette harvest allocation, or the wild winter steelhead impact limit are reached; however, the upriver spring Chinook impact allocation is typically most constraining.

In December 2003, the TAC reviewed preliminary results of post-release mortality studies conducted from 2001-2003 and concluded that, for 8-inch-mesh gear, estimated mortality of released Chinook should be 40%, and mortality of released steelhead should be 30%. For 4¼-inch tangle nets, the TAC concluded that the estimated post-release mortality rate for Chinook should be 18.5% and, until steelhead-specific studies could be conducted, the rate for steelhead should be assumed to be the same, based on similarities in the capture profiles of steelhead and Chinook in 4¼-inch nets. 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 indicating that the mortality rate for Chinook released from tangle nets was 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%, and release mortality rates for fish caught with large mesh gear (8-inch minimum) remained unchanged at 40% for Chinook and 30% for steelhead.

In 2008 and 2009 all commercial openings were shifted to areas upstream of Kelley Point, in response to low predicted returns of Chinook to the Willamette River. Ex-vessel prices in 2009 averaged \$6.99 per pound for Chinook and \$2.28 per pound for white sturgeon. Landed catch was sampled at a rate of 52%. Average Chinook weight was 13 pounds. In 2010, two fishing periods occurred (March 30 and April 7) totaling 16 hours for the season. Both openers occurred in Zones 1-4 up to the I-205 Bridge and required tangle net gear. Ex-vessel prices averaged \$6.11 per pound for Chinook and \$2.43 per pound for white sturgeon. Landed catch was sampled at a rate of 50%. Average Chinook weight was 13 pounds. The 2011 season consisted of four fishing periods totaling 36 hours combined. Two periods occurred prior to a run update, with tanglenet gear, the second of these two imposing a Chinook per vessel landing limit, which was the first of its kind. Two periods occurred with large-mesh gear post-update. Landed catch was sampled at a rate of 45%. Average Chinook weight was 14 pounds. Ex-vessel prices averaged \$6.05 per pound for Chinook and \$2.46 per pound for white sturgeon.

2012 Winter Commercial Salmon Season

The 2012 commercial fishery was conducted under similar guiding principles, management objectives, and basic fishing plans in effect since 2004. Based on 2012 preseason run size forecasts and the harvest rate schedule in the 2008-2017 MA, non-Indian fisheries were limited to a 2.2% impact rate on listed upriver spring Chinook. As discussed above (see **Non-Indian Impact Allocations of Upriver Spring Chinook**), a run size buffer of 30% was in place prior to a run size update. This reduction in run size also reduced the allowable ESA limit to 2.0% for non-Indians. In addition, Commission guidance called for a 40% buffer on the commercial allocation until a run update was available. From the commercial allocation, a fixed amount of 0.150% impacts were allocated to Select Area fisheries. Mainstem commercial fisheries were managed for an impact limit of 0.444% prior to a run size update.

The fishery was also managed for hatchery and wild Willamette River spring Chinook in accordance with the Willamette FMEP. Based on the preseason forecast, a total of 35,400 Willamette River hatchery spring Chinook were available for harvest in all fisheries downstream of Willamette Falls (including Columbia River fisheries). Based on the Willamette harvest matrix, 27% of the surplus hatchery fish were allocated to commercial fisheries (Select Area and mainstem). Additional restrictions included a non-Indian fishery impact limit of 2.0% for ESA-listed wild winter steelhead. Since the inception of this mark-selective fishery, regulations have included gear restrictions, limited soak times and mandatory use of recovery boxes. Participating fishers must also have completed the state-sponsored workshop concerning live-capture techniques and were required to cooperate with the onboard observer program conducted by the agencies.

The available catch for commercial fisheries (prior to a run size update) included 5,900 upriver-stock spring Chinook and around 9,600 hatchery Willamette Chinook. A total of 200 white sturgeon were set aside from the commercial allocation for harvest during the winter and spring salmon fisheries. According to the preseason commercial fishing plan, test fishing would be conducted prior to considering full fleet fisheries, and was expected to begin as early as February 14. Full fleet fishing periods were expected to occur on Tuesdays and/or Thursdays, and were not to exceed 24 hours. Commercial fisheries were likely to be conducted during both daylight

and nighttime hours. If fisheries were conducted early in the season, large mesh gear would likely be used, then transitioning to tangle net by mid-late March dependant on steelhead abundance. During the 2012 preseason planning process, some fishers requested opportunity early in the season when proportions of Willamette stock Chinook in the catch, and ex-vessel prices, would be highest. Opinions were mixed, however, with some stating that an early season may jeopardize opportunity later in the season.

Test fishing occurred weekly from February 14 to April 15. Data collected provided information on stock composition, mark rates, relative abundance of steelhead and Chinook, and catch rates, which helped staff to determine whether a fishery should be scheduled. All test fishing occurred in Zones 2-3. From February through March 18, each vessel used both large mesh and tangle net gear during test fishing operations. As has been the case in recent years, all adipose fin-clipped salmon caught during test fishing operations were kept and sold by WDFW to help fund test fishing and research. Because upriver spring Chinook passage at Bonneville Dam was low early in the run, members of several treaty tribes accompanied test fishing vessels during March and retained 23 unmarked and nine marked spring Chinook for ceremonial purposes. ESA impacts for these fish are included in the treaty impact summary.

On February 27, the Compact considered the first salmon season for 2012. The Joint Staff recognized the request of the commercial industry to conduct salmon fisheries early in the season, and prepared analysis on the cost/benefit to the fleet. Preseason modeling indicated a net gain in commercial ex-vessel value could be realized if a portion of the commercial occurred in February. The limiting factor was the need for large-mesh gear in order to avoid steelhead handle. This large-mesh gear has a higher mortality rate for both salmon and steelhead compared to the smaller tangle net gear. Using the large mesh gear would mean that ESA impacts would be 'spent' at a higher rate during a time when Chinook abundance was minimal. Staff suggested limiting the catch of salmon in order to avoid reducing the number of salmon available for harvest later in the pre-update timeframe using tanglenet gear. A target catch cap of 800 salmon would keep ESA impacts minimal and allow for harvest during a time when ex-vessel prices were premium (\$10/lb). Based on industry request and analyses results, the Joint Staff recommended a 12-hour fishing period for February 28. After listening to public testimony with minimal support, the Compact decided to not adopt the season. It wasn't until March 26 when the Compact considered another commercial fishing period.

Test fishing results from March 25 showed improvements in Chinook stock composition, mark rate and Chinook to steelhead ratios compared to the previous weeks, however the Chinook catch rate (two Chinook per drift) remained modest. Staff recommended an 8-hour fishing period on March 27 with two options – to adopt the proposed period with the tangle net gear, or with large mesh gear. Public testimony and industry input was mixed, but all cited a poor Chinook abundance and high steelhead to Chinook handle rates. The Compact did not adopt a season. Test fishing continued the following week and showed improved Chinook catch rates, and lower steelhead handle compared to the week before.

The first salmon-directed fishery for 2012 was a 12-hour opener on Tuesday April 3. The fishery was conducted with tangle net gear in Zones 1-5. Tributary mouth sanctuaries were in place to protect ESA-listed steelhead and Chinook. Just over of 2,500 salmon were landed, which was

within the range expected. The Chinook mark rate was 85% and upriver fish comprised 63% of the catch. Upon the conclusion of the April 3 fishery, around 70% of the upriver Chinook allocation remained available for commercial harvest prior to a run update.

Test fishing conducted on April 8 indicated Chinook abundance in the river had increased, although Bonneville Dam counts remained low. With a limited number of fish available for commercial harvest, and the volatile nature of the spring Chinook run timing and abundance during early to mid-April, staff continued to put forth recommendations that were very conservative in order to reduce the risk of exceeding pre-update allowances. The Compact met on April 9 to consider a commercial fishing period and take public testimony. The Compact adopted a 6-hour fishing period for Tuesday April 10 in Zones 1-5 with tangle net gear and all sanctuaries in place. Nearly 3,600 salmon were landed, which was slightly over the high end of the range expected. The Chinook mark rate was 82% and upriver fish comprised 71% of the catch.

The TAC met on April 30 and again on May 7 to review the upriver spring Chinook run. TAC recognized the poor counts at Bonneville Dam and concluded that the preseason forecast of 314,200 upriver fish would not be met, but did not provide an official update. TAC reported that it was too early to update the run given passage to date and variability in run timing. TAC urged fishery managers to continue the conservative management strategy for all fisheries until a run update was available.

TAC reviewed the run size again on May 14 and officially updated the run. TAC estimated the run would range between 192,000 and 217,000 and provided a point estimate of 202,000 upriver adult spring Chinook to the Columbia River mouth. This update triggered the removal of the 30% run buffer imposed on all non-Indian fisheries. Based on the reduced run size and the allowable ESA impacts allocated to commercial fisheries, only a handful of upriver fish remained available for impacts. On May 22, the TAC run size estimate was 216,500 upriver adult spring Chinook to the Columbia River mouth. Based on this run size, just over 400 upriver fish remained available to mainstem commercial fisheries. Staff proposed a fishery 6-hour period for the evening of May 29, but the Compact did not adopt the period, consistent with the majority of public testimony. Subsequent TAC updates were on the decline, which precluded any chance for additional commercial opportunity for the remainder of the spring season.

Landings for the 2012 winter/spring season (Tables 18 and 19) totaled 6,100 Chinook and 14 white sturgeon. An additional seven hatchery Chinook were landed during the winter sturgeon season. Onboard monitoring was conducted during all spring fishing periods. The total number of released Chinook during the entire winter/spring season was just under 1,300 un-clipped Chinook. Stock composition analysis indicated that 68% of the Chinook handled were of upriver origin, and the overall Chinook mark rate was 83% for the season. Winter steelhead handle totaled nearly 1,500 fish, of which 400 were unmarked (wild and unmarked hatchery fish combined). An estimated 70 wild winter steelhead mortalities resulted from incidental handling. Commercial landings were sampled at a rate of 46%, and the average weight for Chinook was 13 pounds. Ex-vessel prices averaged \$6.73 per pound for Chinook and \$3.00 per pound for white sturgeon.

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 to angling for spring Chinook salmon during January 1 through March 31; and the area from the I-5 Bridge upstream to the Oregon/Washington border (upstream of McNary Dam) has been closed beginning January 1 each year 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 pre-season projection) and an improved Willamette River run size of 59,900, which prompted the OFWC to formally allocate 1,200 Willamette spring Chinook to the mainstem Columbia River recreational fishery. However, problems with the issuance of a Biological Opinion (BO) from the NMFS resulted in an early (March 16) closure of the 2000 recreational fishery (Table 21) 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 and a majority of adipose fin-clipped hatchery fish, prompted the states to adopt the first mark-selective recreational fishery for hatchery 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 area downstream of the I-5 Bridge during January 1-March 31. Since 2004, a regulation prohibiting the removal of unmarked fish from the water has been added to provide additional protection for released fish. To date, no studies have been conducted to evaluate the mortality of salmon and steelhead released in mainstem Columbia River recreational fisheries. The TAC conducted extensive literature reviews and concluded that a post-release mortality rate of 10% should be applied to mainstem recreational salmon and steelhead fisheries during the spring management season.

The daily bag limit for the recreational spring Chinook fishery downstream of Bonneville Dam was two adult salmonids (steelhead or Chinook 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 allow only one adult spring Chinook in the entire area downstream of Bonneville Dam effective beginning in March. In-season management has been necessary in most years to maintain the fishing impacts below ESA

guidelines, non-Indian harvest-sharing allocations, and/or catch balancing agreements with the tribes. During all years, the states have attempted to maintain a balanced opportunity for anglers upstream of Bonneville Dam. Regulations for 2000-2012 Columbia River recreational spring Chinook fisheries are listed in Table 21, and catch and effort totals for 2000-2012 are shown in Table 22. Information for the Zone 6 (Bonneville to McNary Dams) and Snake River sport fisheries are shown in Table 21 and/or Table 23.

2012 Lower Columbia River Spring Chinook Recreational Fishery

In 2012, the total spring Chinook run size was forecast to be 423,200 adults to the mouth of the Columbia, comprised of an upriver component of 314,200 fish and a lower river component of 109,000 fish, including 83,400 Willamette spring Chinook (65,900 hatchery spring Chinook). According to the Willamette FMEP, a total of 25,800 Willamette hatchery spring Chinook were available for recreational harvest in the lower Willamette and lower Columbia rivers, which was expected to provide full fisheries in both areas. The 2008-2017 MA provided for a 2.2% impact to ESA-listed upriver spring Chinook in all non-Indian fisheries in 2012, based on the upriver spring Chinook run size forecast.

The OFWC and WFWC provided guidance for spring Chinook fisheries in 2012 (see **Non-Indian Impact Allocations of Upriver Spring Chinook**). This guidance, combined with catch-balance buffer provisions from the 2008-2017 MA, resulted in a total of 12,700 upriver spring Chinook (kept plus release mortalities) available to the sport fishery below Bonneville Dam prior to a run size update.

Recreational fishing regulations for the 2012 spring Chinook fishery were adopted at the January 26 Compact 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 29. 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 (except closed Tuesdays March 20, 27 and April 3). The two-fish daily bag limit was modified to include one adult spring Chinook in the daily limit between Buoy 10 and Bonneville Dam effective March 1 (Table 21). The retention of shad and adipose fin-clipped steelhead was allowed in the same area for the duration of the spring Chinook season.

The Columbia River was low, clear and cold at the beginning of 2012 as snowpack was below average across most of the basin: however, most of the lower Columbia tributaries were high and muddy. A mid-January cold spell, followed by a series of heavy rain storms brought many of the lower Columbia River tributaries to flood stage. The first spring Chinook was sampled on February 19 near St. Helens, but the majority of the early effort and catch occurred from Bachelor Island upstream to the I-5 Bridge where water conditions were better. The total catch during February was 60 adult spring Chinook (37 kept and 23 released) and 165 winter steelhead (105 kept and 60 released) from 8,188 angler trips, which was the fourth highest trip total for February since 2000. The February catch was evenly split between upriver and lower river spring Chinook stocks.

Effort increased during early March when the river opened above the I-5 Bridge, but catches were generally poor as many areas, including Portland, experienced record rainfall during the

month. The Willamette and most other lower Columbia tributaries remained very high and turbid from mid-March until early April. Effort remained the highest in the Portland-Vancouver metropolitan area above the confluence of the Willamette where the water conditions were better, and along the Oregon shore downstream of St. Helens. During late March, water conditions in the Columbia deteriorated further as the result of heavy rainfall and high freezing levels throughout the basin, and the Columbia crested above flood stage at Vancouver on March 31. The total catch in March was 1,869 adult spring Chinook (1,560 kept and 309 released), two spring Chinook jacks and 725 winter steelhead (519 kept and 206 released) from 39,600 angler trips, which was the lowest catch for March since 2007. Based on VSI sampling, the March catch consisted of 65% upriver spring Chinook.

At the beginning of April, the Columbia and most of its tributaries were at or near flood stage, and catches in the Columbia River sport fishery were fewer than 50 fish per day. The projected catch through the closure date of April 6 was just over 2,100 total spring Chinook handled, including 1,163 upriver fish (kept plus release mortalities), or just over 9% of the guideline. The states held a Joint State hearing on April 5 to review catch and passage information for upriver spring Chinook and extended the sport fishery for one week during April 7-14 (except closed Tuesday April 10). Water conditions were only expected to improve marginally during the extension, and the states scheduled another meeting for April 12. Catches remained relatively low prior to the meeting on April 12, with a projected handle of 1,237 through April 14 based on the information through April 11. At the April 12 hearing, the states extended the fishery for eight additional days during April 15-22 (except closed April 17), and scheduled another meeting for Thursday April 19. Flow and turbidity began to improve in the Columbia on April 13 as most of the lower river tributaries began to drop and clear, and catch rates also began to improve. During the weekend of April 14-15, catch rates improved to ½ a fish per boat, and then to almost a fish per boat on Monday April 16, and to over a fish per boat on Wednesday April 18 after the Tuesday closure. At the meeting on April 19th the states projected the total catch in the sport fishery would be 13,871 adult spring Chinook (11,822 kept and 2,049 released) through April 22, including a catch of 11,129 upriver fish (kept plus release mortalities), or 88% of the guideline. The states did not consider any further extension of the recreational fishery at the hearing on April 19 due to concern about low passage of spring Chinook at Bonneville Dam, and the fishery closed April 23.

The total catch during April 1-22 was 12,915 adult spring Chinook (11,105 kept and 1,810 released), 122 adipose fin-clipped spring Chinook jacks (kept), and 1,203 steelhead (996 kept and 207 released) from 57,357 angler trips. The cumulative spring Chinook catch through April 22 was 14,844 fish (12,702 kept and 2,142 released) of which 9,934 were upriver fish (kept plus release mortalities), or 78% of the pre-update guideline. Through April 22, a total of 6,307 adult spring Chinook had passed Bonneville Dam.

Chinook passage at Bonneville Dam increased markedly during late April through mid-May, and the TAC updated the upriver run size to 216,500 on May 21. The states held a hearing on May 22 to consider reopening the recreational fishery below Bonneville Dam. At a run size of 216,500 upriver spring Chinook, about 1,400 upriver fish (kept plus release mortalities) were available to the recreational fishery below Bonneville Dam, and the states reopened the fishery effective May 26-27 from Buoy 10 to Beacon Rock, including the Oregon and Washington banks

between Beacon Rock and Bonneville Dam. The states also opened the retention of steelhead and sockeye in conjunction with the spring Chinook fishery. The catch during the two-day fishery was 897 adult spring Chinook (630 kept and 267 released), 47 Chinook jacks, 425 summer steelhead (368 kept and 57 released) and zero sockeye from 9,530 angler trips. On May 29, the TAC downgraded the upriver spring Chinook run to 209,400, and the states did not consider any further extension of the recreational fishery below Bonneville Dam.

The final catch in the recreational fishery during February 1 through June 15, 2012 (including trips and catch during the summer steelhead fishery) was 16,808 adult spring Chinook (13,332 hatchery Chinook kept and 3,476 unclipped fish released), 241 adipose fin-clipped spring Chinook jacks (kept), and 4,770 steelhead (3,972 adipose fin-clipped hatchery fish kept and 798 unclipped fish released) from 127,919 angler trips. The upriver spring Chinook catch was 12,863 adult fish (10,157 kept and 2,706 released) with 10,428 kept catch plus release mortalities.

2012 Spring Chinook Recreational Fisheries upstream of Bonneville Dam

Following Commission guidance, 25% of the recreational ESA impact allocation was dedicated to fisheries upstream of Bonneville Dam, including areas upstream to the Oregon and Washington border and fisheries in the Snake River (Washington waters). Similar to past years, these impacts (25% of allowed) were shared 40% mainstem Columbia and 60% Snake River (Washington waters). For 2012, the pre-update ESA allowance totaled 0.220% impact.

Bonneville Dam upstream to the Oregon Washington border

A total of 0.088% ESA impacts were set aside for the extended Zone 6 recreational fishery for use prior to a run size update, which translated to around 1,700 Chinook (kept + release mortalities). The fishery opened under mark-selective regulations on March 16 and was scheduled to continue through May 2. For the second consecutive year, the fishery included the extended areas from McNary Dam upstream to the Oregon Washington border, and along the Oregon and Washington banks between Bonneville Dam and Tower Island. Catch during March and April was low, in reflection of the low counts of Chinook at Bonneville Dam coupled with poor river conditions. Catch estimates totaled less than 200 fish kept by the end of April. The Compact met April 30 to discuss recreational sturgeon seasons in Zone 6 and although the salmon fishery was not on the agenda, the Compact extended the season prior to a run size update which allowed for additional angling opportunity through May 6 (four additional days). Catch and release mortality estimates through May 6 totaled 600 upriver spring Chinook.

When TAC provided an in-season run size estimate of 216,500 fish on May 16, ESA impacts allocated to the Zone 6 sport fishery allowed for a total catch of around 1,400 fish. This left a balance of around 800 fish. Bonneville Dam counts had improved substantially and there was potential for catch to reach 350 fish per day. With this in mind, the fishery re-opened for two additional days on May 19-20. Catch rates during the 2-day opener were less than expected, and catch estimates for the season totaled around 900 Chinook kept and 300 released (Table 23).

Snake River Recreational Fisheries

A total of 0.132% ESA impacts were set aside for the Snake River recreational fishery prior to a run size update, which translated to around 1,300 Chinook (kept + release mortalities). Mark-

selective recreational fisheries were conducted in four areas (~31 miles) on the Snake River (Washington waters). The Ice Harbor fishery was scheduled for April 20 – May 24 and the Little Goose, Lower Granite and Clarkston fisheries were scheduled for April 25 – May 31. Effort during the first two weeks was very low, as few spring Chinook had entered the river. Once Chinook started moving into the lower Snake River, catch escalated rapidly in the lower two areas open. By May 13, catch estimates totaled 700 fish, and catch projections through May 20 included an additional 450 fish, bring the total estimate up to 1,150 fish (catch plus release mortalities).

When TAC provided an in-season run size estimate of 216,500 fish on May 16, ESA impacts allocated to the Snake River sport fishery allowed for a total catch of around 1,200 fish. The two lower Snake River fisheries closed on May 19 in the Ice Harbor and the Little Goose area. The last two sections closed effective May 23. Total catch consisted of 2,300 adult spring Chinook kept and 500 unmarked adults released.

Wanapum Tribal Fishery

The Wanapum Tribe conducted a C&S fishery in the mainstem Columbia River downstream of Priest Rapids Dam during the spring of 2012 and harvested one wild adult and one hatchery jack upper Columbia spring Chinook.

Lower Columbia River Tributary Spring Chinook Fisheries

Tributary spring Chinook recreational fisheries downstream of Bonneville Dam have been mark-selective since 2001. The 2012 preseason forecast for the Cowlitz River allowed for a daily bag limit of two-adult Chinook throughout the season, while anglers on the Kalama and Lewis rivers were restricted to a one adult daily limit beginning January 1. The Cowlitz and Lewis rivers remained open through the entire spring Chinook season (January 1 - July 31). Under emergency actions due to low hatchery returns and poor recreational catches, the Kalama River was closed to Chinook retention from May 29 – July 31.

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 (CRC) data is available.

An estimated 2,550 hatchery adult spring Chinook were harvested in Washington lower Columbia River tributaries in 2012 including 2,000 fish from the Cowlitz, 225 from the Kalama and 325 from the Lewis. The total hatchery adult spring Chinook sport catch was 63% of the 10-year average of 4,000 fish and the overall harvest rate of 22% was lower than the recent 10-year average of 26% (Table 25).

The recreational fishery for spring Chinook on the Sandy River is not sampled for catch and effort during the season; therefore, catch is estimated from angler-returned catch records. Final catch estimates for 2012 are not available at this time due to normal delays in receiving and processing this information. Based on average catch rates from 2007-2011, the 2012 total catch in the Sandy is estimated to be 800 fish (Table 25).

In 2012, the lower Willamette River (downstream of Willamette Falls, including Multnomah Channel and the Clackamas River downstream of the Highway 99 Bridge) opened for retention of spring Chinook seven days per week effective January 1 with a two fish daily bag limit under permanent mark-selective (adipose fin-clip) regulations. No in-season modifications were made. The lower Willamette River recreational catch totaled 15,800 spring Chinook (kept and release mortalities). The 2012 catch was higher than the 2007-2011 average of 12,100 (Table 3). Willamette River anglers harvested 27% of the total return.

The upper Willamette River (upstream of Willamette Falls) spring Chinook recreational fishery opened on January 1, seven days per week, with a two fish daily bag limit under permanent mark-selective regulations. No in-season modifications were made. Estimates of the 2012 recreational catch for the fishery upstream of Willamette Falls are not yet available because of normal delays in receiving and processing angler catch records. The 2007-2011 recreational catch upstream of Willamette Falls (mainstem and tributaries combined) has averaged 4,900 fish, ranging from 900 to 11,800 per year (Table 4).

Based on mark-recapture studies conducted in the Willamette River during 1999-2001, the post-release mortality for Chinook in the Willamette River and tributaries is estimated to be 12.2%.

Past Summer Commercial Salmon Seasons

Historical summer commercial seasons harvested summer Chinook, sockeye, steelhead, and shad. In 2004, two 12-hour fishing periods occurred downstream of Beacon Rock targeting sockeye but also allowed the retention of Chinook. Prior to 2005, no commercial summer Chinook season had occurred downstream of Bonneville Dam since a two-day season in 1964. 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. Since 2007, the number of fishing periods has been two or three per season. An 8-inch minimum mesh restriction and a weekly white sturgeon landing limit have been in place for Chinook-directed fisheries, which typically occurred in Zones 1-5. A sockeye directed fishery was conducted in 2008 with a 4½ inch maximum mesh size in area 2S. Sockeye sales have been allowed in years where escapement goals are expected to be met and ESA impacts are available. Ex-vessel prices in 2010 (per pound landed) averaged \$2.53 for Chinook, \$3.45 sockeye, and \$2.16 for white sturgeon. In 2011, two periods occurred in Zones 1-5 with 8-inch gear and totaled 16 hours combined. The sturgeon landing limit was 5 fish and deliveries ranged from 109-124 per period. Ex-vessel prices (per pound landed) averaged \$2.42 for Chinook and \$2.52 for white sturgeon.

2012 Summer Commercial Salmon Season

Based on the preseason forecast and management agreements, 4,600 summer Chinook were available for commercial harvest in 2012. In addition, just over 600 white sturgeon were available for commercial harvest during the summer season (200 allocated to the summer season, plus a balance of 426 sturgeon remaining on the winter/spring allocation). Two fishing periods were anticipated during the six-week summer season. Regulations included an 8-inch minimum mesh size, tributary mouth sanctuaries to protect ESA-listed steelhead, and a limit of five white

sturgeon per week. Sockeye sales were allowed since ESA impacts were available to cover the minimal catch expected with the gear restriction.

The first summer Chinook fishing period was an eight-hour period conducted on the evening of June 17 in Zones 1-5. Catch and effort was expected to be high, estimated at around 2,500 Chinook and 300 sturgeon from 125 deliveries. Actual catch was less, with roughly 1,700 Chinook, 300 white sturgeon and 400 sockeye landed from 120 deliveries (Table 19). Average Chinook weight was 16 pounds. Ex-vessel prices (per pound landed) averaged \$4.76 for Chinook and \$2.73 for white sturgeon and \$2.71 for sockeye.

On June 28, TAC downgraded the run size forecast to 54,000 fish, which was nearly 40% less than expected. The downgrade led to a reduction of available summer Chinook for harvest and no additional commercial summer fishing periods were set.

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 beginning 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 Tongue Point 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-Indian 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. A high mark rate of hatchery summer Chinook allowed the states to adopt mark-selective fishery regulations and provide an opportunity to harvest abundant hatchery Chinook while limiting the impact to ESA-listed Snake River wild summer Chinook to less than 1%. In July 2002, the states also opened the area from Bonneville Dam upstream to the Oregon/Washington border to the retention of adipose fin-clipped summer Chinook.

Mark-selective recreational fisheries for summer Chinook also occurred in 2003 and 2004 under the same impact limit of 1% on wild Snake River summer Chinook allowed in the Interim Management Agreement. In these 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 of 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, and 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 mark-selective regulations for the Columbia sport 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-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; and catches averaged 2,200 fish annually. In an effort to expand the recreational fishing opportunity for summer Chinook, the states adopted mark selective (adipose fin-clipped) regulations for the 2010 and 2011 fisheries 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. The 2010 fishery was open the entire summer season (June 16-July 31): however, the 2011 fishery exceeded its catch guideline and closed effective July 18th after anglers caught a record 7,653 adult summer Chinook (5,160 kept and 2,493 released).

2012 Columbia River Summer Steelhead and Summer Chinook Recreational Fisheries

The 2012 summer steelhead fishery opened May 16 between Tongue Point and the I-5 Bridge. The retention of sockeye was also allowed beginning May 16 based on the preseason forecast for a run of 462,000 fish. Effective May 26-27, the summer steelhead and sockeye fisheries were open between Buoy 10 and Beacon Rock, plus the Oregon and Washington banks between Beacon Rock and Bonneville Dam to coincide with regulations for the two-day reopening of the spring Chinook fishery. Effective May 28, steelhead and sockeye retention reverted to the area between Tongue Point and I-5. The summer steelhead and sockeye fisheries opened above the I-5 Bridge on June 16.

The 2012 recreational summer Chinook fishery was scheduled to be open for adipose fin-clipped Chinook during June 16-July 1 from the Astoria-Megler Bridge upstream to Bonneville Dam with a daily limit of two adult hatchery fish. The sport guideline below Bonneville Dam was 3,800 adult summer Chinook (including release mortality) based on the adult run size forecast of

91,200 fish. The retention of sockeye was allowed for the duration of the summer Chinook fishery, and included the area between the Astoria Bridge and Tongue Point. Summer steelhead fishing would remain open under permanent rules after summer Chinook retention closed, but sockeye fishing would close. The states planned a meeting for late June to review the sport catch and escapement of summer Chinook at Bonneville Dam to consider an extension of the recreational summer Chinook fishery: however, the TAC downgraded the summer Chinook, to 54,000 on June 28, and the retention of both Chinook and sockeye closed effective July 1, 2012.

During May 16-June 15 downstream of Bonneville Dam, salmonid anglers made 22,774 trips and caught 1,964 adult spring Chinook (630 kept and 1,334 released), 117 spring Chinook jacks (kept), 2,677 summer steelhead (2,352 kept and 325 released), and 657 sockeye (526 kept and 131 released) downstream from Bonneville Dam. During June 16-July 1, summer Chinook anglers made 34,579 trips and caught 4,507 adult summer Chinook (2,897 adipose fin-clipped fish kept and 1,610 unclipped fish released), 3,806 sockeye (3,422 kept and 384 released), and 278 adipose fin-clipped Chinook jacks (kept). Summer steelhead anglers released another 948 adult summer Chinook and 574 sockeye during July 2-31 and kept 84 adipose fin-clipped summer Chinook jacks. The total summer steelhead catch during May 16-July 31 was 25,488 summer steelhead (14,354 adipose fin-clipped fish kept and 11,134 unclipped fish released), and the total sockeye catch was 5,037 fish (3,948 kept and 1,089 released). The handle and kept catch for both sockeye and summer steelhead were the highest totals on record during this time period. While boat anglers caught the majority of the summer Chinook, bank anglers benefited from high Columbia River flows during the spring and early summer of 2012 and caught the majority of the sockeye and summer steelhead landed during May-July.

Summer season recreational fisheries were open June 16 through July 31 from Bonneville Dam upstream to Priest Rapids Dam. The fishery was mark selective, allowing retention of hatchery Chinook only. Recreational fisheries in this area kept 75 hatchery summer Chinook and released 47 unclipped fish. Recreational summer Chinook catch upstream of Priest Rapids Dam are not available yet, but based on a five year average an estimated 3,373 fish were kept and 272 fish released. Wanapum tribal fisheries and Colville tribal fisheries harvested 23 fish and 3,184 fish respectively. Colville tribal fisheries also released 1,029 unclipped summer Chinook.

Past Select Area Commercial Fisheries

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 open periods occurring primarily from late April through early June. Through 1996, fishing time was limited to less than 15 days annually and landings ranged from 155–851 spring Chinook. As production increased, winter and summer seasons were added in an attempt to harvest all returning hatchery adults. Winter seasons during late February through early March were initiated in 1998 to harvest early returning Age-5 spring Chinook. Starting in 2006, the Youngs Bay winter season has been extended into the mid-March through early-April timeframe as allowed by in-season evaluation of management criteria. These extended-season fisheries have been either constrained to locations in upstream areas of Youngs Bay to reduce harvest of non-local Chinook that are known to “dip in” to lower portions of Youngs Bay in response to tidal fluctuations and river height/flow during this timeframe or constrained to short (≤ 4 hours) periods proximate to low

tide. Although need for close monitoring is increased during the extension period, adaptive management has provided for important additional opportunity. Beginning in 1999, summer seasons during mid-June through July have been adopted to provide harvest opportunity on late returning spring Chinook and early returning SAB fall Chinook. Table 6 lists Chinook harvests during winter, spring, and summer seasons for all Select Area sites since 1993. Harvest of Chinook is variable and has ranged from 3,100–20,800 during the years 2000–2011 (excluding 2005).

Commercial fisheries for spring Chinook in Blind Slough began in 1998 with spring seasons only, until 2000 when the first winter season was established. Weeknight fishing periods have been consistently adopted to minimize interactions with recreational boaters. In most years, fishing periods have opened concurrent with the other Select Area sites to minimize congestion. Since 2006, the winter season has been expanded into the late-March/early-April timeframe with minimal increase in impacts to ESA-listed upriver stocks. 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. 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 and no summer seasons have been adopted since. Annual winter/spring season landings have ranged from 800–3,500 Chinook since 2000.

Spring commercial fisheries in Tongue Point were initiated in 1998 and continued through 2003, with trial winter seasons occurring in 2000 and 2001. In most years, seasons 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 dramatically with landings peaking in 2002, when 3,003 fish were landed. High abundance of upriver spring Chinook in this area during the 2003 spring fishery resulted in the cancellation of the season after one fishing period. Production-level releases of spring Chinook at Tongue Point were discontinued in 2000; however, experimental releases were maintained from 2003 through 2011 at the relocated MERTS net-pen site (Table 5). Smolt releases increased back to pre-2000 production levels in 2012. Recently, test fishing and full-fleet commercial test fisheries have been conducted in Tongue Point/South Channel and staff is optimistic that spring season fisheries will continue to be feasible.

In Deep River, winter seasons have been adopted annually since 2006 and spring fisheries have been conducted since 2003. Total harvest has ranged from 28 to 415 fish annually (Table 5).

2012 Youngs Bay Winter/Spring/Summer Gillnet Season

The 2012 winter season consisted of twelve 18-hour fishing periods between February 12 and March 9. Two additional 6-hour periods and six 4-hour periods (two periods weekly, scheduled near low tide) were adopted for the mid-March – early-April timeframe (March 11 through April 5). This strategy of constricting the fishery by time (with in-season adaptive management) when non-local stocks may be most abundant appears to be an effective alternative to closing the fishery entirely during this timeframe. The entire Youngs Bay fishing area was open with a 7-inch minimum mesh size regulation during all winter season periods. As is the case for all commercial fisheries in Youngs Bay, maximum net length was restricted to 250 fathoms; no more than two pounds of leadline per fathom of net are allowed, except in the area upstream of

the mouth of the Walluski River. The twenty fishing periods resulted in landings of 318 spring Chinook which is slightly less than the average harvest (364) observed since winter seasons began in 1998. Additionally, six white sturgeon were landed in the Youngs Bay winter season. A two white sturgeon (per vessel per week) landing limit was in place during the winter, spring, and summer seasons for all Select Areas.

The 2012 spring season in Youngs Bay began with one 5-hour period on April 19, two 12-hour periods on April 24-25 and 26-27 and continued with six 18-hour periods from April 29–May 11 followed by weekly four-day periods from May 14 through June 15. The 2012 Youngs Bay spring fishery landed 5,971 Chinook and 96 white sturgeon. The Chinook harvest was the third highest on record and greater than the recent ten-year average of 5,536 fish. Throughout the spring season, a 9¾-inch maximum mesh size restriction was in effect.

The 2012 summer season in Youngs Bay was open 6 AM Wednesday through 6 AM Friday weekly from June 20–July 27 with a 9¾-inch maximum mesh size restriction in effect. The Youngs Bay summer fishery landed 2,260 Chinook, more than three times the recent ten-year (2002–2011) average of 685 Chinook, and continued the trend of increased annual harvest. The high landings were driven by later returning age-4 Select Area spring Chinook adults and early returning SABs fall Chinook destined for Youngs Bay (441 landed). Sturgeon catch for the Youngs Bay summer fishery was 32 fish. Retention of sturgeon in all Select Area commercial fisheries was closed effective July 2 after the annual catch guideline of 200 fish had been met.

The combined Youngs Bay winter/spring/summer fishery harvest totaled 8,549 Chinook. Stock composition is based on VSI and CWT analysis with a total of 4,674 Chinook (55% of the Chinook catch) examined for fin marks and CWTs, and 453 CWTs collected. The 2012 combined winter/spring/summer catch was comprised of 84.19% spring Chinook and 5.2% SAB fall Chinook destined for Select Area sites, 3.4% upriver spring Chinook, 0.01% upper Columbia summer Chinook (after June 15), 6.3% Willamette River spring Chinook, 0.5% Sandy River-origin spring Chinook, and 0.4% spring Chinook destined for the Cowlitz, Kalama, or Lewis rivers (CKL). Based on scale readings, which were verified with CWTs, the age composition of the catch was 0.2% Age-2, 4.2% Age-3 (primarily SABs), 72.6% Age-4, 23.0% Age-5, and 0.0% Age-6 fish.

2012 Blind Slough/Knappa Slough Winter/Spring Gillnet Season

Similar to 2000–2011, a winter gillnet season with a 7-inch minimum mesh restriction was adopted for Blind Slough (excluding Knappa Slough) in 2012. The adopted season consisted of thirteen 12-hour periods (7 PM – 7 AM) on Wednesday and Sunday nights during February 12 – April 2 (except for two Wednesdays: March 21 and 28). The five periods (March 11–April 2) held after the normal end of the winter season represent ongoing efforts to apply adaptive management techniques to allow prudent expansion of the fishery and also to meet the goal of significant and stable opportunity in 2012. During the winter fishing periods, a total of 48 spring Chinook were landed, which was less than half the recent ten-year (2002–2011) average Chinook harvest (121). As described for Youngs Bay, a two white sturgeon weekly landing limit was in place for the winter and spring seasons; however no sturgeon were landed during the winter season.

During the spring fishery, the Blind Slough Select Area site expanded to include Knappa Slough down to the east end of Minaker Island, to increase fishing area and maximize the opportunity to harvest local Select Area-origin spring Chinook. For periods between April 30 and June 15, the lower deadline in Knappa Slough was extended further downstream to the western end of Minaker Island. This strategy of area expansion has been successfully employed for several years. A 9¾-inch maximum mesh size restriction was adopted to target Chinook. For both the winter and spring fisheries in Blind/Knappa sloughs, net length was limited to 100-fathoms with no weight restrictions on the leadline, including allowed use of additional weights and anchors. The 2012 spring fishery consisted of seventeen 12-hour (7 PM – 7 AM) fishing periods on Thursday and Monday nights between April 19 and June 15 (except the second period of the season which was scheduled for a Tuesday night to allow time for management action if necessary after spring opener). The 2012 Blind Slough/Knappa Slough spring fishery landed 913 spring Chinook and 35 white sturgeon. The Chinook harvest was approximately half of the recent ten-year average (1,700).

The combined Blind Slough/Knappa Slough winter and spring fishery harvest totaled 961 Chinook. Stock composition is based on VSI and CWT analysis. A total of 728 Chinook (76% of the combined catch) were examined for fin marks and CWTs and 50 CWTs were collected. The catch was comprised of 95.94% spring Chinook destined for Select Area sites, 0.42% upriver spring Chinook, and 3.64% Willamette River spring Chinook. Based on scale readings, which were verified with CWTs, the age composition of the catch was 0.2% Age-3, 70.6% Age-4, 29.2% Age-5, and 0.0% Age-6.

2012 Tongue Point/South Channel Spring Gillnet Full-Fleet Test Fishery.

Efforts to reinstate a spring Chinook fishery in the Tongue Point/South Channel site continued in 2012. At the January 26 hearing, staff recommended a full-fleet experimental test fishery for the spring season. As in past years, test fishing activities were planned to precede the first scheduled period. Results of test fishing would provide data on presence of non-local stocks during this timeframe and would be used to evaluate the risk of proceeding with the full-fleet fishery. The Compact adopted a full-fleet commercial test fishery in the Tongue Point/South Channel site for Monday and Thursday nights (7 PM – 7 AM) starting on April 26 and ending on June 15. The initial period was scheduled for the week following the spring season opener in all of the other sites to reduce the likelihood of encountering ESA-listed upriver spring Chinook. A 9¾-inch maximum mesh restriction was in place. In Tongue Point, nets were restricted to a maximum length of 250 fathoms with standard weight restrictions while nets in South Channel were limited to a maximum length of 100 fathoms and no weight restrictions were in place. Additionally, for the first five periods all catch had to be sampled by ODFW staff before being transported out of the fishing area; a sampling station was set up at the MERTS dock for this purpose. Beginning May 14 and continuing through the end of the spring season, fishers were required to call ODFW's sampling staff with details on catch and time/location of sale to facilitate sampling efforts.

One commercial fisher was contracted to make four drifts per day for a maximum of four days during the week prior to the first scheduled period in Tongue Point/South Channel. All test fishing activities were conducted using live-capture methods with an ODFW employee on-board

to collect data and direct activities. A total of 16 drifts using 4¼-inch tangle nets were made on April 20, 22, 23, and 24 capturing 4 spring Chinook (all identified via VSI as lower river stock). The Tongue Point/South Channel fishery commenced on April 26 and proceeded as scheduled for the entirety of the spring season.

The 2012 full-fleet experimental test fishery in Tongue Point/South Channel consisted of fifteen 12-hour fishing periods and landings totaled 503 spring Chinook and 55 white sturgeon. Stock composition was based on VSI and CWT analysis with a total of 466 Chinook (93% of the catch) examined for fin marks and CWTs, and 85 CWTs being collected. The catch was comprised of 68.0% spring Chinook destined for Select Area sites, 5.4% upriver spring Chinook, and 26.6% Willamette River spring Chinook. Based on scale readings, verified with CWTs, the age composition of the catch was 0.0% Age-3, 62.2% Age-4, 36.8% Age-5, and 0.0% Age-6 fish.

2012 Deep River Winter/Spring Gillnet Season

Similar to recent years, the expanded Deep River winter season consisted of thirteen 12-hour fishing periods occurring on Sunday and Thursday nights (7 PM–7AM) beginning February 12 (Sunday) and ending April 2 (Monday). The first five weeks of the fishery (through March 16) included both Sunday and Thursday night fishing periods, followed by single nightly periods (Sunday night to Monday morning) the last three weeks.

A spring season consisting of 17 twelve-hour fishing periods on Monday (with one exception) and Thursday nights (7 PM–7 AM) from April 19 through June 15 was adopted at the January 26, 2012 Compact hearing. The exception was that instead of Monday there was a Tuesday night fishing period on April 24, to maintain consistency with Oregon Select Area fisheries.

The fishing area during all periods was restricted to the area from markers at 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. 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. Consistent with the other Select Areas, weekly white sturgeon landing limits were in place for the winter and spring season.

A total of 6 Chinook and 1 white sturgeon were landed during the winter season, and 37 Chinook and zero white sturgeon were landed during the spring season. The harvest of 43 Chinook from Deep River in the combined winter and spring seasons was less than half of that in 2011 (100 Chinook) and was the lowest since 2008 (28 Chinook). It was particularly disappointing compared to more favorable landings of 122 in 2009 and 415 in 2010.

The Deep River winter/spring fishery stock composition was based on VSI and CWT analysis with a total of 43 Chinook (98% of the catch) examined for fin marks and CWTs, and 4 CWTs being collected. The catch was comprised of 84.1% spring Chinook destined for Select Area sites, 13.6% upriver spring Chinook, 0% Willamette River spring Chinook, and 2.3% spring Chinook destined for the Cowlitz, Kalama, or Lewis rivers. Based on scale readings, verified

with CWTs, the age composition of the catch was 0% Age-3, 55% Age-4, 45% Age-5, and 0% Age-6.

Select Area Recreational Fisheries

Beginning in 1998, year-round recreational seasons were opened for Chinook and adipose fin-clipped coho in Youngs Bay, Tongue Point, and Blind Slough. Similar regulations 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. Brief springtime recreational fishing closures were enacted in the Select Areas during 2004, 2005, and 2010 when the potential for additional impacts to upriver spring Chinook also forced closure of Select Area commercial fisheries.

From 2001 through 2004 and again in 2010 and 2011, effort and harvest in Select Area recreational fisheries increased, due to improved adult returns which resulted in higher quality fishing opportunities. The 2012 estimate of 438 harvested spring Chinook is average for recreational fisheries in the Select Areas since 1998. Due to limited resources to carry out a statistical creel program, formal estimates of recreational catch are not possible for the Select Area spring Chinook fisheries. However, in 2012 an estimate was made using expanded punch card estimates, trends in the Select Area commercial fisheries and comparative statistics of years with limited creel information. The 2011 estimate was produced utilizing the same methodology but has since been updated using preliminary expanded punchcard estimates. Harvest is reported in Table 6.

2012 Commercial Shad Seasons

Under permanent regulations the lower Columbia River was open to commercial shad fishing 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 (except on the observed Memorial Day holiday), from May 10 through June 20. Regulations for the Area 2S shad fishery since 1996 have included the following gear specifications designed to minimize the handle of salmonids: mesh size restriction of 5³/₈ to 6¹/₄-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 shad fisheries prior to 1996. Only shad may be kept and sold, and all salmon, steelhead, walleye, and sturgeon are required to be released immediately. The 2012 fishery produced landings of only 818 shad which was the lowest catch since 1977. The recent trend of low harvest is likely due to a relatively low market value for shad and depressed shad returns.

The Washougal Reef commercial shad fishery was also open in 2011 from 8:00 PM-midnight on the same dates as the Area 2S fishery. No effort or landings were reported for this fishery.

As part of ongoing commercial gear evaluations initiated in 2009, ODFW issued three experimental gear permits (one beach seine, one purse seine, and one fish wheel) in 2012 to evaluate the use of new commercial gears for targeting shad. Only the purse seine was utilized with approximately 28,400 shad harvested during late May through mid-June.

2012 Non-Indian Impacts to ESA-Listed Stocks

The management intent for 2012 spring Chinook fisheries was conservation of Columbia River salmon and steelhead runs, to remain within the impact rates and catches of upriver stocks allowed in the MA and to reach the objectives outlined in Commission guidance. The 2012 impact limit for ESA-listed upriver spring Chinook in non-Indian Columbia River fisheries was 2.2%, based on the preseason forecast. Fisheries were developed preseason and managed in season prior to a runsize update based on a run 70% of forecast, which allowed for an impact of 2%. The post season run size of 203,100 allowed for a 1.9% impact rate for non-Indian Columbia River fisheries.

The final non-Indian impact rate was 1.3% for the Snake River ESU and 1.2% for the upper Columbia ESU. The recreational impact total was 0.86% (1.14% allocated) and the commercial impact total was 0.48% (0.67% allocated). Since non-Indian fisheries are managed to remain within both the allowable ESA limit and the catch-balance guidelines outlined in the 2008-2017 MA, fisheries are halted once either of the two constraints are met. In 2012 although the recreational fisheries were well within the allocated ESA allowance, the fishery was constrained by mortalities of upriver Chinook. The same was true for commercial fisheries. The Catch Balance provisions were more constraining than ESA allowances in 2012 non-Indian fisheries.

2012 Non-Indian Fisheries - Comparison of Post-Season Allowed and Actual ESA-impacts and Catch (kept plus release mortalities) of Adult Upriver Spring Chinook.						
2012 Non-Indian Fishery	Post Season					
	(203.1K run size, 1.9% impact limit)					
	ESA Impact	Actual	% of Allowed	Allowed Catch	Actual	% of Allowed
Mainstem	0.52%	0.37%	71%	4,454	4,276	96%
Select Areas	0.15%	0.16%	108%	305	329	108%
Commercial total (35% of total)	0.67%	0.53%	79%	4,759	4,605	97%
Downstream of Bonneville Dam (LCR)	0.86%	0.63%	74%	11,260	10,427	93%
Bonneville Dam to OR/WA border	0.11%	0.06%	50%	1,340	886	66%
Upper Col/Snake	0.17%	0.18%	104%	1,120	2,384	213%
Sport total (60% of total)	1.14%	0.87%	76%	13,720	13,697	100%
NI Total	1.81%	1.40%	77%	18,479	18,302	99%
Commission unallocated (5% of total)	0.10%					
ESA Impact	1.90%					

As has been the case for the past several years, impacts to wild winter steelhead were minimal in 2012. Impacts total 0.5% from non-Indian mainstem fisheries, which is well within the

2.0% ESA impact rate limit. Total impacts to Snake River sockeye are estimated to be 0.95%, compared to the allowable impact rate of 1.00%. Impacts to wild Willamette River spring

Chinook are reported separately by ODFW in an annual report submitted to NOAA Fisheries and were not available when this report was completed.

Summer Chinook fisheries operated under principles described in the Management Guidelines section of this report. The preseason harvest allocation for non-Indian fisheries was 27,725 adult summer Chinook, which included 4,700 for ocean and 23,025 for in-river harvest. The actual Columbia River return of 58,300 changed the non-Indian allocation to 14,737 fish. The preliminary non-Indian harvest for Columbia River (in-river) fisheries is estimated to be 11,700 fish. An estimated 3,000 fish were harvested in non-tribal ocean fisheries.

2012 Non-Treaty Summer Chinook Fisheries Summary¹	
Fishery	Chinook Catch ²
PFMC Ocean Fisheries	3,000
<u>Below Priest Rapids</u>	
Recreational Below Bonneville	3,281
Commercial Below Bonneville	1,715
Recreational Bonn. to PRD	80
Below PRD Sum	5,076
<u>Above Priest Rapids</u>	
Wanapum Tribal	23
Colville Tribal	3,235
Recreational above PRD	3,400
Above PRD Sum	6,658
Non-Treaty Total	14,734

¹ All data preliminary

² Includes kept and release mortalities

Treaty Indian Fisheries

Treaty Indian harvest of spring Chinook primarily occurs in ceremonial and subsistence (C&S) fisheries except in years of high abundance, such as in 2000-2004 and 2008-2012, when commercial fisheries have been allowed. Steelhead and a few spring Chinook are incidentally harvested in the winter season sturgeon gillnet fishery, and limited incidental handling mortality could occur if the tribal shad trap-net or other experimental shad fishery is pursued.

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

2012 Treaty Indian Winter Season Fisheries

The 2012 winter sturgeon setline fishery was open in all of Zone 6 from January 1 to January 31 with landings totaling 243 white sturgeon (130 in the Bonneville Pool, 3 in The Dalles Pool and 110 in the John Day Pool). The 2012 January setline landings were a recent year record high.

The winter gillnet commercial fishery opened February 1 in all three pools. The season continued through March 1 in and the John Day Pool, through March 6 in the Bonneville Pool and through March 21 in The Dalles Pool. No mesh restrictions were in place and sales of platform/ hook and line caught fish was allowed. The 2012 winter gillnet season commercial white sturgeon catch was the highest commercial catch observed since at least 1992. The winter season steelhead catch has generally been low in recent years, due to most fishers targeting sturgeon. The 2012 white sturgeon treaty Indian catch guidelines by pool include 2,000 fish for Bonneville Pool, 1,000 fish for The Dalles Pool and 1,000 fish for John Day pool.

The total tribal commercial winter season catch for 2012 was 4,396 white sturgeon or 110% of the combined Zone 6 treaty guideline (4,000 fish). The total 2012 winter catch is shown by pool in the table below and combined in Table 26.

2012 Treaty Indian Winter Commercial Landings From Setline, Gillnet, Platform and Hook & Line					
Pool	Steelhead	White Sturgeon		Walleye	Chinook
		Setline	Gillnet		
Bonneville	76	130	2,073	12	2
The Dalles	6	3	843	0	0
John Day	1	110	1,237	3	0
Total	83	243	4,153	15	2

2012 Treaty Indian Mainstem Spring and Summer Chinook and Sockeye Fisheries

The tribal intent for 2012 spring Chinook fisheries was to remain within impact rates allowed by the 2008-2017 MA. The preseason planning for the treaty mainstem harvest included an expected allowed harvest rate of 10.8% on upriver spring Chinook based on the 314,200 forecasted run. The tribes also planned on a 30.4% harvest rate on Upper Columbia summer Chinook based on the 91,200 forecasted run. Based on a preseason forecast for sockeye, the tribal fisheries planned for a 7% harvest rate.

The four tribes issued permits for gillnet C&S fisheries for spring Chinook from late March through early May. The platform/hook and line fishery retained spring Chinook and steelhead for subsistence purposes throughout the spring season. Commercial sales of fish harvested in platform and hook and line fisheries (including the hook and line fishery downstream of Bonneville Dam during periods when it was open) was authorized beginning May 15. The estimated C&S gillnet permit catch was 9,692 spring Chinook. The estimated catches for the platform and hook-and-line (C&S and commercial) fisheries were 5,790 spring Chinook upstream of Bonneville and 1,380 downstream of Bonneville Dam. The tribes set a gillnet fishery in early June that caught 818 adult Chinook. The fish were sold primarily to the Yakama Nation. The states did not authorize non-Indians to purchase these fish. Total harvest of upriver spring Chinook was 17,701 or 8.7% total harvest rate compared to a 9.1% management limit (Table 7). The impact on the ESA-listed wild Snake River spring/summer Chinook and ESA listed upper Columbia spring Chinook was 9.3%. The differential between the total harvest rate and the wild harvest rate results from 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/hook-and-line catch of summer Chinook and commercial gillnet fishery combined was 7,824 (13.4% of the river mouth return; Table 10). The harvest was less than the 14,737 allowed.

There were 45,352 sockeye caught in Zone 6 platform and hook-and-line fisheries and in commercial gillnet fisheries. The catch was 8.7% of the river mouth return as compared to the allowed harvest rate of 7%. The TAC estimated that 45 of the sockeye caught were Snake River sockeye (Table 16).

Steelhead harvest during winter and spring fisheries was minimal, estimated at 170 fish. Platform fisheries were not sampled to determine a steelhead hatchery-to-wild ratio, and there is no definitive method of determining the number of winter steelhead or hold-over summer steelhead in the early season catch. Most of the summer steelhead landed would be expected to be Skamania Index or Group A-index summer steelhead. Some of the winter and spring season catch may have been winter steelhead and hold-over summer steelhead from the previous year. The summer season harvest was estimated at 1,512 steelhead.

2012 Treaty Indian Tributary Fisheries

Preliminary landings from Yakama Nation tributary fisheries are estimated at 16,282 adult Chinook. These totals include 53 adults from the Wind River, 580 adults Chinook from the Klickitat River, 1,006 adult Chinook from the Icicle River and 14,643 Chinook adults from Drano Lake. Sales of fish were allowed concurrent with mainstem sales. Steelhead harvest in tributary fisheries is not available at this time. Tributary fisheries also occurred by other tribes in the Hood, Deschutes, John Day, Umatilla, Walla Walla and various Snake Basin tributaries, but catches are not included in this report.

2012 Ceremonial and Subsistence Entitlement

The 2008-2017 MA as well as the expired CRFMP identified a minimum C&S annual “safety net” to the Columbia River treaty tribes of 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 2012 upriver spring and summer Chinook returns were sufficient to allow the full entitlement to be harvested in treaty fisheries.

2012 Ceremonial and Subsistence “Safety Net” Summary		
C&S permit gillnet spring fishery	9,692	spring Chinook
Winter commercial gillnet fishery	2	spring Chinook
Zone 6 Platform/hook and line winter/spring fishery	5,790	spring Chinook
Zone 5 Platform/hook and line/ fishery (<i>includes fish donated from NI test fishery</i>)	1,399	spring Chinook
Spring gillnet fishery	818	spring Chinook
Spring Chinook Subtotal	17,701	spring Chinook
Zone 5 Platform/hook and line summer fishery	0	summer Chinook
Zone 6 commercial gillnet and Platform/ hook and line/ fishery	7,824	summer Chinook
Summer Chinook Subtotal	7,824	summer Chinook
Total spring and summer Chinook	25,525	

2012 Shad Fisheries

There was no directed treaty commercial harvest of shad in 2012 using the trap just upstream from The Dalles Dam Oregon shore fish ladder. An estimated 500-1,000 fish were caught in the Zone 6 platform fishery which were mostly sold. The Yakima Nation tested a fish wheel to harvest shad, but the tests did not result in any shad harvest.

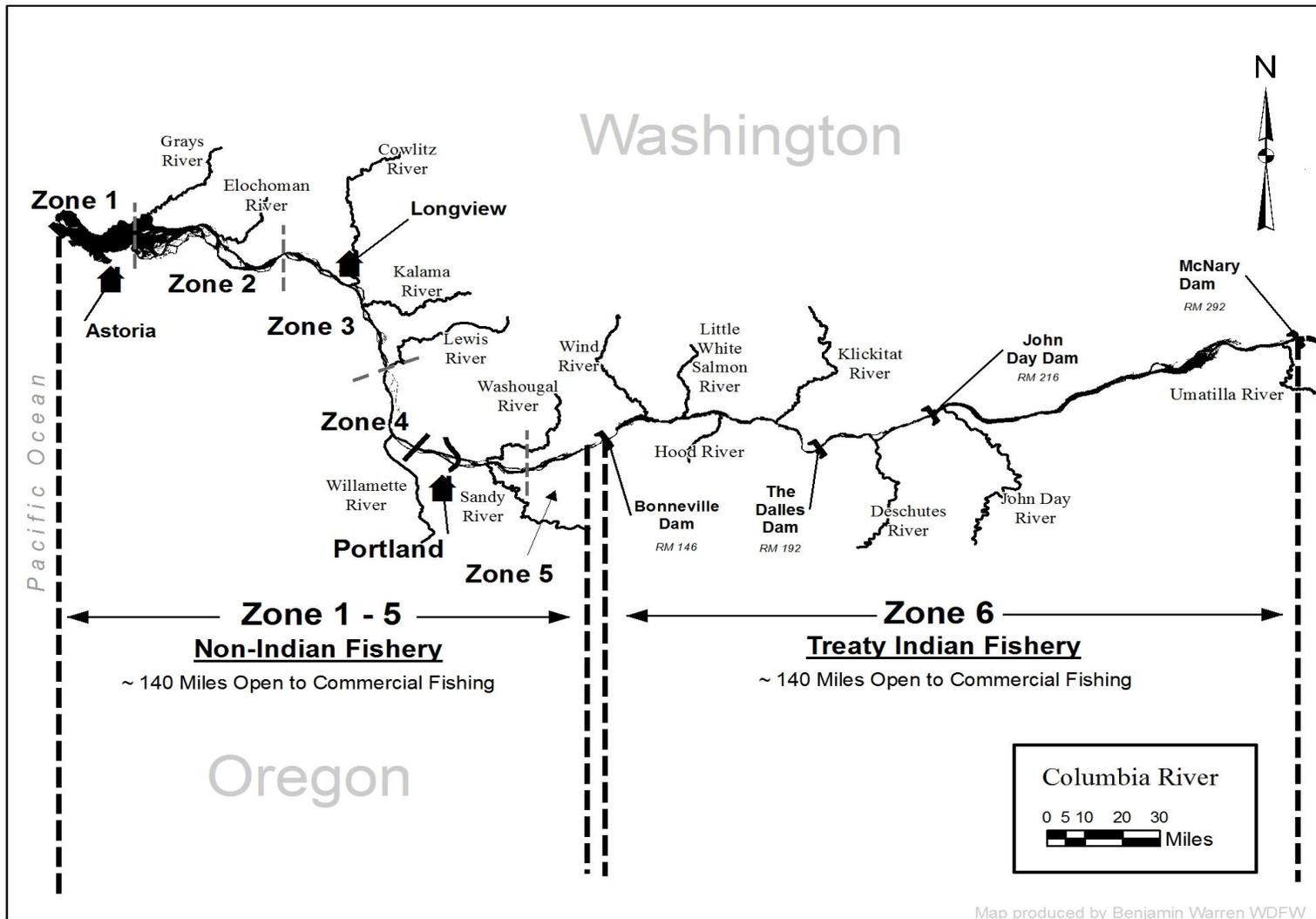


Figure 2. Map of the Columbia River Downstream of McNary Dam Showing Areas Open to Commercial Fishing.

2013 WINTER, SPRING, AND SUMMER SEASON EXPECTATIONS

2013 Management Guidelines

All fisheries conducted in 2013 will be managed in accordance with the 2008-2017 MA, UCMA, Willamette FMEP, and Commission guidance as applicable.

According to the harvest rate schedule in the 2008-2017 MA and the 2013 upriver spring Chinook preseason forecast, winter/spring season fisheries will be managed not to exceed a total ESA impact limit of 11% (1.9% for non-Indian fisheries and 9.1% for treaty fisheries) of the upriver spring Chinook run. In addition, non-Indian fisheries will be managed to meet the catch balance provisions in the 2008-2017 MA for upriver spring Chinook. Under these provisions, non-Indian fisheries will be managed to remain within ESA impact limits and catch balance guidelines. Non-Indian fisheries for 2013 will operate with a 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%.

Mainstem summer Chinook fisheries will be managed based on the 2008-2017 MA, the UCMA, and Commission guidance. Based on the preseason forecast, harvestable sockeye may be available and retention of sockeye could be allowed in some fisheries. Impacts of up to 1% will be available for non-Indian fisheries and 7% for treaty Indian fisheries. Impacts to ESA-listed upriver summer steelhead in non-Indian fisheries occur as release mortalities during mainstem recreational and commercial fisheries and will be limited to 2%.

Fisheries will also be managed according to the amended 2011-2013 Joint State Accord for Columbia River Sturgeon Management. This Accord revision considers guidance from the Commission and Directors to manage for a 16% harvest rate beginning in 2012. Fisheries conducted in 2013 will be managed for a 13.6% harvest rate, which is the result of applying a 15% conservation buffer to the 16% harvest rate.

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

2013 Non-Indian Fisheries

Commercial Winter Sturgeon Fishery

(Compact consideration at the January 30, 2013 hearing)

- Reduced fishing periods likely

Commercial Spring Chinook Fisheries

(Compact consideration at the January 30, 2013 hearing)

- Mark-selective fishery – release of all non-adipose fin clipped salmon required.

- Catch expectations and impact limits are set forth in the 2008-2017 MA and the Willamette FMEP.
- Regulations similar to previous years (net type, net length, soak times, recovery boxes, and observers).
- Fishery structure designed to maximize harvest of hatchery Chinook while minimizing handle of ESA-listed salmonids.
- Fishing plan (expected day(s) when test fishing and commercial fishing periods are expected to occur) similar to previous years. Staff met with the Columbia River Commercial Advisory Group in January to solicit input in developing a fishing plan.

Lower Columbia River Spring Chinook Recreational Fishery

(Joint State consideration at the January 30, 2013 hearing)

- Mark-selective fishery – release of all non-adipose fin clipped salmon required.
- Catch expectations and impact limits are set forth in the 2008-2017 MA and the Willamette FMEP.
- Under permanent regulations, the fishery is open for adipose fin-clipped Chinook and adipose fin-clipped steelhead from Buoy 10 upstream to the I-5 Bridge during January 1 through March 31.
- The staff met with the Columbia River Recreational Advisory Group in January to solicit input in developing the 2013 season.

Bonneville to McNary Dam Spring Chinook Recreational Fishery

(Joint State consideration at the January 30, 2013 hearing)

- Mark-selective fishery – release of all non-adipose fin clipped salmon required.
- Catch expectations and impact limits are set forth in the 2008-2017 MA and Commission guidance.

Select Area Commercial Fisheries

(Compact and Oregon State consideration at the January 30, 2013 hearing)

- Winter and spring seasons are expected for all Select Areas, and a summer season is expected in Youngs Bay.
- A winter season extension in Youngs Bay, similar in structure to that in 2012, may be considered.
- A spring full-fleet test fishery starting in late April will likely be proposed for Tongue Point/South Channel.
- Fisheries will be structured and managed for stability while minimizing harvest of non-target stocks.
- Impacts to ESA-listed salmonids will be included in the commercial share of total non-Indian impacts.
- Season proposals for 2013 will be similar to previous years and will reflect input from the January 7, 2013 public meeting concerning Select Area spring Chinook fisheries.

Columbia River Steelhead Recreational Fishery

(Season as per permanent regulations; Joint State consideration at January 30, 2013 hearing)

- Dates: January 1–March 31 and May 16–December 31 for the area from the Tongue Point/Rocky Point line to the I-5 Bridge; January 1–March 31 and June 16–December 31 for the area from the I-5 Bridge upstream to Highway 395 Bridge at Pasco, WA. Seasons are generally also open for retention of steelhead concurrent with Chinook retention seasons.
- Retention of sockeye may be allowed.

Columbia River Summer Chinook Recreational and Commercial Fisheries

- According to the 2008-2017 MA, and the preseason run size, harvestable summer Chinook are split evenly between treaty and non-treaty fisheries.
- The UCMA calls for the majority of the non-treaty allocation to be harvested in areas upstream of Priest Rapids Dam.
- Summer Chinook recreational fisheries will likely be mark-selective in most Columbia River fisheries.
- Retention of sockeye may be allowed.
- Season will be developed during the North of Falcon process in March/April 2013.

Commercial Shad Fishery

- In Area 2S; open hours of 3-10 PM on all weekdays (except the observed Memorial Day holiday from May 10 through June 20).
- A commercial shad season for the Washougal Reef area will not likely be proposed for 2013
- Additional shad harvest may occur via Oregon experimental gear permits if additional gear testing is warranted.

2013 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 permanent regulation in Zone 6 from February 1 to March 21. The fishery will be managed similar to recent years. The fishery will be managed for pool-specific guidelines. The fishery will close early in any pool if sturgeon harvest guidelines are met.
- The 2013 winter season fisheries are expected to have effort similar to 2012, and to accrue similar impacts to salmon and steelhead.

Treaty Indian Spring Season Fisheries

- The treaty tribes have not yet determined the structure of the 2013 spring Chinook fisheries.

- Based on the 2008-2017 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.

Treaty Indian Summer Season Fisheries

- The treaty tribes have not yet determined the structure of the 2013 summer Chinook and sockeye fisheries.
- Harvest will be managed in accordance with the 2008-2017 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 to be comparable to historic levels.

Treaty Indian 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 fisheries are also 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.

MISCELLANEOUS REGULATIONS

Miscellaneous regulations including dam sanctuaries, river mouth closures, gear requirements, sturgeon rules, etc., will be included in the January 30, 2013 Winter Fact Sheet.

The Sturgeon Management Task Force met January 22 to discuss and develop management recommendations for 2013 Zone 6 white sturgeon fisheries.

Table 1. Minimum Adult Spring Chinook Run Entering the Columbia River, 1980-2012. 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	2,020	64,800	63,521	161,077
1985-89 Ave.		11,176	1,552	10,312	1,980	93,700	105,481	224,201
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		10,353	2,430	6,025	8,551	72,197	95,691	195,247
1993	851	9,458	2,874	8,195	6,369	62,778	119,963	210,488
1994	155	3,149	1,265	3,068	3,498	48,834	24,095	84,064
1990-94 Ave.	503	7,892	2,234	6,984	5,119	83,448	81,989	187,867
1995	201	2,102	697	3,726	2,529	40,854	12,792	62,901
1996	789	1,787	627	1,730	3,801	33,358	55,552	97,644
1997	1,821	1,877	505	2,196	4,410	34,536	124,321	169,666
1998	2,313	1,055	407	1,611	3,577	43,497	44,308	96,768
1999	1,980	2,069	977	1,753	3,585	52,584	43,067	106,015
1995-99 Ave.	1,421	1,778	643	2,203	3,580	40,966	56,008	106,599
2000	6,631	2,199	1,418	2,515	3,641	55,788	186,715	258,907
2001	9,719	1,609	1,796	3,777	5,329	78,436	440,336	541,002
2002	12,251	5,215	2,932	3,520	5,905	120,164	335,214	485,201
2003	8,783	15,998	4,565	5,057	5,615	123,352	242,605	405,975
2004	11,643	16,521	4,339	7,426	12,680	143,242	221,675	417,526
2000-04 Ave.	9,805	8,308	3,010	4,459	6,634	104,196	285,309	421,722
2005	2,550	9,358	3,389	3,511	7,668	59,495	106,911	192,882
2006	7,577	6,967	5,482	7,331	4,382	59,311	132,583	223,633
2007	6,902	3,974	8,036	7,596	2,813	39,943	86,247	155,511
2008	4,493	2,986	1,617	2,252	5,994	27,016	178,629	222,987
2009	3,975	5,977	402	1,485	2,429	39,400	169,296	222,964
2005-09 Ave.	5,099	5,852	3,785	4,435	4,657	45,033	134,733	203,595
2010	25,915	8,830	918	2,337	7,652	110,500	315,345	471,497
2011	11,748	5,834	778	1,311	5,721	80,254	221,157	326,803
2012	10,495	9,184	604	1,839	5,038	65,115	203,090	295,365

^{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 and includes jacks.

^{2.} Minimum run sizes for SAFE stocks is based only on harvest of returning adults in Select Area commercial and recreational fisheries. Estimates of escapement are not available. SAFE run size includes minor catches of non-local spring Chinook and early returning Select Area Bright fall Chinook.

^{3.} Includes adults and jacks. Includes Clackamas River return.

^{4.} Upriver counts prior to 2005 are adjusted for new management 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. Predicted and Actual Spring Chinook Entering the Columbia River, 1985-2012 and 2013 Projections.

Year	Willamette River			Cowlitz, Kalama, & Lewis Rivers Combined (Adults)			Upriver (Adults) ¹		
	(All Age Classes)			Preseason Forecast	Actual Return	% of Predicted	Preseason Forecast	Actual Return	% of Predicted
	Preseason Forecast	Actual Return	% of Predicted						
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	11.7	174	333.7	295.1	88
2003	109.8	126.6	115	11.6	25.6	221	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	19.8	130	88.4	132.6	150
2007	52.0	40.5	78	15.9	19.6	123	78.5	86.2	110
2008	34.0	27.0	79	12.4	6.9	55	269.3	178.6	66
2009	37.6	39.4	105	7.2	7.9	109	298.9	169.3	57
2010	62.7	110.5	176	19.4	12.1	62	470.0	315.3	67
2011	104.1	80.3	77	10.6	6.3	59	198.4	221.2	111
2012	83.4	65.1	78	12.1	11.6	96	314.2	203.1	65
2013	59.8			7.8			141.4		

¹. Includes Snake River summer Chinook since 2005 and reflects new spring management period of Jan- Jun 15. Data prior to 2005 has 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, 1970-2012. Includes Jacks.

Year	Minimum	Mainstem		Run	Lower		Willamette Falls Count	Run Entering Clackamas River
	Run Entering Columbia River	Columbia River		Entering Willamette River	Willamette River Recreational Catch ³	% of Run		
		Comm. ¹	Sport ²		Number ⁴			
1970-1974								
Average	71.6	10.1	2.6	58.9	18.2	31	38.3	2.1
1975-1979								
Average	56.6	5.4	1.6	49.5	15.1	32	31.1	3.0
1980-1984								
Average	64.8	4.4	1.7	58.6	13.9	23	35.5	8.7
1985-1989								
Average	93.7	9.8	2.2	81.7	19.6	24	53.6	7.7
1990-1994								
Average	86.2	6.5	3.5	76.1	19.8	26	44.8	10.4
1995	42.6	0.1	0.0	42.6	14.7	35	20.6	6.4
1996	34.8	0.1	0.0	34.6	6.1	18	21.6	5.9
1997	35.3	0.3	0.0	35.0	1.9	5	26.9	5.8
1998	45.1	0.1	0.0	45.0	2.8	6	34.5	7.4
1999	54.2	0.3	0.0	53.9	5.5	10	40.4	7.4
1995-1999								
Average	42.4	0.2	0.0	42.2	6.2	14	28.8	6.6
2000	57.5	1.1	0.2	56.2	9.0	16	39.1	7.8
2001	80.3	3.5	3.8	72.9	7.6	10	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	96.7	21.9
2000-2004								
Average	106.2	4.2	4.5	97.4	10.6	11	72.1	14.1
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	40.5	1.3	1.6	37.6	5.7	15	23.1	8.6
2008	27.0	0.1	0.2	26.7	4.6	17	14.7	7.2
2009	39.4	0.3	1.4	37.7	4.5	12	28.5	4.3
2005-2009								
Average	45.5	1.3	1.6	42.6	5.6	13	28.0	8.6
2010	110.5	3.3	5.4	101.8	22.7	21	67.1	11.0
2011	80.3	2.3	2.1	75.9	22.8	28	45.1	6.8
2012	65.1	2.3	3.2	59.6	15.8	27	37.2	5.7

^{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, 1980-2012. Includes jacks.

Year	Upper Willamette Recreational Catch			Upper Willamette Hatchery Return		Clackamas Hatchery Return	Received by Columbia River Tribes ²
	Willamette Falls Count ¹	Number	% of Will. Falls Count	Number	% of Will. Falls Count		
1980	26,973	1,954	7	8,302	31	1,024	--
1981	30,057	2,241	7	9,198	31	1,065	--
1982	46,195	3,687	8	13,780	30	573	--
1983	30,589	1,877	6	10,372	34	1,923	--
1984	43,452	3,123	7	15,433	36	2,521	--
1985	34,533	2,510	7	10,785	31	944	--
1986	39,155	2,708	7	12,591	32	776	--
1987	54,832	6,442	12	16,517	30	1,005	--
1988	70,451	8,536	12	22,534	32	1,253	3,700
1989	69,180	9,375	14	27,349	40	865	2,520
1990	71,273	10,856	15	29,692	42	1,847	1,425
1991	52,516	8,323	16	20,685	39	2,776	2,992
1992	42,004	7,424	18	15,743	37	4,535	2,206
1993	31,966	8,161	26	14,636	46	4,635	1,386
1994	26,102	4,273	16	9,795	38	3,675	3,193 ³
1995	20,592	3,380	16	8,757	43	3,112	1,504 ⁴
1996	21,605	5,041	23	10,056	47	3,044	4,386 ⁵
1997	26,885	4,022	15	14,752	55	2,670	539
1998	34,461	6,125	18	16,414	48	4,530	7,590
1999	40,410	6,367	16	18,725	46	4,562	7,689
2000	39,073	5,119	13	16,158	41	4,296	0
2001	53,973	5,758	11	20,256	38	6,155	0
2002	83,136	12,625	15	32,049	39	6,219	0
2003	87,749	11,050	13	25,528	29	5,336	0
2004	95,970	13,277	14	33,560	35	11,231	0
2005	36,633	4,583	13	15,386	42	6,792	0
2006	37,041	5,749	16	16,678	45	7,359	0
2007	23,098	2,133	9	9,756	42	6,106	0
2008	14,672	931	6	7,957	54	5,223	0
2009	28,514	3,769	13	14,424	51	2,853	0
2010	67,059	11,794	18	29,670	44	5,484	0
2011	45,147	5,707	13	26,812	59	3,908	0
2012	37,213	NA	NA	24,490	66	2,960	0

¹. Includes jacks.

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. Smolt Releases at Select Area Fisheries Enhancement Project Sites, Brood Years 1997-2010.

Brood Year	Species ¹	Release Site									
		Youngs Bay			Blind Slough Net Pens	Tongue Point			Deep River Net Pens	Steamboat Slough Net Pens	Select Area Total
		South Fork Klaskanine Hatchery	Klaskanine Hatchery	Youngs Bay Net Pens		Tongue Point Net Pens	Tongue Pt. MERTS Net Pens	John Day R. Net Pens			
1996	CHS	--	--	456,282	223,318	253,770	--	--	56,414	--	989,784
	SAB	--	603,960	463,703	27,413	27,482	--	--	--	--	1,122,558
	CO	550,427	--	1,119,632	144,958	119,611	--	--	208,350	--	2,142,978
1997	CHS	--	--	426,418	200,007	224,277	--	--	39,678	--	890,380
	SAB	--	769,126	117,571	--	--	--	--	--	--	886,697
	CO	429,652	--	2,101,573	197,089	204,143	--	--	414,108	210,530	3,557,095
1998	CHS	--	--	464,650	196,401	250,009	--	--	--	--	911,060
	SAB	--	703,200	221,971	--	--	--	--	--	--	925,171
	CO	610,658	--	1,819,500	195,645	754,123	--	--	431,143	191,543	4,002,612
1999	CHS	--	--	537,898	250,396	--	--	--	159,565	--	947,859
	SAB	--	408,492	153,928	--	--	--	--	--	--	562,420
	CO	344,738	--	1,724,031	299,411	655,613	--	--	395,337	208,966	3,628,096
2000	CHS	--	--	478,062	390,908	--	--	--	95,940	--	964,910
	SAB	--	669,913	205,145	--	--	--	--	--	--	875,058
	CO	583,248	--	1,688,696	343,842	667,758	--	--	354,557	273,108	3,911,209
2001	CHS	--	--	451,623	426,309	--	30,385	27,412	141,904	--	1,077,633
	SAB	--	620,527	467,056	--	--	--	--	--	--	1,087,583
	CO	641,555	--	1,686,711	316,804	675,712	--	--	366,435	239,635	3,926,852
2002	CHS	639,446	--	455,825	408,495	--	20,913	27,143	97,318	--	1,649,140
	SAB	--	702,188	780,314	--	--	--	--	--	--	1,482,502
	CO	--	--	1,470,914	298,748	--	697,522	--	357,200	204,600	3,028,984
2003	CHS	458,659	--	457,994	433,044	--	26,344	26,955	254,471	--	1,657,467
	SAB	53,963	679,153	519,676	--	--	--	--	--	--	1,252,792
	CO	--	--	1,146,068	309,527	--	202,727	--	144,900	--	1,803,222
2004	CHS	566,030 ²	--	391,843	451,388	--	57,114	25,451	336,300	--	1,828,126
	SAB	45,247	735,066	161,237	--	--	--	--	--	--	941,550
	CO	--	--	1,125,609	305,573	--	194,442	--	201,300	--	1,826,924
2005	CHS	--	--	417,662	272,226	--	76,877	27,272	263,300	--	1,057,337
	SAB	628,888	--	476,497	--	--	--	--	--	--	1,105,385
	CO	--	--	1,157,746	304,558	--	174,547	--	420,000	--	2,056,851
2006	CHS	--	--	543,803	312,962	--	79,343	--	121,500	--	1,057,608
	SAB	708,412	--	564,641	--	--	--	--	--	--	1,273,053
	CO	282,201	232,455	768,960	310,133	--	597,754	--	368,000	--	2,559,503
2007	CHS	--	--	457,161	280,437	--	103,060	--	279,811	--	1,120,469
	SAB	674,181	--	574,020	--	--	--	--	--	--	1,248,201
	CO	470,135	510,061	1,014,141	300,036	--	477,830	--	706,150	--	3,478,353
2008	CHS	--	--	804,665	265,832	--	101,700	--	363,000	--	1,535,197
	CHF	--	--	--	--	--	--	--	700,000 ³	--	700,000
	SAB	714,118	--	702,659	--	--	--	--	--	--	1,416,777
	CO	347,494	561,968	783,092	417,506	--	483,412	--	747,000	--	3,340,472
2009	CHS	--	--	702,609	253,503	--	100,557	--	234,000	--	1,290,669
	CHF	--	2,100,365	--	--	--	--	--	700,000 ³	--	2,800,365
	SAB	685,056	--	229,105	--	--	--	--	--	--	914,161
	CO	368,980	397,419	796,443	388,505	--	479,365	--	692,000	--	3,122,712
2010	CHS	--	--	612,330	258,923	--	253,002	--	405,000	--	1,529,255
	CHF	--	1,961,446	--	--	--	--	--	862,000	--	2,823,446
	SAB	672,829	--	684,030	--	--	--	--	--	--	1,356,859
	CO	390,610	489,060	757,474	372,265	--	491,330	--	800,000	--	3,300,739

^{1.} CHS = Spring Chinook, CHF = Fall Chinook (Tule stock), SAB = Select Area Bright Fall Chinook, CO = coho.

^{2.} Released early (September 26, 2005) due to disease.

Table 6. Winter/Spring/Summer Season Commercial and Recreational Chinook Harvest in Select Area Sites, 1993-2012.

Year	Commercial					Recreational ²						Sum
	Youngs Bay	Blind Slough	Tongue Point ¹	Deep River	subtotal	Youngs Bay	Blind Slough	Tongue Point	SAFE Tributaries	Deep River	subtotal	
1993	851	--	--	--	851	--	--	--	--	--	0	851
1994	155	--	--	--	155	--	--	--	--	--	0	155
1995	201	--	--	--	201	--	--	--	--	--	0	201
1996	789	--	--	--	789	--	--	--	--	--	0	789
1997	1,821	--	--	--	1,821	--	--	--	--	--	0	1,821
1998	2,167	60	31	--	2,258	55	--	--	--	--	55	2,313
1999	1,298	458	199	--	1,955	25	--	--	--	--	25	1,980
2000	4,731	818	947	--	6,496	14	121	--	120	--	255	6,751
2001	5,593	2,045	1,631	--	9,269	50	400	--	50	--	500	9,769
2002	6,643	2,053	3,003	--	11,699	121	430	1	--	--	552	12,251
2003	5,300	2,041	348	117	7,806	51	493	--	450	--	994	8,800
2004	6,916	3,531	--	115	10,562	96	285	--	700	--	1,081	11,643
2005	969	1,377	--	60	2,406	9	81	--	67	--	157	2,563
2006	5,798	1,419	--	28	7,245	53	73	--	210	--	336	7,581
2007	5,209	1,536	--	29	6,774	45	100	--	49	--	194	6,968
2008	3,195	1,004	259	28	4,486	--	--	--	--	--	100	4,586
2009	3,123	797	133	122	4,175	--	--	--	--	--	100	4,275
2010	20,751	2,999	727	415	24,892	250	200	--	800	--	1,250	26,142
2011 ^{3,4}	8,732	1,610	659	100	11,101	--	--	--	--	--	506	11,607
2012 ⁴	8,549	961	503	44	10,057	--	--	--	--	--	438	10,495

^{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 following test fishing activities.

^{2.} From 1998 – 2007 annual estimates of recreational harvest were made starting when effort was first observed in a particular site. In 2008- 2010 resources were not available to formally estimate recreational harvest so estimates are based on anecdotal sources.

^{3.} Recreational estimate updated with available punch card data.

^{4.} Preliminary.

Table 7. Estimated Numbers of Adult Upriver Spring Chinook Entering the Columbia River.

Return Year	Upriver Run ³	Harvest Impact Downstream of Bonneville Dam (Zones 1-5)					BON Dam Count	Harvest Impact Bonneville Dam upstream to McNary Dam (Zone 6)					Escapement Total ⁵ %Run	
		Non-Indian (NI) Catch ¹						Treaty Catch ²						
		Comm.	Sport	Misc. ⁴	Treaty	Grand Total		NT Sport	Winter Gillnet	Comm. Gillnet	C&S & Platform	Zone 6 Total		
80-84	63,521	951	320	182		1,452	62,069	0	1,008	0	2,306	3,313	58,756	92%
85-89	105,481	2,308	805	222		3,334	102,146	0	208	0	5,991	6,199	95,947	91%
1990	105,715	2,082	3,117	150		5,349	100,366	0	4	0	6,924	6,928	93,438	88%
1991	64,479	897	1,539	120		2,556	61,923	0	5	0	3,871	3,876	58,047	90%
1992	95,691	235	1,183	162		1,580	94,111	0	48	0	5,711	5,759	88,352	92%
1993	119,963	238	412	373		1,023	118,940	0	0	0	7,296	7,296	111,644	93%
1994	24,095	441	408	86		935	23,160	0	10	0	1,151	1,161	21,999	91%
1995	12,792	0	9	2		11	12,781	0	13	0	620	633	12,148	95%
1996	55,552	5	10	41		56	55,496	0	0	0	2,911	2,911	52,585	95%
1997	124,321	9	16	44		69	124,252	0	14	0	8,309	8,323	115,929	93%
1998	44,308	0	14	27		41	44,267	0	1	0	2,224	2,225	42,042	95%
1999	43,067	2	16	26		44	43,023	0	1	0	1,983	1,984	41,039	95%
2000	186,715	88	110	177		375	186,340	0	31	1,348	9,973	11,352	174,988	94%
2001	440,336	1,579	22,714	964		25,257	415,079	167	160	43,630	10,985	54,942	360,137	82%
2002	335,214	9,507	16,245	667		26,419	308,795	1,716	48	24,209	9,208	35,181	273,614	82%
2003	242,605	2,758	9,581	765		13,104	229,501	1,860	857	8,348	9,090	20,155	209,346	86%
2004	221,675	5,989	17,138	251		23,379	198,296	1,616	2	8,368	9,114	19,100	179,196	81%
2005	106,911	2,247	7,235	42		9,524	97,387	388	1	0	6,163	6,552	90,836	85%
2006	132,583	2,106	4,187	133		6,425	126,158	1,245	0	0	8,401	9,646	116,513	88%
2007	86,247	1,436	3,927	54		5,418	80,829	1,368	3	0	5,624	6,995	73,835	86%
2008	178,629	5,907	19,612	385	830	26,734	151,895	2,215	0	12,314	8,247	22,776	129,119	72%
2009	169,296	4,172	15,246	371	2,018	21,807	147,489	717	0	0	11,083	11,800	135,689	80%
2010	315,345	7,458	23,535	1,824	5,139	37,956	277,389	3,930	0	25,008	12,807	41,745	235,644	75%
2011	221,157	3,410	9,506	519	2,291	15,726	205,431	2,379	7	0	13,235	15,621	189,810	86%
2012	203,090	4,269	10,422	552	1,399	16,642	186,448	886	2	818	15,482	17,188	169,260	83%

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 Select Area, shad, test, experimental fisheries and research.

⁵ Bonneville count minus Zone 6 harvest.

Table 8. Estimated Numbers of Adult Upper Columbia Wild Spring Chinook Entering the Columbia River.

Year	Return to Columbia River		Non-Indian Wild Catch ¹		Treaty Wild Catch ²		Total Wild Catch		Wild Passage Loss ³		Wild Escapement ⁴	
	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
1981	14,166	6,056	82	1.4	305	5.0	387	6.4	2,415	39.9	3,253	53.7
1982	15,886	6,328	110	1.7	435	6.9	545	8.6	2,769	43.8	3,015	47.6
1983	16,176	7,299	350	4.8	294	4.0	644	8.8	2,369	32.5	4,286	58.7
1984	16,822	6,725	231	3.4	446	6.6	677	10.1	1,439	21.4	4,608	68.5
1985	29,008	10,311	372	3.6	350	3.4	722	7.0	648	6.3	8,941	86.7
1986	29,511	7,931	162	2.0	460	5.8	621	7.8	1,790	22.6	5,519	69.6
1987	25,500	8,783	135	1.5	530	6.0	666	7.6	1,765	20.1	6,352	72.3
1988	21,053	7,507	479	6.4	496	6.6	975	13.0	874	11.6	5,658	75.4
1989	18,733	7,476	177	2.4	558	7.5	735	9.8	2,610	34.9	4,130	55.3
1990	12,036	4,446	223	5.0	291	6.6	514	11.6	1,123	25.3	2,808	63.2
1991	8,681	2,442	96	3.9	147	6.0	243	9.9	666	27.3	1,533	62.8
1992	20,777	4,272	69	1.6	257	6.0	326	7.6	783	18.3	3,163	74.0
1993	26,071	4,062	33	0.8	247	6.1	280	6.9	679	16.7	3,102	76.4
1994	3,425	1,045	41	3.9	50	4.8	91	8.7	343	32.8	611	58.5
1995	1,650	225	0	0.1	11	4.9	11	5.0	106	47.0	108	48.0
1996	3,434	577	1	0.1	30	5.2	31	5.3	229	39.7	317	55.0
1997	9,682	1,224	1	0.1	82	6.7	83	6.8	394	32.2	746	61.0
1998	4,501	548	1	0.1	28	5.0	28	5.1	153	27.9	367	66.9
1999	4,688	403	0	0.1	19	4.6	19	4.7	99	24.7	284	70.6
2000	22,488	1,370	3	0.2	83	6.1	86	6.3	379	27.7	904	66.0
2001	51,731	6,263	87	1.4	818	13.1	905	14.5	550	8.8	4,807	76.8
2002	36,777	2,995	50	1.7	319	10.7	369	12.3	666	22.2	1,957	65.3
2003	23,529	2,165	33	1.5	170	7.9	203	9.4	406	18.7	1,554	71.7
2004	15,365	2,305	45	1.9	199	8.6	244	10.6	419	18.2	1,638	71.1
2005	16,092	2,779	44	1.6	173	6.2	217	7.8	504	18.1	2,057	74.0
2006	15,116	1,441	19	1.3	95	6.6	113	7.9	407	28.3	920	63.8
2007	6,476	521	6	1.1	36	6.9	42	8.0	30	5.8	448	86.1
2008	15,413	856	17	2.0	117	13.7	134	15.6	27	3.1	694	81.1
2009	12,566	1,089	17	1.6	94	8.6	111	10.2				
2010	37,336	3,017	52	1.7	447	14.8	498	16.5	115	3.8	2,399	79.5
2011	16,027	2,020	24	1.2	148	7.3	173	8.6	195	9.6	1,649	81.7
2012	24,368	4,763	55	1.2	442	9.3	497	10.4	525	11.0	3,738	78.5

^{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 BON 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 9. Estimated Numbers of Adult Snake River Wild Spring/Summer Chinook Entering the Columbia River.

Year	Return to Columbia River		Non-Indian Wild Catch ¹		Treaty Wild Catch ²		Total Wild Catch		Wild Passage Loss ³		Wild Escapement ⁴	
	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	65	6,134	29
1981	35,212	24,798	336	1.4	1,250	5.0	1,586	6.4	11,047	45	11,318	46
1982	39,999	27,664	480	1.7	1,901	6.9	2,381	8.6	13,457	49	11,307	41
1983	28,127	20,957	1,005	4.8	843	4.0	1,848	8.8	8,683	41	9,845	47
1984	21,029	14,159	487	3.4	940	6.6	1,426	10.1	4,463	32	7,929	56
1985	40,778	14,896	537	3.6	506	3.4	1,043	7.0	2,576	17	10,682	72
1986	64,743	20,157	411	2.0	1,168	5.8	1,579	7.8	6,583	33	11,359	56
1987	52,315	15,880	245	1.5	959	6.0	1,203	7.6	3,957	25	10,140	64
1988	54,103	17,377	1,109	6.4	1,148	6.6	2,257	13.0	3,543	20	11,182	64
1989	35,576	14,748	349	2.4	1,102	7.5	1,451	9.8	6,461	44	6,499	44
1990	41,385	17,618	884	5.0	1,155	6.6	2,038	11.6	5,721	32	9,357	53
1991	23,710	13,131	517	3.9	789	6.0	1,306	9.9	5,808	44	5,756	44
1992	39,783	20,711	335	1.6	1,246	6.0	1,581	7.6	6,039	29	12,677	61
1993	41,264	17,960	147	0.8	1,092	6.1	1,240	6.9	3,875	22	12,531	70
1994	7,721	3,725	146	3.9	180	4.8	325	8.7	1,447	39	1,856	50
1995	5,277	3,405	3	0.1	168	4.9	171	5.0	2,047	60	1,167	34
1996	16,833	9,061	9	0.1	475	5.2	484	5.3	4,789	53	3,643	40
1997	82,931	9,595	5	0.1	642	6.7	648	6.8	3,758	39	5,055	53
1998	26,751	13,744	13	0.1	690	5.0	703	5.1	5,675	41	7,281	53
1999	13,103	5,551	6	0.1	256	4.6	261	4.7	2,434	44	2,853	51
2000	64,313	13,948	28	0.2	848	6.1	876	6.3	4,817	35	8,187	59
2001	260,668	63,259	944	1.5	8,263	13.1	9,208	14.6	8,994	14	44,572	70
2002	171,149	52,255	964	1.8	5,569	10.7	6,533	12.5	15,283	29	29,872	57
2003	138,051	50,773	883	1.7	3,986	7.9	4,869	9.6	13,245	26	32,080	63
2004	126,017	33,130	737	2.2	2,864	8.6	3,601	10.9	7,957	24	20,967	63
2005	49,834	15,174	259	1.7	945	6.2	1,204	7.9	3,801	25	9,832	65
2006	53,250	16,820	239	1.4	1,105	6.6	1,344	8.0	5,840	35	9,340	56
2007	45,344	10,451	135	1.3	720	6.9	854	8.2	2,341	22	6,903	66
2008	100,993	24,040	531	2.2	3,284	13.7	3,815	15.9	2,333	10	17,171	71
2009	89,789	20,399	338	1.7	1,753	8.6	2,091	10.3	3,249	16	14,313	70
2010	166,553	34,934	669	1.9	5,175	14.8	5,844	16.7	2,011	6	25,211	72
2011	123,678	30,684	448	1.5	2,255	7.3	2,703	8.8	3,126	10	23,844	78
2012	109,744	33,723	455	1.3	3,129	9.3	3,584	10.6	4,617	14	24,828	74

^{1.} Includes incidental mortalities in mainstem recreational and commercial fisheries and Snake River recreational fisheries.

^{2.} Since 1982 C&S catch includes gill net, dip net and hook-and-line. Includes harvest downstream of BON 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 10. Estimated Numbers of Adult Upper Columbia Summer Chinook Entering the Columbia River.

Year	Upriver Run ¹	Catch downstream of Bonneville Dam (Zones 1-5)				BON Dam Count	Catch Bonneville Dam upstream to McNary Dam (Zone 6)		Escapement ⁴	
		Non-Indian (NI)					NT Sport	Treaty Catch ³		
		Sport	Comm.	Misc ²	Treaty				No.	%
1980	22,498			16		22,482		1,181	21,301	95%
1981	18,746			9		18,737		1,364	17,373	93%
1982	14,369			117		14,252		1,295	12,957	90%
1983	13,145			92		13,053		297	12,756	97%
1984	18,765			22		18,743		457	18,286	97%
1985	18,522			36		18,486		1,453	17,033	92%
1986	18,752	0		109		18,643		1,116	17,527	93%
1987	22,715	6		141		22,567		1,684	20,883	92%
1988	22,720	9		81		22,630		1,497	21,133	93%
1989	22,201	20		9		22,172		100	22,072	99%
1990	18,794	4		15		18,775		111	18,664	99%
1991	14,323	1		9		14,313		171	14,142	99%
1992	9,428	16		35		9,377		46	9,331	99%
1993	14,021	16		81		13,925		328	13,597	97%
1994	14,691	28		23		14,640		171	14,469	98%
1995	12,455	14		0		12,441		417	12,024	97%
1996	12,080	34		15		12,031		374	11,657	96%
1997	17,709	16		6		17,687		270	17,417	98%
1998	15,536	27		1		15,508		335	15,173	98%
1999	21,867	51		1		21,815		395	21,420	98%
2000	22,595	17		0		22,578		209	22,369	99%
2001	52,960	64		1		52,895		692	52,203	99%
2002	89,524	1,447		8		88,069	113	2,093	85,863	96%
2003	83,058	1,945		36		81,077	417	4,297	76,363	92%
2004	65,623	1,246	219	3		64,155	261	8,394	55,500	85%
2005	60,272	1,621	2,787	0		55,864	487	7,642	47,735	79%
2006	77,573	4,926	4,819	9		67,819	346	16,319	51,154	66%
2007	37,035	2,214	1,122	0		33,699	194	5,375	28,130	76%
2008	55,532	2,140	1,370	59		51,963	1,072	9,029	41,862	75%
2009	53,881	2,341	2,524	22	0	48,994	273	11,650	37,071	69%
2010	72,346	2,738	4,720	20	230	64,638	447	15,569	48,622	67%
2011	80,574	5,576	5,004	0	0	69,994	208	20,645	49,141	61%
2012	58,300	3,281	1,692	23	0	53,304	81	7,824	45,399	78%

^{1.} Includes only upper Columbia summer Chinook and reflects new 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-Indian catch includes incidental release mortalities

^{2.} Includes incidental non-retention mortality in commercial test, research, shad, and sockeye fisheries, and harvest in SAFE fisheries.

^{3.} Includes commercial and C&S catches.

^{4.} Bonneville counts minus Zone 6 harvest.

Table 11. Wild Winter Steelhead Minimum Run Size and Forecast, 2001-2013.

Year	Min. Col R Return	Non-Indian Release Mortalities			Escapement	Forecast
		Mainstem		Tributary ¹		
		Comm.	Sport	Sport		
2001	21,825	100	22	165	21,538	--
2002	33,711	3095	34	403	30,180	--
2003	23,452	217	23	308	22,904	15,500
2004	29,566	238	30	334	28,964	32,200
2005	14,672	77	15	170	14,410	27,000
2006	16,708	14	17	403	16,274	16,000
2007	15,072	75	15	363	14,619	16,100
2008	13,943	9	14	300	13,620	15,300
2009	11,575	4	11	292	11,268	15,200
2010	20,035	89	19	248	19,679	20,100
2011	16,752	35	17	214	16,486	15,200
2012	17,332	70	17	254	16,991	15,300
2013						15,700

¹ Washington tributaries only. Data based on historical exploitation rates and may not reflect actual impacts.

Table 12. Upriver Summer Steelhead Passage at Bonneville Dam (April-October), 1984-2012.

Year	Skamania		Group A Index		Group B Index		Total Passage		
	Wild	Total	Wild	Total	Wild	Total	Hatchery	Wild	Total
1984	2,490	20,780	52,447	195,751	13,768	98,011	245,837	68,705	314,542
1985	3,690	19,990	51,922	281,504	12,986	40,870	273,766	68,598	342,364
1986	5,520	24,830	56,570	287,508	9,984	64,016	304,279	72,074	376,353
1987	7,380	17,790	106,690	238,283	13,990	44,959	172,972	128,060	301,032
1988	4,180	22,360	64,331	173,151	17,742	81,643	190,901	86,253	277,154
1989	3,770	15,730	57,513	193,079	12,367	77,604	212,763	73,650	286,413
1990	3,690	18,710	27,102	115,628	8,811	47,174	141,909	39,603	181,512
1991	1,220	10,880	60,264	234,048	6,207	28,265	205,501	67,692	273,193
1992	2,940	14,910	44,294	241,524	12,715	57,438	253,924	59,948	313,872
1993	1,250	14,360	28,650	136,701	4,378	36,169	152,952	34,278	187,230
1994	1,380	12,330	21,212	120,971	5,152	27,463	133,020	27,744	160,764
1995	1,150	8,220	25,997	180,037	1,847	13,221	172,484	28,994	201,478
1996	1,310	10,830	25,721	174,464	3,912	18,693	173,044	30,943	203,987
1997	930	11,890	30,852	208,209	3,913	36,663	221,067	35,695	256,762
1998	1,610	9,440	34,836	134,687	3,415	40,241	144,507	39,861	184,368
1999	1,310	7,160	56,626	176,466	3,740	22,137	144,087	61,676	205,763
2000	5,728	16,619	63,628	216,723	8,368	40,909	196,527	77,724	274,251
2001	7,952	28,725	137,230	515,079	12,047	86,426	473,001	157,229	630,230
2002	9,671	24,991	87,276	323,124	32,333	129,882	348,717	129,280	477,997
2003	1,801	14,154	67,049	305,795	6,417	37,228	281,909	75,268	357,177
2004	3,289	20,148	60,421	250,615	9,202	37,398	235,248	72,912	308,161
2005	2,123	11,221	58,917	251,631	9,619	48,968	241,161	70,659	311,820
2006	2,181	9,882	63,735	245,168	8,466	74,128	254,796	74,382	329,178
2007	1,727	9,475	77,268	258,848	9,015	51,073	231,386	88,010	319,396
2008	4,489	15,832	81,648	245,823	18,529	93,429	250,418	104,666	355,084
2009	3,528	13,884	154,045	543,195	13,727	44,540	430,319	171,300	601,619
2010	10,357	29,270	120,531	304,002	22,364	77,146	257,166	153,252	410,418
2011	2,814	9,750	101,263	318,125	7,771	36,996	253,023	111,848	364,871
2012	3,032	10,958							230,815

Run Year ¹	Group A		Group B		Combined		Total % Wild
	Wild	Total	Wild	Total	Wild	Total	
1984-85					24,500	104,400	23%
1985-86					26,700	116,300	23%
1986-87	16,613	87,513	5,463	42,432	22,076	129,945	17%
1987-88	20,164	52,582	5,347	18,820	25,511	71,402	36%
1988-89	15,700	60,443	4,614	26,620	20,314	87,063	23%
1989-90	16,937	83,440	8,042	47,908	24,979	131,348	19%
1990-91	4,806	30,383	4,483	26,498	9,289	56,881	16%
1991-92	14,135	84,020	3,182	15,065	17,317	99,085	17%
1992-93	13,617	97,037	5,777	31,343	19,394	128,380	15%
1993-94	7,332	41,989	1,790	17,685	9,122	59,674	15%
1994-95	5,873	37,829	2,231	9,409	8,104	47,238	17%
1995-96	6,721	69,494	1,334	9,651	8,055	79,145	10%
1996-97	5,980	73,055	1,645	13,856	7,625	86,911	9%
1997-98	7,424	74,443	1,325	12,203	8,749	86,646	10%
1998-99	7,074	50,906	2,301	19,756	9,375	70,662	13%
1999-00	10,184	64,303	914	9,748	11,098	74,051	15%
2000-01	17,689	97,288	2,886	20,014	20,575	117,302	18%
2001-02	37,545	234,615	3,174	33,851	40,719	268,466	15%
2002-03	28,308	150,577	13,623	71,599	41,931	222,176	19%
2003-04	21,892	140,066	7,254	32,444	29,146	172,510	17%
2004-05	18,297	121,688	4,774	29,958	23,071	151,646	15%
2005-06	14,586	125,133	3,544	33,032	18,130	158,165	11%
2006-07	7,877	108,321	1,633	40,845	9,510	149,166	6%
2007-08	11,242	128,259	2,924	26,883	14,166	155,142	9%
2008-09	20,035	126,321	5,729	52,549	25,764	178,870	14%
2009-10	39,759	299,854	4,480	23,528	44,239	323,382	14%
2010-11	34,362	162,494	10,478	45,802	44,839	208,296	22%
2011-12	35,471	156,114	4,680	24,206	40,151	180,320	22%
2012-13	18,747	82,777	4,508	18,776	23,255	101,553	23%

¹ Run year = July 1 through June 30 of following year. 2012-13 counts are only through December 7, 2012.

Table 14. Minimum Numbers (in Thousands) of Lower River Summer Steelhead Entering the Columbia River, 1980-2012.

Year	Lower Col. Recreational Catch (May-June) ¹	Tributary					Minimum Run
		Recreational Catch ²		Dam Counts ³	Hatchery Returns ⁴		
		OR	WA		OR	WA	
1980	0.3	3.8	18.1	20.5		5.1	47.8
1981	1.9	2.5	22.9	23.0		6.3	56.6
1982	1.8	3.6	18.7	19.2		5.8	49.1
1983	0.8	1.5	6.8	8.6		2.0	19.7
1984	2.7	6.2	11.3	43.7	0.2	4.6	68.7
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	3.8	12.4	13.1	1.2	9.2	42.4
2008	2.0	5.3	22.6	14.2	0.9	20.6	65.6
2009	1.4	4.3	16.8	15.2	0.7	19.1	57.5
2010	4.2	4.3	22.0	25.9	1.0	26.3	78.5
2011	4.4	3.4	16.3	20.5	0.6	17.1	62.3
2012	4.0	4.0	18.4	25.2	1.2	18.5	71.3

¹. Does not include release mortalities. Beginning in 1977, May-June lower Columbia recreational catch determined to be mostly lower river stock.

². From Oregon and Washington catch record estimates. 2011-2012 based on 3-yr average.

³. Willamette Falls (Willamette R.), North Fork Dam (Clackamas R.), and Marmot Dam through 2007 only (Sandy R); hatchery fish 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. Minimum Numbers (in Thousands) of Upriver Summer Steelhead Entering the Columbia River, 1980-2012.

Year	Lower Columbia Recreational Catch ¹	Bonneville Dam Counts ²	Minimum Run
1980	2.0	127.6	129.6
1981	3.1	157.9	161.0
1982	2.5	156.2	158.7
1983	2.9	217.6	220.5
1984	5.4	314.5	320.0
1985	6.0	342.4	348.4
1986	8.0	376.4	384.4
1987	4.9	301.0	305.9
1988	7.7	277.2	284.9
1989	6.4	286.4	292.8
1990	4.0	181.5	185.5
1991	6.0	273.2	279.2
1992	9.7	313.9	323.6
1993	8.1	187.2	195.3
1994	4.0	160.8	164.7
1995	6.8	201.5	208.3
1996	5.1	204.0	209.1
1997	5.2	256.8	261.9
1998	3.6	184.4	188.0
1999	5.8	205.8	211.6
2000	8.2	274.3	282.5
2001	9.4	630.2	639.7
2002	7.5	478.0	485.5
2003	6.9	357.2	364.0
2004	5.8	309.0	314.7
2005	5.3	312.5	317.8
2006	7.1	329.2	336.2
2007	8.0	319.4	327.4
2008	7.1	355.1	362.2
2009	7.3	601.6	608.9
2010	14.1	410.4	424.5
2011	20.7	364.9	385.6
2012	16.0	230.8	246.8

¹. Recreational kept catch based on timing: May 1-October 31 (1969-1976) and July 1-October 31 beginning in 1977. Includes catches from Buoy 10 recreational fishery (OR only) beginning in 1992.

². April through October.

Table 16. Estimated Number of Sockeye Entering the Columbia River, Mainstem Harvest, and Escapement.

Year	Columbia River Mouth ¹	Non-Indian Catch ²	Bonn. Dam Count	Treaty Catch ³	Snake River Sockeye				Escapement	
					At Col R. Mouth	Non-Indian Catch ²	Treaty Catch ³	Lower Granite Esc. ⁴	Wenatchee ⁵	Okanogan ⁶
					1980	58,886	4	58,882	636	108
1981	56,037	0	56,037	1,507	236	0	6	218	16,490	28,004
1982	50,319	100	50,219	775	261	1	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	9	23	105	35,802	81,006
1985	200,724	32,213	166,340	49,969	59	10	15	35	49,123	52,945
1986	59,963	1,840	58,123	6,672	28	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	99,757	17,632	79,714	30,990	45	8	14	23	15,087	33,953
1989	47,475	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	91,710	64	80,178	5,020	18	0	1	17	37,311	27,829
1994	12,858	1	12,678	472	3	0	0	3	9,296	1,529
1995	9,662	1	8,773	445	5	0	0	5	4,474	4,826
1996	30,896	25	30,255	1,414	3	0	0	3	7,759	17,641
1997	47,470	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	17,878	1	17,877	704	20	0	1	18	4,260	12,388
2000	94,471	366	93,391	2,910	348	1	11	337	20,979	59,932
2001	122,351	1,691	114,933	7,300	49	1	3	45	38,618	74,490
2002	50,479	19	49,610	2,564	77	0	4	73	31,946	10,659
2003	39,375	0	39,375	1,090	28	0	1	26	5,074	28,774
2004	130,118	672	123,320	4,317	117	1	4	113	33,167	77,468
2005	77,377	4	72,448	2,766	20	0	1	19	15,656	53,011
2006	37,067	1	37,066	1,596	79	0	3	16	9,756	22,064
2007	26,072	0	24,376	1,414	58	0	3	55	4,439	22,245
2008	214,402	884	213,607	9,017	982	4	41	907	27,875	163,964
2009	178,959	1,168	177,823	9,731	1,623	11	88	1,406	29,724	116,834
2010	387,858	343	386,355	26,125	2,593	2	175	2,406	42,672	291,764
2011	187,307	1,765	185,796	12,849	1,918	18	132	1,502	18,634	110,654
2012	520,959	4,950	515,673	45,352	512	5	45	446	40,306	310,430

1. Upriver run is larger of Bonn. Count + Zones 1-5 harvest or Priest Rapids count + Snake River count + Zone 1-6 harvest.
2. Non-Indian harvest may include kept fish and incidental release mortalities in Zones 1-6.
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. Beginning in 1979, the Wenatchee estimate is based on Rock Island or Priest Rapids Dam counts minus Rocky Reach Dam totals, except Priest Rapids count minus Wells count in 1995.
6. The Okanogan estimate is based on the Rocky Reach Dam counts until 1966. Wells Dam counts are used beginning with 1967.

Table 17. Columbia River Shad Harvest and Passage (in Thousands), 1977-2012.

Year	Commercial Catch			Recreational Kept Catch		Treaty Indian Harvest	Columbia River Dam Count ³
	Area 2S	Washougal Reef ¹	Other ²	Columbia River	Willamette River		
1977	42.4	--	19.5	2.8	8.2	0.6	856.5
1978	101.7	--	11.9	15.7	5.8	5.6	1,234.7
1979	117.4	--	2.9	12.4	17.8	7.9	1,398.2
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 *

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 limited experimental seine fishery landings during 2011 and 2012, landings during experimental tangle net permit fishery for spring Chinook during 2001, and landings during sockeye seasons, Select Area fisheries, and John Day River shad fisheries in some years.

3. The count shown is the greater passage of shad at either Bonneville or The Dalles dams. Due to large numbers of shad passing through the locks in most years, The Dalles count was usually higher. Bonneville counts were higher in 1984, 2003, and 2008 and noted (*). Shad counting at The Dalles Dam was discontinued in 2011; counts from 2011 and 2012 are from Bonneville Dam.

4. Limited experimental fishery with three boats.

5. Precise catch estimates not available.

Table 18. Season Dates, Gear Restrictions, and Commercial Landings during Non-Indian Winter (January-March) and spring (April-June 15) Mainstem Seasons, 1970-2012.

Year	Season	Fishing		Commercial Landings ¹	
		Days	Mesh Size ²	Chinook	White Sturgeon
1970-1974 Avg		13	7¼" min.	14,400	1,500
Range	Feb 19-Mar 10	9-15		12,500-17,200	800-3,400
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	600-2700
2000-2004 Avg		16	4¼" – 5½" max	7,306	2,287
Range	Jan 7 – Mar 30	7-26	8" min – 9" max	496 14,384	1,517-3,059
2005	³ Jan 18-Feb 25	7	9" min.	94	473
	Mar 1-Mar 16	5	9" min.	1,489	58
	Mar 29-April 1	2	4¼" max.	3,606	12
2006	³ Jan 10-Feb 22	10	9" min.	39	288
	Feb 23-Mar 15	5	8" min.	994	88
	May 16-Jun 2	6	8" min.	3,356	1,563
2007	³ Jan 9-Feb 23	9	9" min.	194	1,424
	Mar 6	1	8" min.	434	19
	Mar 20-23	2	4¼" max.	2,292	15
	Jun 14-15	1	8" min.	30	13
2008	³ Jan 8 – Feb 29	11	9" min.	14	869
	Apr 1 – 15	3	4¼" max.	5,658	17
2009	³ Jan 6 – Feb 13	8	9" min.	18	1,697
	March 29 – April 14	3	4¼" max.	4,150	21
2005-2009 Avg		15		4,474	1,311
2010	³ Jan 19 – Feb 17	5	9" min.	75	518
	Mar 30 – April 7	2	4¼" max.	8,966	28
2011	³ Jan 18 – Feb 9	4	9" min.	88	50
	Mar 29 – April 6	2	4¼" max.	2,006	7
	May 12 – 19	2	8" min.	2,430	118
2012	³ Jan 30 – Feb 7	3	9" min.	7	40
	Apr 3 – 10	2	4¼" max.	6,111	14

^{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.} Catch updated with preliminary fish ticket landings.

Table 19. Fishing Periods, Gear, and Associated Salmon and White Sturgeon Landings During Mainstem Columbia River Commercial Seasons, 2012.

Season	Fishing Period	Hrs	Zones	Mesh	STG Limit ¹	Del.	Chinook	Coho	Sockeye	Chum	WSTG
Winter Sturgeon	6 PM Jan. 30 – 6 PM Jan. 31	24	1-5	9-9¾"	10	8	1	--	--	--	34
	6 PM Feb. 1 – 6 PM Feb. 2	24	1-5	9-9¾"	10	5	5	--	--	--	4
	6 PM Feb. 6 – 6 PM Feb. 7	24	1-5	9-9¾"	10	3	1	--	--	--	2
<i>Winter Season Totals (and average number of deliveries)</i>						5	7	0	0	0	40
Spring Salmon	7 AM – 7 PM Apr. 3	12	1-5	≤4¼"	6	155	2,523	--	--	--	10
	12:30 PM – 6:30 PM Apr 10	6	1-5	≤4¼"	6	178	3,588	--	--	--	4
<i>Spring Season Totals (and average number of deliveries)</i>						167	6,111	0	0	0	14
Summer	9 PM June 17 – 5 AM June 18	8	1-5	8-9¾"	5	120	1,692	--	447	--	281
<i>Spring Season Totals (and average number of deliveries)</i>						120	1,692	0	447	0	281
August	9 PM Aug. 5 – 6 AM Aug. 6	9	1-5	9-9¾"	7	127	1,306	0	--	0	592
	9 PM Aug. 12 – 6 AM Aug. 13	9	4-5	9-9¾"	3	35	355	1	--	0	16
	9 PM Aug. 14 – 6 AM Aug. 15	9	4-5	9-9¾"	3	35	506	0	--	0	29
	9 PM Aug. 16 – 6 AM Aug. 17	9	4-5	9-9¾"	3	48	936	2	--	0	52
	9 PM Aug. 19 – 6 AM Aug. 20	9	4-5	9-9¾"	3	75	745	15	--	0	46
	9 PM Aug. 21 – 6 AM Aug. 22	9	4-5	9-9¾"	3	73	2,239	23	--	0	39
	9 PM Aug. 23 – 6 AM Aug. 24	9	4-5	9-9¾"	3	95	2,649	32	--	0	36
	9 PM Aug. 26 – 6 AM Aug. 27	9	4-5	9-9¾"	5	109	6,997	87	--	0	108
	9 PM Aug. 28 – 6 AM Aug. 29	9	4-5	9-9¾"	5	108	7,850	123	--	0	84
<i>August Season Totals (and average number of deliveries)</i>						78	23,583	283	0	0	1,002
Late Fall	8 PM Sep.19 - 6 AM Sep. 20	10	4-5	8-9¾"	5	117	4,129	219	--	0	71
	8 PM Sep.23 - 6 AM Sep. 24	10	4-5	8-9¾"	5	95	2,712	175	--	0	39
	8 PM Sep.25 - 6 AM Sep. 26	10	4-5	8-9¾"	5	64	1,748	155	--	0	56
	7 PM Sep.27 - 5 AM Sep. 28	10	1-5	8-9¾"	5	85	1,105	251	--	1	140
	7 PM Sep.30 - 7 AM Oct. 1	12	1-5	8-9¾"	Prohibited	54	968	176	--	0	--
	7 PM Oct. 2 - 7 AM Oct. 3	12	1-5	8-9¾"	Prohibited	42	759	61	--	0	--
	7 PM Oct. 4 - 7 AM Oct. 5	12	1-5	8-9¾"	2	42	635	78	--	0	38
	7 PM Oct. 7 - 7 AM Oct. 8	12	1-5	8-9¾"	Prohibited	32	546	169	--	3	--
	7 PM Oct. 9 - 7 AM Oct. 10	12	1-5	8-9¾"	Prohibited	40	331	15	--	0	--
	6 AM – 6 PM Oct.10	12	1-5	≤6"	Prohibited	60	25	946	--	8	--
	7 PM Oct. 11 - 7 AM Oct. 12	12	1-5	8-9¾"	Prohibited	15	188	43	--	0	--
	7 PM Oct. 14 - 7 AM Oct. 15	12	1-5	8-9¾"	Prohibited	18	167	43	--	0	--
	7 PM Oct. 16 - 7 AM Oct. 17	12	1-5	8-9¾"	Prohibited	11	130	22	--	0	--
	7 PM Oct. 18 - 7 AM Oct. 19	12	1-5	8-9¾"	Prohibited	11	254	15	--	0	--
7 PM Oct. 21 - 7 AM Oct. 22	12	1-5	8-9¾"	Prohibited	6	132	19	--	0	--	
<i>Late-Fall Season Totals (and average number of deliveries)</i>						46	13,829	2,387	0	12	344
							Chinook	Coho	Sockeye	Chum	WSTG
2012 Season Totals							45,222	2,670	447	12	1,681
<i>Average number of deliveries per fishing period during 2012:</i>						62					

1. White sturgeon possession and sales limit (per vessel per week). The retention of green sturgeon has been prohibited since July 6, 2006.

Table 20. Estimates of the Spring Chinook Stock Composition (in Thousands) in Mainstem Lower Columbia Commercial Fisheries, 1990-2012.

Year	February – March Kept Catch by Stock					April – June 15 Kept Catch by Stock				
	Willamette River	C,K,L,S ¹	Upriver	SAFE	Feb-Mar Total	Willamette River	C,K,L,S ¹	Upriver	SAFE	Apr-Jun Total
1990	15.5	0.7	2.1	--	18.3	--	--	--	--	--
1991	11.2	0.5	0.9	--	12.6	--	--	--	--	--
1992	3.9	1	0.2	--	5.1	--	--	--	--	--
1993	0.8	0.4	0.2	--	1.4	--	--	--	--	--
1994	1.0	0.4	0.4	--	1.9	--	--	--	--	--
1995	--	--	--	--	--	--	--	--	--	--
1996	0.1	<0.1	<0.1	--	0.2	--	--	--	--	--
1997	0.1	0	<0.1	--	0.2	--	--	--	--	--
1998	<0.1	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	0.5	0.3	0.2	<0.1	1.0	1.6	0.8	1.0	<0.1	3.4
2007	0.9	0.6	1.3	<0.1	2.8	<0.1	<0.1	<0.1	<0.1	<0.1
2008	<0.1	0.0	<0.1	0.0	<0.1	0.0	<0.1	5.6	0.0	5.6
2009	<0.1	<0.1	<0.1	0.0	<0.1	<0.1	0.0	4.1	0.0	4.1
2010	<0.1	<0.1	<0.1	0.0	<0.1	1.5	0.2	7.3	0.0	9.0
2011	0.3	<0.1	0.9	<0.1	1.3	0.8	0.1	2.2	<0.1	3.2
2012	<0.1	<0.1	<0.1	<0.1	<0.1	1.6	0.1	4.1	0.3	6.1

¹ C = Cowlitz River, K = Kalama River, L = Lewis River, and S = Sandy River

Table 21. Columbia River Recreational Spring Chinook Fishing Regulations, 2000-2012.				
Year	Buoy 10 to Tongue Point	Tongue Point to I-5 Bridge	I-5 Bridge to Bonneville Dam	Bonneville Dam to McNary Dam
2000	Open January 1-March 15. Two adult spring Chinook daily bag limit.	Open January 1-March 15. Two adult spring Chinook daily bag limit.	Closed.	Closed.
2001	Open January 1-April 17 and April 25-29. Two adult spring Chinook daily bag limit. Adipose fin-clipped spring Chinook only, beginning March 12.	Open January 1-April 17 and April 25-29. Two adult spring Chinook daily bag limit. Adipose fin-clipped spring Chinook only, beginning March 12.	Open March 12-April 17 and April 25-29. Two adult spring Chinook daily bag limit. Adipose fin-clipped spring Chinook only.	Open May 6-8 from The Dalles Dam upstream to McNary Dam. Two adult spring Chinook daily bag limit. Adipose fin-clipped spring Chinook only.
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.

Table 21. Columbia River Recreational Spring Chinook Fishing Regulations, 2000-2012 continued.

Year	Buoy 10 to Tongue Point	Tongue Point to I-5 Bridge	I-5 Bridge to Bonneville Dam	Bonneville Dam to McNary Dam
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.
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 Oregon/Washington border above McNary 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 from I-5 upstream to Beacon Rock plus the Oregon and Washington banks between Beacon Rock and Bonneville Dam during 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 16-May 6 and May 19-20 from Tower Is. powerlines upstream to the Oregon/Washington border above McNary plus the Oregon and Washington banks between Bonneville Dam and Tower Is. powerlines. Two adipose fin-clipped adult spring Chinook daily bag limit.

Table 22. Salmonid Angler Trips and Adult Chinook Catch by Month on the Lower Columbia River, 2000-2012.

		Angler			Adult Chinook					Angler			Adult Chinook		
Year	Month	Trips	Kept	Released	Year	Month	Trips	Kept	Released	Year	Month	Trips	Kept	Released	
2000	Feb	1,523	0	0	2001	Feb	5,017	84	0	2002	Feb	5,147	18	6	
	Mar	8,360	322	0		Mar	44,356	4,550	2,323		Mar	35,629	2,036	1,699	
	Apr	0	0	0		Apr	122,939	21,077	13,138		Apr	107,906	14,428	9,846	
	May	6,156	0	92		May	5,330	0	56		May	31,445	3,982	2,670	
	Jun	10,369	0	171		Jun	13,155	0	503		Jun 1-27	13,919	0	895	
	Jul	17,669	0	170		Jul	19,157	0	386		Jun 28-30	5,591	472	221	
2000	Total	44,077	322	433	2001	Total	209,954	25,711	16,406	2002	Total	234,966	21,816	16,061	
		Angler			Adult Chinook					Angler			Adult Chinook		
Year	Month	Trips	Kept	Released	Year	Month	Trips	Kept	Released	Year	Month	Trips	Kept	Released	
2003	Feb	9,573	209	223	2004	Feb	9,467	48	31	2005	Feb	7,551	39	0	
	Mar	65,841	5,597	3,193		Mar	44,576	2,614	727		Mar	36,865	1,899	542	
	Apr	66,351	9,110	4,729		Apr	102,058	21,078	6,482		Apr	65,705	8,653	2,389	
	May	24,875	1,976	1,122		May	5,891	0	180		May	4,082	0	143	
	Jun 1-15	7,776	0	106		Jun 1-15	2,046	0	59		Jun 1-15	10,492	724	486	
	Jun 16-30	15,114	1,348	908		Jun 16-30	17,929	619	844		Jun 16-30	12,824	669	485	
	Jul	24,053	506	763		Jul	21,875	500	422		Jul	25,681	902	15	
2003	Total	213,583	18,746	11,044	2004	Total	203,842	24,859	8,745	2005	Total	163,200	12,886	4,060	
		Angler			Adult Chinook					Angler			Adult Chinook		
Year	Month	Trips	Kept	Released	Year	Month	Trips	Kept	Released	Year	Month	Trips	Kept	Released	
2006	Feb	2,471	19	0	2007	Feb	4,405	24	0	2008	Feb	4,150	3	1	
	Mar	27,418	1,810	413		Mar	27,949	1,110	311		Mar	35,453	4,107	668	
	Apr	33,750	3,595	712		Apr	34,890	4,507	924		Apr	63,369	15,930	2,463	
	May	12,225	634	345		May	10,989	505	234		May	0	0	0	
	Jun 1-15	10,971	927	991		Jun 1-15	4,777	330	179		Jun 1-15	0	0	0	
	Jun 16-30	19,088	3,360	5		Jun 16-30	23,732	2,214	0		Jun 16-30	30,505	2,051	463	
	Jul	24,714	1,564	11		Jul	16,036	0	219		Jul	20,783	0	427	
2006	Total	130,637	11,909	2,477	2007	Total	122,778	8,690	1,867	2008	Total	154,260	22,091	4,022	
		Angler			Adult Chinook					Angler			Adult Chinook		
Year	Month	Trips	Kept	Released	Year	Month	Trips	Kept	Released	Year	Month	Trips	Kept	Released	
2009	Feb	4,539	34	1	2010	Feb	7,614	128	40	2011	Feb	5,598	280	47	
	Mar	55,061	3,906	933		Mar	65,160	6,646	989		Mar	59,971	3,349	1,099	
	Apr	82,693	12,983	2,304		Apr	99,001	22,473	3,407		Apr	48,962	4,026	928	
	May	0	0	10		May	6,196	0	311		May	21,237	1,687	385	
	Jun 1-15	4,109	0	148		Jun 1-15	7,005	0	608		Jun 1-15	19,127	2,352	695	
	Jun 16-30	23,569	1,749	381		Jun 16-30	26,932	1,866	845		Jun 16-30	30,858	3,787	1,731	
	Jul	39,644	507	469		Jul	43,729	673	483		Jul	44,960	1,373	1,040	
2009	Total	209,615	19,179	4,246	2010	Total	255,637	31,786	6,683	2011	Total	230,713	16,854	5,925	

Table 22. Salmonid Angler Trips and Adult Chinook Catch by Month on the Lower Columbia River, 2000-2012, continued.

Year	Month	Angler Trips	Adult Chinook			
			Kept	Released		
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		
2012	Total	208,652	16,229	6,034		

Table 23. Recreational Fisheries Upstream of Bonneville Dam¹.

Zone 6 Spring Chinook Recreational Fishery				
Year	Kept	Released	Season	General Area
2000			No Season	
2001	157	105	May 6-8	The Dalles Dam- McNary Dam
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	1,519	971	Mar 16- May 6	BON- McNary
2005	363	245	Mar 16- Apr 21, June 4-15	BON-McNary, BON-Hwy 395
2006	1,220	245	Mar 16- Apr 30, May 12-jun 15	BON-McNary, BON-Hwy 395
2007	1,343	245	Mar 16-May 3, June 6-15	BON- McNary
2008	2,149	660	Mar 16-May 10	BON- McNary
2009	703	144	Mar 16-April 30	BON- McNary
2010	3,839	906	Mar 16-May 10	BON- McNary
2011	2,308	712	Mar 16-May 1, May 7-10, May 28-Jun 2	BON- Oregon/Washington border
2012	856	298	Mar 16-May 6, May 19-20	BON- Oregon/Washington border
Snake River Spring Chinook Recreational Fishery				
	Kept	Released	Season	General Area
2000			No Season	
2001	1,439	558	May 1-31	Little Goose Dam (LGO), Lower Granite Dam (LRG)
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
Zone 6 Summer Chinook Recreational Fishery				
	Kept	Released	General Season	General Area
2000			No Season	
2001			No Season	
2002	110		July 9- July 31	Bonneville Dam (BON) - Hwy 395
2003	376		June 16-July 31	BON - Hwy 395
2004	232		June 16-July 31	BON - Hwy 395
2005	450		June 16-July 31	BON - Hwy 395
2006	357	--	June 16-July 31	BON - Priest Rapids Dam (PRD)
2007	198	--	June 16-July 3	BON - PRD
2008	1,077	--	June 16-July 1	BON - PRD
2009	273	--	July 1- 31	BON - PRD
2010	416	205	June 16-July 31	BON - PRD
2011	189	139	June 16-July 31	BON - PRD
2012	75	47	June 16- July 31	BON - PRD

1. Columbia River data based on Catch Record Cards through 2009. Snake River based on creel.

Table 24. Estimates of the Spring Chinook Stock Composition (in Thousands) in Mainstem Lower Columbia Recreational Fisheries, 1990-2012.

Year	February – March Kept Catch by Stock					April – June 15 Kept Catch by Stock				
	Willamette River	C,K,L,S ¹	Upriver	SAFE	Feb-Mar Total	Willamette River	C,K,L,S ¹	Upriver	SAFE	Apr-Jun Total
1990	6.8	0.3	2.0	--	9.1	2.0	<0.1	1.1	--	3.1
1991	3.5	0.6	1.5	--	5.6	--	--	--	--	--
1992	3.1	1.0	1.2	--	5.3	--	--	--	--	--
1993	0.3	0.2	0.1	--	0.6	0.6	0.3	0.3	--	1.2
1994	1.0	0.3	0.2	--	1.5	0.3	0.1	0.2	--	0.6
1995	--	--	--	--	--	--	--	--	--	--
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	--	0.4	--	--	--	--	--
2001	0.8	0.1	3.7	--	4.6	2.8	0.4	17.9	--	21.1
2002	0.6	0.1	1.4	--	2.1	4.5	0.5	13.5	--	18.5
2003	1.1	0.2	4.5	--	5.8	5.9	0.8	4.3	--	11.0
2004	1.0	0.3	1.3	--	2.6	4.5	1.3	15.2	--	21.0
2005	0.7	0.4	0.8	--	1.9	2.1	1.2	6.1	--	9.4
2006	0.7	0.3	0.9	--	1.9	1.4	0.6	3.1	--	5.1
2007	0.4	0.2	0.5	<0.1	1.1	1.2	0.8	3.3	<0.1	5.3
2008	0.1	0.3	3.7	--	4.1	0.1	0.2	15.6	--	15.9
2009	0.4	0.2	3.3	<0.1	3.9	0.9	0.4	11.6	--	13.0
2010	2.0	0.3	4.4	--	6.7	3.2	0.5	18.7	--	22.4
2011	0.5	0.1	3.1	--	3.6	1.6	0.3	6.2	<0.1	8.1
2012	0.5	0.1	1.0	--	1.6	2.2	0.4	9.1	--	11.7

¹ C = Cowlitz River, K = Kalama River, L = Lewis River, and S = Sandy River.

Table 25. Adult Spring Chinook Recreational Catch and Harvest Rates for the Cowlitz, Kalama, Lewis, and Sandy Rivers

Year ¹	Cowlitz River		Kalama River		Lewis River		Sandy River		Total	
	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	31%	1,292	31%	2,554	67%	1,269	62%	12,215	32%
1985-89 Ave.	2,888	26%	568	38%	6,262	61%	815	41%	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%	1,151	46%	3,624	40%
1996	29	2%	190	30%	351	20%	1,299	34%	1,869	24%
1997	144	8%	5	1%	781	36%	1,203	27%	2,133	24%
1998	0	0%	0	0%	228	14%	1,006	28%	1,234	19%
1999	491	24%	8	1%	692	39%	1,481	41%	2,672	32%
Ave.	139	7%	41	0	898	35%	1,228	35%	2,306	28%
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	1,655	32%	551	19%	1,369	39%	1,588	27%	5,163	29%
2003	3,029	19%	830	18%	1,920	38%	1,595	28%	7,374	24%
2004	1,929	12%	960	22%	2,966	40%	4,452	35%	10,307	25%
Ave.	1,441	18%	629	22%	1,907	44%	2,097	31%	6,074	27%
2005	1,301	14%	1,051	31%	1,557	44%	1,844	24%	5,753	24%
2006	842	12%	1,395	25%	2,737	37%	903	21%	5,877	24%
2007	746	19%	2,056	26%	3,521	46%	393	14%	6,716	30%
2008	604	20%	243	15%	850	38%	866	14%	2,563	20%
2009	1,823	31%	113	28%	394	27%	347	14%	2,677	26%
Ave.	1,063	19%	972	25%	1,812	38%	871	17%	4,717	25%
2010 ²	2081	24%	351	39%	510	22%	924	12%	3,866	20%
2011 ²	2495	43%	213	29%	254	19%	1,652	29%	4,614	34%
2012 ²	2000	22%	225	39%	325	18%	843	17%	3,393	20%

^{1.} 1995-2001 and 2008 harvest rates reflect fishery restrictions due to extremely low returns.

^{2.} Data preliminary.

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	14

- ¹ Season dates during 1994-1999 (except March, 1999) include weekend closures of 42-48 hours.
- ² Treaty Indian 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.

Year	Season	Numbers of Fish Sold Commercially to wholesale fish buyers			
		Chinook	Steelhead	Sockeye	Walleye
2009	Jun 1-14	1,039	44	11	1
2010 ¹	April 27-May 19	2,090	46	0	1
2011 ^{1,2}	May 10-June 15	10,519	124	0	0
2012	May 15- June 15	4,910	77	968	7

¹ Includes platform and hook and line fisheries.

² Includes both adult and jack Chinook.

Table 28. Summer Season Treaty Commercial Gillnet Landings, 2009-2012.

Year	Season	Numbers of Fish Sold Commercially to wholesale fish buyers			
		Chinook	Steelhead	Sockeye	Walleye
2009	Jun 16- Jul 17	9,730	1,040	5,958	6
2010 ¹	June 16- Jul 29	15,569	10,957	21,843	57
2011 ¹	June 16-July 31	17,521	2,683	4,763	55
2012 ¹	June 16-July 12	6,474	548	18,931	33

¹ Includes platform and hook and line fisheries.