



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

**2009 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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2009 JOINT STAFF REPORT: STOCK STATUS AND FISHERIES FOR SPRING CHINOOK, SUMMER CHINOOK, SOCKEYE, STEELHEAD, AND OTHER SPECIES AND MISCELLANEOUS REGULATIONS

INTRODUCTION

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. The second Compact hearing for the 2009 management season is scheduled for 10 AM, Thursday January 29 at the Museum of the Oregon Territory, 211 Tumwater Drive, Oregon City, 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

Non-Indian commercial seasons in the mainstem Columbia River and Select Areas include the winter (January through mid-April), spring (mid-April through mid-June), summer (mid-June through July), and fall (August through October). Winter 2009 seasons for non-Indian commercial white sturgeon and smelt were adopted at the December 18, 2008 Compact/Joint State hearing along with 2009 recreational seasons for white sturgeon and smelt.

At the January 29 hearing, the Compact will consider the following non-Indian seasons: 1) mainstem winter/spring seasons for spring Chinook and steelhead; 2) mainstem commercial seasons for shad, and 3) winter, spring, and summer seasons in Select Area fishing sites. Other general permanent commercial fishery rules may also be considered. Modifications to seasons adopted at the January 29 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. Spring Chinook entering the lower Columbia River during mid-February to mid-March are predominantly larger, 5-year-old 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 4-year-old fish enter in increasing numbers after mid-March, reaching peak abundance during April. Spring Chinook returning to the Columbia River are comprised of lower river and upriver components. Upriver spring Chinook returning to areas above 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.

Spring and fall Chinook destined for Columbia River tributaries below the mouth of the Klickitat River (excluding Willamette River Basin spring Chinook) form a single Evolutionarily Significant Unit (ESU) that was listed as threatened under the ESA effective May 24, 1999. This ESU includes wild spring Chinook destined for the Sandy River in Oregon and the Cowlitz, Kalama, and Lewis rivers in Washington. Excluded from the ESU are Carson hatchery spring Chinook and hatchery-reared spring Chinook released at terminal fishery areas in Youngs Bay, Blind Slough, Tongue Point, and Deep River and in the mainstem Columbia. Populations of spring Chinook in the Willamette, including the Clackamas, are classified as a separate ESU. Lower Columbia River spring Chinook populations are caught primarily in winter and spring season fisheries in the Columbia River mainstem and tributaries, and incidentally in ocean fisheries, primarily off the Washington coast and as far north as Alaska.

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 have predominated because they exhibit a broader migration pattern and usually contain a greater proportion of early-returning 5-year-old fish than other spring Chinook runs. However, in recent years the proportion of Willamette River fish in early season fisheries has been less than what has been seen in the past, primarily due to changes in the Willamette age class structure. The remaining Chinook landed in spring fisheries are typically destined for the upper Columbia River or lower river tributaries such as the Cowlitz, Kalama, Lewis, and Sandy rivers, as well as Select Area terminal fishery sites. Early April recreational fisheries and spring commercial season landings include increasing numbers of upriver stock spring Chinook and 4-year-old spring Chinook destined for lower river tributaries, including the Willamette. Catches during late April seasons are predominately upriver spring Chinook and lower river tributary 4-year-old Willamette River spring Chinook. Mainstem catches in May and June are predominately fish of upriver origin (Tables 20 and 24).

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 occurs from mid-April to mid-June, with peak passage typically in mid-May.

Historically, wild spring Chinook spawned in nearly all east side Willamette tributaries above Willamette Falls. During 1952-1968, the U.S. Army Corps of Engineers (USACE) constructed dams on all major east side tributaries above 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. Past estimates placed the percentage of wild fish in the current Willamette spring Chinook population at about 10-12%, with the majority destined for the McKenzie River. However, recent information indicates that the wild percentage of the run may be much higher than previously believed, especially at low total run sizes. Passage over Leaburg Dam on the McKenzie River and North Fork Dam on the Clackamas River, plus redd 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 above 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. During 1946-1989, it was generally believed that the 1953 run was 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. Since 2004, the run has been less than 60,000 fish per year.

Four large hatcheries above Willamette Falls produce up to 4.4 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. Below Willamette Falls, hatchery releases in the Clackamas River total about 1.0 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.

2008 Return

The Willamette River return of 27,016 spring Chinook entering the Columbia River in 2008 was 33% less than the 2007 return of 39,943 fish and was 79% of the preseason forecast of 34,050 (Tables 1 and 2). The 2008 return was made up of 710 Age-3, 21,862 Age-4, 4,227 Age-5, and 217 Age-6 Chinook. Approximately 27% of the 2008 Willamette spring Chinook returning to the mouth of the Columbia River were non-fin-clipped fish. The Willamette return includes fish destined for the Clackamas River.

2008 Escapement

Passage of spring Chinook over Willamette Falls in 2008 (14,672 fish) decreased by 36% compared to 2007 (23,098 fish) which is a record low for total passage since at least 1980 (Table 3). From 1971-2007, the number of spring Chinook passing Willamette Falls ranged from 20,600 to 96,700 and averaged 43,300 fish. Of the 14,672 fish passing Willamette Falls, about 8,900 were hatchery fish, which was far short of the 20,000 hatchery fish escapement goal. While the Willamette Falls escapement goal was not achieved, the goal of 3,000 hatchery fish escaping to the Clackamas River was exceeded, which allowed the Willamette River hatcheries to meet broodstock collection needs (Table 4). Fisheries above and below Willamette Falls were restricted midway through the 2008 season in order to improve broodstock escapement to basin hatcheries.

The Columbia River treaty tribes were able to meet the minimum ceremonial and subsistence (C&S) entitlement set forth in the 2008-2017 Management Agreement through their own fishing efforts in 2008. Therefore, Willamette River hatchery spring Chinook were not provided as part of the minimum C&S entitlement to treaty tribes. Some surplus steelhead from upper Willamette hatcheries were provided to Oregon coastal tribes or local food banks in 2008 (Table 4).

2009 Forecast

The ODFW staff is forecasting a return of 37,600 Willamette River spring Chinook to the Columbia River mouth in 2009 which is similar to the 2008 forecast and 40% larger than the 2008 actual return (Table 2). Age-specific returns for 2009 are expected to total 1,400 3-year-olds (range 860-2,700), 16,220 4-year-olds (range 9600 21,875), 19,880 5-year-olds (range 15,300-40,300), and 101 6-year-olds (range 0-117). The 2009 return is expected to include about 10,150 non-fin-clipped fish (27% of total return), based on the 2008 percentage.

Returns to the Willamette River in 2007 and 2008 were heavily affected by a combination of natural cycles of decline in return numbers coupled with exceptionally poor survival of the 2003 brood. The poor performance of the 2003 brood which returned as Age-3 fish in 2006 (2nd lowest Age-3 return on record), Age-4 fish in 2007 (tied for lowest Age-4 return on record), and Age-5 fish in 2008 (lowest Age-5 return on record), caused dramatic reductions in overall returns during the 2007 and 2008 return years. This brood will return as Age-6 fish in 2009. Age-6 fish typically make up a very small proportion of the overall return. The 2004 brood year, which will return in 2009 as Age-5 fish, demonstrated better returns in 2008 (as Age-4 fish) than were expected based on projections from the 2007 return. Age-3 fish that returned in 2008 belong to the 2005 brood year, and returned in low numbers in 2008, but were still more abundant than Age-3 fish in either 2006 or 2007, which led to Age-4 returns of 14,000 in 2007 and 22,000 in 2008.

Clackamas River Spring Chinook

2008 Return

The run entering the Clackamas River generally increased from an annual average of 2,600 in the 1970s, 8,200 in the 1980s, and 8,500 in the 1990s, to 14,100 in the early 2000s. The returns in 2007 and 2008 were below the recent average with 8,600 in 2007 and 7,200 in 2008 (Table 3). 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 in passage of wild fish over North Fork Dam with a corresponding increase in natural production.

2008 Escapement

The North Fork Dam count of 3,372 spring Chinook in 2008 included 1,820 unmarked fish that were passed upstream, at least 38 marked fish that were recycled downstream (to provide additional recreational fishing opportunity), and 1,514 marked fish that were taken directly to Clackamas Hatchery to ensure that basin broodstock needs were met. An estimated 73 fish (marked and unmarked) remained below North Fork Dam to spawn naturally. The dam count has generally increased from an annual average of 500 in the 1970s, 2,600 in the 1980s, and 2,300 in the 1990s, to around 2,700 since 2000. 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) were mass-marked with an adipose fin clip was 2003. DIT groups from Clackamas Hatchery were discontinued following the 2003 brood year, therefore, only Age-6 fish returning in 2009 will contain unclipped hatchery fish with CWTs.

2009 Forecast

The ODFW staff is forecasting a return of 6,400 spring Chinook to the Clackamas River. The 6,400 fish are included as a component of the total estimated return of Willamette Basin spring Chinook to the Columbia River mouth of 37,600 fish.

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. Hatchery releases of Willamette spring Chinook into the Sandy were 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.

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 below 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. Pending availability of this 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, counts of spring Chinook on the Sandy River are currently unavailable. ODFW biologists are considering alternative methods for estimating total returns to the Sandy River, such as stream surveys; however, for the near future accurate escapement data for the Sandy River is likely to be unavailable. Until escapement data is available, forecasts and escapement to the Sandy will be based on recent year average returns prior to the removal of Marmot Dam. The 2008 forecast for the Sandy River return was projected to be 6,800 adults, based on the 2003-2007 average return. The 2009 Sandy River expected return of spring Chinook is 5,200 fish, based on 2005-2007 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 runs are listed under the ESA and are genetically similar. 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 mid-March to mid-May.

The Cowlitz and Lewis populations are managed for hatchery production since most of the historical spawning habitat is inaccessible due to hydro development in the upper basin. A supplementation program is now operated on the Cowlitz River that involves trap and haul of adults and juveniles. A supplementation program is also being developed on the Kalama River with fish being passed above the ladder at Kalama Falls. Historically, the Kalama had relatively little production of spring Chinook compared to the other three rivers. A supplementation program is also being developed for the Lewis River, but the spring Chinook production is still dependent on hatchery production. These systems have all met their respective hatchery escapement goals in recent years, and are expected to do so again in 2009. The existence of the hatchery programs mitigates the risk to these populations. The Cowlitz and Lewis populations would have been extirpated if not for the hatchery programs. Run sizes and forecast performance are presented in Table 1 and Table 2. Recreational catch and harvest rates are shown in Table 25.

Cowlitz River Return and Forecast

The 2008 Cowlitz River adult spring Chinook return of 2,679 fish was 52% of the pre-season forecast of 5,200 adults. The 2008 return was the lowest since 2001; however, the minimum hatchery escapement goal of 1,400 adults was met, with 1,968 adults (1,084 jacks) returning to the hatchery. Natural spawning escapement for 2008 is estimated at 411 adults. An adult run size of approximately 1,400 is needed to achieve the minimum hatchery escapement goal, since a portion of the run spawns naturally.

An estimated 4,100 adult spring Chinook are expected to return to the Cowlitz River in 2009, which is about 62% of the recent 10-year average of 6,700 adults.

Kalama River Return and Forecast

The 2008 Kalama River adult spring Chinook return of 1,622 fish was 43% of the pre-season forecast of 3,700 adults. The 2008 return was the lowest since 2000 and 30% of the recent 10-year average. The minimum hatchery escapement goal of 600 adults was met despite the low return, with 1,010 adult fish (41 jacks) returning to the hatchery. An additional 362 adults are estimated to have spawned naturally. A run of approximately 600 adults is needed to achieve the minimum hatchery escapement goal, since a portion of the run spawns naturally.

An estimated 900 adult spring Chinook are expected to return to the Kalama River in 2009, which would be the lowest return since 1998 and 24% of the recent 10-year average.

Lewis River Return and Forecast

The 2008 Lewis River adult spring Chinook return of 2,440 fish was 69% of the pre-season forecast of 3,500 adults. The 2008 return was the lowest since 1999 and 56% of the recent 10-year average. The minimum hatchery escapement goal of 1,600 adults was met, despite the low return. Natural spawning escapement estimates include on 25 adults, compared to the 10-year average of 450 adults. An adult return of approximately 1,600 is needed to achieve the minimum hatchery escapement goal, since a portion of the run spawns naturally.

An estimated 2,200 adult spring Chinook are expected to return to the Lewis River in 2009. This forecast is similar to the 2008 actual return but about half the recent 10-year average.

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 2005, and the program is now referred to as the Select Area Fisheries Enhancement Project (with the same SAFE acronym). Spring Chinook releases in Oregon Select Areas are Willamette stock while the Washington site utilizes Cowlitz and/or Lewis stocks. Currently, all 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 utilizes 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 were reared and released from the South Fork Klaskanine Hatchery operated by the Clatsop County Fisheries project during brood years 2002–2004 but this program was discontinued due to chronic disease issues and lack of year-round water rights for the hatchery.

Spring Chinook releases in all Select Areas combined ranged between 890,400–1,079,000 smolts annually during 1996–2003, increased to 1.65–1.83 million smolts annually between 2004 and

2006, but have since decreased averaging 1.06 million in 2007 and 2008. Beginning with the 2001 releases (1999 brood year), all hatchery spring Chinook released in SAFE areas have been mass marked with an adipose fin clip. During 1996–2003, annual releases of spring Chinook in Youngs Bay averaged 466,400 smolts. Releases in 2004–2006 were doubled (990,000 annual average) due to the additional production at the South Fork Klaskanine Hatchery. However, the 2004 South Fork Klaskanine Hatchery brood was released early (autumn of 2005) due to disease (Bacterial Kidney Disease); very few fish from this brood survived to contribute to returns in 2008 and it is assumed that the same will be true for 2009 returns of this brood. Releases of spring Chinook smolts into Tongue Point and Blind Slough began in 1996. Since then, smolt releases into Blind Slough have averaged 302,700 smolts annually. Annual releases at the original Tongue Point site during 1996–2000 averaged 254,400 smolts but releases at this site were terminated due to undesirable straying of returning adults. To resolve this issue, a new rearing site was constructed in 2003 at the Marine and Environmental Research and Training Station (MERTS) dock approximately 1.2 miles upstream of the former site. Since then, experimental groups of 20,900–79,300 spring Chinook smolts have been released from this site each year with 25,500–27,400 additional smolts released annually from net pens in the nearby John Day River (2003–2007) to evaluate survival and homing of fish released from the MERTS site. Releases into Deep River began in 1998 and averaged 156,600 annually through 2008, 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 (Table 5).

2008 Returns

Select Area spring Chinook fisheries are intended to harvest 100 percent of returning hatchery-produced adults to minimize straying and maximize economic value of returns. Commercial landings of Chinook salmon in 2008 Select Area winter/spring/summer fisheries totaled 4,486 Chinook (3,554 spring Chinook) of which 3,195 were landed in Youngs Bay, 1,004 were landed in Blind Slough, 259 in Tongue Point (late April through fishery) and 28 in Deep River. Landings in 2008 winter/spring/summer SAFE fisheries were much lower than the ten-year (1998–2007) average harvest of 6,600 Chinook. The 2008 harvest was the second lowest since 2000; only the drastic season reduction in 2005 resulted in fewer fish caught (Tables 1 and 6).

2009 Forecast

The 2009 Select Area spring Chinook return will be comprised of Age-5 and Age-4 adults from smolt releases of 1.83 million smolts in 2006 and 1.06 million smolts in 2007 (Table 5). It is important to note that 31% of the 2004 brood was released early; very few (<0.01%) of these fish returned as 4-year olds in 2008 and it is expected that their contribution as Age-5 adults will also be minimal. Based on these releases, and recent site- and age-specific survival rates, 4,800 SAFE-produced spring Chinook are expected to return to Select Areas in 2009. Approximately 2,850 will be harvested in Youngs Bay, 1,450 in Blind Slough, 470 in Tongue Point, 30 in Deep River. The combined SAFE harvest is expected to be below average and slightly improved over 2008.

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 and is the sum of the Bonneville Dam count plus the number of fish of upriver origin landed in lower river fisheries (kept catch plus release mortalities) from January 1 through June 15. Abundance tables for upriver spring and summer Chinook contained in this report have been adjusted to account for this change except for Table 2 (pre-2005) to allow comparison of past annual forecasts with actual returns.

The upriver spring run is comprised of stocks from three geographically separate production areas: 1) the Columbia River system above the confluence with the mouth of the Snake River, 2) the Snake River system, and 3) Columbia River tributaries between Bonneville Dam and the Snake River. Snake River summer Chinook are destined for areas above Lower Granite Dam. The NMFS listed Snake River wild spring/summer Chinook as threatened under the ESA in May 1992 and upper Columbia wild spring Chinook as endangered effective May 24, 1999. In each of 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 to the point that about two-thirds of the current run is hatchery-produced. Beginning in 2002, the majority of the hatchery production returning to the Columbia River was mass marked with an adipose fin clip. With considerable numbers of hatchery eggs, fry, smolts, and adults being out-planted in recent years, it is likely that some of the current natural production is also an indirect hatchery product.

Upriver spring Chinook returns have ranged widely in recent decades (Table 7). Upriver runs were poor in the 1980s averaging 84,300 fish (range 52,400-128,300) and decreased further during the 1990s when returns averaged 68,800 fish (range 12,900-123,800). The 1995 run marked an all-time low of 12,800 fish. The 2000-2008 run sizes improved substantially, with an annual average return of 214,300 adults (range 86,200 to 439,900). The 2001 run marked an all-time record return (since at least 1938) of 439,900 fish. Run sizes have declined since then, but have remained strong overall.

The Snake River wild component of the upriver spring Chinook run has also fluctuated substantially since 1980 (Table 9). Over 50% of the originally inhabited mainstem Snake River is no longer accessible. Only the lower 247 miles, below Hells Canyon Dam, are presently accessible to salmon and steelhead. The main stem Snake River has also been impounded, leaving only 100 miles of natural stream remain between Lower Granite (1975) and Hells Canyon Dam (1967). Returns to the Columbia River mouth were low in the 1980s and averaged around 18,000 fish returning to the Columbia River mouth. The poor returns continued through the 1990s with an average return of 10,300 fish. Since 2000 the annual returns have been greater than the average returns of the 1990s, and similar to the aggregate upriver run, the Snake River wild component increased dramatically to 60,400 adults in 2001. Returns since 2001 (2002-2008) have averaged around 29,000 fish, ranging from 10,000 up to 52,000 fish (Table 9).

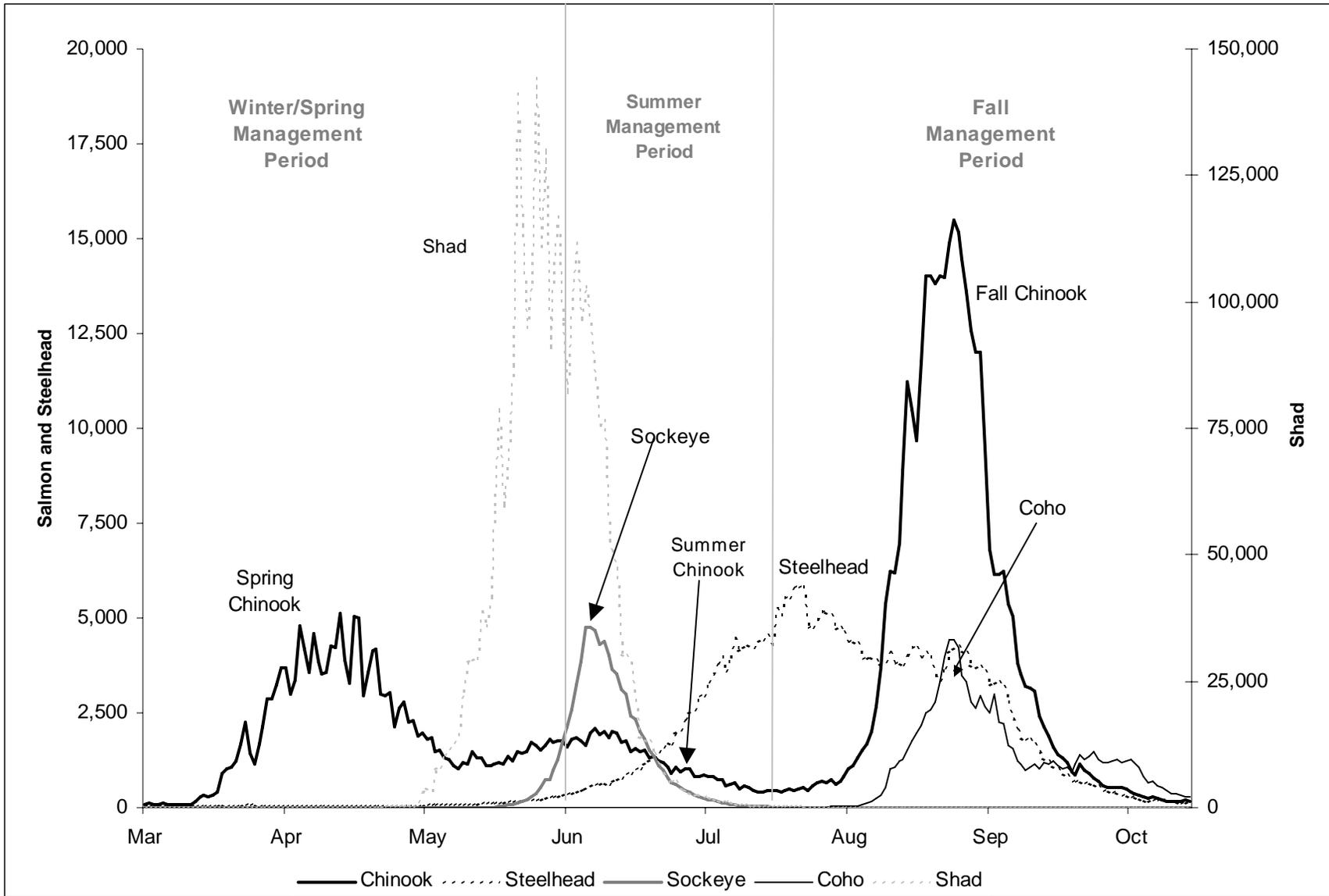


Figure 1. Average Daily Counts of Salmon, Steelhead, and Shad at Bonneville Dam, 1999-2008.

2008 Return

The 2008 upriver spring Chinook run was predicted to total 269,300 fish, consisting of 255,600 four year old fish and 13,700 five year old fish. The actual return of 178,564 adults (Table 7) was 66% of the preseason forecast and consisted of 159,200 four-year old fish and 19,000 five-year old fish. The 2008 return included 99,165 adult Snake River spring/summer Chinook and 19,759 adult upper Columbia Chinook. Peak and 50% completion Bonneville passage dates since 2005 have been later than historical averages, and this trend continued in 2008. The 2008 return reached 50% passage completion on May 8, compared to the 1980-2007 average of April 28. Jack counts were very high at Bonneville Dam and Snake River Dams in 2008, as they were in 2007.

The Snake River wild spring/summer Chinook run was the bright spot in the 2008 return, with 23,600 wild adults returning to the Columbia River mouth, which was much higher than forecasted, and was also greater than the average return of 14,200 adults observed during 2005-2007 (Table 9). The 2008 upper Columbia River wild spring Chinook return was 1,960 fish, which was 68% of the expected return (2,900 adults) and similar to the average returns observed during 2005-2007 (Table 8). The 2008 return was twice the size of the 2007 return of less than 900 fish. Upper Columbia River wild Chinook returns have averaged around 2,800 fish since the peak return of 10,000 fish in 2001.

2009 Forecast

The 2009 forecast of 298,900 adult upriver spring Chinook returning to the Columbia River is expected to consist of 262,500 4-year olds and 36,400 5-year olds. This projected return would represent the third highest return since at least 1980 and would be the highest return since 2002. The spring Chinook forecast method for the total upriver run has been done by traditional cohort relationships. Age composition of the upriver run is collected from sampling landed catch (sport and commercial) and data collected at Bonneville Dam and various hatcheries. The 2009 forecast for Snake River spring/summer Chinook and upper Columbia spring Chinook were not complete at the time of publication.

Upper Columbia River Summer Chinook

Upper Columbia River summer Chinook are destined for production areas and hatcheries above Priest Rapids Dam. Historically, these fish spawned in the 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. Artificial production programs release over 2 million yearlings and 1.5 million sub-yearlings annually. The upper Columbia summer Chinook run size remained at low levels throughout the 1980s and 1990s, with average returns of 19,800 and 15,500 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 between 2000 and 2007 was 60,900 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 returning to the Columbia River Basin has been mass marked with an adipose fin clip. Natural spawning populations also contribute to the run, and may represent around half of the total return. Because of run timing similarities, Snake River summer Chinook are now considered a component of the upriver spring Chinook run, and since 2005, the Columbia River summer Chinook run consists only of the upper Columbia component. Summer Chinook run size is calculated as the sum of the Bonneville Dam count and the number of fish caught in lower river fisheries during June 16 through July 31. Upper Columbia summer Chinook are not ESA-listed, and the population is currently considered healthy.

2008 Return

The 2008 upper Columbia River summer Chinook return totaled 55,530 adults (Table 10), compared to the preseason forecast of 52,000 adults. The 2008 return was similar to the average return since 1999 and is a strong run when compared to past decades. The 2008 adult return was comprised of 42,900 Age-4, 11,800 Age-5 fish and 800 Age-6 fish. The Age-3 (jacks) return to Bonneville Dam of 6,800 jacks nearly equaled the 10-year (1998-2007) average of 7,000.

2009 Forecast

The forecast for the 2009 upper Columbia River summer Chinook run is 70,700 adults to the Columbia River which is 128% of the 2008 return and 24% greater than the average return of 57,100 during 1999-2008. The forecast continues a positive abundance trend, especially when compared to the prior two decades (Table 10).

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 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). The Southwest Washington DPS includes Grays Harbor, Willapa Bay, and the Columbia River below the Cowlitz River in Washington and the Willamette River in Oregon. All steelhead handled in the lower Columbia River (below Bonneville Dam) during November through April are considered to be winter steelhead. Columbia River wild winter steelhead returns during 2001 through 2007 have averaged 22,100 fish and have ranged between 14,000 and 28,000 fish (Table 11).

2008 Return and 2009 Forecast

The 2008 return and the 2009 forecast had not been developed at the time this document was published (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 above Bonneville Dam. Wild lower river summer steelhead are present in the Cowlitz, Kalama, Lewis, Wind, and Washougal rivers in Washington, and in the Hood and Sandy rivers in Oregon. The lower Columbia River steelhead DPS was listed as threatened by the NMFS on May 24, 1999. All steelhead handled in lower Columbia River fisheries (below Bonneville Dam) during May and June are classified as Skamania-stock destined for tributaries below Bonneville Dam.

Upriver summer steelhead include hatchery and wild steelhead that pass Bonneville Dam from April 1 through October 31 each year (Figure 1 and Table 12). Summer steelhead counted at Bonneville Dam between April 1 and June 30 are considered Skamania stock steelhead destined for tributaries within Bonneville Pool. Summer steelhead counted at Bonneville Dam between July 1 and October 31 are considered to be either Group A or Group B index. Group A steelhead are destined for tributaries throughout the Columbia and Snake basins, are characteristically smaller (under ten pounds) and spend one or two years at sea. Group B steelhead return to the Clearwater and Salmon rivers in Idaho, are generally larger and later-timed than the Group A steelhead and typically spend two or three years at sea.

The NMFS has divided the upriver summer steelhead run into three DPSs: 1) the middle Columbia DPS which includes wild steelhead destined for Columbia River tributaries from above 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 wild steelhead returning to the Snake River basin (listed as threatened in October 1997). Currently, there is no reliable method available to distribute the composition of the steelhead run at Bonneville Dam into individual DPSs.

2008 Return

The summer steelhead run is estimated as the sum of lower river tributary returns (lower river stocks), mainstem fisheries mortalities during May-October (lower river and upriver stocks), and Bonneville Dam counts during April-October (upriver stocks). Run size estimates for the upriver summer steelhead component as measured at Bonneville Dam are presented in Table 12. The total return to Bonneville Dam of upriver summer steelhead in 2008 of 355,100 fish was similar to the preseason forecast of 326,400 fish and the recent ten-year average (1998-2007) of 340,000 steelhead. The non-adipose fin clipped steelhead passing Bonneville Dam in 2008 totaled 104,700 fish, compared to the preseason expectation of 80,100 fish. Included in the unmarked portion of steelhead are a minimal number of unmarked hatchery steelhead, but for management purpose all unmarked fish are considered wild. The wild fish component in 2008 represented 29% of the passage, which is greater than the recent 10-year average of 25%. Almost

all components of the 2008 return exceeded the preseason expectation except for the hatchery component of Group A Index fish. Of note is 2008 is the high return of Group B steelhead, which return to areas within the Snake River basin. The Group B component followed the trend seen in 2008 of greater than average returns other salmonids to the Snake River including spring/summer Chinook and sockeye. The 2008 return of 93,400 Group B steelhead was 164% of the recent 10-year average, and well above the averages observed during the 1980s and 1990s. The wild component of Group B fish also greatly exceeded expectations, with 18,500 fish passing Bonneville Dam. A return this large not been observed since at least 1984, except for the high return year of 2001.

2009 Forecast

The 2009 forecast for upriver summer steelhead at Bonneville Dam had not been developed at the time this report was published.

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 (completed 1941) in the upper Columbia system; and by Swan Falls (1901), Sunbeam (1913; removed in 1934), Black Canyon (1914), and Brownlee (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.

The Columbia River sockeye run consists of the Okanogan, Wenatchee, and Snake River stocks. 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 consist of four age groups. Fish returning to Osoyoos Lake in the Okanogan Basin are typically three- and four-year-old fish. Those returning to Lake Wenatchee in the Wenatchee Basin are typically four- and five-year-old 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.

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 75,000 sockeye migrate past Bonneville Dam. During the most recent 10 years prior to 2008, the number of sockeye destined for the

Snake River basin averaged less than 100 fish, ranging from 4 to 352 fish. During the 1990s the average was 12 fish. Sockeye run sizes and harvest can be found in Table 16.

2008 Return

The 2008 return of sockeye to the Columbia River of 214,500 adults (Table 16) is the largest return since 1959 and far greater than the preseason forecast of 75,600 adults. Estimated stock composition of the run was 26,300 Wenatchee stock, 186,200 Okanogan stock, and 1,000 Snake River stock. Similar to the upriver spring Chinook return and the upriver summer steelhead return, the sockeye return had a very strong Snake River component. Sockeye counts at Lower Granite Dam exceeded 900 fish, which is the highest count since the facility came on line in 1975. The 2008 return of 1,000 Snake River sockeye was the highest observed since at least 1980, far exceeds (1,250%) the recent 10-year average (81 fish) and is over 10 times the average annual return observed since 1980.

2009 Forecast

The forecast for the 2009 sockeye run is 183,800 adults to the Columbia River, which includes 10% Wenatchee fish and 90% Okanogan fish. The Snake River sockeye return for 2009 is forecasted at 600 fish. The forecasts for the overall return and the Snake River component are at least two times the average observed annually over the last 10 years.

Shad

Shad are an introduced species brought to the West Coast from Pennsylvania in the late 19th century. 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 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.

2008 Return

The 2008 minimum shad run size was 2.3 million, with a minimum spawning escapement exceeding 1.8 million above The Dalles Dam, plus an unknown number of spawners downstream of The Dalles Dam and downstream of Willamette Falls. The non-Indian (lower Columbia and lower Willamette) recreational and commercial combined catch of 124,100 shad was the lowest since 1986 and amounted to 5.5% of the estimated total minimum run size. The 2008 shad run in the Columbia River was the lowest since 2000 and continued a declining trend from the record return of 6.3 million shad in 2005 (Table 17).

2008 MANAGEMENT GUIDELINES

Endangered Species Act

Salmon and Steelhead

Status reviews occurring since 1991 have resulted in the majority of Columbia Basin salmon and steelhead stocks being listed under the ESA and are 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 Biological Assessments (BAs) to all ESA-listed salmonid stocks (including steelhead) for all mainstem Columbia River fisheries since January 1992. In addition, ODFW has a management plan in place for naturally-produced coho that were listed by the State of Oregon in 1999 and The Southern DPS of green sturgeon is also ESA-listed.

<i>Federally-listed Species Found in Columbia River Fishery Management Areas</i>			
Species – ESU ¹	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 Fall	Not warranted	--	--
<u>Steelhead</u>			
Snake River	Threatened	August 18, 1997	October 17, 1997
Upper Columbia River ²	Endangered	August 18, 1997	October 17, 1997
Lower Columbia River	Threatened	March 19, 1998	May 18, 1998
Middle Columbia River	Threatened	March 25, 1999	May 24, 1999
Southwest Washington	Not warranted	--	--
Upper Willamette	Threatened	March 25, 1999	May 24, 1999
Sockeye – Snake River	Endangered	November 20, 1991	December 20, 1991
<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

¹ The ESUs 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 Includes hatchery fish.

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

2008, and a BO was subsequently issued by NMFS later that year. This current BO expires December 31, 2017, concurrent with the 2008-2017 *U.S. v Oregon* Management Agreement.

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 in 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.

Green Sturgeon

The Southern DPS of the North American green sturgeon (those spawning in the Sacramento River, California) were ESA-listed as threatened (71 FR 17757) on April 7, 2006, effective July 6, 2006. The current BO covering non-Indian fisheries through 2017 addresses impacts to green sturgeon. Given that (1) green sturgeon are essentially absent from the Columbia River during the winter and spring months, (2) retention (and sale) of green sturgeon from Columbia River commercial recreational fisheries is prohibited, impacts to green sturgeon from fisheries described in this report are expected to be *de minimus*.

Eulachon Smelt

On November 9, 2007, the Cowlitz Indian Tribe (CIT) petitioned the NMFS to designate populations of eulachon smelt south of the international border of the United States and Canada as a DPS, and further to list this DPS as threatened or endangered pursuant to the ESA. At the time this document was prepared, NOAA Fisheries had not made a determination to list eulachon smelt; however, a decision is expected sometime in the winter of 2009. Fisheries described in this report are not likely to adversely affect this species.

Columbia River Salmon Management Guidelines

The Columbia River Fish Management Plan (CRFMP) expired on December 31, 1998, but was extended through July 31, 1999. The parties to *US v Oregon* have re-negotiated numerous interim plans covering fisheries since 2000. The parties to *U.S. v Oregon* recently completed a new plan covering fisheries from January 2008 through December 2017. This agreement, titled “2008-2017 *U.S. v Oregon* Management Agreement for upriver Chinook, sockeye, steelhead, coho, and white sturgeon” (2008-2017 MA) provides specific fishery management constraints for upriver spring and summer Chinook, steelhead, and sockeye. Guidelines from the Management Agreement, and other agreements, are highlighted below.

Upriver Spring Chinook

Non-Indian and treaty Indian winter and spring season fisheries in 2008 were managed in accordance with harvest rate schedules provided in Table A1 of the 2008-2017 MA. Based on

this harvest rate schedule and the preseason forecast for upriver Spring Chinook, 2008 fisheries were planned based on a 12% maximum combined impact limit (10% treaty Indian, 2% non-Indian) of the Columbia River mouth preseason run size. Actual 2008 allowable impacts were reduced in-season to 11% combined (9.1% treaty Indian, 1.9% non-Indian) when the run size was downgraded.

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}	Non-Treaty Natural Harvest Rate ³	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%	0.5%	5.5%	0.5%
33,000	3,300	5.0%	1.0%	6.0%	0.5%
44,000	4,400	6.0%	1.0%	7.0%	0.5%
55,000	5,500	7.0%	1.5%	8.5%	1.0%
82,000	8,200	7.4%	1.6%	9.0%	1.5%
109,000	10,900	8.3%	1.7%	10.0%	
141,000	14,100	9.1%	1.9%	11.0%	
217,000	21,700	10.0%	2.0%	12.0%	
271,000	27,100	10.8%	2.2%	13.0%	
326,000	32,600	11.7%	2.3%	14.0%	
380,000	38,000	12.5%	2.5%	15.0%	
434,000	43,400	13.4%	2.6%	16.0%	
488,000	48,800	14.3%	2.7%	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 reinitiate consultation with NOAA Fisheries if necessary.

The 2008-2017 MA provides for a minimum 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 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.

Upper Columbia River Summer Chinook

Mainstem Columbia River Chinook fisheries occurring from June 16 through July 31 will be managed based on the abundance of Upper Columbia River summer Chinook (destined for areas above Priest Rapids Dam) as 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 above Priest Rapids Dam. The following table outlines the framework for upper Columbia summer Chinook harvest rates.

Upper Columbia Summer Chinook Fishery Framework Matrix		
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%	56%
32,000- <36,250 (125% of 29,000 goal)	10%	7%
36,250-50,000	50% of total harvestable ¹	50% of total harvestable ¹
>50,000	50% of 75% of margin above 50,000 plus 10,500 ²	50% of 75% of margin above 50,000 plus 10,500 ²

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

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

Based on this framework, the sharing formula allows for greater numbers of fish to escape when runs are greater than 50,000 fish.

2008 fisheries were managed according to a pre-season forecast of 52,000 upper Columbia summer Chinook, which translated into 22,000 fish available harvest. This was divided equally between treaty Indian fisheries and non-treaty fisheries consistent with the 2008-2017 MA.

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 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:

<i>Treaty Indian Sockeye Harvest Rate Schedule, 2008-2017.</i>	
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. Given the preseason forecast of 75,600, directed sockeye fisheries were not planned for 2008.

Non-Indian Impact Allocations of Upriver Spring Chinook

The Oregon and Washington Fish and Wildlife commissions provide staff with policy guidance when shaping fisheries preseason and managing fisheries in-season. Non-Indian fisheries conducted during 2008 were managed on an impact allocation base of 61% to recreational fisheries and 39% to commercial fisheries. Additional direction from the Commissions provided for an increase (up to 65%) for the recreational fisheries if needed to achieve recreational fishery objectives. This allocation included a 10% buffer and an objective for the recreational sport fishery below Bonneville Dam to be open for Chinook retention through April 30.

Upper Columbia River Summer Chinook Harvest Sharing Guidelines

The allocation for 2008 non-treaty fisheries was determined by the 2008-2017 MA and the Upper Columbia Management Agreement (UCMA). As has been the case in recent years, preseason negotiations between WDFW and the Colville Tribe have resulted in additional fish being available for harvest in the areas below Priest Rapids Dam. Commission guidance for 2008 stated that the harvestable fish available below Priest Rapids Dam were to be shared 50/50 between commercial and recreational fisheries.

2008 Upper Columbia Summer Chinook Allocation		
Preseason Run Size		52,000
Available Treaty-Indian harvest		11,250
Available Non Treaty Harvest		11,250
<i>Non-Treaty Indian Harvest Allocation</i>		
Allocated above Priest Rapids Dam	70%	7,875
Allocated below Priest Rapids Dam (<PRD)	30%	3,375
	Recreational <PRD	50% 1,688
	<i>Below BONN portion</i>	<1,200
	Commercial <BONN	50% 1,687

Willamette Spring Chinook Management

Fishery Management and Evaluation Plan for Willamette Spring Chinook

In accordance with the threatened 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. 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 in 1999. Beginning in 2001, freshwater fisheries were managed in accordance with a new FMEP, which superseded the prior fishery matrix regime. 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.

<i>Hatchery Spring Chinook Escapement Goals at Willamette Falls and the Clackamas River</i>			
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 fisheries in Willamette River tributaries and the mainstem Willamette River upstream of Willamette Falls, and meet hatchery broodstock escapement goals. The increase in escapement goals as the hatchery run size increases allows fisheries above Willamette Falls to share in increased fishery benefits available to lower Willamette River and mainstem Columbia River recreational and commercial fisheries created by increased abundances of hatchery fish.

The recreational and commercial allocation of hatchery-produced Willamette spring Chinook at various run sizes is shown in the table below. Recreational fisheries included in the recreational allocation are those occurring in the lower Columbia River (below Bonneville Dam), the lower Willamette River (below Willamette Falls), and the lower Clackamas River (below North Fork Dam). Commercial fisheries occur in the lower Columbia River below Bonneville Dam and in Select Areas. The allocation plan is designed to allow for recreational fisheries in the mainstem Willamette and Clackamas rivers at hatchery run sizes greater than 23,000 fish, and increases the commercial share gradually (up to 30%) as the forecasted run increases.

<i>Recreational/Commercial Allocation of Willamette Hatchery Spring Chinook</i>		
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 three years since 1997 with adjustments as necessary to protect sturgeon populations while maintaining harvest opportunity. For detailed information, see "2009 Joint Staff Report: Stock Status and Fisheries for Sturgeon and Smelt" dated December 9, 2008. Although the last three year agreement was set to expire December 31, 2008, the states opted to extend the agreement for one additional year. The current extension will expire December 31, 2009.

REVIEW OF MAINSTEM, SELECT AREA, AND TRIBUTARY FISHERIES

Non-Indian Fisheries

Past Lower River 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 predictable recreational salmon fisheries, and increased recognition of white sturgeon as a sport fish have resulted in increased 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, 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 first adopted

in 2002. Since 2003, the harvestable number of white sturgeon has been 40,000 fish annually. The harvestable fish are allocated 80% (32,000 fish) to recreational fisheries and 20% (8,000 fish) to commercial fisheries. Annual fishing plans for distribution of the commercial harvest allocation are developed each year to provide more predictable commercial fishing opportunities throughout the year.

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- to late February. Weekly sturgeon landing limits have not been adopted initially, but limits can be applied in-season if necessary to remain within the winter allocation.

Winter commercial salmon seasons have been established since 1878. Since 1957, all non-Indian commercial fisheries have been restricted to Zones 1-5 (below Bonneville Dam) 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 above 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 these years. Winter season fishing dates, mesh size restrictions, and landings since 1970 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 demonstration fishery took place in 2002. The fishery was limited to commercial fishers who held appropriate licenses and legal gear, and had attended 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 that year. 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.

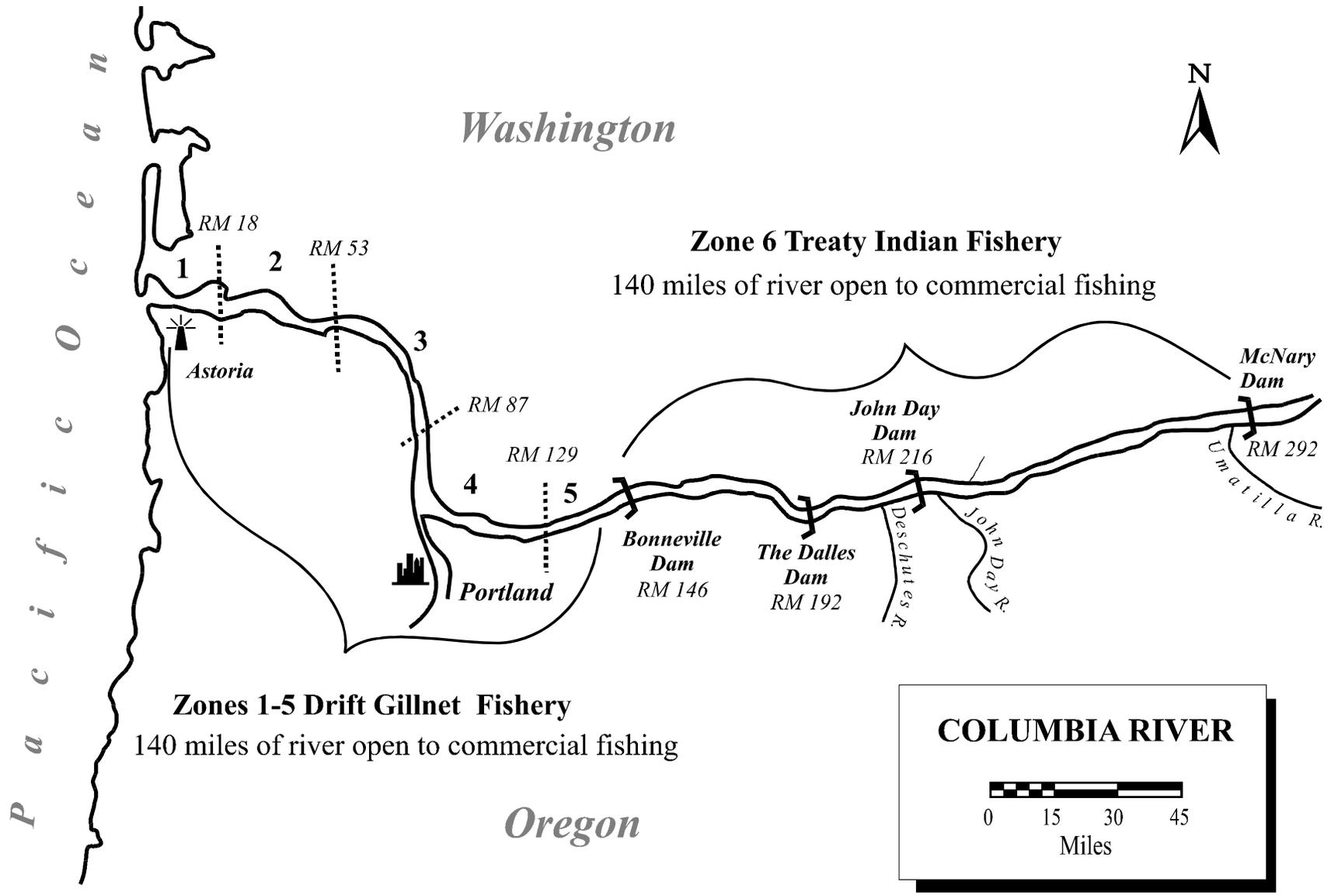


Figure 2. Map of the Columbia River Below McNary Dam Showing Areas Open to Commercial Fishing.

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 were known, the decisions of whether to fish or not and what gear to use can be made. Openers 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.

During 2001-2003, post-release mortality studies were conducted for various gear types and mesh sizes to estimate the survival of Chinook released in winter/spring commercial fisheries. In December 2003, the TAC reviewed preliminary results of the studies 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 was 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 from the 2003 study year became available which indicated that the mortality rate of Chinook released from tangle nets was 14.7%, rather than 18.5% based on additional recoveries of released fish. Given this new information, the TAC recommended reducing the estimated post-release mortality rate for Chinook caught in tangle nets from 18.5% to 14.7% effective beginning in 2008. Because no additional data was available for steelhead, TAC did not recommend changing the current rate of 18.5%.

2008 Lower River Winter Commercial Salmon Season

The 2008 commercial fishery was conducted under similar guiding principles, management objectives, and basic fishing plans in effect since 2004. Based on 2008 preseason run size forecasts, non-Indian fisheries were limited to a 2.0% impact rate on listed upriver spring Chinook. A management buffer of 10%, or 0.2% impact, was also applied, resulting in a total impact of 1.8% limit for all non-Indian fisheries, prior to a run update. The fisheries operated under an agreement which allocated 39% of the non-Indian impacts to commercial fisheries in the mainstem and Select Areas. Prior to the run size update, the commercial fisheries were managed for 75% of the commercial mainstem allocation, resulting in an impact limit of 0.47%.

Additional ESA restrictions included a non-Indian fishery impact limit of 2.0% for wild winter steelhead. Because the commercial spring Chinook fishery in 2008 was expected to be limited to the area upstream of the Willamette River, the TAC decided to calculate wild winter steelhead impacts on the subcomponent of the run destined for tributaries upstream of and including the

Sandy River. This portion of the wild winter steelhead run was estimated to be around 2,400 fish, compared to the total run size estimate of 15,300 fish.

The 2008 fishery was also managed in accordance with the Willamette FMEP. Based on the preseason forecast of 29,000 hatchery Willamette river spring Chinook, 6,290 fish were available for harvest in all fisheries downstream of Willamette Fall. Nearly all of these (6,000) were allocated to recreational fisheries, and 290 were allocated to commercial fisheries for use in Select Area and winter mainstem sturgeon fisheries.

The 2008 spring fishing season posed many challenges unlike those of recent years. The Willamette run forecast was poor with very few fish available for harvest and the upriver Columbia run forecast was large. This resulted in the need to shift the majority of the fishing effort upstream of the mouth of the Willamette to avoid handle of Willamette spring Chinook. Because this strategy had not been used in recent years, this shift in the fishing area created challenges for management staff in modeling commercial and recreational fisheries that would remain within ESA limits and management guidelines. In order to minimize crowding due to the reduced fishing area and limited boat ramp access, the Compact adopted regulations to close the mainstem Columbia River upstream of the Willamette River to all recreational fishing on Tuesdays during March 25 to April 29, and all commercial fisheries were scheduled to occur on those Tuesdays. The Compact also expressed a desire to have some daylight commercial openers to improve fisher safety and to increase the safety of agency observers and state law enforcement officers.

Test fishing with 4¼-inch nets occurred weekly during March 3 through April 21 to collect information on stock composition, mark rates, and catch rates to determine whether a fishery should be scheduled. As has been the case in recent years, all adipose fin-clipped salmon caught during test fishing operations were kept and sold by the state to help fund test fishing and research. Most test fishing occurred upstream of the Willamette River except during early March (3, 10, and 16) when test fishing took place in Zones 1-3 to maintain the historical data base.

Passage of upriver spring Chinook over Bonneville Dam started off slowly, as has been the case in recent years. During preseason planning, it was anticipated that commercial fishing periods could start as early as the last week in March. With low passage at Bonneville Dam, the Compact did not consider commercial fisheries until the March 31 hearing. Test fishing was conducted in Zones 4-5 on March 30 and resulted in a catch rate of 1.9 Chinook/ drift. Onboard observers saw no steelhead handled during the fishery, indicating that steelhead abundance was low, as expected.

The first salmon-directed fishery for 2008 was a 10-hour (1 PM-11 PM) fishery on Tuesday, April 1. The fishery was conducted with tangle net gear in Zones 4-5, from the west powerlines on Hayden Island upstream to the commercial fishing boundary at Beacon Rock. Sanctuaries around the Washougal and Sandy rivers were in place to protect ESA-listed steelhead and Chinook. White sturgeon harvest was allowed with no weekly limit. Catch expectations were estimated at less than 1,500 Chinook. Actual catch was 648 Chinook from 27 deliveries, indicating low abundance and fishing effort, as expected.

Test fishing data collected on April 6 indicated that Chinook catch rates had increased and the Chinook-to-steelhead ratio remained high (many Chinook and few steelhead). Based on this information, the Compact adopted a second, fishing period for Tuesday April 8 (7 AM- 11 PM), using tangle net gear (4¼ inch mesh). Landings from this fishing period included 1,254 Chinook from 64 deliveries, which was less than the 2,500 fish expected. With less than 2,000 Chinook landed to date and an estimated 4,000 additional fish available for commercial harvest, test fishing was conducted again on Sunday April 13. Test fishing results were positive and a third fishing period took place on Tuesday, April 15 from 3 AM to 3 PM (12 hours). The area and gear were the same as the two prior fishing periods, and sturgeon harvest was allowed without a weekly limit. Landings from the April 15 fishery included 3,756 Chinook from 84 deliveries. Staff had expected effort and landings to be similar to those seen in the previous fishing period on April 8, but both expectations were exceeded.

On April 18 the Compact met to review the commercial non-Indian commercial fishery. At that time, 5,672 Chinook had been landed (including 14 from the winter sturgeon fishery). Given the small balance of the commercial allocation remaining and the high abundance of Chinook in the fishing area, management staff felt the risk of exceeding the available commercial impacts was too high to recommend additional mainstem fishing periods at that time. A final test fishery occurred on April 21 for data collection purposes.

The TAC met on April 24 to review the upriver spring Chinook run but was unable to provide a run update given passage to date and variability in run timing. On April 29, the TAC met for the third time to review the run and indicated that the run was not on track to meet the preseason forecast, but did not provide an in-season point estimate. The TAC met again on Monday, May 5 and reported that the run was likely somewhere around 200,000 fish, but the passage data was still too variable to give a point estimate. TAC met again on Friday, May 9 and downgraded the run to 180,000 fish. In response to this downgrade, emergency action was required for ongoing non-Indian and treaty Indian fisheries since the downgraded run size reduced the ESA impacts limits allowed for all fisheries to 11% (9.1% treaty and 1.9% non-Indian).

Total landings for the 2008 commercial fishery were within the preseason catch expectations for both salmon and sturgeon. Chinook catch totaled 5,672 kept (includes 14 in the winter sturgeon fishery and 5,658 in the winter salmon fishery) and 1,554 unmarked released. Ex-vessel prices (per pound landed) averaged \$7.57 for Chinook and \$2.64 for sturgeon. Due to the area restrictions in place, 99.8% of the Chinook handled were of upriver origin. Mark rates for Chinook in the commercial fishery ranged from 74%-80% per opener during the course of the season, and averaged 78.5%. Winter steelhead handle totaled 97 fish, of which 48 were unmarked (wild and unmarked hatchery fish combined). Wild winter mortalities resulting from incidental handle were estimated to be nine fish.

Past Lower Columbia River Spring Chinook Recreational Fisheries

Under permanent regulations, the mainstem Columbia River from the mouth to the I-5 Bridge (RM 106) is open to angling for spring Chinook salmon January 1 through March 31, and the area from the I-5 Bridge upstream to the Oregon/Washington border above 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 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 (Table 22).

The 2001 expected return of 430,400 adult spring Chinook to the Columbia River, including 364,600 upriver spring Chinook and a majority of adipose fin-clipped hatchery fish, prompted the states to adopt the first-ever mark-selective recreational fishery for spring Chinook on the lower Columbia River effective March 12, 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 (Table 21). 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 action 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 also occurred during 2002-2007. 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 regulations for spring Chinook were permanently adopted during January 1-March 31 of each year. Since 2004, a new 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 post-release 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 for management purposes.

Except for a one-fish bag limit enacted for the area between Rooster Rock and Bonneville Dam in 2005 and for the entire area downstream of Bonneville Dam in 2008 (Table 21), daily bag limits for spring recreational salmon fisheries below Bonneville Dam were two adipose fin-clipped fish in all recent seasons. In-season management has been necessary in each year to maintain the fishing impacts below ESA guidelines and/or within non-Indian harvest-sharing allocations while allowing the states to maximize fishing opportunities. During all years, the states have attempted to balance the opportunity for anglers above and below Bonneville Dam. Regulations for 2000-2008 Columbia River recreational spring Chinook fisheries are listed in Table 21, and catch and effort totals are shown in Table 22. Regulations and catch and effort totals for the Zone 6 sport fishery are shown in Tables 21 and 23.

2008 Lower Columbia River Spring Chinook Recreational Fishery

In 2008, the total spring Chinook run size was forecast to be 329,800 adults to the mouth of the Columbia, comprised of an upriver component of 269,300 fish and a lower river component of

60,500 fish, including 34,000 Willamette spring Chinook. While the Willamette run size forecast was the lowest since 1997, the upriver run size was predicted to be the third largest since 1977. The “2005-2007 Interim Management Agreement”, which was extended until a new agreement between the Parties of *US v Oregon* could be finalized, provided for a 2% impact to ESA-listed upriver spring Chinook in all non-Indian fisheries in 2008, based on the preseason upriver Chinook run size forecast. The 2% impact limit applied to the 2008 run size forecast following adoption of the new 2008-2017 MA as well. After a 0.2% impact rate buffer (10% of total non-treaty impacts) was removed, the remaining 1.8% upriver impact was allocated between non-Indian fisheries, with 1.21% allocated to the recreational fishery (including fisheries above McNary Dam) and 0.59% allocated to the commercial fishery (including SAFE). The combination of impact sharing among recreational fisheries in areas above and below Bonneville Dam and the buffer left an impact limit of 0.919% for the recreational fishery between Buoy 10 and Bonneville Dam. Based on the predicted run size of 29,000 Willamette River hatchery spring Chinook, a total of 6,000 surplus Willamette fish were available for harvest in all freshwater fisheries during 2008. The harvest schedule in the Willamette FMEP allowed a harvest 5,700 fish in recreational fisheries and <290 in commercial fisheries. Furthermore, the OFWC gave guidance that no more than 500 Willamette fish should be taken in mainstem Columbia River recreational fisheries.

Recreational fishing regulations for the 2008 spring Chinook fishery were adopted at the February 15 Compact hearing. The recreational season was January 1-February 24 for the Columbia River from Buoy 10 to the I-5 Bridge, March 24-April 4 for the Columbia River from Buoy 10 to the Hayden Island power lines, March 16-April 30 for the Columbia River from the Hayden Island power lines (west) to Bonneville Dam, and March 16-May 10 from Tower Island powerlines upstream to McNary Dam and the Oregon and Washington banks between Bonneville Dam and Tower Island. Regulations adopted for the 2008 season included a seven-day per week season and a daily bag limit of one adult spring Chinook for the Columbia River from Buoy 10 to the I-5 Bridge (or Hayden Island power lines), and a six day per week season (closed on Tuesdays beginning March 25) with a daily bag limit of not more than one adult spring Chinook in the fishery from the Hayden Island power lines upstream to Bonneville Dam, and a standard seven-day per week season with a two Chinook daily limit for the fishery between Bonneville Dam and McNary Dam. Mark-selective regulations for spring Chinook were implemented for the duration of the 2008 fishery in all areas. The 2008 Columbia River recreational season was designed to maximize angler opportunity and overall catch within ESA limits and the 500 Willamette spring Chinook guideline established by the OFWC.

The Columbia River and many lower river tributaries were clear and cold at the start of 2008 as near record snow-pack accumulated in the Cascades. No spring Chinook were sampled prior to the February 24 closure below the I-5 Bridge, although a few were known to have been landed. The first spring Chinook were sampled on March 16, 2008 when the Columbia opened above the Hayden Island power lines, and effort began to build in that area.

Prior to the March 24 opening below the Hayden Island power lines, the water conditions of many lower river tributaries deteriorated with heavy rains during the middle of March; however, water conditions remained ideal in the area above the mouth of the Willamette River. At the end of March, anglers below the Hayden Island power lines had made 19,044 trips and caught 1,821 spring Chinook (1,534 adipose fin-clipped fish kept and 287 unclipped fish released) and 230

winter steelhead (220 kept and 10 released), and anglers above Hayden Island made 16,409 trips and caught 2,954 spring Chinook (2,573 kept and 381 released) and eight steelhead (kept). The total catch in March was 4,775 adult spring Chinook (4,107 kept and 668 released), five spring Chinook jacks, and 238 steelhead (228 kept and 10 released) from 35,453 angler trips. Based on VSI sampling the March catch consisted of 92% upriver spring Chinook.

Water conditions and catch rates improved in the Columbia River below the Willamette during April 1-4, with anglers in the area downstream of Hayden Island landing 1,404 spring Chinook (1,223 kept and 181 released) and 88 steelhead (83 kept and five released) from 10,812 trips. The final catch below Hayden Island was 3,229 adult spring Chinook (2,760 kept and 469 released) from 34,006 trips.

During April 1-4, anglers above Hayden Island power lines landed 2,263 spring Chinook from 7,910 trips and effort continued to increase. Joint State hearings were held on April 4, 9, and 16 to update catch information and impacts to upriver spring Chinook. At the April 16 hearing, the states estimated anglers above Hayden Island had made 31,059 trips and handled 9,800 spring Chinook during April 1-13, which brought the cumulative upriver impact to approximately 63% of the total reserved for the lower river recreational fishery. Counts of adult spring Chinook at Bonneville Dam totaled 7,844 spring Chinook through April 15, when typically 10% of the run has passed the dam, indicating the possibility that the run was smaller than forecast. Catch projections estimated that the sport fishery would reach a total upriver impact of 0.940% (0.919% available) by April 20, and the states closed the fishery effective April 21.

During April 1-20, anglers above Hayden Island made 52,557 trips and caught 16,989 adult spring Chinook (14,707 kept and 2,282 released), 160 spring Chinook jacks, and 16 steelhead (seven kept and nine released). The final catch for the area above Hayden Island was 19,943 adult spring Chinook (17,280 kept and 2,663 released) from 68,966 angler trips. The total April catch for the lower Columbia was 18,393 spring Chinook (15,930 kept and 2,463 released) and 104 steelhead (90 kept and 14 released). Due to the focus of fishing above Hayden Island, upriver fish comprised 98% of the spring Chinook catch downstream of Bonneville Dam during April. Based on the preseason upriver run size, some recreational impact remained on the guideline for the lower river after the April 20 closure: however, counts of adult spring Chinook at Bonneville continued to lag, suggesting the run could be smaller than forecast. As a result of low spring Chinook counts at Bonneville Dam, the fishery above Bonneville Dam also lagged behind preseason catch expectations and remained open until the scheduled closing date of May 10.

The total catch for the 2008 spring Chinook recreational fishery downstream of Bonneville Dam was 23,172 adult spring Chinook (20,040 kept and 3,132 released), 165 spring Chinook jacks, and 454 steelhead (392 kept and 62 released) from 102,972 angler trips. The total angler effort and catch were the sixth and fifth highest since 2001, respectively; however, CPUE was the second highest. Upriver spring Chinook comprised 96% of all spring Chinook handled in recreational fisheries downstream of Bonneville Dam. In response to the in-season run downgrade, the states delayed the traditional May 16 opening of the summer steelhead fishery below the I-5 Bridge until June 16, 2008 in order to avoid accruing any further impacts to upriver spring Chinook.

2008 Zone 6 (Bonneville Dam to McNary Dam) Spring Chinook Recreational Fishery

The 2008 Zone 6 recreational spring Chinook fishery was open under mark-selective regulations from March 16-May 10 from the Tower Island powerlines upstream to McNary Dam and along the Oregon and Washington banks between Bonneville Dam and Tower Island. The 2008 fishery was the first year in recent years in which the Washington bank was open in all of Bonneville Reservoir. Effort on the Washington shore was low, as accessible fishing areas are limited. Of the impacts allowed to recreational fisheries 0.096% were set aside for fisheries occurring in Zone 6. The fishery started off slow, as Bonneville Dam passage was minimal until the end of April. A majority of the catch occurred during late April and May. The final catch for the Zone 6 recreational fishery included 1,763 Chinook kept and 673 released from an estimated 8,100 angler trips.

2008 Spring Chinook Fisheries Above McNary Dam

For 2008, non-treaty fisheries above McNary Dam were allocated 0.194% upriver impacts. A mark-selective recreational fishery occurred in 2008 on the Snake River in two areas. The Ice Harbor fishery opened April 22 from the railroad bridge near the mouth of the Snake River upstream to Ice Harbor Dam. This was the first time since 1976 that this area of the Snake River was open. The Little Goose fishery that has occurred annually since 2001 opened on April 24 from the Texas Rapids boat launch upstream to the Corps of Engineers boat launch approximately one mile upstream of Little Goose Dam. Both fisheries were scheduled to remain open seven days a week through June 15 during daylight hours with a daily limit of two adipose fin-clipped Chinook. On May 9, the run was downgraded which resulted in a closure of both areas on May 12. Total catch was 519 adult spring Chinook kept and 128 adults released.

In addition to the fisheries in the Snake River, a recreational fishery occurred on the mainstem Columbia River in the area of Ringold Hatchery for adipose fin-clipped hatchery Chinook. Angling was restricted to bank angling from the hatchery side of the river only. The fishery was scheduled to be open during May 1-June 15 but closed on May 13 in response to the May 9 run size downgrade. A total of 25 Chinook were kept and 2 released during the 12-day opener.

The Wanapum Tribe has not conducted a C&S fishery in the mainstem Columbia River below Priest Rapids Dam during the spring since 2006.

Lower Columbia River Tributary Spring Chinook Fisheries

Tributary spring Chinook recreational fisheries below Bonneville Dam have been mark-selective since 2001. The 2008 preseason forecasts for adult spring Chinook returns to the Cowlitz, Kalama and Lewis rivers in Washington initially provided for liberal recreational fisheries. As the 2008 season progressed, hatchery returns and recreational catches were low and triggered emergency recreational closures for the Cowlitz and Kalama rivers beginning May 17 and June 6 on the Lewis. Improved hatchery returns indicating the minimum escapement goals would be met resulted in all three rivers re-opening to fishing for spring Chinook beginning June 25.

Preliminary hatchery adult spring Chinook recreational catch estimates for Washington lower Columbia River tributaries are based upon creel sampling and escapement data as Catch Record

Card (CRC) estimates are currently unavailable. An estimated 1,600 hatchery adult spring Chinook were harvested in Washington tributaries in 2008, including 300 from the Cowlitz, 250 from the Kalama and 1,050 from the Lewis. Estimated harvest rates ranged from 11% (Cowlitz River) to 44% (Lewis River). The 2008 Washington tributary hatchery adult spring Chinook sport catches were the lowest since at least 2001 when fisheries were restricted for several years due extremely low returns.

The recreational fishery for spring Chinook on the Sandy River is not sampled for catch and effort; therefore, catch is estimated from angler returned catch records. Final catch estimates for 2007-2008 are not available at this time due to normal delays in receiving and processing this information.

In 2008, the lower Willamette River (below Willamette Falls) 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. Effective March 1 the daily bag limit was reduced to include only one hatchery Chinook. Due to concerns of meeting the escapement goal of 20,000 hatchery fish over Willamette Falls, the retention of spring Chinook was prohibited in the mainstem Willamette River below Willamette Falls effective May 12.

The recreational catch in the lower Willamette River has generally declined in recent years consistent with declining adult returns since 2005 and significant fishing opportunity available in the mainstem Columbia River. However, the 2008 lower Willamette River recreational catch of 6,270 spring Chinook (4,369 kept and 1,901 released) was much higher than expected given the forecast of 34,000 fish, and the actual return of 27,000 fish. The 2008 kept catch was 20% lower than 2007 (5,439) and 38% lower than the recent 5-year average of 8,800 (Table 3), but anglers still harvested 23% of the hatchery return. Angler effort in 2008 (47,318 trips) was lower than 2007 (74,799 trips) and less than 20% of the record high 236,000 trips observed in 1991. Although the hatchery return in 2008 was lower than 2007, the catch rate (0.13 Chinook per angler day) was higher (0.10 Chinook per angler day).

The upper Willamette River (above Willamette Falls) spring Chinook recreational fishery opened on January 1, seven days per week, with regulations similar to the lower Willamette River (one additional steelhead allowed upstream of Willamette Falls). Due to concerns of meeting broodstock needs at hatcheries above Willamette Falls, the retention of spring Chinook was prohibited in the mainstem Willamette and tributaries effective May 12, with the exception of the Molalla River, which remained open because hatchery broodstock are not collected in this river. Estimates of the 2008 recreational catch for the fishery upstream of Willamette Falls are not available because of normal delays in receiving and processing angler catch records. The 1980-2000 recreational catch above Willamette Falls (mainstem and tributaries combined) has ranged from 1,900 to 16,100 per year, and has represented 6-26% of the total fish passing Willamette Falls (Table 4).

The 2008 lower Clackamas River fishery was open to salmon and steelhead angling seven days per week with regulations consistent with the lower Willamette River recreational fishery. Because the Clackamas River return remained relatively strong, this fishery remained open to retention of Chinook during the spring season. Due to budget reductions, creel surveys were not conducted on the lower Clackamas River in 2008; therefore, the harvest estimates will not be

available until angler catch records are available. Harvest of spring Chinook in the Clackamas River has averaged about 300 kept fish in recent years.

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

Past Lower River Summer Commercial Salmon Seasons

Historical summer commercial seasons harvested summer Chinook, sockeye, steelhead, and shad. In 2004, two 12-hour fishing periods occurred below Bonneville Dam targeting sockeye but also allowing the retention of Chinook. Prior to 2005, no commercial summer Chinook season had occurred below Bonneville Dam since a 2-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. A limit of three white sturgeon per vessel per week was in place throughout the season. For 2007, three fishing periods were planned to harvest 1,650 fish, but with a downgrade in the run size and higher than anticipated catch in the recreational fishery, the third period was rescinded. The two periods that did take place occurred in Zones 1-5 with an 8-inch minimum mesh restriction and a weekly landing limit of five white sturgeon per vessel. Both fisheries were 10-hour periods from 7 PM to 5 AM, occurring on June 25-26 (98 deliveries) and July 2-3 (77 deliveries). Total catch during this season was about 1,100 Chinook.

2008 Lower River Summer Commercial Salmon Season

Based on the preseason forecast and management agreements, nearly 1,700 summer Chinook were available for commercial harvest in 2008. A total of three 10-hour fishing periods were conducted during June 24 through July 8 with an 8-inch minimum mesh size restriction. A weekly limit of five white sturgeon per vessel was in place for all three periods. Landings for the season totaled 1,368 Chinook. The number of deliveries ranged from 55-92 per period. Ex-vessel prices (per pound landed) averaged \$3.00 for Chinook and \$2.72 for white sturgeon.

In addition to the three Chinook directed fishing periods, one sockeye-directed fishery occurred in the 2S area (Washougal to Beacon Rock) on July 30. The fishery was a six-hour daylight fishery with a 4 ½ inch mesh size restriction. A total of 2 Chinook jacks and 213 sockeye were landed from two deliveries. The ex-vessel price for sockeye averaged \$1.71 per pound.

Past Columbia River Summer Steelhead and Summer Chinook Recreational Fisheries

The Columbia River recreational fishery was closed to retention of adult Chinook salmon under permanent regulations during May 16-July 31 every year during 1974-2001. Under permanent regulations, the mainstem Columbia River is open to the retention of hatchery summer steelhead during May 16-December 31 from the Tongue Point/Rocky Point line upstream to the I-5 Bridge, and during June 16-December 31 from the I-5 Bridge upstream to the Highway 395 Bridge at Pasco, Washington. During 1992-1999, this fishery was restricted to the harvest of hatchery summer steelhead, but beginning in 2000 the states allowed the retention of Chinook jacks (≤ 24 inches).

In 2002, the states opened a recreational summer Chinook fishery below Bonneville Dam for the first time since 1973. A high mark rate of hatchery summer Chinook allowed the states to adopt mark-selective fishery regulations to provide an opportunity to harvest abundant hatchery Chinook while limiting the impact to ESA-listed Snake River summer Chinook to less than 1%. In July, the states also opened the area from Bonneville Dam upstream to the Oregon/Washington border for the retention of adipose fin-clipped summer Chinook.

Mark-selective recreational fisheries for summer Chinook also occurred in 2003 and 2004, with a non-treaty limit of 1% impacts on Snake River summer Chinook. 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 above the I-5 Bridge.

In 2005, the states delayed the traditional May 16 opening of the lower Columbia recreational summer steelhead fishery below the I-5 Bridge until May 22 because of concerns regarding the size of the upriver spring Chinook run. When the spring Chinook fishery was reopened on June 4, the summer steelhead fishery above the I-5 Bridge was also opened.

Beginning in 2005, the management period for summer Chinook at or below Bonneville Dam was reclassified from June 1-July 31 to June 16-July 31, because new information indicated that the June 1-June 15 portion of the summer run typically contains significant numbers of listed Snake River spring/summer Chinook. The later portion of the summer run is predominated by 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 also allowing for more substantial fishery opportunities for the healthy upper Columbia portion of the 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 a conservative approach for the lower Columbia sport fishery because of concerns that the summer run might follow the pattern shown by the 2005 spring run, which by early June was projected to be only half of the preseason forecast. By late June, the summer Chinook run appeared to be on target, and the states removed the mark-selective regulations, allowing the retention of both adipose fin-clipped and unmarked summer Chinook during July 1-31.

The 2006 summer steelhead fishery opened below the I-5 Bridge as scheduled on May 16, and beginning May 17 the states reopened the spring Chinook fishery from Tongue Point upstream to Bonneville Dam. In conjunction with the spring Chinook fishery above I-5, the states allowed the retention of adipose fin-clipped summer steelhead. A recreational fishery for summer Chinook (not mark-selective) occurred below Bonneville Dam during June 16 to July 31, but sockeye retention was prohibited. The area above Bonneville Dam was also open for non-mark-selective retention of summer Chinook during June 16 through July 31.

The 2007 summer steelhead fishery below the I-5 Bridge opened as scheduled on May 16. Beginning June 6, 2007 the states reopened the spring Chinook fishery from I-5 upstream to Bonneville Dam. In conjunction with the spring Chinook season above I-5, the states allowed

the retention of adipose fin-clipped summer steelhead. Retention of all summer Chinook was allowed during June 16-30 but sockeye retention was prohibited throughout 2007. A non mark-selective summer Chinook fishery took place from Bonneville Dam to McNary Dam during the June 16 through July 2 in 2007.

2008 Columbia River Summer Steelhead and Summer Chinook Recreational Fisheries

Because spring fisheries had exceeded the allowable upriver spring Chinook impact by the end of April, the 2008 summer steelhead fishery below the I-5 Bridge was delayed until June 16 in order to avoid any additional handle of upriver spring Chinook in this fishery. The retention of summer Chinook was allowed during June 21-28 based on the preseason forecast of 52,000, and agreements with upriver tribes that provided 1,688 Chinook for recreational fisheries downstream of Priest Rapids Dam, of which 1,200 were allocated to the fishery below Bonneville Dam.

Sockeye retention was initially prohibited in 2008, based on the preseason run size forecast; however, counts of sockeye at Bonneville Dam totaled 50,925 fish through June 18, and recreational fisheries below Bonneville were encountering higher than average numbers of sockeye which prompted TAC to upgrade the sockeye run size to at least 100,000 fish at the Columbia River mouth. Based on this information, the states allowed the retention of sockeye during the recreational summer Chinook fishery and subsequently extended the sockeye retention fishery through July 6 based on updated information from TAC that the sockeye run would be 210,000 fish. However, non-treaty fisheries were still limited to an impact not to exceed 1% on listed Snake River sockeye.

During June 16-30, anglers made 30,505 trips below Bonneville Dam and caught 2,514 adult summer Chinook (2,051 kept and 463 released; Table 22), 219 Chinook jacks, 2,567 summer steelhead (2,035 adipose fin-clipped summer steelhead kept and 532 released), and 1,060 sockeye (446 kept and 614 released). During July 1-31, summer steelhead anglers made 20,783 trips and caught 8,315 summer steelhead (4,477 kept and 3,838 released), 64 sockeye (48 kept and 16 released), 32 summer Chinook jacks (kept) and 427 adult summer Chinook (released). The total summer steelhead catch in the lower Columbia River during June 16-July 31, 2008 was 11,242 fish (6,512 kept and 4,730 released).

A summer Chinook fishery was scheduled for June 16 through July 31 from Bonneville Dam upstream to McNary Dam, with a 500 Chinook guideline. This fishery was closed July 2 as the guideline for the area had been reached. An estimated 800 Chinook were kept during June 16 through July 1. As has been the case in recent years, the fishery was not mark-selective.

Past Select Area Fisheries

Spring Chinook commercial fisheries in Select Areas were initiated in Youngs Bay in 1992. Through 1996, fishing time was limited to less than 15 days annually with landings ranging from 155–851 spring Chinook. Commercial landings of spring Chinook in Youngs Bay have increased significantly from 1,821 Chinook in 1997 to a range of 4,100–5,700 Chinook landed in 2000–2007 (excluding 2005). Table 6 lists Chinook harvests during winter, spring, and summer seasons for all Select Area sites since 1993. Initial seasons in Youngs Bay were restricted to the spring fishing period with open periods occurring primarily from late April through early June.

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/mid-March were initiated in 1998 to harvest early returning 5-year old spring Chinook. Beginning in 1999, summer seasons during mid-June through July were adopted to increase harvest of late returning 4-year old spring Chinook and early returning Select Area Bright (SAB) fall Chinook. Winter/spring/summer commercial and recreational catch in all Select Areas since 1993 can be found in Table 6.

Prior to 2006, Select Area fisheries were consistently closed during mid-March through mid-April to minimize the handle of non-local spring Chinook stocks, which tend to be more abundant during this period. During 2006 through 2008, fisheries in Youngs Bay have been opened during this time period, but have been constrained to specific 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. Opportunity, measured in open hours, during this winter/spring interim timeframe has been expanded incrementally each year with very low impacts to non-local stocks.

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. Annual spring season landings have ranged from 60–3,200 Chinook. In most years, fishing periods have opened concurrent with Youngs Bay and other Select Area sites to minimize congestion. 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.

Spring commercial fisheries in Tongue Point were initiated in 1998 and continued through 2003, with additional 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 period. Production-level releases of spring Chinook at Tongue Point were discontinued in 2000 (Table 5) due to higher than anticipated straying of returning adults. In response to the straying issues, a new net pen rearing site was constructed in 2003 at the Marine and Environmental Research and Training Station (MERTS) dock approximately 1.2 miles upstream of the former site. Since then, experimental groups of 20,900–79,300 spring Chinook smolts have been released from this site each year and between 2003 and 2007 an additional 25,500–27,400 were released annually from net pens in the nearby John Day River. By relocating the rearing site higher into Cathlamet Bay, further from the mainstem Columbia River, and closer to a unique water source the propensity for straying is expected to be reduced. In 2008 volunteer test fishing and a full-fleet test fishery occurred in Tongue Point/South Channel, and results appear promising.

Spring fisheries have been conducted in Deep River since 2003 with harvest ranging between 28–117 fish annually. Experimental winter seasons have been adopted annually since 2006 but have resulted in little effort and no salmonid catch.

2008 Youngs Bay Winter/Spring/Summer Gillnet Season

At the January 24, 2008 Columbia River Compact hearing the state of Oregon announced a modification to existing commercial fishing and boat license requirements specific to the Youngs Bay Select Area fishery. As of February 13, 2008, non-resident licenses are not required of Washington fishers holding valid licenses issued by the state of Washington. Since Youngs Bay is located entirely in Oregon state waters, Washington fishers previously had to purchase Oregon non-resident licenses to participate in Youngs Bay Select Area commercial fisheries. Tongue Point, South Channel, Knappa Slough, and the majority of Blind Slough are under concurrent jurisdiction; therefore licenses from either state were already acceptable.

As in all years since 1998, a winter commercial fishery was adopted for 2008 in Youngs Bay to target early arriving 5-year old local-stock spring Chinook prior to the time when significant numbers of non-local Chinook stocks are present in the lower Columbia River area. In accordance with the goal of adaptive management for SAFE fisheries, the winter season structure used since 2004 has been expanded annually since 2006 as additional fishery data are collected. A progressive fishery schedule has been developed to bridge the gap between the typical end of the winter season and the start of the spring season, allowing access to returning SAFE spring Chinook earlier in the season when prices are higher. To accomplish this, the fishery is constricted in time and area to minimize encounters with non-local stocks. Primarily due to limited commercial fishing in the mainstem Columbia River, preseason plans placed a high priority on significant and stable opportunity in the Select Areas in 2008, and 0.15% impacts on upriver spring Chinook were allocated to Select Area fisheries from the total commercial share in 2008 to accomplish this goal. The standard winter season consisted of eight 18-hour fishing periods between February 13 and March 10. In addition, one 4-hour period (March 12) was set for the entire bay followed by six 12-18 hour periods between March 16 and March 27 upstream of the old Youngs Bay Bridge. Consistent with preseason planning, the lower fishing deadline during these six periods was expanded downstream from the normal boundary at the Walluski power lines to maximize fishing area. From March 30 through April 8, five more 12-18 hour periods were scheduled for upper Youngs Bay (above the powerlines located immediately downstream of the Walluski River mouth). In season, the lower boundary was extended downstream to the Old Youngs Bay Bridge for the first three periods, based on the minimal catch of upriver stocks in the prior week. This strategy of constricting the fishery (with in-season flexibility) when non-local stocks may be most abundant appears to be an effective alternative to closing the fishery entirely during this timeframe. The 7-inch minimum mesh size regulation was in effect for all winter fishing periods since steelhead handle is minimal in this fishery. As is the case for all commercial fisheries in Youngs Bay, maximum net length was restricted to 250 fathoms, with no more than two pounds of leadline per fathom of net, except in the Walluski area as noted above). The 20 fishing periods resulted in landings of 241 spring Chinook which is less than the average catch of 349 Chinook observed since winter seasons began in 1998. Additionally, 21 white sturgeon were landed in the Youngs Bay winter season. The three white sturgeon (per vessel per week) landing limit used in recent years was in place for

the February portion of the winter season but was beginning in March based on a request from industry.

The 2008 spring season in Youngs Bay began on April 17 and consisted of progressively longer fishing periods through mid-June. Emergency action was necessary in-season to rescind fishing periods in all Select Area sites during the week of May 11 due to the downgrade of the upriver spring Chinook run size and resultant ESA concerns. The closure resulted in the loss of four days of fishing opportunity in Youngs Bay. Ten 12-hour to 4-day periods occurred between April 17 and June 13. The shorter, staggered fishing periods during the early portion of the fishery were intended to allow fishery managers time to summarize harvest sampling data between openings and adjust future proposed seasons to minimize impacts on non-local spring Chinook. Later in the season, as the risk of encountering upriver spring Chinook diminishes, longer 4-day openers were possible. The 2008 Youngs Bay spring fishery landed 1,937 Chinook, just over one half of the ten-year average Chinook harvest (3,800). Thirty five white sturgeon were landed prior to June 4 after which retention and sale of white sturgeon was prohibited for the remainder of the spring and summer season. Throughout the spring season, an 8-inch maximum mesh size restriction was in effect to target Chinook instead of sturgeon.

To provide harvest opportunity on early returning SAB-stock fall Chinook and any remaining local-stock spring Chinook, a seven-week summer gillnet season was set in Youngs Bay from June 18–July 31. The 2008 summer season was open 6 AM Wednesday through 6 AM Friday each week for the entire season, except for the last week which was open for 36-hours to be consistent with the fall season periods that started August 6. As in the spring fishery, an 8-inch maximum mesh size restriction was adopted to target Chinook instead of sturgeon. The Youngs Bay summer fishery yielded record landings of 1,017 Chinook, nearly three times the 1999–2007 average Chinook harvest of 360 fish. The high landings were driven by an increased abundance of SABs (862 landed) returning to Youngs Bay, which was almost certainly due to the coast-wide closure of ocean commercial and recreational Chinook fisheries.

The combined Youngs Bay winter/spring/summer fishery stock composition is based on VSI and CWT analysis with a total of 1,281 Chinook (40% of the combined catch of 3,195 Chinook) examined for fin marks and CWTs and 158 CWTs being collected. The 2008 combined winter/spring/summer catch was comprised of 61.4% spring Chinook and 27.0% SAB fall Chinook destined for Select Area sites, 6.5% upriver spring Chinook, 0.9% upper Columbia summer Chinook, 1.5% Willamette River spring Chinook, and 2.8% spring Chinook destined for the Cowlitz, Kalama, Lewis, or Sandy rivers. Based on scale readings, which were verified with CWTs, the age composition of the catch was <1% Age-2 (all SAB jacks), 14% Age-3 (primarily SABs), 64% Age-4, 22% Age-5, and <1% Age-6 fish.

2008 Blind Slough/Knappa Slough Winter/Spring Gillnet Season

Similar to 2000–2007, a winter gillnet season with a 7-inch minimum mesh restriction was adopted for Blind Slough (excluding Knappa Slough) in 2008. The adopted season consisted of thirteen 12-hour periods (7 PM – 7 AM) on Wednesday and Sunday nights during February 20–April 7 (except Wednesday April 2). The six periods (March 16–April 7) held after the normal end of the winter season represent ongoing efforts to apply adaptive management techniques and also to meet the goal of significant and stable opportunity in 2008. During the winter fishing

periods, a total of 51 spring Chinook and one white sturgeon were landed, which is less than the 2000–2007 average Chinook harvest (80). As described for Youngs Bay, a three white sturgeon landing limit was in place for the February portion of the winter season only.

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 SAFE stock spring Chinook. On May 1, the lower deadline in Knappa Slough was extended further downstream, to the western end of Minaker Island for the remainder of the spring season. An 8-inch maximum mesh size restriction was adopted to target Chinook and limit sturgeon catch. 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 2008 spring fishery consisted of fifteen 12-hour (7 PM – 7 AM) fishing periods on Thursday and Monday nights between April 17 and June 13. As was the case with the other Select Areas, all fishing periods during the week of May 11 were rescinded by Compact and Oregon state action due to the reduced upriver spring Chinook run size. This closure resulted in the loss of two previously set fishing periods. The 2008 Blind/Knappa Slough spring fishery landed 953 spring Chinook and 47 white sturgeon prior to the white sturgeon retention/sales prohibition which began June 4. The Chinook harvest was less than the ten-year average (1,470) and was the lowest since 2000.

The combined Blind Slough/Knappa Slough winter and spring fishery stock composition is based on VSI and CWT analysis. A total of 797 Chinook (79% of the combined catch) were examined for fin marks and CWTs, and 350 CWTs were collected. The 2008 Blind Slough/Knappa Slough catch was comprised of 96.2% spring Chinook destined for Select Area sites, 1.1% upriver spring Chinook, 1.2% Willamette River spring Chinook, and 1.3% spring Chinook destined for the Cowlitz, Kalama, Lewis, or Sandy rivers. Based on scale readings, which were verified with CWTs, the age composition of the catch was 74% Age-4, 24% Age-5, and 2% Age-6 fish.

2008 Tongue Point/South Channel Spring Gillnet Full-Fleet Test Fishery

As previously mentioned, no winter or spring seasons had been conducted in the Tongue Point/South Channel Select Area fishing site since the abbreviated season in 2003. However, low-level spring Chinook releases have been maintained at the new MERTS net pen location. A test fishery was held from April 26–May 25, 2005 with one contracted test-fisher for the purpose of gathering data to test the effectiveness of the new site; however, only two spring Chinook were captured in 30 drifts. Coded-wire tags from fish released at the MERTS site and the trial John Day River net pens have been routinely collected from commercial fisheries in Blind/Knappa Slough providing evidence that adults are returning from releases at both sites.

One of the goals of the 2008 SAFE winter/spring/summer season was to have some test fishing in the Tongue Point/South Channel site; the increased upriver spring Chinook impact rate allocated to SAFE was intended for this purpose, as well as to allow stability in the remainder of the SAFE fishing seasons. In late April, two commercial fishers volunteered to test-fish in the Tongue Point site. Ten drifts were conducted with an ODFW biologist on-board during all test-fishing efforts. Four adipose-fin clipped spring Chinook of lower river origin (VSI) were captured (and released) in the test fishing activities.

Because the limited sampling by test fishers provided little data, the staff recommended, and the Compact adopted, a full-fleet commercial test fishery in the Tongue Point/South Channel site at the April 24, 2008 hearing. Open periods started April 28 and were concurrent with those previously adopted for Blind Slough/Knappa Slough: 7 PM – 7 AM Monday and Thursday nights. An 8-inch maximum mesh restriction was in place for both sites; 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. Abundance of non-local stocks was expected to be minimal based on the volunteer test fishing results and observed run timing, but as an additional precautionary measure a new lower deadline was recommended and adopted. This new Tongue Point deadline is described as “a line extended from the upstream (southern most) pier (#1) at the Tongue Point Job Corps facility through navigation marker #6 to Mott Island”. The deadline is approximately 1 mile upstream from the deadline used in 2003 and prior. Additionally, for the first two weeks (April 28 – May 9) all catch was required to be sampled by ODFW staff before being transported out of the fishing area. Beginning May 12 and continuing through the end of the spring season, fishers were required to call ODFW’s Astoria Field Office with details on catch and time/location of sale to facilitate sampling efforts.

The 2008 spring full-fleet test fishery in Tongue Point/South Channel consisted of 12 fishing periods between April 28 and June 13 (except the week of May 11) and landed 259 spring Chinook. Additionally, 204 white sturgeon were caught and sold prior to the retention/sales prohibition which began June 4.

The combined Tongue Point/South Channel spring fishery stock composition was based on VSI and CWT analysis with a total of 199 Chinook (77% of the combined catch) examined for fin marks and CWTs, and 73 CWTs being collected. The 2008 Tongue Point/South Channel catch was comprised of 56.8% spring Chinook destined for Select Area sites, 7.0% upriver spring Chinook, 14.7% summer (upper Columbia) Chinook destined for locations above Bonneville Dam, 15.8% Willamette River spring Chinook, and 5.8% spring Chinook destined for the Cowlitz, Kalama, or Lewis rivers. Based on scale readings, verified with CWTs, the age composition of the catch was <1% Age-3, 72% Age-4, 25% Age-5, and 3% Age-6 fish.

2008 Deep River Winter/Spring Gillnet Season

For the third consecutive year, an experimental winter season of four weekly 14-hour periods from February 18 to March 11 was adopted for the Deep River site. Special regulations were in place requiring biological sampling of all of the catch. A spring fishery consisting of 17 fishing periods occurring on Thursday and Monday nights (7 PM – 7 AM) weekly between April 17 and June 13 was adopted at the February 15, 2008 Compact hearing. As was the case with the other Select Areas, all fishing periods during the week of May 11 were later rescinded. This closure resulted in the loss of two of the 17 periods. 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 an 8-inch maximum mesh size for the spring season. As in Blind Slough and Knappa Slough, the use of additional weights or anchors was allowed. Since spring seasons have only occurred in Deep River since 2003, they are considered experimental with biological sampling of all the landed catch required before harvested fish may be transported out of the

fishing area. A WDFW sampling station was set up in the area for this purpose. No catch was reported in the winter season, and a total of 28 Chinook and 39 white sturgeon were harvested in the spring season. The 2008 spring Chinook catch continued the trend of extremely low harvest at this site. Concurrent with the other Select Areas, weekly white sturgeon landing limits were in place for the February portion of the winter season only with retention and sale of white sturgeon prohibited starting June 4.

Past Select Area Recreational Fisheries

Beginning in 1998, year-round recreational seasons have been open 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 to allow year-round angling for adipose fin-clipped steelhead were adopted 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 and 2005, when the potential for additional impacts to upriver spring Chinook also forced closure of Select Area commercial fisheries, although the recreational fisheries were not closed in the spring of 2008.

Despite the fact that most Select Area sites have been open year-round for recreational fishing, participation has expanded slowly, at least partially due to limited adult returns early in the program's history. Recently, both effort and harvest in SAFE recreational fisheries has increased, likely due to increasing adult returns resulting in higher quality fishing opportunities (Table 6). The estimated recreational harvest of 1,081 spring Chinook in 2004 SAFE fisheries was the highest observed. Among the Select Areas, the most popular and productive spring Chinook fisheries occur in Blind Slough/Knappa Slough and Youngs Bay during March–May. Based on limited creel survey data, the estimated average annual recreational spring Chinook harvest in Youngs Bay from 1998–2007 was 52 fish per year (range 9–121) with success usually dictated by water conditions. In Blind Slough/Knappa Slough an average of 248 spring Chinook have been landed annually since 2000. During the same period, recreational harvest in nearby Gnat and Big creeks has ranged from 0–700 fish annually (Table 6). Due to limited resources to carry out a statistical creel program, estimates of recreational catch are not possible for 2008 SAFE spring Chinook fisheries. Based on anecdotal information the recreational harvest in SAFE areas is believed to have been less than 100 spring Chinook in 2008. This information will be compared with catch record card data once it is available.

2008 Commercial Shad Seasons

The Compact adopted a 31-day commercial shad season for Area 2S in 2008 which included all weekdays (except Memorial Day) from May 12 to June 25 during the hours of 3 PM to 10 PM. Except for 2005, the Camas-Washougal Reef shad fishery has not occurred since 1999 due to lack of participation (Table 17).

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, 10-lb. 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 the gear used in shad fisheries prior to 1996. Only shad could be kept and sold, and all salmon, steelhead, walleye, and sturgeon were required to be released immediately.

The 2008 shad fishery produced landings of 12,544 shad (32,872 pounds); setting a new record low harvest. Based on past years' monitoring observations of salmonids handled per shad landed, salmonid handle is estimated to have consisted of eight spring Chinook, one summer Chinook, eight summer steelhead, and 18 sockeye. The total estimated release mortality in the Area 2S fishery is estimated to include 2 spring Chinook, 4 summer steelhead, and 5 sockeye.

2008 Non-Indian Impacts to ESA-Listed Stocks

Management intent for 2008 spring Chinook fisheries were conservation of Columbia River salmon and steelhead runs and to remain within impact rates allowed by the 2008-2017 U.S. v. Oregon Management Agreement. The 2008 impact limit for ESA-listed upriver spring Chinook in non-Indian Columbia River fisheries was 2.0%, based on the preseason forecast. The states applied a buffer of 10%, or 0.2% impact, to these fisheries. The remaining allowable impacts were allocated preseason at 61% to recreational fisheries (including fisheries above McNary Dam), and 39% to commercial fisheries including Select Areas. The allowable impact rate limit was reduced to 1.9% for non-Indian fisheries as a result of the in-season run size downgrade. Final non-treaty impacts totaled 2.2% for 2008 (116% of allowable), and fishery-specific impacts are shown in the following table. The impact rate from non-Indian fisheries in 2008 on Snake River wild spring Chinook was 2.07% and 2.06% on upper Columbia wild spring Chinook.

2008 Non-Indian Upriver Spring Chinook Impacts.		
Fishery	Allocated Impact (At final run size)	Actual Impact
Mainstem Commercial	0.591	0.596
Select Areas Commercial	0.150	0.132
Total Commercial	0.741	0.727
Below Bonneville Recreational	0.869	1.250
Bonneville–McNary Recreational	0.096	0.136
Above McNary Recreational	0.194	0.091
Total Recreational	1.159	1.478
Non-Indian Total	1.900	2.205

Impacts to wild winter steelhead are not available until the 2008 return is available. An estimated 11 incidental mortalities occurred as a result of non-Indian fisheries in 2008, which is likely well within the 2% ESA impact rate limit. Total impacts to Snake River sockeye are estimated to be 0.4%, compared to the allowable impact rate of 1%. Impacts to wild Willamette River spring Chinook are reported separately by ODFW in an annual report submitted to NOAA Fisheries. Final data analyses used to calculate impacts to wild Willamette spring Chinook were not available when this report was completed, but preliminary estimates indicate that total impacts from all freshwater fisheries on wild Willamette spring Chinook were less than 10%, compared to the 15% ESA limit.

Treaty Indian Fisheries

2008 Treaty Indian Winter Commercial Season

The 2008 winter sturgeon setline fishery was open in all of Zone 6 from January 1 to January 31. There was no reported effort or catch. The winter gillnet season was open for sturgeon for 29 days from February 1 through February 29 in the Bonneville Pool, for 32 days from February 1 through March 3 in The Dalles pool and 39 days from February 1 through March 10 in the John Day pool. The 2008 winter gillnet season commercial sturgeon catch was higher than 2007, when 1,114 sturgeon were caught. Chinook, steelhead and walleye catches were all less than in 2007. The winter season steelhead catch has generally been low in recent years, due to most fishers targeting sturgeon. The total 2008 catch is shown pool specific in the table below and combined in Table 26.

2008 Treaty Indian Winter Commercial Landings					
Pool	Steelhead	White Sturgeon		Walleye	Chinook
		Setline	Gillnet		
Bonneville	32	0	744	9	0
The Dalles	4	0	571	3	0
John Day	324	0	277	13	0
Total	360	0	1,592	25	0

2008 Treaty Indian Mainstem Spring and Summer Chinook and Sockeye Fisheries

Tribal intent for 2008 spring Chinook fisheries was to remain within impact rates allowed by the 2008-2017 *U.S. v. Oregon* Management Agreement. The preseason planning for the 2008 treaty mainstem harvest included an expected allowed harvest of 26,930 spring Chinook (10% of the 269,300 forecasted run), 11,250 summer Chinook (21.6% of 52,000 forecasted run), and 5,292 sockeye (7.0% of the 75,600 forecasted run). The four tribes issued permits for gillnet C&S fisheries for spring Chinook from late March through the end of April. The platform/hook and line fishery to retain spring Chinook and steelhead for subsistence purposes only until the beginning of the commercial gillnet fishery when sales were allowed. There were 3.5 days of spring season commercial fisheries in 2008. No spring Chinook were caught during the winter commercial sturgeon fishery. The estimated C&S gillnet permit catch was 7,367 spring Chinook. The estimated catches for the platform and hook-and-line C&S fisheries were 880 spring Chinook above Bonneville and 830 below Bonneville Dam. The commercial gillnet harvest was 12,314 Chinook. Total harvest of upriver spring Chinook was 21,391 or 12.0% total harvest rate compared to a 9.1% management limit (Table 7). All Zone 6 fisheries were closed on May 11, 2008 when it became apparent that the allowed harvest rate had been exceeded. Fisheries impacting salmon and steelhead were not re-opened until June 16.

During the summer management period, the platform/hook-and-line catch of summer Chinook was 712. There were also 8,317 summer Chinook harvested in six weekly commercial gillnet openings (2½ - 3½ days/week). During 2008, the total summer Chinook harvest was 9,029 (12.7% of the run; Table 10).

There were 5,500 sockeye caught in platform and hook-and-line C&S fisheries and 3,517 sockeye caught in commercial gillnet fisheries. The overall catch of 9,017 was 4.2% of the 2008 actual return as compared to the allowed harvest rate of 7%. The TAC estimated that 42 of the sockeye caught were Snake River sockeye (Table 16).

Steelhead harvest during winter and spring fisheries was 2,050 fish. Harvest was similar to 2008 when 1,920 steelhead were landed. Winter, spring, and summer platform fisheries were not sampled in 2008 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 2006-2007 run. The summer season harvest was 3,203 steelhead.

2008 Ceremonial and Subsistence Entitlement

The 2008-2017 Management Agreement as well as the expired CRFMP identified a minimum C&S annual entitlement 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 entitlement is to be provided to the tribes by the states of Oregon and Washington. The upriver spring and summer Chinook returns were sufficient to allow the full entitlement to be harvested in treaty fisheries.

2008 Ceremonial and Subsistence Entitlement Summary		
C&S permit gillnet spring fishery	7,367	spring Chinook
Winter gillnet fishery	0	spring Chinook
C&S platform winter/spring fishery	1,710	spring Chinook
C&S permit gillnet summer fishery	12,314	summer Chinook
C&S platform summer fishery	712	summer Chinook
Commercial gillnet fishery	8,317	summer Chinook
Total	30,420	Spring and summer Chinook

2008 Shad Fisheries

The 2008 treaty shad catch estimate was approximately 1,000 fish caught in the Zone 6 platform fishery. Most of these shad were sold commercially. There was no directed commercial harvest of shad in 2008 in the trap-net fishery at The Dalles Dam.

2009 WINTER, SPRING, AND SUMMER SEASON EXPECTATIONS

Fisheries conducted in 2009 will be managed in accordance with the 2008-2017 MA, UCMA, Willamette FMEP, and will also follow Commission guidance regarding allocation of harvestable fish and/or impacts to ESA listed species between recreational and commercial fisheries. At the time this report was prepared, a final decision on allocation of the non-Indian upriver spring Chinook impacts for non-Indian fisheries and summer Chinook harvest sharing was unavailable. Results of the commission decisions is expected to be available at the January 29 Compact/Joint State hearing.

According to the harvest rate schedule and the 2009 upriver spring Chinook forecast, 2009 fisheries will be managed not to exceed a total impact limit of 13% (2.2% for non-Indian fisheries and 10.8% for treaty fisheries) of the upriver spring Chinook run. Non-Indian fisheries will include mark-selective recreational and commercial spring Chinook fisheries requiring the release of unmarked Chinook. Fisheries harvesting Willamette spring Chinook will be managed to ensure hatchery escapement targets outlined in the Willamette River FMEP are achieved. Release mortality impacts will be estimated and monitored in-season to ensure that non-Indian fisheries do not exceed the allowable ESA-limit based on the upriver spring Chinook run size.

Mainstem summer Chinook fisheries occurring after June 15 will be managed based on the 2008-2017 MA and the UCMA and 2009 commission guidance. Allowable impacts to ESA-listed sockeye will vary depending on run size, which will be updated in-season. Based on the 2009 preseason forecast, harvestable sockeye are available and directed retention fisheries will likely be proposed. Impacts of up to 1% will be available for non-Indian fisheries and $\geq 7\%$ for treaty Indian fisheries, unless further discussions occur with NMFS. Impacts to wild steelhead in non-Indian fisheries will occur as release mortalities during mainstem recreational and commercial fisheries and will be limited to 2%.

The current Joint State Accord on 2006-2008 Columbia River Sturgeon Management expired on December 31, 2008. The Commissions decided to extend the 2006-2008 agreement for an additional year while the Oregon White Sturgeon Conservation Plan (WSCP) and the

Washington Comprehensive Statewide White Sturgeon Management Plan (CSWSMP) are being developed, and the two agencies jointly refine a strategy for long-term lower Columbia River white sturgeon management. The intent is for both plans to be complimentary in addressing white sturgeon management.

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

2009 Non-Indian Fisheries

Commercial Winter Sturgeon Fishery

(Adopted by the Compact on December 18, 2008)

- The currently adopted season consists of six, 24-hour (6 PM Tuesday to 6 PM Wednesday) and two 18-hour (6 PM Thursday to noon Friday) fishing periods in all of Zones 1-5 from January 6 - February 12, 2009.
- Season dates, gear restrictions, and expected catches are included in the 2008 Winter Fact Sheet #1 and associated action notices dated December 18, 2008.

Commercial Spring Chinook Fisheries

- Allocation, buffers, and sharing principles will be determined by Commissions.
- Mark-selective fishery – release of all non-adipose fin clipped salmon required.
- Regulations similar to previous years (net length, soak times, recovery boxes, and observers).
- Similar to 2008, the low forecasted return of Willamette hatchery spring Chinook provides 260 Willamette fish for commercial harvest (incidental catch in white sturgeon and Select Area fisheries only).
- Fishery structure designed to maximize harvest of hatchery Chinook while minimizing handle of ESA-listed salmonids and Willamette stock spring Chinook.
- Fishing plan similar to previous years (expected calendar days on which test fishing and commercial fishing periods are to occur).
- Commercial fishing likely to occur in area above mouth of the Willamette River.
- The 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 29, 2009 hearing)

- Allocation, buffers, and sharing principles to be determined by Commissions.
- 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.
- An estimated 3,400 surplus Willamette hatchery spring Chinook are available for harvest below Willamette Falls (including the mainstem Columbia).

- 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. This fishery will likely be modified in both area and time.
- The staff met with the Columbia River Recreational Advisory Group in January to solicit input in developing a fishing plan.

***Bonneville to McNary Dam Spring Chinook Recreational Fishery
(Joint State consideration at the January 29, 2009 hearing)***

- Spring season Chinook fisheries are expected in 2009. Fishery length and duration will be based on management guidelines and commission guidance in place for 2009.

***Select Area Commercial Fisheries
(Joint State and Oregon State consideration at the January 29, 2009 hearing)***

- Winter and/or spring seasons will be proposed for Youngs Bay, Blind Slough, and Deep River and a summer season will be proposed for Youngs Bay. Additional fishing time in upper Youngs Bay similar in structure to that in 2008 will be considered. It is likely that another spring full-fleet test fishery starting in late April or early May will be proposed for Tongue Point.
- Staff will propose that 2009 Select Area winter/spring commercial fisheries be managed for stability while still minimizing harvest of non-target stocks.
- The Compact will set seasons for Select Areas in concurrent jurisdiction waters, and ODFW will set seasons for Select Areas in state waters.
- Impacts to listed salmonids in Select Area commercial fisheries will be included in the commercial fishery share of total non-Indian impacts.
- Season proposals for 2009 will be similar to those proposed in previous years, will reflect input from the January 15 public meeting concerning spring Select Area fisheries.
- Non-resident fishing and boat licenses are not required of Washington fishers participating in Youngs Bay Select Area commercial fisheries (permanent regulation in place since 2008).

***Columbia River Steelhead Recreational Fishery
(Adopted season as per permanent regulations)***

- 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 open for retention of steelhead concurrent with Chinook retention seasons.
- Retention of sockeye is expected to be allowed in 2009.

Columbia River Summer Chinook Recreational and Commercial Fisheries

- Summer season occurs within the period of June 16 to July 31.
- According to the 2008-2017 MA, and the preseason run size, harvestable summer Chinook are split evenly between treaty Indians and non-Indians.
- Non-treaty allocation is 18,260 summer Chinook.

- The Upper Columbia Management plan calls for the majority of the non-Indian allocation to be harvested in areas above Priest Rapids Dam.
- Washington and Oregon Commission guidance for the allocation of summer Chinook among non-treaty fisheries has not been formally agreed to for 2008. Past Commission guidance has been for the non-treaty allocation to be split evenly (50/50) between commercial fisheries and recreational fisheries below Priest Rapids Dam.
- Retention of sockeye is expected to be allowed in 2009.

Area 2S Commercial Shad Fishery
(Compact consideration January 29, 2009)

- The Area 2S shad fishery regulations (modified gill nets and restricted hours) in place since 1996.
- Only shad may be kept and sold. All salmonids, walleye, and sturgeon must be returned immediately to the water, and those alive must be released unharmed.
- Handle of incidental species in the proposed 2009 shad fishery is expected to be similar to the low levels since 1996.

Washougal Reef Shad Fishery

- A commercial shad season for the Washougal Reef area will not be proposed for 2009.

2009 Treaty Indian Fisheries

Treaty Indian harvest of spring Chinook primarily occurs in C&S fisheries except in years of high abundance, such as in 2000-2004 and 2008, 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 experimental target shad trap-net fishery is pursued.

Treaty Indian commercial and C&S fisheries, including dipnet 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 will continue to monitor the fisheries and provide in-season accounting of catch and impacts. The tribes may implement commercial spring Chinook fisheries depending on the run size and would bring any commercial proposal before the Compact to approve sales of harvested fish. Based on the 2009 pre-season forecast, spring season commercial fisheries are probable, and would most likely occur in May.

Since 2004, the tribes have had directed commercial gillnet fisheries in the summer season targeting upper Columbia River summer Chinook. Summer season commercial fisheries are likely to occur in 2009. Based on the 2009 pre-season forecast for sockeye, it is likely that the tribes may use some portion of their allowed sockeye harvest rate for commercial purposes. The tribes will monitor and provide accounting for any commercial fisheries that occur.

2009 Treaty Winter Commercial Fisheries

- The winter sturgeon setline fishery occurs by permanent regulation from January 1 through January 31.
- The tribes plan to manage the winter gillnet fishery similar to recent years.
- The 2009 winter gillnet fishery is expected to be open in early February in all of Zone 6 and go no later than March 21. The fishery may close early if sturgeon harvest guidelines are met. In recent years, winter gillnet harvest has generally targeted sturgeon with limited targeting of steelhead and small incidental harvest of Chinook.
- The 2009 winter season fisheries are expected to have effort similar to 2008, and to accrue similar impacts to salmon and steelhead.
- The 2009 Zone 6 sturgeon harvest guidelines will be set by the states and tribes in late January following the Sturgeon Management Task Force meeting(s).
- The treaty tribes will convert to a fork length measurement in February for ease of fishers to measure fish. This is consistent with other non-Indian Columbia River fisheries.

2009 Treaty Indian Spring Season Fisheries

- The treaty tribes have not yet determined the structure of their 2009 spring Chinook fisheries.
- Based on the 2008-2017 MA and the preseason run size forecast, the tribes will plan pre-season for a 10.8% harvest rate on upriver spring Chinook but will manage fisheries in season based on the agreed harvest rate schedule and the actual river mouth run size.
- The tribes anticipate that no more than 2,000 steelhead will be caught in spring fisheries. The majority of the catch would be Skamania stock hatchery summer steelhead returns, holdover summer steelhead, and kelts.

2009 Treaty Indian Summer Season Fisheries

- The treaty tribes have not yet determined the structure of their 2009 summer Chinook fisheries.
- Based on the 2008-2017 MA and the preseason run size forecast, the tribes will plan pre-session for a total harvest of 18,260 summer Chinook. But actual the actual harvest will be managed based on the harvest table in the MA and the actual river mouth run size.
- Steelhead harvest during the summer season will be comparable to historic levels.

2009 Treaty Indian Shad Fisheries

- Implementation of a shad trap fishery at The Dalles Dam east ladder exit 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 and 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., are usually adopted annually at the January Compact hearing. For 2009, the Joint Staff will include any recommended changes to miscellaneous regulations in the January 29, 2009 Winter Fact Sheet #2.

The Sturgeon Management Task Force (SMTF) met in late January 2009 to discuss and develop a management plan for 2009 Zone 6 white sturgeon fisheries. Results of the SMTF meeting will be presented at the next scheduled Compact hearing.

At the December 18, 2008 Compact/Joint State hearing, the Compact adopted regulations concerning the measurement standard for sturgeon. Non-Indian recreational and commercial fishers are now required to measure fish based on fork length, rather than total length. The process for permanent status in commercial fisheries is underway and the rule has already been made permanent for recreational fisheries. The new measurement standard took effect for all Oregon and Washington non-Indian fisheries January 1, 2009.

Table 1. Minimum Adult Spring Chinook Run Entering the Columbia River, 1980-2008. ¹

Year	Select Areas ²	Cowlitz River	Kalama River	Lewis River	Sandy River	Willamette River ³	Upriver Run ⁴	Total
<i>1980-1984 Ave.</i>		22,737	4,165	3,834	2,020	64,800	63,423	160,979
<i>1985-1989 Ave.</i>		11,176	1,552	10,312	1,980	93,700	105,261	223,981
1990		7,555	1,987	9,299	3,527	127,900	105,213	255,481
1991		8,945	2,613	8,334	3,652	105,530	64,233	193,307
1992		10,353	2,430	6,025	8,551	72,197	95,695	195,251
1993	851	9,458	2,874	8,195	6,369	62,778	119,964	210,489
1994	155	3,149	1,265	3,068	3,498	48,834	24,096	84,065
<i>1990-1994 Ave.</i>	503	7,892	2,234	6,984	5,119	83,448	81,840	188,021
1995	201	2,102	697	3,726	2,686	40,854	12,788	63,054
1996	789	1,787	627	1,730	3,997	33,358	55,559	97,847
1997	1,821	1,877	505	2,196	4,625	34,536	123,824	169,384
1998	2,313	1,055	407	1,611	3,768	43,497	43,512	96,163
1999	1,980	2,069	977	1,753	3,985	52,584	43,072	106,420
<i>1995-1999 Ave.</i>	1,421	1,778	643	2,203	3,812	40,966	55,751	106,574
2000	6,631	2,199	1,418	2,515	3,641	55,788	186,707	258,899
2001	9,719	1,609	1,796	3,777	5,329	78,436	439,885	540,551
2002	12,251	5,209	2,924	3,511	5,903	120,164	334,543	484,505
2003	8,783	15,987	4,553	5,044	5,600	123,352	242,638	405,957
2004	11,643	16,514	4,325	7,406	12,675	143,242	221,421	417,226
<i>2000-2004 Ave.</i>	9,805	8,304	3,003	4,451	6,630	104,196	285,039	421,428
2005	2,563	9,353	3,374	3,500	7,475	59,495	106,920	192,680
2006	7,581	6,967	5,468	7,250	4,812	59,311	132,140	223,529
2007 ⁵	6,968	3,973	8,016	7,529	3,400	39,943	86,231	156,060
2008 ⁵	4,586	2,679	1,622	2,440	6,800	27,016	178,564	223,707

¹ Tributary run sizes are to the tributary mouth and include hatchery returns or dam counts, recreational catch estimates, and (except for the Sandy River), estimates of natural spawning populations.

² Minimum run sizes for SAFE stocks is based only on harvest of returning adults. 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 jacks (age 3 fish)

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

⁵ Preliminary.

Table 2. Predicted and Actual Spring Chinook Entering the Columbia River, 1985-2008 and 2009 Projections.

Year	Willamette River (All Age Classes)			Cowlitz, Kalama, & Lewis Rivers Combined (Adults)			Upriver (Adults)		
	Preseaso n	Actual	% of	Preseaso n	Actual	% of	Preseaso n	Actual	% of
	Forecast	Return	Predicted	Forecast	Return	Predicted	Forecast	Return	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 ²	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 ³	59.2	96
1992	106.0	75.0	71	26.6	18.8	71	71.4	89.8	126
1993	70.0	65.9	94	21.3	20.5	96	76.2	111.0	146
1994	75.0	49.6	66	12.3	7.5	61	49.0	20.8	42
1995	49.0	42.6	87	4.6	6.5	142	12.0	9.8	82
1996	41.0	34.8	85	4.4	4.1	94	37.2	51.5	138
1997	30.0	35.3	118	4.5	4.6	102	67.8	114.0	168
1998	33.7	45.1	134	2.9	3.1	106	36.2	38.3	106
1999	46.5	54.2	117	3.9	4.8	123	24.6	38.7	157
2000	59.9	57.5	96	6.0	6.1	102	134.0	178.6	133
2001	61.0	80.4	132	4.8	7.2	150	364.6	416.5	114
2002	73.8	121.7	165	6.7	11.6	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	28.2	103	360.7	193.4	54
2005	116.9	61.0	52	24.8	16.2	65	254.1	106.9	42
2006	46.5	59.7	121	15.2	19.7	130	88.4	132.1	149
2007 ⁵	52.0	40.5	78	15.9	19.5	123	78.5	86.2	110
2008	34.0	27.0	79	12.4	6.7	54	269.3	178.6	66
2009	37.6			7.2			298.9		

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.

² New upriver predictor developed by Joint Staff and approved by TAC.

³ New upriver predictor refined by Joint Staff and approved by TAC.

⁴ Excludes Willamette stock released in Lewis River.

⁵ Actual returns are preliminary.

Table 3. Components (in Thousands) of the Minimum Willamette River Spring Chinook Run and Percentage Caught in Lower Willamette Recreational Fishery, 1970-2008. Includes Jacks.

Year	Minimum Run Entering Columbia River	Mainstem Columbia River		Run Entering Willamette River	Lower Willamette River Recreational Catch		Willamette Falls Count	Run Entering Clackamas River
		Comm. ¹	Sport ²		Number ³	% of Run		
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

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 (6,000 fish) 1997 (1,900 fish), 1998 (2,000 fish), 1999 (4,600 fish), and 2000 (7,850 fish). Additional fishing was allowed in 1998 and 1999 when run size was greater than expected and in 2000 during an adipose fin-clipped only experimental fishery. Includes estimated hook and release mortalities in the Lower Willamette selective recreational fishery of 299 in 2000, 706 in 2001, 369 in 2002, 373 in 2003, 327 in 2004, 231 in 2005, 203 in 2006, 244 in 2007 and 233 in 2008.

Table 4. Willamette Falls Spring Chinook Escapement, Upper Willamette Recreational Catch, Number Returning to Hatcheries, and Tribal Use, 1980-2008. Includes jacks.

Year	Willamette Falls Count ¹	Upper Willamette Recreational Catch		Upper Willamette Hatchery Return		Clackamas Hatchery Return	Received by Columbia River Tribes ²
		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	7,184	13	20,256	38	6,155	0
2002	83,136	16,145	19	32,049	39	6,219	0
2003	87,749	13,810	16	25,528	29	5,336	0
2004	95,970	15,375	16	33,560	35	11,231	0
2005	36,633	4,321	12	15,386	42	6,792	0
2006	37,041	NA	NA	16,678	45	7,359	0
2007	23,098	NA	NA	9,756	42	6,106	0
2008	14,672	NA	NA	7,957	54	5,054	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 1995-2006.

Brood Year	Species ¹	Release Site									
		Youngs Bay				Tongue Point					
		South Fork Klaskanine Hatchery	Klaskanine Hatchery	Youngs Bay Net Pens	Big Creek Hatchery	Blind Slough Net Pens	Tongue Point Net Pens	Tongue Pt. - MERTS Net Pens	John Day R. Net Pens	Deep River Net Pens	Steamboat Slough Net Pens
1995	CHS	76,821	--	387,228	--	171,229	301,794	--	--	--	--
	SAB	--	26,178	1,366,973	521,952	27,380	26,792	--	--	--	--
	CO	621,932	--	780,128	--	196,963	430,221	--	--	--	--
1996	CHS	--	--	456,282	--	223,318	253,770	--	--	56,414	--
	SAB	--	603,960	463,703	--	27,413	27,482	--	--	--	--
	CO	550,427	--	1,119,632	--	144,958	119,611	--	--	208,350	--
1997	CHS	--	--	426,418	--	200,007	224,277	--	--	39,678	--
	SAB	--	769,126	117,571	--	--	--	--	--	--	--
	CO	429,652	--	2,101,573	--	197,089	204,143	--	--	414,108	210,530
1998	CHS	--	--	464,650	--	196,401	250,009	--	--	--	--
	SAB	--	703,200	221,971	--	--	--	--	--	--	--
	CO	610,658	--	1,819,500	--	195,645	754,123	--	--	431,143	191,543
1999	CHS	--	--	537,898	--	250,396	--	--	--	159,565	--
	SAB	--	408,492	153,928	--	--	--	--	--	--	--
	CO	344,738	--	1,724,031	--	299,411	655,613	--	--	395,337	208,966
2000	CHS	--	--	478,062	--	390,908	--	--	--	95,940	--
	SAB	--	669,913	205,145	--	--	--	--	--	--	--
	CO	583,248	--	1,688,696	--	343,842	667,758	--	--	354,557	273,108
2001	CHS	--	--	453,008	--	426,309	--	30,385	27,412	141,904	--
	SAB	--	620,527	467,056	--	--	--	--	--	--	--
	CO	641,555	--	1,686,711	--	316,804	675,712	--	--	366,435	239,635
2002	CHS	639,446	--	455,825	--	408,495	--	20,913	27,143	97,318	--
	SAB	--	702,188	780,314	--	--	--	--	--	--	--
	CO	--	--	1,470,914	--	298,748	--	697,522	--	357,200	204,600
2003	CHS	458,659	--	457,994	--	433,044	--	26,344	26,955	254,471	--
	SAB	53,963	679,153	519,676	--	--	--	--	--	--	--
	CO	--	--	1,146,068	--	309,527	--	202,727	--	144,900	--
2004	CHS	566,030 ²	--	391,843	--	451,388	--	57,114	25,451	336,300	--
	SAB	45,247	735,066	161,237	--	--	--	--	--	--	--
	CO	--	--	1,125,609	--	305,573	--	194,442	--	201,300	--
2005	CHS	--	--	417,662	--	272,226	--	76,877	27,272	263,300	--
	SAB	628,888	--	476,497	--	--	--	--	--	--	--
	CO	--	--	1,157,746	--	304,558	--	174,547	--	420,000	--
2006	CHS	--	--	543,803	--	312,612	--	79,343	--	121,500	--
	SAB	708,412	--	564,641	--	--	--	--	--	--	--
	CO	282,201	232,455	768,960	--	310,133	--	597,754	--	368,000	--

¹ CHS = Spring Chinook, 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, 1993-2008.

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	--	1081	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	3,195	1,004	259	28	4,486	--	--	--	--	--	100	4,586

^{1.} No winter, spring, or summer seasons occurred in Tongue Point from 2004 – 2007. Volunteer test fishing in mid-April 2008 resulted in a full-fleet test fishery beginning in late April and continuing through the remainder of the spring season.

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

^{3.} Preliminary

Table 7. Estimated Numbers of Adult Upriver Spring Chinook Entering the Columbia River, 1980-2008.

Year	Upriver Run ³	Non-Indian Catch ¹				Treaty Below Bonn	BON Dam Counts	Zone 6 Sport	Zone 6 Treaty Indian Catch ²				Escapement	
		Comm.	Sport	Misc. ⁴	Total				Winter Gillnet	Comm. Gillnet	C&S & Platform	Total	Total ⁵	%Run
80-84	63,423	951	320	182	1,452		61,971	0	1,008	0	2,306	3,313	58,657	93%
85-89	105,261	2,308	806	222	3,335		101,926	0	208	0	5,991	6,199	95,727	91%
1990	105,213	2,082	3,115	150	5,347		99,866	0	4	0	6,924	6,928	92,938	88%
1991	64,233	897	1,537	120	2,554		61,679	0	5	0	3,871	3,876	57,803	90%
1992	95,695	235	1,187	162	1,584		94,111	0	48	0	5,711	5,759	88,352	92%
1993	119,964	238	413	373	1,024		118,940	0	0	0	7,296	7,296	111,644	93%
1994	24,096	441	409	86	936		23,160	0	10	0	1,151	1,161	21,999	91%
1995	12,788	0	5	2	7		12,781	0	13	0	620	633	12,148	95%
1996	55,559	5	17	41	63		55,496	0	0	0	2,911	2,911	52,585	95%
1997	123,824	9	13	44	66		123,758	0	14	0	8,309	8,323	115,435	93%
1998	43,512	0	14	27	41		43,471	0	1	0	2,224	2,225	41,246	95%
1999	43,072	2	21	26	49		43,023	0	1	0	1,983	1,984	41,039	95%
2000	186,707	88	102	177	367		186,340	0	31	1,348	9,973	11,352	174,988	94%
2001	439,885	1,579	22,714	964	25,257		414,628	93	160	43,630	10,985	54,775	359,760	82%
2002	334,543	9,483	16,213	667	26,363		308,180	1,237	48	24,209	9,208	33,465	273,479	82%
2003	242,638	2,759	9,615	765	13,139		229,499	1,292	857	8,348	9,090	18,295	209,912	87%
2004	221,421	5,989	17,041	251	23,281		198,140	1,339	2	8,368	9,114	17,484	179,317	81%
2005	106,920	2,246	7,235	42	9,523		97,397	448	1	0	6,163	6,164	90,785	85%
2006	132,140	1,689	4,161	133	5,982		126,158	648	0	0	8,401	8,401	117,109	89%
2007	86,231	1,430	3,918	54	5,402		80,829	611	3	0	5,624	5,627	74,591	87%
2008	178,564	5,842	19,612	385	25,839	830	151,895	1,830	0	12,314	8,247	20,561	129,504	73%

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 hatchery and wild fish destined for areas above Bonneville Dam. Run includes 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, 1980-2008.

Year	Upper Columbia Wild Run Size	Non-Indian Catch ¹		Treaty Indian Catch ²		Fisheries Total		Bonn-McNary Passage Loss ³		Escapement ⁴	
		No.	% of Run	No.	% of Run	No.	% of Run	No.	% of Run	No.	% of Run
1980	8,206	17	0.2	266	3.2	284	3.5	4,336	52.8	3,586	43.7
1981	9,982	141	1.4	506	5.1	647	6.5	2,639	26.4	6,695	67.1
1982	7,626	135	1.8	526	6.9	661	8.7	3,252	42.6	3,714	48.7
1983	8,542	413	4.8	346	4.1	759	8.9	2,624	30.7	5,158	60.4
1984	7,250	252	3.5	483	6.7	736	10.1	1,509	20.8	5,006	69.0
1985	11,006	402	3.7	376	3.4	778	7.1	891	8.1	9,336	84.8
1986	8,175	170	2.1	476	5.8	646	7.9	1,813	22.2	5,716	69.9
1987	7,584	120	1.6	462	6.1	581	7.7	1,628	21.5	5,374	70.9
1988	5,488	354	6.4	365	6.7	719	13.1	891	16.2	3,878	70.7
1989	6,580	158	2.4	495	7.5	653	9.9	2,195	33.4	3,732	56.7
1990	5,643	287	5.1	372	6.6	658	11.7	977	17.3	4,007	71.0
1991	2,514	100	4.0	152	6.0	252	10.0	526	20.9	1,736	69.1
1992	5,007	83	1.7	302	6.0	386	7.7	641	12.8	3,980	79.5
1993	5,268	45	0.9	322	6.1	368	7.0	222	4.2	4,678	88.8
1994	1,803	71	3.9	88	4.9	159	8.8	489	27.1	1,155	64.1
1995	283	0	0.1	14	5.0	14	5.1	112	39.6	157	55.4
1996	291	0	0.1	15	5.3	16	5.4	103	35.3	173	59.4
1997	1,054	1	0.1	71	6.7	71	6.8	327	31.0	655	62.2
1998	393	0	0.1	20	5.1	20	5.2	89	22.6	284	72.2
1999	614	1	0.1	29	4.7	29	4.8	134	21.8	451	73.4
2000	2,937	6	0.2	179	6.1	185	6.3	654	22.3	2,098	71.4
2001	10,016	151	1.6	1,316	13.1	1,467	14.6	503	5.0	8,047	80.3
2002	5,683	106	1.9	617	10.9	723	12.7	923	16.2	4,037	71.0
2003	2,548	39	1.5	201	7.9	240	9.4	523	20.5	1,785	70.1
2004	3,072	65	2.1	267	8.7	332	10.8	477	15.5	2,264	73.7
2005	2,479	41	1.6	155	6.3	196	7.9	456	18.4	1,827	73.7
2006	2,371	32	1.3	156	6.6	188	7.9	662	27.9	1,521	64.1
2007	876	11	1.2	66	7.5	77	8.8	64	7.3	735	83.9
2008	1,961	41	2.1	272	13.9	313	16.0	30	1.5	1,619	85.5

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

^{2.} Since 1982 C&S catch includes gill net, dip net and hook and line. Includes harvest below BON from C&S fishery

^{3.} Bonneville Dam to McNary Dam: calculated by Zone 6 escapement minus Priest Rapids Dam passage.

^{4.} Priest Rapids Dam passage.

Table 9. Estimated Numbers of Adult Snake River Wild Spring/Summer Chinook Entering the Columbia River, 1980-2008.

Year	Snake R.	Non-Indian Catch ¹		Treaty Indian Catch ²		Total Fisheries		Passage Loss ³		Escapement ⁴	
	Wild Run Size	No.	% of Run	No.	% of Run	No.	% of Run	No.	% of Run	No.	% of Run
1980	18,660	31	0.2	605	3.2	636	3.4	11,370	61	6,646	32
1981	19,819	270	1.4	1,005	5.1	1,275	6.4	6,407	32	12,127	48
1982	27,050	471	1.7	1,866	6.9	2,337	8.6	12,941	48	11,812	42
1983	20,363	983	4.8	825	4.1	1,808	8.9	8,137	40	10,417	49
1984	14,052	485	3.5	937	6.7	1,422	10.1	4,361	31	8,266	57
1985	14,551	528	3.6	497	3.4	1,025	7.0	2,749	19	10,773	75
1986	17,969	368	2.0	1,046	5.8	1,414	7.9	5,811	32	10,739	59
1987	15,424	240	1.6	939	6.1	1,179	7.6	4,043	26	10,198	65
1988	17,963	1,154	6.4	1,195	6.7	2,349	13.1	4,394	25	11,217	65
1989	14,271	340	2.4	1,073	7.5	1,413	9.9	6,068	43	6,788	46
1990	15,649	788	5.0	1,030	6.6	1,818	11.6	3,987	26	9,836	55
1991	11,935	471	3.9	720	6.0	1,191	10.0	4,727	40	6,013	45
1992	19,283	314	1.6	1,165	6.0	1,479	7.7	4,719	25	13,079	62
1993	15,435	128	0.8	945	6.1	1,073	7.0	1,527	10	12,831	70
1994	3,399	135	4.0	166	4.9	301	8.9	1,145	34	1,954	48
1995	2,952	2	0.1	148	5.0	150	5.1	1,617	55	1,186	35
1996	8,388	10	0.1	442	5.3	452	5.4	4,149	50	3,788	43
1997	7,995	4	0.1	537	6.7	541	6.8	3,047	38	5,691	54
1998	12,794	12	0.1	654	5.1	666	5.2	4,736	37	7,684	55
1999	5,336	6	0.1	249	4.7	255	4.8	2,225	42	2,856	49
2000	12,893	25	0.2	786	6.1	811	6.3	3,826	30	8,255	59
2001	60,437	900	1.5	7,941	13.1	8,841	14.6	6,536	11	45,281	72
2002	48,053	862	1.8	5,219	10.9	6,081	12.7	11,899	25	30,213	58
2003	52,179	813	1.6	4,102	7.9	4,915	9.4	14,696	28	32,325	63
2004	32,138	684	2.1	2,778	8.6	3,462	10.8	7,112	22	21,367	65
2005	15,341	261	1.7	956	6.2	1,217	7.9	3,919	26	10,118	65
2006	16,730	235	1.4	1,100	6.6	1,335	8.0	5,841	35	9,480	57
2007	10,642	132	1.2	800	7.5	932	8.8	2,547	24	7,093	66
2008	23,604	492	2.1	3,278	13.9	3,769	16.0	2,258	10	17,573	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 below 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, 1980-2008.

Year	Upriver Run ¹	Zones 1-5 Non-Indian Catch			Z 1-5 Total	Bonn. Counts	Zone 6 Sport	Z 6 Treaty-Indian Catch ³	Zone 6 Total	Escapement ⁴	
		Sport	Comm.	Shad/Misc ²						No.	%
1980	22,991	-	-	-	-	22,975	-	1,181	1,181	21,794	95%
1981	19,124	-	-	-	-	19,115	-	1,364	1,364	17,751	93%
1982	14,677	-	-	-	-	14,560	-	1,295	1,295	13,265	90%
1983	13,576	-	-	-	-	13,484	-	297	297	13,187	97%
1984	18,999	-	-	-	-	18,977	-	457	457	18,520	97%
1985	19,084	-	-	-	-	19,048	-	1,353	1,353	17,695	93%
1986	19,307	-	-	-	-	19,198	-	1,116	1,116	18,082	94%
1987	23,604	5	-	-	5	23,457	-	1,684	1,684	21,773	92%
1988	23,397	8	-	-	8	23,308	-	1,497	1,497	21,811	93%
1989	22,739	17	-	-	17	22,713	-	100	100	22,613	99%
1990	19,296	6	-	-	6	19,275	-	111	111	19,164	99%
1991	14,569	3	-	-	3	14,557	-	171	171	14,386	99%
1992	9,796	12	-	-	12	9,749	-	46	46	9,703	99%
1993	14,781	15	-	-	15	14,686	-	328	328	14,358	97%
1994	14,977	27	-	-	27	14,927	-	171	171	14,756	99%
1995	12,615	18	-	-	18	12,597	-	417	417	12,180	97%
1996	12,333	27	-	-	27	12,291	-	374	374	11,917	97%
1997	18,277	19	-	-	19	18,252	-	270	270	17,982	98%
1998	16,332	27	-	-	27	16,304	-	335	335	15,969	98%
1999	22,347	41	-	-	41	22,305	-	411	411	21,894	98%
2000	23,169	25	-	-	25	23,144	-	209	209	22,935	99%
2001	54,935	64	-	-	64	54,870	-	692	692	54,178	99%
2002	92,820	1,503	-	-	1,503	91,309	65	2,093	2,158	89,151	96%
2003	83,120	2,007	-	36	2,043	81,077	269	4,297	4,566	76,511	92%
2004	65,446	1,240	233	3	1,476	63,970	38	8,394	8,432	55,538	85%
2005	60,060	1,622	2,574	0	4,196	55,864	75	7,642	7,717	48,147	80%
2006	76,196	3,360	5,008	9	8,377	67,819	40	16,319	16,359	51,460	68%
2007	37,190	2,369	1,122	0	3,491	33,699	60	5,375	5,435	28,264	76%
2008	55,530	2,140	1,368	59	3,567	51,963	800	9,029	9,829	43,134	76%

^{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.

^{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 Run Size Estimates, 2001-2007, 2008 Forecast.

	2001	2002	2003	2004	2005	2006	2007	2008	2009
Above Bonneville Dam	1,927	2,923	1,616	1,335	807	1,076	1,123		
<i>Wind River</i>	0	54	28	29	21	26	13		
<i>Hood River</i>	1,013	1,052	608	472	352	462	495		
<i>Other Bonneville Pool Tributaries</i>	914	1,817	980	834	434	588	615		
Below Bonneville Dam	19,776	27,659	21,595	27,963	13,773	15,499	13,772		
<i>Oregon Tributaries</i>	14,312	19,609	11,326	16,831	8,099	7,982	7,317		
<i>Washington Tributaries</i>	5,464	8,051	10,269	11,132	5,674	7,517	6,455		
Mainstem Mortality	122	3,129	240	268	92	31	90	11	
Columbia River Run size	21,825	33,711	23,452	29,566	14,672	16,613	14,985	NA	
Columbia River Forecast					27,000	16,000	16,200	15,300	NA

Table 12. Upriver Summer Steelhead Passage at Bonneville Dam (in thousands of fish), 1984-2008.

Year	Skamania Index			Group A Index			Group B Index			Total Upriver		
	Wild	Hatchery	Total	Wild	Hatchery	Total	Wild	Hatchery	Total	Wild	Hatchery	Total
1984	2.5	18.3	20.8	52.4	143.3	195.8	13.8	84.2	98.0	68.7	245.8	314.5
1985	3.7	16.3	20.0	51.9	229.6	281.5	13.0	27.9	40.9	68.6	273.8	342.4
1986	5.5	19.3	24.8	56.6	230.9	287.5	10.0	54.0	64.0	72.1	304.2	376.3
1987	7.4	10.4	17.8	106.7	131.6	238.3	14.0	31.0	45.0	128.1	173.0	301.1
1988	4.2	18.2	22.4	64.3	108.8	173.1	17.7	63.9	81.6	86.2	190.9	277.1
1989	3.8	11.9	15.7	57.5	135.6	193.1	12.4	65.2	77.6	73.7	212.7	286.4
1990	3.7	15.0	18.7	27.1	88.5	115.6	8.8	38.4	47.2	39.6	141.9	181.5
1991	1.2	9.7	10.9	60.3	173.8	234.1	6.2	22.1	28.3	67.7	205.6	273.3
1992	2.9	12.0	14.9	44.3	197.2	241.5	12.7	44.7	57.4	59.9	253.9	313.8
1993	1.3	13.1	14.4	28.6	108.1	136.7	4.4	31.8	36.2	34.3	153.0	187.3
1994	1.4	10.9	12.3	21.2	99.8	121.0	5.2	22.3	27.5	27.8	133.0	160.8
1995	1.1	7.1	8.2	26.0	154.0	180.0	1.8	11.4	13.2	28.9	172.5	201.4
1996	1.3	9.5	10.8	25.7	148.6	174.3	3.9	14.9	18.8	30.9	173.0	203.9
1997	0.9	11.0	11.9	30.9	177.4	208.3	3.9	32.7	36.6	35.7	221.1	256.8
1998	1.6	7.8	9.4	34.8	99.9	134.7	3.4	36.8	40.2	39.8	144.5	184.3
1999	1.3	5.9	7.2	56.6	119.8	176.4	3.7	18.4	22.1	61.6	144.1	205.7
2000	5.7	10.9	16.6	63.6	153.1	216.7	8.4	32.5	40.9	77.7	196.5	274.2
2001	7.9	20.8	28.7	137.2	377.9	515.1	12.1	74.3	86.4	157.2	473.0	630.2
2002	9.7	15.3	25.0	87.3	235.8	323.1	32.3	97.6	129.9	129.3	348.7	478.0
2003	1.8	12.4	14.2	66.4	238.1	304.5	6.5	32.0	38.5	74.7	282.5	357.2
2004 ¹	4.1	16.9	21.0	60.4	190.2	250.6	9.2	28.2	37.4	73.7	235.3	309.0
2005 ²	2.8	9.2	12.0	58.9	192.7	251.6	9.6	39.3	48.9	71.3	241.2	312.5
2006	2.2	7.7	9.9	63.7	181.4	245.1	8.5	65.7	74.2	74.4	254.8	329.2
2007	1.7	7.7	9.4	77.3	181.6	258.9	9.0	42.1	51.1	88.0	231.4	319.4
2008	4.5	11.3	15.8	81.6	164.2	245.8	18.5	74.9	93.4	104.7	250.4	355.1

Due to limited biological sampling at Bonneville Dam, 2004 Skamania Index is based on historic proportions of hatchery to wild fish applied to April- June passage and 2004 Group A and Group B data also adjusted by TAC.

Due to limited biological sampling at Bonneville Dam, the 2005 Skamania, group A and Group B data is based on the 2005 pre-season proportions applied to April through June passage for Skamania stock and between July 1- October 31 for Group A and B stocks.

Table 13. Summer Steelhead Counts by Run Year at Lower Granite Dam, 1984-2008.

Run Year	Run Year Totals	Wild ¹		Percent of 30,000 Goal
		Number	Percent	
1984-1985	104,400	24,500	23	82
1985-1986	116,300	26,700	23	89
1986-1987	130,000	22,000	17	73
1987-1988	71,300	25,500	36	85
1988-1989	87,100	21,000	24	70
1989-1990	131,400	25,000	19	83
1990-1991	56,900	9,300	16	31
1991-1992	99,100	17,300	17	58
1992-1993	128,300	19,400	15	65
1993-1994	59,800	7,400	12	25
1994-1995	47,300	7,500	16	25
1995-1996	79,100	8,000	10	27
1996-1997	83,300	7,300	9	24
1997-1998	87,000	8,600	10	29
1998-1999	70,700	9,300	13	31
1999-2000	73,800	11,000	15	37
2000-2001	116,500	20,300	17	68
2001-2002	269,300	41,000	15	137
2002-2003	234,800	45,100	19	150
2003-2004	172,500	29,200	17	97
2004-2005	151,600	23,100	15	77
2005-2006	157,500	18,100	12	60
2006-2007	149,000	9,400	7	32
2007-2008	NA	NA	NA	NA

¹. The database has been updated since 1994 and is based on fin sampling data from the trap at Lower Granite Dam. Percentages are calculated before rounding.

Table 14. Minimum Numbers (in Thousands) of Lower River Summer Steelhead Entering the Columbia River, 1980-2008.

Year	Lower Columbia Recreational (May-June) ¹	Tributary Dam Counts ²	Hatchery Returns ³	Tributary Recreational		Minimum Run
				OR	WA	
1980	0.3	20.5	5.1	3.8	18.1	47.8
1981	1.9	23.0	6.3	2.5	22.9	56.6
1982	1.8	19.2	5.8	3.6	18.7	49.1
1983	0.8	8.6	2.0	1.5	6.8	19.7
1984	2.7	43.7	4.6	6.2	11.3	68.5
1985	1.8	32.3	3.0	3.9	15.9	56.9
1986	3.0	53.3	2.3	4.4	26.9	89.9
1987	1.6	33.6	1.6	4.2	17.4	58.4
1988	2.7	50.7	3.3	7.0	14.2	77.9
1989	1.7	13.4	3.8	3.5	12.6	35.0
1990	2.2	31.8	5.6	5.1	17.2	61.9
1991	1.2	10.4	2.2	3.0	15.0	31.8
1992	1.2	23.1	3.1	3.0	17.6	48.0
1993	1.8	17.3	4.7	3.2	20.0	47.0
1994	1.2	15.4	5.6	2.1	23.0	47.3
1995	1.4	15.1	7.8	1.5	13.0	38.8
1996	1.2	7.8	9.9	1.0	15.1	35.0
1997	1.9	17.5	3.7	1.4	6.0	30.5
1998	1.2	15.3	5.4	1.4	5.0	28.3
1999	1.3	12.4	4.6	1.5	6.3	26.1
2000	1.6	13.1	9.6	1.9	10.2	36.4
2001	2.0	28.4	16.4	4.1	19.7	70.6
2002	4.4	35.2	33.8	8.1	33.3	114.8
2003	2.7	17.5	23.0	3.2	26.1	72.5
2004	3.0	36.4	23.1	(4.0)	42.4	(108.9)
2005	2.1	14.6	(23.2)	(4.3) ⁵	(26.3) ⁵	(70.4)
2006	3.0	NA	NA	NA	NA	NA
2007	2.7	NA	NA	NA	NA	NA
2008	2.0	NA	NA	NA	NA	NA

^{1.} Beginning in 1977, May-June lower Columbia recreational catch determined to be mostly lower river stock.

^{2.} Willamette Falls (Willamette R.), North Fork Dam (Clackamas R.), and Marmot Dam (Sandy R.); hatchery fish. Skamania, Lewis River, and Cowlitz hatcheries and beginning in 1998 Kalama River hatcheries.

^{3.} Skamania, Lewis River, and Cowlitz hatcheries and beginning in 1998 Kalama River hatcheries.

^{4.} From Oregon and Washington catch record estimates, Washington catches prior to 1975 not corrected for non-response bias. Oregon catch unavailable for 1969-1974.

^{5.} Based on recent 5-year average.

() indicates preliminary.

Table 15. Minimum Numbers (in Thousands) of Upriver Summer Steelhead Entering the Columbia River, 1980-2008.

Year	Lower Columbia Catch		Bonneville Dam Counts ³	Minimum Run
	Recreational ¹	Commercial ²		
1980	2.0	--	127.6	129.6
1981	3.2	--	157.9	161.1
1982	2.6	--	156.2	158.8
1983	2.9	--	217.6	220.5
1984	5.4	--	314.5	319.9
1985	6.1	--	342.3	348.4
1986	8.0	--	376.3	384.3
1987	4.9	--	301.1	306.0
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	10.2	--	313.9	324.1
1993	8.5	--	187.3	195.8
1994	4.0	--	160.8	164.8
1995	6.8	--	201.5	208.3
1996	5.1	--	204.0	209.1
1997	5.2	--	256.8	262.0
1998	3.7	--	184.4	188.1
1999	5.9	--	205.7	211.6
2000	8.2	--	274.2	282.4
2001	9.5	--	630.2	639.7
2002	7.5	--	478.0	485.5
2003	6.9	--	357.2	364.1
2004	5.8	--	309.0	314.8
2005	5.3	--	312.5	317.8
2006	7.1	--	329.2	336.3
2007	7.9	--	319.4	327.3
2008	7.1	--	355.1	362.2

- ^{1.} Recreational catch based on timing of the catch: May 1-October 31 (1969-1976) and July 1-October 31 beginning in 1977. Includes catches from estuary recreational (Buoy 10) fishery beginning in 1992.
- ^{2.} Commercial catch of steelhead by non-Indians (1969-1974) was based on timing of the catch: spring through October. Sale of steelhead by non-Indians prohibited since 1975.
- ^{3.} Dam counts include Skamania Index, Group A Index, and Group B Index steelhead counted from April 1-October 31.

Table 16. Estimated Number of Sockeye Entering the Columbia River, Mainstem Harvest, and Escapement, 1980-2008.

Year	Return to Columbia River Mouth ¹	Non-Indian Fisheries Catch	Bonn. Dam Count	Treaty Indian Catch		Dam Counts		Snake River Sockeye			
						Priest Rapids ²	Snake River ³	At River Mouth	Non-Indian Catch	Treaty Indian Catch	Lower Granite Esc. ⁴
1980	58,886	4	58,882	14	622	52,055	96	108	0	1	96
1981	56,037	0	56,037	7	1,500	51,460	218	236	0	6	218
1982	50,319	100	50,219	130	645	40,461	211	261	1	4	211
1983	100,628	83	100,545	1,849	1,500	90,008	216	241	0	8	216
1984	161,886	9,345	152,541	22,485	2,131	114,761	105	148	9	23	105
1985	200,759	32,213	166,340	49,393	576	118,542	35	59	10	15	35
1986	59,963	1,840	58,123	4,272	2,400	43,084	20	28	2	3	20
1987	145,546	28,553	116,993	39,460	100	76,578	29	55	11	15	29
1988	99,780	17,632	79,714	30,990	0	51,135	23	45	8	14	23
1989	47,479	36	41,884	38	2,100	45,301	4	4	0	0	4
1990	49,754	173	49,581	2	2,714	46,331	1	1	0	0	1
1991	76,484	3	76,481	5	3,266	71,245	9	10	0	0	9
1992	85,000	8	84,992	5	2,180	80,857	33	35	0	1	33
1993	91,727	64	80,178	7	5,013	86,626	17	18	0	1	17
1994	12,863	1	12,678	0	472	12,385	5	5	0	0	5
1995	9,667	1	8,773	0	445	9,216	5	5	0	0	5
1996	30,899	25	30,255	0	1,414	29,457	3	3	0	0	3
1997	47,487	12	46,927	0	2,046	45,412	17	18	0	1	17
1998	13,220	2	13,218	0	425	10,769	3	4	0	0	3
1999	17,878	1	17,877	0	704	16,432	18	20	0	1	18
2000	93,757	366	93,391	360	2,550	89,547	337	352	1	11	337
2001	120,361	1,690	114,933	5,580	1,720	111,326	45	49	0	3	45
2002	50,539	19	49,610	0	2,564	47,883	73	77	0	4	73
2003	39,375	0	39,375	10	1,080	36,287	26	28	0	1	26
2004	130,045	672	123,320	1,727	2,590	124,943	113	118	1	4	113
2005	77,352	4	72,448	1,085	1,681	74,563	19	20	0	1	19
2006	37,067	1	37,066	661	935	26,709	57	79	0	3	16
2007	26,114	0	24,376	244	1,170	24,645	55	58	0	4	52
2008	214,460	853	213,607	3,517	5,500	192,217	907	1007	4	42	907

- ¹ Upriver run is larger of (Bonn. Count + Zones 1-5 harvest) or (Priest Rapids Dam count + Snake River count + Zones 1-6 harvest).
- ² Counts have been adjusted from the actual 24-hour counts to 16-hour counts to maintain a consistent database since 1992.
- ³ Greater of Ice Harbor and Lower Granite dam counts. Since 1992, video counts at Lower Granite Dam were used (adjusted for 1989 and 1991 average conversion between Ice Harbor Dam and Lower Granite dams). Kokanee-size fish are not included.
- ⁴ Prior to 1992, Lower Granite Dam sockeye counts may include kokanee. Beginning in 1992, video counts at LWG were used to identify true sockeye.

Table 17. Commercial Landings of Shad in Area 2S, Washougal Reef, and Treaty Indian Fisheries and Minimum Shad Run Size (in Thousands) 1977-2008.

Year	Area 2S		Washougal Reef		Total Zone 1-5 Catch ²	Treaty Indian Catch	Total		% of Landed
	Days	Catch ¹	Days	Catch ¹			1-6 Catch	Run Size	
1977	12	42.4	39	--	61.9	0.6	62.5	929.4	6.7
1978	19	101.7	28	--	113.6	5.6	119.2	1,369.8	8.7
1979	14	117.4	28	-	120.3	7.9	128.2	1,548.7	8.3
1980	19	21.9	32	--	23.2	0.2	23.4	1,223.8	1.9
1981	19	15.5	32	--	21.8	0.0	21.8	1,159.9	1.9
1982	19	72.5	29	--	75.0	1.5	76.5	1,133.4	6.7
1983	19	84.9	29	--	85.0	0.3	85.3	2,082.6	4.1
1984	14	14.4	24	--	18.1	3.1	21.2	1,336.1	1.6
1985	15	33.7	20	--	35.4	0.0	35.4	1,455.0	2.4
1986	19	80.5	24	7.6	88.2	0.7	88.9	1,474.9	6.0
1987	21	103.2	26	4.1	108.7	12.3	121.0	1,417.8	8.5
1988	19	97.4	24	8.9	108.4	19.2	127.7	2,156.1	5.9
1989	19	36.2	28	15.4	51.6	0.1	51.7	3,105.3	1.7
1990	19	161.8	29	6.0	167.8	0.2	168.0	4,012.0	4.2
1991	19	38.8	29	4.9	43.7	<0.1	43.8	2,363.1	1.9
1992	17	130.2	22	11.1	141.3	0.3	141.7	3,070.3	4.6
1993	16	139.2	21	5.3	144.7	1.0	145.7	2,671.3	5.5
1994	15	46.9	30	10.8	57.7	15.3	73.0	1,996.2	3.7
1995	22	54.4 ³	29	6.7	61.1	49.6	110.7	2,159.5	5.1
1996	24	60.1	29	1.0	61.1	282.8	343.9	2,905.8	11.8
1997	24	20.3	30	4.6	24.9	10.2	35.1	2,748.1	1.3
1998	24	24.4	31	0.0	24.5	24.1	48.6	2,294.9	2.1
1999	24	39.7	31	0.0	39.7	13.8	53.5	1,880.5	2.8
2000	29	30.4	34	0.0	30.5	0.1	30.6	1,699.4	1.8
2001	29	17.0	--	--	26.2 ⁴	5.6	31.8	2,908.3	1.1
2002	29	37.1	--	--	37.1	14.5	51.6	3,430.2	1.5
2003	29	79.2	--	--	79.2	105.8	185.0	4,791.2	3.9
2004	29	48.4	--	--	48.4	30.0 ⁵	78.4	5,678.3	1.4
2005	26	48.8	30	0.0	48.8	30.0 ⁵	78.8	6,303.2	1.3
2006	27	21.0	--	--	21.0	NA	NA	4,742.2	NA
2007	29	14.1	--	--	14.1	NA	NA	3,756.6	NA
2008	31	12.5	--	--	12.5	NA	NA	2,268.9	NA

^{1.} Washougal Reef landings included in Area 2S landings until 1986. No season set since 2001, except for 2005
^{2.} Includes landings during sockeye seasons, Select Area fisheries, and John Day River shad fisheries in some years.
^{3.} Limited experimental fishery with three boats.
^{4.} Includes shad caught in experimental tangle net permit fishery for spring Chinook.
^{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, 1970-2008.

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	Feb 11-Mar 9	20	"	18,300	700
1991	Feb 10-Mar 1	13	"	12,600	800
1992	Feb 16-28	10	"	5,100	1,200
1993	Feb 16-19 & Mar 2-5	6	8" min.	1,500	1,000
1994	Feb 15-Mar 9	15	"	1,900	3,000
1990-1994 Avg		13		7,900	1,300
1995	None	0	--	--	--
1996	Feb 18-22	3	8" min.	100	600
1997	Jan 27-Feb 18	7	8¾" min.	100	2,700
1998	Jan 12-Feb 13	10	9" min.	<100	2,700
1999	Jan 11-Feb 26	13	9" min.	<100	1,800
1995-1999 Avg		7		<100	1,600
2000	Jan 10-Feb 11	10	9" min.	17	1,200
	Feb 13-29	7	9" min.; above Kelley Pt.	0	325
	" "		8" min; below Kelley Pt.	479	736
2001	Jan 8-Feb 9	10	9" min.	71	2,634
	Feb 26-Mar 9	6	8" min; below Kelley Pt.	5,373	425
2002	Jan 7-Feb 15	11	9" min.	146	2,625
	Feb 25-Mar 27	15	5½" max.	14,238	99
2003	Jan 7-28	4	9" min.	2	1,490
	Feb 17 and 19	2	8" min.	519	21
	Mar 21	1	4¼" max.	2,527	6
2004	Jan 13-Feb 11	5	9" min.	48	1,696
	Mar 2-Mar 19	6	9" min.	3,490	159
	Mar 23-Mar 30	3	4¼" max.	9,620	15
2000-2004 Avg		16		7,306	2,287
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

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 Sturgeon Catch for Winter, Spring, and Summer Mainstem Columbia River Commercial Seasons, 2008.

Season	Fishing Period	Hrs	Zones	Mesh	STG Limit ¹	Del.	Chinook	Sockeye	WSTG	GSTG ²
Winter Sturgeon	6 PM Jan. 8 – 6 PM Jan. 9	24	1-5	9-9¼"	none	10	0	--	55	--
	6 PM Jan. 15 – 6 PM Jan. 16	24	1-5	9-9¼"	none	8	0	--	68	--
	6 PM Jan 22 – 6 PM Jan. 23	24	1-5	9-9¼"	none	9	0	--	44	--
	6 PM Jan 29 – 6 PM Jan. 30	24	1-5	9-9¼"	none	8	0	--	113	--
	6 PM Jan 31 – noon Feb. 1	18	1-5	9-9¼"	none	5	0	--	60	--
	6 PM Feb. 5 – 6 PM Feb. 6	24	1-5	9-9¼"	none	9	0	--	138	--
	6 PM Feb. 7 – noon Feb. 8	18	1-5	9-9¼"	none	6	0	--	123	--
	6 PM Feb. 12 – 6 PM Feb. 13	24	1-5	9-9¼"	none	14	7	--	79	--
	6 PM Feb. 21 – noon Feb. 22	18	4-5 ³	9-9¼"	none	5	0	--	16	--
	6 PM Feb. 26 – noon Feb. 27	18	4-5 ³	9-9¼"	none	3	1	--	118	--
6 PM Feb. 28 – noon Feb. 29	18	4-5 ³	9-9¼"	none	4	6	--	55	--	
						<i>81</i>	<i>14</i>	<i>0</i>	<i>869</i>	<i>0</i>
Spring Salmon	1 PM – 11 PM April 1	10	4-5 ³	≤4¼"	5	27	648	--	1	--
	7 AM – 11 PM April 8	16	4-5 ³	≤4¼"	5	64	1,254	--	4	--
	3 AM – 3 PM April 15	12	4-5 ³	≤4¼"	5	84	3,756	--	12	--
						<i>58</i>	<i>5,658</i>	<i>0</i>	<i>17</i>	<i>0</i>
Sockeye	None – 6 PM June 30	6	4-5 ⁴	≤4½"	5	2	2	213	0	0
Summer	7 PM Jun. 24 – 5 AM Jun 25	10	1-5	8-9¼"	5	92	765	78	209	--
	7 PM Jul. 1 – 5 AM Jul. 2	10	1-5	8-9¼"	5	66	347	3	181	--
	7 PM Jul. 7 – 5 AM Jul. 8	10	1-5	8-9¼"	5	55	256	2	133	--
						<i>71</i>	<i>1,368</i>	<i>83</i>	<i>523</i>	<i>0</i>
Season Total							7,042	296	1,409	0

1. White sturgeon possession and sales limit (per vessel per week).
2. The retention of green sturgeon was prohibited during 2008.
3. Open from Hayden Island powerlines (west towers) upstream to upper Zone 5 boundary at Beacon Rock.
4. Area 2S (true north/south line through navigation marker #50 near the mouth of Sandy River upstream to upper Zone 5 boundary at Beacon Rock).

Table 20. Estimates of the Spring Chinook Stock Composition (in Thousands) in Mainstem Lower Columbia Commercial Fisheries, 1990-2008.

Year	February – March Catch by Stock					April – June 15 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	0.1	0.4	0.4	--	0.9	--	--	--	--	--
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 ²	0.0	<0.1 ²	0.0	<0.1	0.0	<0.1 ²	5.6	0.0	5.6

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

² Estimated 1 Willamette and 13 upriver fish kept, Jan-Mar 2008; 13 CKLS kept Apr 2008.

Table 21. Columbia River Recreational Spring Chinook Fishing Regulations, 2000-2008.

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 (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 (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 (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(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 and May 16-June 15. Two adipose fin-clipped adult spring chinook daily bag limit.	Open January 1-April 15 and May 16-June 15. Two adipose fin-clipped adult spring chinook daily bag limit.	Open June 6-15. Two adipose fin-clipped adult spring chinook daily bag limit.	Open March 16-May 3 and June 6-15 from Tower Is. Powerlines upstream to McNary Dam plus the Oregon bank between Bonneville Dam and Tower Is. Two adipose fin-clipped adult spring chinook daily bag limit.
2008	Open January 1- February 24 and March 24-April 4. Only one adipose fin-clipped adult spring chinook in the daily salmonid bag limit.	Open January 1- February 24 then March 24-April 4 upstream to Hayden Island Power Lines. Only one adipose fin-clipped adult spring chinook in the daily salmonid bag limit.	Open March 16-April 20 from Hayden Island Power Lines upstream to Bonneville Dam. Only one adipose fin-clipped adult spring chinook in the daily salmonid bag limit.	Open March 16-May 10 from Tower Is. Powerlines upstream to McNary Dam plus the Oregon and Washington banks between Bonneville Dam and Tower Is. Two adipose fin-clipped adult spring chinook daily bag limit.

Table 22. Salmonid Angler Trips and Chinook Catch by Month on the Lower Columbia River, 2000-2008.

Year	Month	Angler Trips	Chinook	
			Kept	Released
2000	Feb	1,523	0	0
	Mar	8,360	322	0
	Apr	0	0	0
	May	6,156	0	92
	Jun	10,369	0	171
	Jul	17,669	0	170
	Total	44,077	322	433
2001	Feb	5,017	84	0
	Mar	44,356	4,550	2,323
	Apr	122,939	21,077	13,138
	May	5,330	0	56
	Jun	13,155	0	503
	Jul	19,157	0	386
	Total	209,954	25,711	16,406
2002	Feb	5,147	18	6
	Mar	35,629	2,036	1,699
	Apr	107,906	14,428	9,846
	May	31,445	3,982	2,670
	Jun 1-27	13,919	0	895
	Jun 28-30	5,591	472	221
	Jul	35,329	880	724
Total	234,966	21,816	16,061	
2003	Feb	9,573	209	223
	Mar	65,841	5,597	3,193
	Apr	66,351	9,110	4,729
	May	24,875	1,976	1,122
	Jun 1-15	7,776	0	106
	Jun 16-30	15,114	1,348	908
	Total	189,530	18,240	10,281
2004	Feb	9,467	48	31
	Mar	44,576	2,614	727
	Apr	102,058	21,078	6,482
	May	5,891	0	180
	Jun 1-15	2,046	0	59
	Jun 16-30	17,929	619	844
	Jul	21,875	500	422
Total	203,842	24,859	8,745	

Year	Month	Angler Trips	Chinook	
			Kept	Released
2005	Feb	7,551	39	0
	Mar	36,865	1,899	542
	Apr	65,705	8,653	2,389
	May	4,082	0	143
	Jun 1-15	10,492	724	486
	Jun 16-30	12,824	669	485
	Jul	25,681	902	15
Total	163,200	12,886	4,060	
2006	Feb	2,471	19	0
	Mar	27,418	1,810	413
	Apr	33,750	3,595	712
	May	12,225	634	345
	Jun 1-15	10,971	927	991
	Jun 16-30	19,089	3,360	5
	Jul	24,714	1,564	11
Total	130,637	11,909	2,477	
2007	Feb	4,405	24	0
	Mar	27,949	1,110	317
	Apr 1-15	34,890	4,507	924
	May 16-31	10,989	505	234
	Jun 1-15	4,777	330	179
	Jun 16-30	23,732	2,214	0
	Jul	106,742	8,690	1,648
Total	106,742	8,690	1,648	
2008	Feb 1-24	4,150	3	1
	Mar 16-31	35,453	4,107	668
	Apr 1-20	63,369	15,930	2,463
	May 16-31	0	0	0
	Jun 1-15	0	0	0
	Jun 16-30	30,505	2,051	463
	Jul	20,783	0	427
Total	154,260	22,091	4,022	

Table 23 Spring Chinook Recreational Fisheries Above Bonneville Dam.

Zone 6 Recreational Spring Chinook Recreational Fishery				
Year	Kept	Released	Season	General Area
2000			No Season	
2001	73	199	May 6-8	The Dalles - McNary
2002	2,030	1,546	Mar 16- May 15	The Dalles - McNary
2003	2,072	1,482	Feb 15- May 16 (4d/wk in May)	Bonn- McNary
2004	1,807	556	Mar 16- May 6	Bonn- McNary
2005	680	472	Mar 16- Apr 21, June 4-15	Bonn- MCN, BON-395
2006	1,031	223	Mar 16- Apr 30, May 12-jun 15	Bonn- MCN, BON-395
2007	969	244	Mar 16-May 3, June 6-15	Bonn- MCN
2008	1,763	673	Mar 16-May 10	Bonn- MCN
Snake River Spring/Summer Chinook Recreational Fishery				
	Kept	Released	Season	General Area
2002	866	351	Apr 25-May 27/Jun 2 (4d/wk)	Ice Harbor/ L. Goose
2003	513	426	Apr 26- June 15	Little Goose Dam
2004	1,224	347	April 16- May 7	Little Goose Dam
2005	75	83	June 11- 30	Little Goose Dam
2006	193	185	May 17- June 30	Little Goose Dam
2007	276	67	May 9- June 30	Little Goose Dam
2008	519	128	Apr 22/Apr 24- May 11	Ice Harbor/ L. Goose
Zone 6 Summer Chinook Recreational Fishery				
	Kept	Released	Season	General Area
2002	138	NA	July 9- July 31	BON - Hwy 395
2003	307	NA	June 16-July 31	BON - Hwy 395
2004	163	NA	June 16-July 31	BON - Hwy 395
2005	74	NA	June 16-July 31	BON - Hwy 395
2006	40	--	June 16-July 31	BON - Hwy 395
2007	60	--	June 16-July 3	BON - Hwy 395
2008	800	--	June 16-July 1	BON - Hwy 395

Table 24. Estimates of the Spring Chinook Stock Composition (in Thousands) in Mainstem Lower Columbia Recreational Fisheries, 1990-2008.

Year	February – March Kept Catch by Stock					April – June 15 Kept Catch by Stock				
	Willamette River	C,K,L,S ¹	Upriver	SAF E	Feb-Mar Total	Willamette River	C,K,L,S ¹	Upriver	SAF E	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

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, 1980-2008.

Year	Cowlitz River		Kalama River		Lewis River		Sandy River		Total	
	Recr. Catch	Harvest Rate (%)	Recr. Catch	Harvest Rate (%)	Recr. Catch	Harvest Rate (%)	Recr. Catch	Harvest Rate (%)	Recr. Catch	Harvest Rate (%)
1980-1984 Average	7,100	31	1,292	31	2,554	67	1,269	62	12,215	32
1985-1989 Average	2,888	26	584	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	38
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
1990-1994 Average	2,432	32	948	40	5,155	72	1,994	39	10,529	47
1995 ¹	33	2	3	0	2,437	66	1,308	49	3,781	41
1996 ¹	29	2	190	30	351	20	1,495	37	2,065	25
1997 ¹	144	8	5	1	781	36	1,418	31	2,348	26
1998 ¹	0	0	0	0	228	14	1,197	32	1,425	21
1999 ¹	491	24	8	1	692	39	1,882	47	3,073	35
1995-1999 Average	139	7	41	7	898	35	1,460	38	2,538	30
2000 ¹	538	24	397	28	1,260	50	1,268	35	3,463	35
2001 ¹	54	3	407	23	2,020	53	1,580	30	4,141	29
2002	1,655	32	551	19	1,369	38	1,586	27	4,855	28
2003	3,029	19	830	18	1,920	37	1,580	28	7,197	23
2004	1,929	12	960	22	2,966	39	4,447	35	14,304	32
2000-2004 Average	1,441	18	629	22	1,907	44	2,092	31	6,791	29
2005	1,301	14	1,051	33	1,557	45	1,755	24	5,372	23
2006	842	12	1,395	26	2,737	38	(1,379)	29	6,353	26
2007	746	19	2,056	26	3,521	47	(972)	29	5,722	27
2008 ¹	(300)	11	(250)	15	(1,050)	44	NA	NA	(>1,600)	NA

¹. Harvest rates reflect fishery restrictions due to extremely low returns.
 () indicates preliminary.

Table 26. Winter Season Commercial Gillnet Landings in the Zone 6 Treaty Indian Fishery, 1977-2008.

Year	Season ¹	Peak Net Count	Numbers of Fish Landed 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 ⁹	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

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 due to unusually cold weather during regular season. 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. The closing date for the John Day Pool was March 21 (48 days).

⁹. Catch statistics preliminary.

¹⁰. The closing date for The Dalles Pool was March 19 (47 days).

¹¹. The closing date for The Dalles Pool was March 9 (37 days)