



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

**2008 JOINT STAFF REPORT:  
STOCK STATUS AND FISHERIES FOR  
SPRING CHINOOK, SUMMER CHINOOK, SOCKEYE,  
STEELHEAD, AND OTHER SPECIES,  
AND MISCELLANEOUS REGULATIONS**

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# **2008 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. In most years, the second Compact hearing in the annual management cycle occurs in January. To facilitate management in 2008, fisheries typically adopted at the January hearing will be addressed at a hearing scheduled for 10 AM, Thursday February 15 at the Water Resources Education Center, 4600 SE Columbia Way, Vancouver, Washington. 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). In addition, 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**

Winter 2008 seasons for non-Indian commercial white sturgeon and smelt seasons were adopted at the December 13, 2007 Compact/Joint State hearing along with 2008 recreational seasons for white sturgeon and smelt. Modifications to these seasons were considered at the January 24, 2008 Compact/Joint State hearing. Treaty Indian winter sturgeon seasons were also considered at the January 24, 2008 hearing.

At the February 15, 2008 Columbia River Compact/Joint State 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.

Winter commercial seasons occur from January through mid-April, and spring commercial seasons generally occur from mid-April through mid-June. Summer Select Area commercial seasons occur from mid-June through July. Commercial sockeye seasons are not anticipated in

2008. General permanent commercial fishery rules may also be considered at the February 15 hearing. Other recreational and commercial seasons, or modifications to seasons adopted at the January 24, 2008 hearing will be considered at future hearings as additional information on fish runs and ongoing fisheries become available.

## **STOCKS CONSIDERED**

### **Spring Chinook**

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. 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.

Visual stock identification (VSI) and coded-wire tag (CWT) recoveries indicate that spring Chinook destined for the Willamette River typically comprise a large percentage of the spring Chinook caught during past winter commercial seasons and during March Columbia River recreational fisheries. Willamette River fish predominated because they exhibit a broader migration pattern and usually contain a greater proportion of early-entering 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 lower than expected. The remaining spring Chinook landed 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 sites at Youngs Bay, Blind Slough, Tongue Point, and Deep River (Table 1). 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 4-year-old Willamette River spring Chinook. Mainstem catches in May and June are predominately fish of upriver origin.

### **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 in 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. Recent estimates place the percentage of wild fish in the current Willamette spring Chinook population at about 10-12%, with the majority destined for the McKenzie River. 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 Evolutionarily Significant Unit (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. The 1953 run was predominantly wild. This run was eclipsed by a return of 130,600 spring Chinook in 1990, comprised mainly of hatchery fish. A new record run was established in 2004 with a return of 144,400 fish, again comprised primarily of hatchery fish.

Four large hatcheries 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.

### ***2007 Return***

The Willamette River return of 39,943 adult spring Chinook entering the Columbia River in 2007 was 33% less than the 2006 return of 59,311 fish (Table 1). The 2007 return was 77% of the preseason forecast of 52,000, 40% of the recent 5-year (2002-2006) average of 101,100, fish and, for the third time since 2003, was less than 100,000 Willamette River spring Chinook entering the Columbia River (Table 2). Approximately 25% of the 2007 Willamette spring Chinook run to the mouth of the Columbia River were unmarked fish, compared to the long-term average of 10-12%. Although some of these are known to be unmarked hatchery fish, the majority would be expected to be wild.

### ***2007 Escapement***

Passage of spring Chinook over Willamette Falls in 2007 (23,100 fish) decreased by 38% compared to 2006 (37,000 fish), and was only 34% of the recent 5-year average of 68,200 fish (Table 3). Since 1971, the number of spring Chinook passing Willamette Falls has ranged from 20,600 to 96,700 and averaged 43,300 fish. While the escapement goal of 20,000 hatchery spring Chinook past Willamette Falls was not achieved in 2007, the goal of 3,000 hatchery fish escaping to the Clackamas River was exceeded, and upper Willamette River hatcheries were able to meet broodstock collection needs.

The Columbia River treaty tribes were able to meet the minimum ceremonial and subsistence (C&S) entitlement set forth in the expired Columbia River Fish Management Plan (CRFMP) through their own fishing efforts in 2007. Therefore, Willamette River hatchery spring Chinook were not provided as part of the minimum C&S entitlement to treaty tribes. Some surplus fish from upper Willamette hatcheries were provided to Oregon coastal tribes or local food banks.

### ***2008 Forecast***

The ODFW staff is forecasting a return of 34,050 Willamette River spring Chinook to the Columbia River mouth in 2008, which includes adjustments for expected harvest in ocean fisheries. The 2008 forecast is 20% lower than the 1995-1999 average return of 42,400 fish, and is 16% lower than the 2007 actual return of 40,500 fish (Table 2). Age-specific returns for 2008 are expected to total 1,400 3-year-olds (range 775-2,000), 14,800 4-year-olds (range 8,600-17,300), 17,200 5-year-olds (range 12,500-23,200), and 650 6-year-olds (range 600-950). The 2008 return is expected to include about 5,100 wild fish (15% of total return), which would be similar to the estimated 2007 return of about 5,600 wild fish.

## **Clackamas River Spring Chinook**

### ***2007 Return***

The return of spring Chinook (including jacks) to the Clackamas River in 2007 totaled 8,600 fish, which is 57% of the recent 5-year average of 15,000 (Table 3). Wild fish comprised approximately 15% (1,300 fish) of the 2007 run. The run entering the Clackamas River has generally increased from an annual average of 2,600 in the 1970s, 8,200 in the 1980s, and 8,700 in the 1990s, to 12,700 since 2000. The larger returns in recent years are due to production from Clackamas Hatchery at McIver Park, which came on-line in 1979, and an increase in passage of wild fish over North Fork Dam with a corresponding increase in natural production.

### ***2007 Escapement***

The North Fork Dam count of 2,266 spring Chinook in 2007 included 1,702 unmarked fish that were passed upstream and 564 marked fish that were recycled downstream to provide additional recreational fishing opportunity. Furthermore, an estimated 50 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 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 5 and age 6 fish returning in 2008, and age 6 fish returning in 2009 will contain unclipped hatchery fish with CWTs.

## **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 have been mass marked with an adipose fin clip since 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 trapped at Marmot Dam have been used for Sandy River

broodstock. 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 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.

The minimum spring Chinook run entering the Sandy River is 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 catch estimates become available, the run reconstructions are updated with the new information. The 2007 Sandy River return was estimated to be 3,400 adults, which was only 43% of the 7,900 fish preseason forecast. The 2008 Sandy River forecast of 6,800 spring Chinook is based on the most recent five-year average returns (Table 1). Fish counting and forecast methods will need to be revised for future years, following the removal of Marmot Dam and its fish counting facilities in the fall of 2007.

### **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. The Cowlitz, Kalama, and Lewis River runs are genetically similar and are essentially supported by hatchery production. These fish 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. Estimated adult returns to the Cowlitz, Kalama, and Lewis rivers for recent years are shown in Table 1. Beginning in 2002, spring Chinook recreational fisheries in the Cowlitz, Kalama, and Lewis rivers were managed using mark-selective fishery regulations that required the release of all unmarked spring Chinook (those with an intact adipose fin).

#### ***Cowlitz River Returns***

The adult return of 3,700 spring Chinook in 2007 (Table 1) was 58% of the 2007 forecast of 6,400 adults. A return of 3,700 adults is 34% of the 2002-2006 average (10,800 adults), and 53% of the 2006 return (7,000, adults). The hatchery escapement of 3,153 adults far surpassed the minimum 1,150 fish escapement goal

The forecast for the Cowlitz River in 2008 is for a return of 5,200 adult spring Chinook. The 2008 forecast is midway between the 2006 and 2007 actual returns. 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.

#### ***Kalama River Returns***

The adult spring Chinook return of 7,300 fish (Table 1) to the Kalama River in 2007 easily surpassed the preseason forecast of 4,000 fish. The hatchery return of 3,814 adults exceeded the minimum hatchery escapement goal of 450. The natural spawn escapement for the reach downstream from the hatchery barrier was 2,146 adults, which is the second highest count on record (since 1980).

The forecast for the Kalama River in 2008 is estimated to total 3,700 fish. The 2008 forecast is 51% of the 2007 return, but exceeds the average return for 2002-2006 (3,300 fish). A run of approximately 600 adults is needed to achieve the minimum hatchery escapement goal, since a portion of the run spawns naturally.

### ***Lewis River Returns***

The adult spring Chinook return of 6,700 fish (Table 1) to the Lewis River in 2007 was greater than the preseason forecast of 5,500 fish. The minimum hatchery escapement goal of 950 adults was easily met (3,744 adults). Natural spawn escapement was estimated at less than 300 adults, which was less than the recent five-year average of 525 adults.

The forecast for the Lewis River in 2008 is estimated to total 3,500 fish. The 2008 forecast is 52% of the 2007 return, and 61% of the average annual return during 2002-2006. An adult return of approximately 1,600 is needed to achieve the minimum hatchery escapement goal, since a portion of the run spawns naturally.

### **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 including Gnat Creek Hatchery (ODFW) in Oregon and Grays River Hatchery (WDFW) in Washington. Production at both hatcheries utilizes surplus eggs collected at other 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 Clatsop County Fisheries (formerly Clatsop Economic Development Council) during brood years 2002-2004 but this program has been 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 - 1,077,600 smolts annually during 1996-2003 but increased to 1.65-1.83 million smolts annually between 2004 and 2006 (Table 5). 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 466,300 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) and it is unknown if smolts from this release survived to contribute to returns in 2008 and 2009. Releases of spring Chinook smolts into Tongue Point and Blind Slough began in 1996. Since then, smolt releases into Blind Slough have averaged 313,600 smolts annually. Annual releases at the Tongue Point site during 1996-2000 averaged 254,400 smolts prior to termination of the

program due to abnormally high 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 20,900-76,900 spring Chinook smolts were released from this site each year and an additional 25,500-27,400 were released annually from net pens in the nearby John Day River to evaluate survival and homing of fish released from the MERTS site. Releases into Deep River began in 1998, and averaged 120,800 annually through 2005, except in 2000 when no spring Chinook were released. Production increased to 263,300 smolts released in 2007. 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.

### ***2007 Returns***

Select Area spring Chinook fisheries are intended to harvest 100% of returning hatchery-produced adults to minimize straying and maximize economic value of returns. Commercial landings of Chinook salmon in 2007 Select Area winter/spring/summer fisheries totaled 6,774 Chinook (6,683 spring Chinook) of which 5,209 were landed in Youngs Bay, 1,536 were landed in Blind Slough, and 29 in Deep River (Table 6). Landings in 2007 winter/spring/summer SAFE fisheries were similar to the 1998-2006 average harvest of 6,600 Chinook.

### ***2008 Forecast***

The 2008 Select Area spring Chinook return will be comprised of age-5 and age-4 adults from smolt releases of 1.66 million smolts in 2005 and 1.83 million smolts in 2006 (Table 5). It is important to note that 31% of the 2004 brood were released early, and the extent to which they will contribute to returns is unknown. Based on these releases, and recent site- and age-specific survival rates, 3,700 SAFE produced spring Chinook are expected to return to the Select Areas in 2008. Approximately 2,000 will be harvested in Youngs Bay, 1,400 in Blind Slough, and 30 in Deep River; the remainder will be fish released from Tongue Point sites. While the 2008 return should benefit from increased production (2003 brood) from the South Fork Klaskanine Hatchery, the combined SAFE harvest is expected to be about half of the 2000-2006 average due to an expected poor return of age-5 fish, below average age-4 survival, and an unknown contribution of 2004 brood South Fork Klaskanine Hatchery releases.

## **Upriver Spring Chinook**

Upriver spring Chinook begin entering the Columbia River in late February and early March and 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. Table 2 compares the performance of past annual forecasts versus returns, therefore counts prior to 2005 have not been adjusted in Table 2.

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. In each of these 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 outplanted in recent years, it is likely that some of the current natural production is also an indirect hatchery product. Snake River summer Chinook are destined for areas above Lower Granite Dam. Under the ESA, the NMFS listed Snake River wild spring/summer Chinook as threatened in May 1992 and upper Columbia wild spring Chinook as endangered effective May 24, 1999. An abundance-based harvest rate schedule is in place for mainstem fisheries impacting upriver spring and Snake River spring/summer Chinook.

Data in Table 7 illustrates recent trends in upriver spring Chinook run sizes. Runs were poor in the early 1980s averaging 63,200 fish with a range of 52,100-76,900 fish. The returns in 1985-1989 showed improvement, with an average run size of 104,800 fish, ranging from 89,500-127,800 fish. The average return between 1990 and 1994 was 81,600 fish (range 23,800-119,200 fish), which was comparable to the 10-year average of the 1980s. The average run size during 1995-1999 was 55,600 fish (range 12,600-123,800 fish), which was less than the average run size of the 1980s. The 1995 run marked an all-time low of 12,600 fish. The 2000-2004 run sizes improved substantially, with an annual average return of 283,900 adults, and an all-time record high of 437,900 fish in 2001. Run sizes have declined since the peak of 2001, but have remained strong overall. The 2005 run contained 106,900 adults, continuing the decreasing trend since 2001, but exceeded the average runs of the 1980s and 1990s.

The 2006 return of upriver spring Chinook totaled 132,100 adults, which was less than the average returns seen in the recent five years, but was still a strong return compared to runs of the 1980s and 1990s (Table 7). The 2006 Snake River wild spring/summer Chinook run size of 16,700 adults was also less than the average returns seen in the recent five years. The 2006 upper Columbia wild spring Chinook return of 2,400 adults was comparable to recent years, with the exception of the large 2001 return (Table 8).

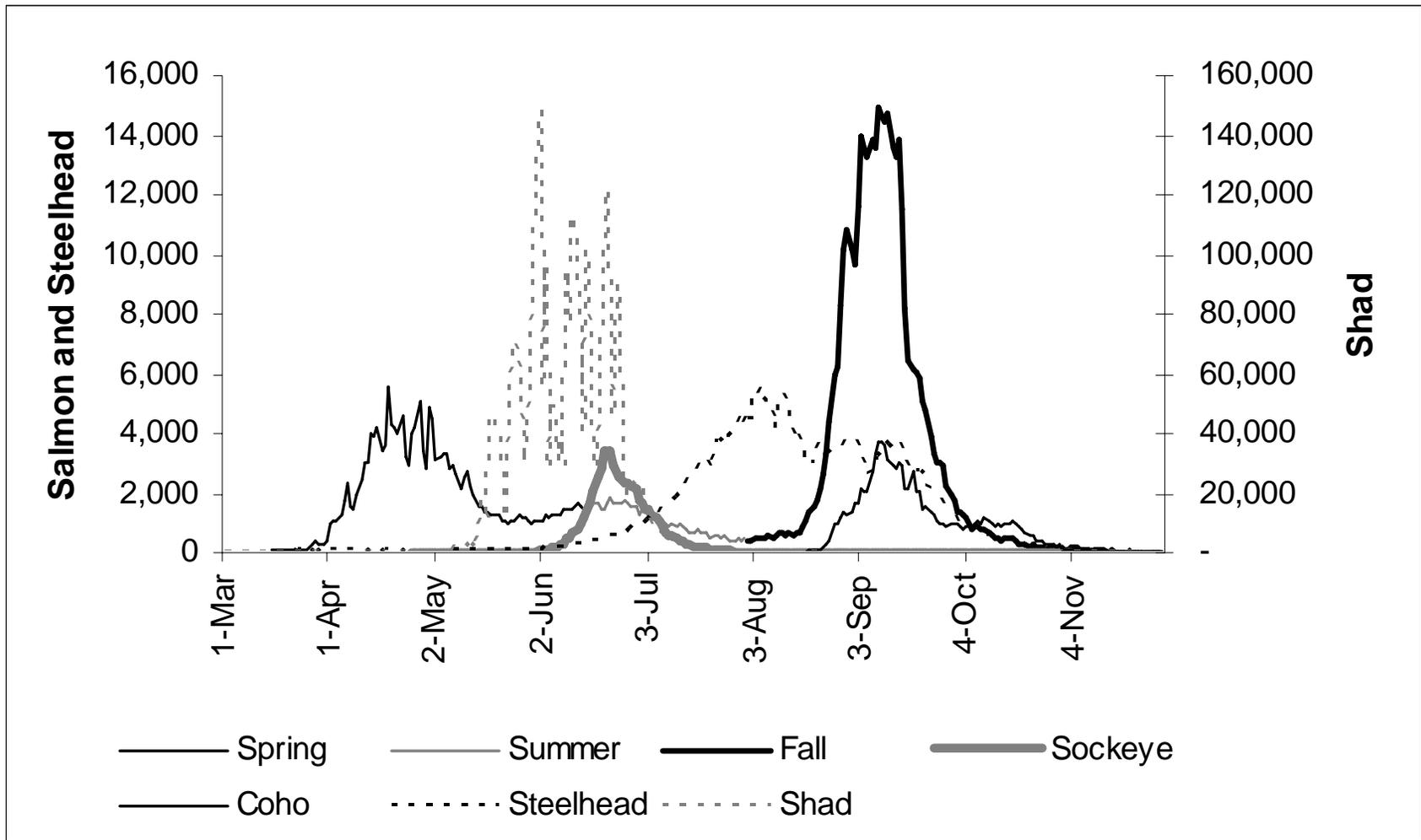


Figure 1. Average Daily Counts of Salmon, Steelhead, and Shad at Bonneville Dam, 1986-2006.

### ***2007 Run***

The 2007 upriver spring Chinook run was predicted to total 78,500 fish, including 38,500 adult Snake River spring/summer Chinook and 9,200 adult upper Columbia Chinook. Similar to 2005 and 2006, the 2007 upriver run was late-timed, reaching 50% passage completion on May 6, compared to the 1980-2006 average 50% passage date of April 28. The actual return of 86,200 adults (Table 7) exceeded expectations, and included 46,200 Snake River spring/summer Chinook, and 8,600 upper Columbia spring Chinook. The 2007 Snake River wild spring/summer Chinook run size was less than expected totaling 10,600 adults, and was much less than the average return of 32,900 adults observed during 2002-2006 (Table 9). The 2007 upper Columbia River wild spring Chinook return was 900 fish, which is 75% of the expected return and significantly less than the average return of 3,200 adults during 2002-2006 (Table 8).

### ***2008 Forecast***

The 2008 forecast of 269,300 adult upriver spring Chinook returning to the Columbia River is expected to consist of 255,600 4-year olds and 13,700 5-year olds. This projected return would represent the third highest return since at least 1980 and would reverse the general downward trend observed since the all time record high return in 2001. The 2008 forecast includes 145,400 Snake River spring/summer Chinook (21,100 wild) and 23,300 upper Columbia spring Chinook (2,900 wild).

## **Upper Columbia River Summer Chinook**

Upper Columbia summer Chinook are destined for production areas and hatcheries above Priest Rapids Dam. Historically, Upper Columbia summer Chinook spawned in the Columbia, Wenatchee, Okanogan, and Similkameen rivers. 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 runs averaging 19,800 fish in the 1980s and 15,600 fish in the 1990s. 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 2006 was 65,100 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. Because of run timing similarities, Snake River summer Chinook are now considered a component of the upriver spring Chinook run. Since 2005, the Columbia River summer Chinook run consists only of the upper Columbia component, and run size is the sum of the Bonneville Dam count and the number of fish caught in lower river fisheries during June 16 through July 31. All abundance tables for upper Columbia summer Chinook have been adjusted to reflect this change. Upper Columbia summer Chinook are not ESA-listed, and the population is currently considered healthy.

### ***2007 Run***

The 2007 upper Columbia River summer Chinook return totaled 37,200 adults (Table 10), compared to the preseason forecast of 45,600 adults. Although the 2007 run was the smallest run since 2000, it is still considered a strong run when compared to past decades.

### ***2008 Forecast***

The forecast for the 2008 upper Columbia River summer Chinook run is 52,000 adults to the Columbia River. The 2008 forecasted return is greater than the 2007 return and although it is 72% of the average return during 2001-2006, the forecast continues a positive abundance trend compared to the last 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 Fifteenmile Creek on the Oregon shore and the Klickitat River on the Washington shore. Major spawning areas include the Hood, Sandy, Clackamas, Molalla, Santiam, and Calapooia rivers in Oregon, and the Klickitat, Washougal, Wind, Lewis, Kalama, Cowlitz, and Grays rivers in Washington. All wild winter steelhead are ESA listed, except those within the Southwest Washington ESU. The Southwest Washington ESU includes all naturally spawned populations of winter-run steelhead in river basins of, and tributaries to, Grays Harbor, Willapa Bay, and the Columbia River below the Cowlitz River in Washington and the Willamette River in Oregon. All steelhead handled during fisheries in the lower Columbia River during February-April are considered winter steelhead.

The total Columbia River wild winter steelhead river mouth return during 2001 through 2005 averaged 24,200 fish. The 2006 return was estimated at 16,600 fish, which was comparable to the forecasted return of 16,000 fish (Table 11).

### ***2007 Return***

The actual 2007 return of 15,000 wild winter steelhead returning to the Columbia River was 93% of the preseason forecast of 16,200 fish. The 2007 return was similar to the 2005 and 2006 returns, but less than the 2002-2006 average return of 22,100 fish to the Columbia River mouth (Table 11).

### ***2008 Forecast***

The 2008 forecast for wild winter steelhead is for 15,300 fish returning to the Columbia River mouth which is similar to actual returns observed since 2005 (Table 11).

## Summer Steelhead

The Columbia River summer steelhead run is comprised of populations from lower river and upper river 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. Summer steelhead caught in the mainstem lower Columbia River during May and June are classified as Skamania-stock. 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 ESU was listed as threatened by the NMFS on May 24, 1999.

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). Historically, peak counts at Bonneville Dam were bimodal, with the first peak in early August (Group A-index) and the second peak in mid-September (B index). The Group A-index fish are characteristically smaller (under ten pounds) fish that spend one or two years at sea and return to tributaries throughout the mid and upper Columbia River system and the Snake River basin. The later arriving Group B-index fish are larger (over ten pounds), typically having spent two or three years at sea, and return primarily to Idaho's upper Clearwater and Salmon River subbasins in the Snake River system. There is some overlap in timing and size with some large and small steelhead returning to many different tributaries throughout the basin. The NMFS has divided the upriver summer steelhead run into three ESUs: (1) the middle Columbia ESU which was listed as threatened on May 24, 1999, (2) the upper Columbia ESU which was listed as endangered on May 24, 1999, and (3) the Snake River ESU (including both Group A- and B-index fish) which was listed as threatened on October 17, 1997. Currently, there is no reliable method available to distribute the composition of the steelhead run at Bonneville Dam into individual ESUs.

Since 1984, summer steelhead passing Bonneville Dam have been randomly sampled throughout the run to determine age and size composition and hatchery-to-wild ratios. Prior to 1999, the Group A-index run included all fish counted from April 1 through August 25, and the Group B-index run included all fish counted from August 26 through October 31.

In recent years, distinct summer and fall bimodal peaks at Bonneville Dam have become less evident. As a result, the TAC developed a new method of assessing the relative returns of Group A-index and Group B-index steelhead in 1999. In this method, all fish counted during April 1-June 30 are classified as "Skamania Index". Fish passing Bonneville Dam from July 1-October 31 that are less than 78 cm fork length (FL) are classified as Group A-index, while all fish that are greater than or equal to 78 cm FL are classified as Group B-index. This method is used to estimate run sizes, and to make in-season fishery management decisions pertaining to the ESA. Since 1999, fall season fisheries impacts have been limited to less than 17% of the wild Group B-index steelhead return. In 2004, high water temperatures at Bonneville Dam precluded sampling during important portions of the late summer run. As a result, the sample size of large fish was particularly small in some weeks, leading to a possible under-estimate of the abundance of the Group B-index stock. In 2005, sampling only occurred for a short period in September and October. In these years, TAC used stock proportions from preseason forecasts applied to

cumulative steelhead passage from July 1 forward to update the 2005 run. High water temperatures at Bonneville Dam that interfere with sampling protocol continue to challenge the accuracy of stock-specific run size estimates of upriver summer steelhead.

### ***2007 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 upriver summer steelhead are presented in Table 12. The total return to Bonneville Dam of upriver summer steelhead in 2007 was 319,395 fish, with 309,920 fish passing during the July through October period. Estimated 2007 returns of Skamania, Group A-index and Group B-index steelhead and the 2008 forecast will be included in the annual fall Joint Staff report, available in July 2008. Run size and wild escapement at Lower Granite Dam are included in Table 13; however, the 2007 count at Lower Granite Dam will not be complete until May 2008.

### **Sockeye**

Sockeye 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 Dam (completed 1941) in the upper Columbia system; and by Swan Falls (1901), Sunbeam (1913; removed in 1934), Black Canyon (1914), and Brownlee (1958) dams 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 three stocks, the Okanagan, Wenatchee, and Snake River stocks. The Okanagan and Wenatchee stock abundance is cyclic, with occasional strong return years followed by years of low returns. Upper Columbia River sockeye runs consist of four age groups. Fish returning to Osoyoos Lake in the Okanagan 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. This stock was federally-listed as endangered in November 1991. In some years in the 1990s, zero fish returned. Production is maintained through a captive brood program and most returning adults are products of this program. The average 2002-2006 return to the Snake River is 64 fish, with only 12 fish being counted in the Stanley Basin.

The total allowed incidental fishery impacts are 6%-8% of the Columbia River mouth run size. In most years the total impacts are less than 5%.

### ***2007 Run***

The 2007 return of sockeye to the Columbia River totaled 26,700 adults (Table 16), compared to the preseason forecast of 27,300 adults. The 2007 return was 72% of the 2006 return, and both years were less than half of the previous five year (2001-2005) average return. The total 2007 return included 4,400 Wenatchee fish and 22,300 Okanogan fish. The Snake River component of the run consisted of 57 fish (11% of forecast), which is similar to the five-year average of 64 fish.

### ***2008 Forecast***

The forecast for the 2008 sockeye run is 75,600 adults to the Columbia River. The forecast includes 13,700 Wenatchee fish and 61,200 Okanogan fish. The Snake River sockeye return for 2008 is forecasted at 700 fish, which would be the largest run on record since 1979.

## **Shad**

Shad are an introduced species brought to the West Coast from Pennsylvania in the late 19<sup>th</sup> 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, 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.

### ***2007 Run***

The 2007 minimum shad run size was 3.8 million with a minimum spawning escapement exceeding 3.5 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 164,600 shad was the lowest since 2000 and amounted to 4.4% of the estimated total minimum run size. The 2007 shad run in the Columbia River was the lowest since 2002 and was substantially lower than the 2005 record return of 6.3 million shad (Table 17).

## 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 sturgeon for both commercial and recreational fisheries. The healthy white sturgeon population allowed the commercial industry to develop stable, dependable fisheries in a time when commercial salmon fishing opportunities had been drastically reduced. Under the Olympia Accord, target sturgeon seasons were allowed to provide the commercial fishery access to the commercial catch guideline and to improve market stability for white sturgeon, while minimizing impacts on listed or depressed salmon stocks. Since the adoption of the first Joint State Sturgeon Management Agreement in 1997, commercial fisheries have been managed to remain within catch guidelines, maximize economic benefit, and remain consistent with conservation objectives for other species. Commercial sturgeon fisheries have been developed with input from industry representatives and have resulted in predictable and consistent commercial fishing opportunities.

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 are applied in-season if the winter guideline may be exceeded. Protocol for management of white sturgeon retention in 2008 will be similar to that of recent years. Commercial fisheries are allocated 20% (8,000 white sturgeon) of the total harvest guideline (40,000 white sturgeon). In order to provide market stability and allow sales of white sturgeon during salmon seasons, guidelines for each fishing season were developed to further allocate the harvestable sturgeon (Tables 18 and 19). Retention of green sturgeon in commercial fisheries was prohibited in July 2006 in response to the ESA listing of the Southern Distinct Population Segment (DPS) of green sturgeon. More detailed information concerning past sturgeon management and 2008 fishery expectations can be found in the document titled "2008 Joint Staff Report: Stock Status and Fisheries for Sturgeon and Smelt" dated December 3, 2007.

Winter gillnet 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 has been allowed above Kelley Point at the Willamette River mouth during winter salmon seasons since 1975. 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.

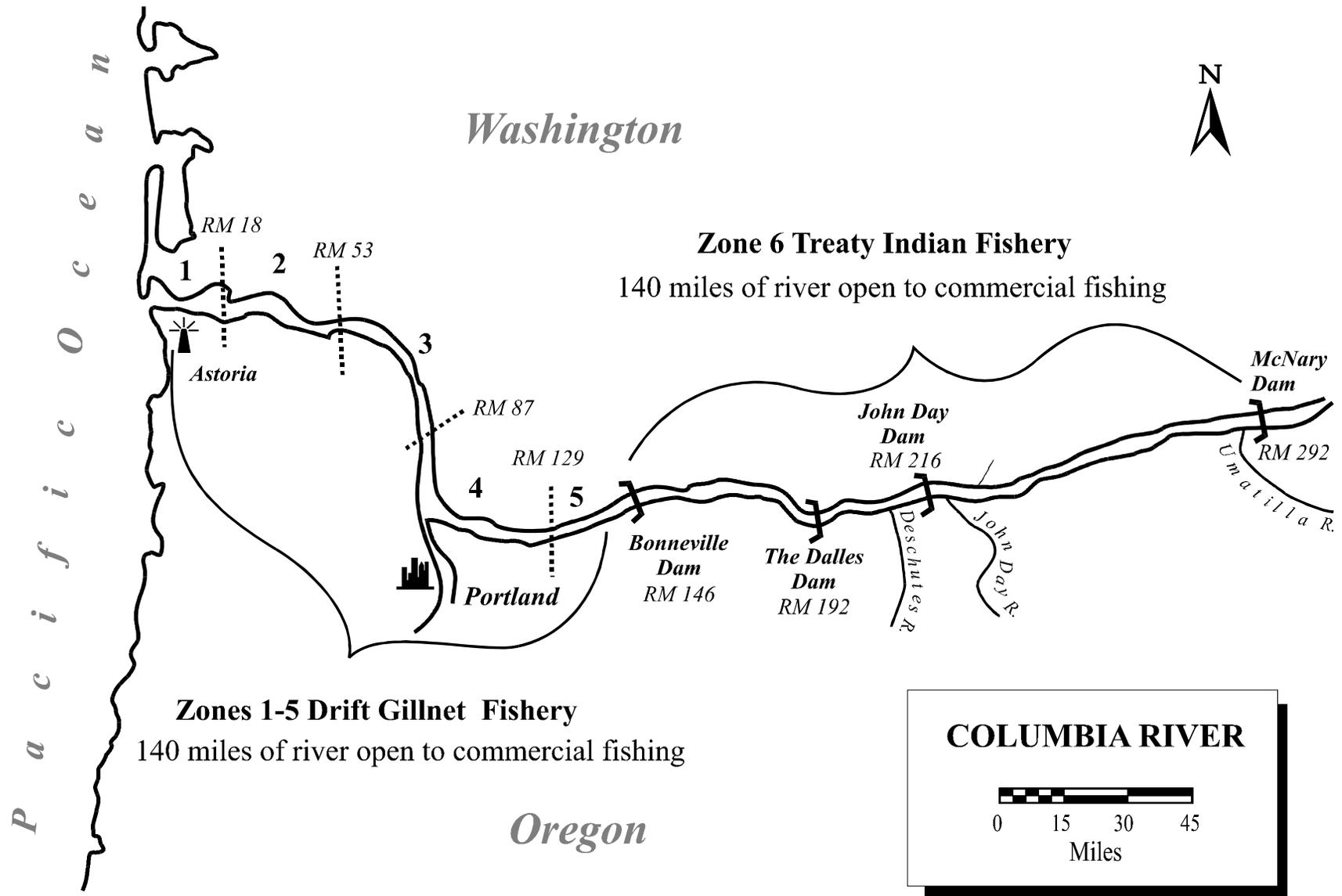


Figure 2. Map of the Columbia River Below McNary Dam Showing Areas Open to Commercial Fishing.

The adoption of the Willamette River spring Chinook Fishery Management and Evaluation Plan (FMEP) in 2001 required the release of unmarked spring Chinook in commercial and recreational freshwater fisheries. The first mark-selective (adipose fin-clipped fish only) commercial fishery requiring the release of unmarked spring Chinook occurred in the spring of 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 regulations similar to those of 2002, in order to maximize harvest of the target Willamette hatchery spring Chinook and minimize handle of ESA-listed Chinook and steelhead. New gear regulations were adopted, with large mesh nets (8-inch minimum) being 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 increase tangling efficiency, improve capture condition, and minimize the frequency of gill-capture for steelhead.

Post-release mortality studies were conducted for various gear types to estimate the survival of Chinook released in winter/spring fisheries. The TAC reviewed the results of these studies and concluded that, for 8-inch-mesh gear, mortality of released Chinook would be 40%, and mortality of released steelhead would be 30%. The study TAC based these determinations on was conducted from 2001-2003, however, results of the most recent analysis (2003 study year) have not yet been published. Large mesh 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. For 4 ¼-inch tangle nets, the TAC concluded that the estimated post-release mortality for Chinook was 18.5% and, until steelhead-specific studies could be conducted, the rate for steelhead should be assumed to be the same. No directed studies to evaluate post-release mortality of steelhead have been conducted to date, and information collected on steelhead handle and mortality during Chinook-directed studies are confounded by low sample sizes.

The 2004, 2005, and 2006 seasons were conducted with guiding principles and fishery management objectives in place as adopted by the WFWC and OFWC to provide the Joint Staff with guidance when shaping and managing fisheries. In addition, a winter season fishing plan was adopted which gave the commercial industry a plan for marketing, and provided the data necessary for making management decisions. This plan outlined 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 were made. Openers were scheduled to maximize retention of hatchery Willamette spring Chinook and minimize handle of steelhead and listed upriver Chinook. This process continued until the upriver Chinook allocation, the hatchery Willamette allocation, or the wild winter steelhead impact limit was reached.

Commercial fisheries in 2007 were initiated with a winter target sturgeon season consisting of seven 24-hour and two 12-hour fishing periods between January 9 and February 23 in Zones 1-5 (Table 19). Gear regulations included 9-inch minimum and 9¾-inch maximum mesh size restrictions to target sturgeon and minimize the handle of spring Chinook and steelhead. Two

additional 12-hour fishing periods were adopted in-season, bringing total landings to 1,424 white sturgeon, which was near the catch allocation of 1,600 fish. Landings of spring Chinook in the winter sturgeon season totaled 194 marked hatchery fish.

### ***2007 Lower River Winter Commercial Salmon Season***

Based on 2007 preseason run size forecasts, a 1.5% impact rate on listed upriver spring Chinook was allocated to non-Indian fisheries. Non-Indian fisheries were also managed with a 10% impact buffer (1.35% impact rate) until an in-season run update was available, to ensure fisheries would not exceed the 1.5% available impact. The states also operated under a two-year agreement (2006-2007) allocating 57% of non-Indian upriver spring Chinook impacts to recreational fisheries and 43% to commercial fisheries. Additional ESA restrictions included a total maximum non-Indian fishery impact rate of 2.0% for wild winter steelhead ESUs. The maximum allowable impact rate for wild Willamette River spring Chinook was 15% for all freshwater fisheries.

The 2007 commercial fishery was conducted under the same guiding principles, management objectives, and basic fishing plans in effect since 2004. The fishery was managed in accordance with the Willamette FMEP, which set forth a commercial catch allocation of 4,140 Willamette hatchery spring Chinook based on the preseason run size forecast (20% of the harvestable hatchery fish). The 2007 expected mark rate was 90% for Willamette River spring Chinook and 64% for upriver spring Chinook. Considering the 43% allocation of upriver impacts to the commercial fishery, a range of 900-2,000 harvestable upriver Chinook was estimated. This range, plus the Willamette allowance, gave an expected harvest of around 1,500-3,100 hatchery spring Chinook, depending on specific use of large and small mesh gear and associated release mortalities for each gear.

Test fishing (using 4¼-inch nets) was initiated on Sunday, February 25, 2006. Data collected from test fishing indicated that the abundance of Chinook was low and steelhead abundance was moderately high. Based on this information, and the fact that the stock composition of the few Chinook landed the week prior in the winter sturgeon fishery was only 61% lower river origin, the Joint Staff recommended (and the Compact agreed) that a full fleet fishery be postponed, and test fishing be conducted the following Sunday. Test fishing results for March 4 indicated a shift toward increased lower river stocks; however, some caution was warranted due to the higher-than-expected proportion of upriver Chinook landed in the ongoing winter sturgeon fishery, and the ratio of Chinook to steelhead observed during test fishing.

The first salmon-directed fishery for 2007 was a 12-hour fishery from 12 PM (noon) to 12 AM (midnight) Tuesday, March 6. The fishery was conducted in Zones 1-4 (up to Kelley Point) to target lower river hatchery spring Chinook, with an 8-inch minimum mesh restriction to limit steelhead handle. Sturgeon harvest was allowed without a weekly limit. Based on VSI, 59% of the Chinook landed in this fishery were of lower river origin. Landings and monitoring data from the March 6 fishery indicated that with a harvest of only 400 Chinook (plus 194 fish from the winter sturgeon fishery), upriver impacts were estimated to be as high as 43% of the available commercial allocation. At the March 7 Compact hearing, the Joint Staff did not recommend a fishery, and suggested waiting until reduced steelhead abundance favored the use of tangle net gear in order to maximize harvest of hatchery Chinook.

Test fishing resumed on Sunday, March 11 and was followed by a Monday morning Compact hearing. Staff reported that test fishing results indicated Chinook catch rates had declined and

the Chinook to steelhead ratio was low. No fishery was recommended and test fishing occurred again on March 18.

The March 18 test fishing data indicated that Chinook catch rates had increased and the Chinook to steelhead ratio had improved, resulting in the Compact adopting the second full-fleet fishery. The fishery was a 10-hour (8 PM- 6 AM) fishing period on March 20-21, using tangle net gear (4 ¼ inch mesh). The estimated catch of ~700 Chinook from the March 20-21 fishery was slightly greater than expected, but the stock composition was within expectations, and the percentage of hatchery fish in the catch was slightly higher than anticipated. With impacts estimated at 70% of the available commercial allocation for upriver Chinook and only 15% of the limit for wild winter steelhead, a third fishing period took place from the mouth upstream to Kelley Point with tangle nets on Thursday March 22-23 from 10 PM and 6 AM (8 hours). Expected catch was around 900 fish with a mark rate and stock composition similar to that seen in the previous (March 20-21) fishery. Results of the fishery were within expectations, yet with 2,700 spring Chinook landed for the season, it was estimated that the commercial fishery was near its allocation for upriver spring Chinook (0.535% of the 0.545% available). The fishery was put on hold until a run size update was available, which typically occurs in late April or early May. By May 1, the run size remained at the preseason forecast of 78,500 upriver spring Chinook. Updated sampling data from the commercial catch indicated the mainstem fishery had slightly exceeded its allocated share of impacts (0.568% of the 0.545% available) at the preseason run-size.

TAC met weekly throughout May, but was not able to definitively conclude that the run would exceed the preseason forecast. On June 12, TAC determined that the run would exceed 82,000 fish, which was the benchmark for upriver impacts to increase from 1.5% to 2.0%. The fourth and final commercial fishery was an 8-hour (9 PM-5 AM), large mesh fishery occurring on June 14-15. Concerns about the Willamette River return and escapement to the Sandy River prompted staff to recommend the fishery take place in the 2S area, which is above the mouth of the Sandy River upstream to Beacon Rock. Based on a run size of 85,000 upriver fish, staff estimated the commercial fleet would achieve 80%-93% of their allocated impacts for the 2007 season with this final fishing period. A weekly landing limit of five white sturgeon was in place for the June fishing period. Participation in this final fishing period was low (6 deliveries) with only 30 spring Chinook landed.

Total landings for the 2007 commercial fishery were within the preseason catch expectations for both salmon and sturgeon. Based on CWT and VSI data, the spring Chinook harvest during non-Indian winter commercial seasons was comprised of 47% upriver stock, 30% Willamette stock, and 20% Cowlitz, Kalama, Lewis, and Sandy stocks, and 3% SAFE stock, while the released catch was comprised of 54% upriver stock, 41% Willamette stock, and 5% Cowlitz, Kalama, Lewis, and Sandy stocks. All steelhead handled through March 31 are considered winter steelhead. A total of 668 steelhead were handled, of which 368 were unmarked (wild and unmarked hatchery fish). Wild winter mortalities resulting from incidental handle were estimated to be 75 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 is closed beginning January 1 each year since 1993. The purpose of these regulations was to target

early migrating Willamette spring Chinook and reduce the catch of upriver spring Chinook. During 1995-1999, recreational fisheries for spring Chinook on the lower Columbia River were all but eliminated to protect a weak return of upriver spring Chinook in 1995 and low Willamette spring Chinook runs during 1996-1999. In 2000, biologists predicted the largest upriver run since 1977 (134,000 preseason projection) and an improved Willamette River run size of 59,900 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 total expected return of 430,400 adult spring Chinook to the Columbia River, including lower river spring Chinook stocks, with a majority of adipose fin-clipped fish allowed the states to adopt the first-ever mark-selective recreational fishery for hatchery spring Chinook on the lower Columbia River. Additionally, beginning March 12, 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 previously 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 successful with record high angler effort and catch rates. In-season management action was necessary to maintain the fishery within ESA guidelines and resulted in a brief 7-day closure. A limited mark-selective fishery during May 6-8 was also adopted for the mainstem Columbia River from The Dalles Dam upstream to McNary Dam.

Mark-selective recreational fisheries for spring Chinook also occurred during 2002-2006. 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 any mainstem Columbia River recreational fisheries. The TAC conducted extensive literature reviews in the past and concluded that, for management purposes, a post-release mortality rate of 10% should be applied to mainstem recreational salmon and steelhead fisheries.

Except for a one-fish bag limit enacted for the area between Rooster Rock and Bonneville Dam in 2005 (Table 21), daily bag limits for spring recreational salmon fisheries below Bonneville Dam have been 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. During all years, the states have attempted to balance the opportunity for anglers above Bonneville Dam. Regulations for the 2000-2007 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 Table 23.

### ***2007 Lower Columbia River Spring Chinook Recreational Fishery***

In 2007, the total spring Chinook run size was forecast to be 164,000 adults to the mouth of the Columbia, comprised of an upriver component of 78,500 fish and a lower river component of 85,500 fish, including 52,000 Willamette spring Chinook. The “2005-2007 *Interim Management Agreement*” provided for a 1.5% impact to ESA-listed upriver spring Chinook in all non-Indian fisheries in 2007, based on the preseason upriver Chinook run size forecast. The

1.5% allocation was further divided between the recreational and commercial fisheries with 0.855% for the recreational fishery (including fisheries above McNary Dam) and 0.645% for the commercial fishery (including SAFE). The states then applied past percentages of allocation among recreational fisheries and a buffer of 10% to commercial and sport fisheries to prevent exceeding the impact guidelines, leaving an impact limit of 0.580% for the fishery between Buoy 10 and Bonneville Dam.

Recreational fishing regulations for the 2007 spring Chinook fishery were adopted at the January 25 Compact hearing. The adopted recreational season was January 1-April 15 (or until guideline was reached) for the Columbia River from Buoy 10 to the I-5 Bridge, and March 16-April 30 from Tower Island powerlines upstream to McNary Dam and the Oregon bank between Bonneville Dam and Tower Island. Regulations adopted for the 2007 season included a seven-day per week fishery with the standard two fish daily bag limit for the Columbia River from Buoy 10 to the I-5 Bridge, and from Bonneville Dam to McNary Dam. Mark-selective regulations for spring Chinook (permanently adopted in 2002 for January 1-March 31 of each year) were extended for the duration of the 2007 fishery.

The Columbia River was clear and cold at the start of 2007, but many lower Columbia River tributaries were high and turbid during mid-February through late March. The first spring Chinook was sampled on February 10, 2007 at Willow Bar, but effort and catch were light during February and early March. In February, anglers caught 24 spring Chinook (all kept) and 143 winter steelhead (40 adipose fin-clipped fish kept and 103 unmarked fish released) from 4,405 trips. VSI sampling indicated that 33% of the February spring Chinook catch was comprised of upriver fish. Angler effort and catch increased during March as more fish entered the river, but the fishery continued to be limited by turbid water conditions for most of the month, especially downstream of the Cowlitz River. The total catch in March was 1,421 spring Chinook (1,110 kept and 311 released) and 522 steelhead (424 kept and 98 released) from 27,949 angler trips. Based on VSI sampling the March catch consisted of 45% upriver spring Chinook.

As water conditions in the Columbia River improved during April, catch rates also improved, particularly downstream of Puget Island. Joint State hearings were held on April 4th and April 11th to update catch information and impacts to upriver spring Chinook. Through April 8, approximately 46% of the upriver impact reserved for the lower river recreational fishery had been utilized, and the fishery appeared to be on track with preseason expectations due to low catch rates, despite low counts of upriver spring Chinook passing Bonneville Dam. Through April 10, the Bonneville Dam count was only 389 adult spring Chinook, which was similar to the low counts of 2005 and 2006 through the same date. On April 13, the states met again and estimated that the sport fishery would achieve its buffered impact by April 15. In the absence of a run size update from TAC, the states closed the Columbia River below the I-5 Bridge to salmon and steelhead angling, as planned, on the scheduled date of April 16. During April 1-15, anglers made 34,890 trips and caught 5,431 spring Chinook (4,507 kept and 924 released) and 206 steelhead (192 kept and 44 released). Upriver fish comprised 58% of the spring Chinook catch downstream of Bonneville Dam during April. As a result of low spring Chinook counts at Bonneville Dam, the fishery above Bonneville Dam lagged behind preseason catch expectations, remained below the impact limitations, and was extended through May 3.

On May 14, the TAC confirmed that the upriver run size was likely to meet the preseason forecast of 78,500 (+/- 2,500), based on a late timed run and recently improved passage of spring Chinook at Bonneville Dam. Given the range in the projected run size, the updated cumulative

impact in the lower river recreational fishery was estimated to be between 0.523% and 0.558% (compared to 0.580% limit), and the states reopened the recreational fishery between Tongue Point and the I-5 Bridge effective May 16-31. Catches were less than expected during the reopening, and on May 30 the states met again and extended the fishery between Tongue Point and the I-5 Bridge through June 15. On June 4, the TAC revised the upriver run size to between 80,500 and 84,000 spring Chinook. Available impacts for non-Indian fisheries increased to 2% at the high end of the updated forecast and catches were not expected to exceed the 1.5% impact available at the low end of the range, allowing the states to allow retention of spring Chinook from I-5 to Bonneville and reopen the area from Bonneville Dam upstream to McNary Dam effective June 6-15. Angler effort was high during the re-opener, but success was limited. During May 16-June 15, anglers below I-5 made 14,656 trips and caught 1,019 spring Chinook (698 kept and 321 released) and 1,335 steelhead (1,217 kept and 118 released). During June 6-15, anglers between I-5 and Bonneville made 1,110 trips and caught 229 spring Chinook (137 kept and 92 released) and three steelhead (kept). Upriver spring Chinook comprised 85% of the fish handled downstream of Bonneville Dam after May 16.

The total catch for the 2007 spring Chinook recreational fishery downstream of Bonneville Dam was 8,124 adult spring Chinook (6,476 kept and 1,648 released), 339 spring Chinook jacks, and 2,209 steelhead (1,876 kept and 333 released) from 83,010 angler trips. The total return of spring Chinook and correspondingly low angler effort and catch were both the lowest since mark-selective spring Chinook fisheries were initiated in 2001. However, 2007 spring angler effort was still the ninth highest on record for the thirty year period from 1977-2007, being exceeded only by 1977, 1990, and 2001-2006. Upriver spring Chinook comprised 61% of the total number of spring Chinook handled in recreational fisheries downstream of Bonneville Dam. Based on the final upriver run size of 86,200, the upriver Chinook impact in the recreational fishery below Bonneville Dam was 0.56%. The final catch for the fishery above Bonneville Dam was 596 fish kept and 150 fish released from an estimated 3,700 anglers, resulting in an upriver Chinook impact of 0.09%.

### ***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 summer Chinook season had occurred below Bonneville Dam since a 2-day season in 1964. The 2005 season consisted of six 10-hr 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 a total of thirteen 10-12 hour fisheries between June 26 and July 31, with the same area and gear requirements used in 2005. A limit of three sturgeon per vessel per week was in place throughout the season.

### ***2007 Lower River Summer Commercial Salmon Season***

Based on the preseason run size, 1,650 summer Chinook were available for commercial harvest. Initially, three fishing periods were adopted, 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 the summer season was about 1,100 Chinook (Table 19). Because upper Columbia

summer Chinook stocks are healthy and are not ESA-listed, retention of both adipose fin-clipped and unmarked summer Chinook was allowed.

### ***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 1973-2001. 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 directed specifically toward the harvest of hatchery summer steelhead. In 2000, the states modified the season to allow the retention of Chinook jacks ( $\leq 24$  inches).

In 2002, the states opened a summer Chinook fishery below Bonneville Dam during June 28-July 31 for the first time since 1973. A high mark rate of hatchery summer Chinook allowed the states to adopt mark-selective fishery regulations 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. During both years, Management Agreements allowed a 1% non-Indian impact to ESA-listed summer Chinook, and 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 the early portion of the summer run contained significant numbers of listed Snake River spring/summer Chinook and the later, upper Columbia portion of the summer Chinook run was not listed under the ESA. This reclassification allowed significantly higher harvest rates on the healthy, upper Columbia portion of the summer Chinook run including wild fish, while maintaining protection for listed Snake River spring/summer Chinook. 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 by early June, the spring Chinook run was projected to be only half of the preseason forecast. However, by late June the summer Chinook run appeared to be on target; therefore, the states allowed 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. During May 16-June 15, 2006 anglers made 23,196 trips below Bonneville Dam and caught 2,011 summer steelhead (1,893 kept and 118 released). Retention of summer Chinook was allowed during June 16 to July 31 based on the preseason forecast of 49,000. Sockeye retention was prohibited in 2006. High river flows during June and early July helped anglers achieve their highest catch rate and overall catch of summer Chinook since the fishery reopened in 2002, and an upgrade in the run size allowed managers to keep the fishery open through July 31. During June 16-July 31, anglers made 43,806 trips below Bonneville Dam and caught 4,940 adult summer Chinook (4,924 kept and 16 released; (Table 22), 56 Chinook jacks, 5,476 summer steelhead (3,927 adipose fin-clipped summer steelhead kept and 1,549 released), and 10 sockeye (all released).

### ***2007 Columbia River Summer Steelhead and Summer Chinook Recreational Fisheries***

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. During May 16-June 15, 2007 anglers made 15,766 trips below Bonneville Dam and caught 1,338 summer steelhead (1,220 kept and 118 released).

Retention of summer Chinook was allowed from June 16-30 based on the preseason forecast of 45,600, and agreements with upriver tribes that provided 1,650 Chinook for recreational fisheries downstream of Priest Rapids Dam. Sockeye retention was prohibited in 2007. During June 16-30, anglers made 23,732 trips below Bonneville Dam and caught 2,214 adult summer Chinook (all kept; Table 22), 339 Chinook jacks, 1,696 summer steelhead (1,475 adipose fin-clipped summer steelhead kept and 221 released), and seven sockeye (all released). During July 1-31, summer steelhead anglers made 16,036 trips and caught 5,168 summer steelhead (3,209 kept and 1,959 released). The total summer steelhead catch in the lower Columbia River during May 16-July 31, 2007 was 8,202 (5,904 kept and 2,298 released). During the 2007 summer Chinook fishery from Bonneville Dam to McNary Dam, an estimated 60 summer Chinook were kept, compared to the 40 Chinook kept during the 2006 fishery.

### ***Spring Chinook Fisheries Above McNary Dam***

A mark-selective recreational fishery occurred in 2007 on the Snake River upstream of Little Goose Dam from May 9 through June 30. The fishery was open seven days a week during daylight hours with a daily limit of one adipose fin-clipped Chinook. Total catch was 275 adult spring Chinook kept and 67 adults released.

In addition to the fishery in the Snake River, a recreational fishery occurred on the mainstem Columbia River in the area of Ringold Hatchery during 2007. The area was open for adipose fin-clipped hatchery Chinook retention May 1-June 15 (2-week extension) with a two fish bag limit. The hatchery side of the river was open to bank fishing only. High river flows eliminated much of the fishing area, which decreased catch, allowing for the two-week season extension. Catch included 120 kept and 4 released adult Chinook. The Ringold fishery has occurred intermittently over the years when broodstock goals have been reached and surplus hatchery Chinook have been available for harvest.

The Wanapum Tribe did not conduct a C&S fishery in the mainstem Columbia River below Priest Rapids Dam during the spring of 2006 or 2007.

### ***Lower Columbia River Tributary Spring Chinook Fisheries***

Tributary spring Chinook recreational fisheries below Bonneville Dam have been mark-selective since 2001. The 2007 preseason forecasts for adult spring Chinook returns to the Cowlitz (6,400), Kalama (4,000), and Lewis (5,500) rivers in Washington provided for liberal recreational fisheries that produced a total catch of 5,325 hatchery fish. The kept catch included 900 fish in the Cowlitz, 1,525 fish in the Kalama River, and 2,900 fish in the Lewis River (Table 25).

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 2006-2007 are not available at this time due to normal delays in receiving and processing angler catch record cards. An alternate method of estimating catch utilizes recent harvest rates and escapement data. Based on the most recent available five-year (2001-2005) average harvest rate of 29% and the 2007 Marmot Dam and hatchery return total of 2,420 fish, the estimated recreational catch for 2007 was 972 adult spring Chinook.

Beginning with the adoption of the Willamette River Spring Chinook FMEP in 2001, mark-selective fishery regulations were required for freshwater fisheries and freshwater impacts were limited to 15% of the wild Willamette River spring Chinook return. Based on studies in the Willamette River, post-release mortality for released Chinook in the Willamette River and tributaries is estimated to be 12.2%. In 2007, the lower Willamette River (below Willamette Falls) was open for spring Chinook angling seven days per week with a two fish daily bag limit under permanent mark-selective (adipose fin-clip) regulations.

The recreational catch in the lower Willamette River has declined in recent years consistent with the declining trend in adult returns observed since 2005 and significant fishing opportunity available in the mainstem Columbia River. The 2007 lower Willamette River recreational catch totaled 7,438 spring Chinook (5,439 kept and 1,999 released). The 2007 kept catch of 5,439 was 23% lower than the 2006 kept catch of 7,027 and was 29% lower than the recent 5-year average kept catch of 9,900 (Table 3). Angler effort in 2007 (74,799 trips) was similar to 2006 (74,967 trips), but the catch rate of 0.10 spring Chinook per angler day was higher than the catch rate (0.09 Chinook per angler day) observed in 2006. The total number of angler trips in the lower Willamette River during 2007 was higher than the late 1990s, but was less than one third of the record high 236,000 trips in 1991. Although total effort and catch were relatively low in 2007, lower Willamette River anglers harvested approximately 20% of the available marked hatchery fish.

The upper Willamette River (above Willamette Falls) spring Chinook recreational fishery opened on January 1, seven days per week, with regulations identical to the lower Willamette River. Release of unmarked Chinook was first required in the McKenzie River beginning in 1995 and was required in the mainstem Willamette and all tributaries beginning in 2001. 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). Estimates of the 2007 recreational catch for the fishery above Willamette Falls are not available because of normal delays in receiving and processing angler catch records.

The lower Clackamas River fishery was open to salmon and steelhead angling seven days per week and catch limits were consistent with the lower Willamette River recreational fishery. In accordance with the Willamette River spring Chinook FMEP, a mark-selective fishery allowing

only adipose fin-clipped salmon to be retained was in effect in the lower Clackamas River. Anglers in the 2007 lower Clackamas River recreational fishery caught an estimated 266 spring Chinook (211 kept and 55 released) from 4,668 angler trips. The kept catch and effort were well below the recent 5-year averages of 1,440 fish and 12,700 trips. The catch rate of 0.06 spring Chinook per angler day was about 50% of the recent 5-year average of 0.11 per angler day.

### ***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. Landings in the spring Youngs Bay commercial fishery have increased significantly from 1,821 Chinook landed in 1997 to 4,100-5,700 Chinook landed in 2002-2007. Table 6 lists Chinook harvest during winter-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 100% of the 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. Prior to 2006, fisheries were consistently closed during mid-March through mid-April to minimize the handle of non-local spring Chinook stocks, which tend to be most abundant in SAFE areas during this period. In 2006 and 2007, fisheries were allowed during these time periods, but were 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 during this timeframe.

Commercial fisheries for spring Chinook in Blind Slough began in 1998 with spring seasons only until 2000, when the first winter season was established. Nighttime weekday fishing periods have been consistently adopted to minimize interactions with recreational boaters. Annual landings have varied since the inception of the fishery in 1998. 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 2000-2001. In most years, seasons and open hours were consistent with Blind/Knappa Slough. 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 straying into 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, and no winter or spring seasons have been adopted since 2003.

Spring fisheries have been conducted in Deep River since 2003 with harvest ranging between 28-117 fish annually. Winter/spring/summer commercial and recreational catch in all Select Areas since 1993 can be found in Table 6.

### ***2007 Youngs Bay Winter/Spring/Summer Gillnet Season***

A winter commercial fishery was adopted for 2007 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 was expanded in 2006 and expanded further in 2007. A progressive fishery schedule was developed to allow the fishery to bridge the gap between the typical end of the winter season and the start of the spring season, and to access returning adults from South Fork Klaskanine Hatchery releases. To accomplish this, the fishery was constricted in time and area to avoid encounters of non-local stocks. The standard winter season was expanded slightly and consisted of eight fishing periods (18-hour) between February 14 and March 12. In addition, one 4-hour period (March 14) was set for the entire bay followed by eleven 12- to 18-hour periods between March 18 and April 10 held in upper Youngs Bay, above the powerlines located immediately downstream of the Walluski River mouth. Gear regulations were modified for this upper Youngs Bay fishery to allow the use of heavy nets above the mouth of the Walluski River. This strategy of constricting the fishery into the upper bay when non-local stocks could be present in the lower reach appears to have been an effective alternative to closing the fishery during this timeframe. The minimum mesh size for all winter fishing periods was restricted to seven inches 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 (with the exception noted above). The 20 fishing periods resulted in landings of 883 spring Chinook and 13 white sturgeon, the second highest Chinook catch since winter seasons began in 1998. Weekly white sturgeon landing limits were in place for winter, spring, and summer seasons.

The 2007 spring season in Youngs Bay began in late April and consisted of progressively longer fishing periods through mid-June. The scheduled opening period of April 19 (12-hours) was rescinded due to concerns about impacts to upriver spring Chinook. Ten 12-hour to 4-day periods occurred between April 23 and June 15. 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. The 2007 Youngs Bay spring fishery landed 4,070 Chinook, which is greater than the ten-year average Chinook harvest (3,557), and 161 white sturgeon. 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 spring Chinook, a six-week summer gillnet season was set in Youngs Bay from June 20-July 27. The 2007 summer season was open 6 AM Wednesday through 6 AM Friday each week for the entire season, which was an expansion in open hours over previous summer seasons. An 8-inch maximum mesh size restriction was adopted to target Chinook instead of sturgeon. The Youngs Bay summer fishery yielded landings of 256 Chinook and 10 white sturgeon; less than the 1999-2006 average Chinook harvest (369).

The combined Youngs Bay winter/spring/summer fishery stock composition was based on VSI and CWT analysis with a total of 2,865 Chinook (55% of the combined catch of 5,209 Chinook) examined for fin marks and CWTs and 183 CWTs being collected. Based on scale readings, verified with CWTs, the age composition of the catch was <1% age-2 (SAB jacks), 1% age-3, 13% age-4, 84% age-5, and <1% age-6 fish. The 2007 combined winter/spring/summer catch

was comprised of 91.0% spring Chinook and 1.8% SAB fall Chinook destined for Select Area sites, 0.7% spring Chinook and 0.1% summer (upper Columbia) Chinook destined for locations above Bonneville Dam, 5.3% Willamette River spring Chinook, and 1.1% spring Chinook destined for the Cowlitz, Kalama, Lewis, or Sandy rivers.

### ***2007 Blind Slough/Knappa Slough Winter/Spring Gillnet Season***

Similar to 2000-2006, a winter gillnet season with a 7-inch minimum mesh restriction was adopted for Blind Slough (excluding Knappa Slough) in 2007 to harvest early arriving, larger 5-year-old hatchery Chinook. The season adopted at the January 25, 2007 Compact hearing consisted of eight 12-hour periods (7 PM-7 AM) on Wednesday and Sunday nights during February 21-March 26 (except Wednesday March 14 and 21). During the winter fishing periods in 2007, a total of 85 spring Chinook and one white sturgeon were landed, which is the third highest winter season Chinook harvest. Weekly white sturgeon landing limits were in place for winter and spring seasons.

During the spring fishery, the Blind Slough Select Area site was 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. After the first three periods, the lower deadline in Knappa Slough was extended further downstream, to the western end of Minaker Island for the remaining 13 periods of the spring season. An 8-inch maximum mesh size restriction was enacted 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. As was the case with the other Select Areas, the scheduled opening period (April 19; 12-hours) was rescinded due to concerns about impacts to upriver spring Chinook. The 2007 spring fishery consisted of 16 12-hour (7 PM-7 AM) fishing periods occurring one or two weeknights each week between April 23 and June 15. The 2007 Blind/Knappa Slough spring fishery landed 1,451 spring Chinook and 49 white sturgeon. This Chinook harvest was slightly lower than average (1,503) but was an increase over the last two years.

The combined Blind Slough/Knappa Slough winter and spring fishery stock composition was based on VSI and CWT analysis with a total of 1,386 Chinook (90% of the combined catch) examined for fin marks and CWTs, and 216 CWTs being collected. Based on scale readings, verified with CWTs, the age composition of the catch was 3% age-3, 19% age-4, 78% age-5, and <1% age-6 fish. The 2007 Blind Slough/Knappa Slough catch was comprised of 96.4% spring Chinook destined for Select Area sites, 0.4% upriver spring Chinook, 2.8% Willamette River spring Chinook, and 0.5% spring Chinook destined for the Cowlitz, Kalama, Lewis, or Sandy rivers.

### ***2007 Deep River Spring Gillnet Season***

For the second consecutive year, a winter season of four weekly 14-hour periods from February 18 to March 12 was adopted for the Deep River site. The scheduled spring season opening period (April 19 12-hours) was rescinded along with the other Select Areas due to concerns about impacts to upriver spring Chinook. An expanded spring fishery consisting of 30 fishing periods occurring two or four nights (7 PM-7 AM) weekly between April 23 and June 15 was adopted at the January 25 and April 25, 2007 Compact hearings. 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, and no weight restrictions. 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, the seasons have been considered experimental with 100% sampling of the landed catch required before harvested fish could be transported out of the fishing area. No catch was reported in the winter season, and a total of 29 Chinook and 23 white sturgeon were harvested in the spring season. The 2007 spring Chinook catch continued the trend of extremely low harvest at this site. Weekly white sturgeon landing limits were in place for winter and spring seasons.

### ***Past Select Area Recreational Fisheries***

Since 1998, recreational seasons have been open year-round 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. Beginning in 2004, classification of Tongue Point and South Channel as Select Area recreational fishing sites were rescinded due to discontinuation of production level spring Chinook releases, and because these areas are 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.

Despite the fact that Select Area sites have been open year-round for recreational fishing since the inception of the SAFE project, participation expanded slowly due to limited adult returns early in the program's history. Recently, both effort and harvest in SAFE recreational fisheries have 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 a record high. Within 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).

### ***2007 Commercial Shad Seasons***

The Compact adopted a 29-day commercial shad season for Area 2S in 2007 which included all weekdays (except Memorial Day) from May 14 to June 22 during the hours of 3 PM to 10 PM. No Camas-Washougal Reef shad fishery occurred during 2000-2007 due to a lack of participation, except for a 2005 industry-requested season, which also had no participants (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 5<sup>3</sup>/<sub>8</sub> to 6<sup>1</sup>/<sub>4</sub>-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 2007 shad fishery produced landings of 14,125 shad (38,139 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 seven spring Chinook and one sockeye. The total estimated release mortality in the Area 2S fishery was one adult spring Chinook. The estimated handle and associated impacts to summer steelhead in this fishery had not been calculated as of the time of this report, and will be provided in a later report.

### ***2007 Non-Indian Impacts to ESA Listed Stocks***

The 2007 impact guideline for listed upriver spring Chinook in non-Indian Columbia River fisheries was 2.0%, based on the final run size. The impact rate was allocated 57% to recreational fisheries, including fisheries above McNary Dam, and 43% to commercial fisheries including SAFE. The actual impact rate for all listed upriver spring Chinook totaled 1.24% combined, compared to the ESA limit of 2.0%. The impact rate from non-Indian fisheries in 2007 on Snake River wild spring Chinook was 1.24% and 1.22% on upper Columbia wild spring Chinook.

The impact rate on ESA-listed upriver spring Chinook in mainstem recreational fisheries was 0.72% compared to the allocation of 1.14%. The impact rate on ESA-listed upriver spring Chinook in the commercial fishery was 0.52%, compared to the allocation of 0.86%. The recreational and commercial fisheries used 63% and 61% of their impact rate allocations, respectively. The total non-Indian impact rate of 1.24% was considerably less than the 2% allowed based on the final run size, but was near the 1.5% impact rate fisheries were managed for until the increased run update became available late in the run. The exceptionally late timing of the upriver run made it difficult to predict the actual run size in-season and fisheries were managed to the lower 1.5% limit until well after the peak abundance of spring Chinook had moved through the major lower river fisheries.

Mainstem fishery impacts to wild winter steelhead are estimated to be 0.6% (0.5% commercial and 0.1% sport), compared to the 2% ESA impact rate limit.

It is estimated that no Snake River sockeye mortalities occurred as a result of non-Indian fisheries conducted during 2007. Total impacts to Snake River sockeye are estimated to be zero in 2007, compared to the allowable impact rate of 1%.

Impacts to wild Willamette River spring Chinook are reported separately by ODFW in an annual report to NOAA Fisheries. This report is typically finalized and submitted in late January or early February, and was not completed at the time of this report. Final data analyses used to calculate impacts to wild Willamette spring Chinook have not been completed, but preliminary estimates indicate that total impacts from all freshwater fisheries on wild Willamette spring Chinook are less than 10%, compared to the 15% ESA limit.

## Treaty Indian Fisheries

### *2007 Treaty Indian Winter Commercial Season*

The 2007 winter sturgeon setline fishery was open in all of Zone 6 from January 1 to January 31. Six sturgeon were harvested. The winter gillnet season was open for 37 days from February 1 through March 9 in The Dalles pool and 49 days from February 1 through March 21 in the Bonneville and John Day pools. The 2007 winter gillnet season commercial sturgeon catch of 1,114 fish was higher than 2006, when 815 sturgeon were caught. Steelhead catches were higher than in 2006 catches, walleye catches were less than in 2006, and the Chinook catch was slightly higher than in 2006. The total 2007 catch was 558 steelhead, 3 spring Chinook, and 85 walleye (Table 26). The winter season steelhead catch has generally been low in recent years, due to fishers targeting sturgeon.

<b>2007 Treaty Indian Winter Commercial Landings</b>					
Pool	Steelhead	White Sturgeon		Walleye	Chinook
		Setline	Gillnet		
Bonneville	288	5	280	18	3
The Dalles	2	1	606	1	0
John Day	268	0	228	66	0
<b>Total</b>	<b>558</b>	<b>6</b>	<b>1,114</b>	<b>85</b>	<b>3</b>

### *2007 Treaty Indian Mainstem Spring and Summer Chinook and Sockeye Fisheries*

Tribal intent for 2007 spring Chinook fisheries was to remain within impact rates allowed by the 2005-2007 Interim Management Agreement. The preseason planning for the 2007 treaty mainstem harvest included 5,495 spring Chinook (7% of the 78,500 forecasted run), 8,300 summer Chinook (18.2% of 45,600 forecasted run), and 1,365 sockeye (5.0% of the 27,300 forecasted run). The four tribes issued permits for gillnet C&S fisheries for spring Chinook from March through June 15, and allowed the platform/hook and line fishery to retain spring Chinook and steelhead for subsistence purposes only. There were no spring season commercial fisheries in 2007. The estimated C&S gillnet permit catch was 4,641 spring Chinook (5.4% of 86,200 final upriver run). Three spring Chinook were caught during the winter commercial sturgeon fishery. The estimated catches for the platform and hook-and-line C&S fisheries were 1,500 spring Chinook (1.7% of 86,200 upriver run). The total harvest of upriver spring Chinook was 6,144 or 7.1% compared to a 7% management limit (Table 7). Estimates of spring Chinook stock composition are based on upriver run proportions determined by the TAC run reconstruction.

During the summer management period, the platform/hook-and-line catch of summer Chinook was 811 (2.2% of 37,200 upriver run). There were also 4,564 summer Chinook harvested in three weekly commercial gillnet openings (2½ - 3½ days/week) (12.3%). During 2007, the total summer Chinook harvest was 5,375 (14.4% of the run; Table 10).

There were 1,170 sockeye caught in platform and hook-and-line C&S fisheries and 244 sockeye caught incidentally (and retained for subsistence) in commercial gillnet fisheries. The overall catch of 1,414 was 5.4% of the 2007 actual return as compared to the allowed harvest rate of 5%. The TAC estimated that four of the sockeye caught were Snake River sockeye (Table 16).

Steelhead harvest during winter and spring fisheries was 1,920 fish. Harvest was similar to 2006 when 1,906 steelhead were landed. Winter, spring, and summer platform fisheries were not sampled in 2007 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 2005-2006 run. Presuming all steelhead caught in the winter period (prior to March 21) were winter steelhead and all steelhead passing Bonneville between November 1 and March 31 were winter steelhead, the Bonneville Pool winter steelhead harvest was 288, The Dalles Pool harvest was 2 fish, and the John Day Pool harvest was 268 fish. The estimated wild harvest (based on the ad-clip rate at Bonneville Dam) was 54, which was a 2.3% harvest rate on wild steelhead passing Bonneville Dam. The spring season steelhead harvest was 323, of which 80 were estimated to be wild (based on ad-clip rates at Bonneville Dam). The summer season harvest was 1,039 of which 389 were estimated to be wild (based on ad-clip rates at Bonneville Dam).

### ***2007 Ceremonial and Subsistence Entitlement***

The Interim Management Agreement as well as the expired CRFMP identified a minimum C&S annual entitlement to the Columbia River treaty tribes of 10,000 spring and summer Chinook, or fish of equivalent quality. After spring and summer C&S platform and permit gillnet 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 for the full entitlement, without using surplus fish from ODFW or WDFW.

<b>2007 Ceremonial and Subsistence Entitlement Summary</b>		
C&S permit gillnet spring fishery	4,641	spring Chinook
Winter gillnet fishery	3	spring Chinook
C&S platform winter/spring fishery	1,500	spring Chinook
C&S permit gillnet summer fishery	0	summer Chinook
C&S platform summer fishery	811	summer Chinook
Commercial gillnet fishery	4,564	summer Chinook
<b><i>Total</i></b>	<b><i>11,519</i></b>	<b><i>Spring and summer Chinook</i></b>

### ***2007 Shad Fisheries***

The 2007 treaty shad catch estimate is 500 fish caught in the Zone 6 platform fishery. Most of these shad were sold commercially. There was also a directed commercial harvest of shad in 2007 in the trap-net fishery at The Dalles Dam. Final harvest estimates are not yet available for this fishery. Intensive in-season monitoring indicated that there were no salmonid mortalities associated with the 2007 shad trap-net fishery.

## 2008 MANAGEMENT GUIDELINES

### Endangered Species Act

#### *Salmon and Steelhead*

Stock status reviews occurring since 1991 have resulted in the majority of Columbia Basin salmon and steelhead stocks being listed under the ESA. The *US v Oregon* Technical Advisory Committee (TAC) prepares a biological assessment (BA) for combined fisheries based on relevant *US v Oregon* management plans and agreements. The TAC has completed BAs of impacts to all ESA-listed salmonid stocks (including steelhead) for all mainstem Columbia River fisheries since January 1992, and for Snake River Basin fisheries since January 1993.

A BA concerning Columbia River treaty Indian and non-Indian fisheries, as described in the recently adopted “2005-2007 Interim Management Agreement for upriver Chinook, sockeye, steelhead, coho, and white sturgeon”, was submitted to NMFS during the spring of 2005, and a BO was issued by NMFS on May 9<sup>th</sup>, 2005. This current BA expired December 31, 2007; however, NMFS has extended coverage for the fisheries through March 2008, when the parties to *US v Oregon* will finalize the new 10-year agreement (2008-2017) and TAC will submit the resulting BA.

<i>Federally-listed Species Found in Columbia River Fishery Management Areas.<sup>1</sup></i>			
Species - ESU	Designation	Listing Date	Effective Date
<u>Chinook</u>			
Snake River Fall	Threatened	April 22, 1992	May 22, 1992
<b>Snake River Spring/Summer</b>	Threatened	April 22, 1992	May 22, 1992
<b>Upper Columbia Spring</b>	Endangered	March 24, 1999	May 24, 1999
<b>Upper Columbia Summer/Fall</b>	Not warranted	--	--
<b>Middle Columbia Spring</b>	Not warranted	--	--
<b>Lower Columbia River Spring/Fall</b>	Threatened	March 24, 1999	May 24, 1999
<b>Upper Willamette Spring</b>	Threatened	March 24, 1999	May 24, 1999
Deschutes River Fall	Not warranted	--	--
<u>Steelhead</u>			
<b>Snake River</b>	Threatened	August 18, 1997	October 17, 1997
<b>Upper Columbia River<sup>2</sup></b>	Endangered	August 18, 1997	October 17, 1997
<b>Lower Columbia River</b>	Threatened	March 19, 1998	May 18, 1998
<b>Middle Columbia River</b>	Threatened	March 25, 1999	May 24, 1999
Southwest Washington	Not warranted	--	--
<b>Upper Willamette</b>	Threatened	March 25, 1999	May 24, 1999
<b>Sockeye – Snake River</b>	Endangered	November 20, 1991	December 20, 1991
<u>Chum</u> – Columbia River	Threatened	March 25, 1999	May 24, 1999
<u>Coho</u> – Columbia River <sup>3</sup>	Threatened	June 28, 2005	August 26, 2005
<b>Green Sturgeon- Southern DPS</b>	Threatened	April 7, 2006	July 7, 2006

<sup>1</sup> 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.

<sup>2</sup> Includes hatchery fish.

<sup>3</sup> This ESU includes all naturally spawning population of coho salmon in the Columbia River and its tributaries from the mouth of the Columbia up to and including the White Salmon and Hood rivers. Lower Columbia River coho destined for Oregon tributaries were listed as an endangered species under Oregon state law in July 1999.

### ***Wild Winter Steelhead Management***

Non-Indian fisheries conducted during the winter season incidentally handle wild winter steelhead while targeting hatchery Chinook or hatchery steelhead. Historically, the majority of the Columbia River winter steelhead recreational catch occurs during February through April in conjunction with the spring Chinook fishery. 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 commercial spring Chinook seasons. Tributary fisheries are conducted under separate permits issued by NMFS and the associated steelhead impacts are considered separately from mainstem fisheries.

Prior to 1975, winter steelhead were an important species targeted by lower Columbia River commercial fisheries during December through March. After commercial sales were eliminated in the mid 1970s, steps were taken to minimize the incidental impact to winter steelhead during commercial fisheries targeting Willamette hatchery spring Chinook. 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***

In June 2001, the NMFS was petitioned to list green sturgeon. The Biological Review Team (BRT) identified two DPSs within the North American green sturgeon population. On April 5, 2005, NMFS filed a proposed rule to list the Southern DPS of the North American green sturgeon (those spawning in the Sacramento River, California) as threatened (70 FR 17386) and subsequently listed the Southern DPS as threatened (71 FR 17757) on April 7, 2006. A supplemental BA was submitted to NMFS on June 21, 2006 with a corresponding BO covering 2006-2007 *US v Oregon* fisheries issued on October 11, 2006. Fish from the southern (and northern) DPS are present in the Columbia River estuary during the summer months, but are typically offshore from late fall through early spring. Winter and spring test fisheries and commercial landings over the last few decades have captured few green sturgeon. Commercial sale of green sturgeon from Columbia River commercial fisheries was prohibited effective July 7, 2006, and retention of green sturgeon in Columbia River recreational fisheries was prohibited in January 2007. Impacts to green sturgeon from fisheries described in this report are expected to be minimal.

### ***Marbled Murrelet***

The threatened status of the marbled murrelet has not changed since initially listed October 1, 1992. Fisheries described in this report are not likely to adversely affect this species.

## **2008 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 a new plan covering fisheries from January 2005 through December 2007. A new, 10-year agreement is in the final stages of completion, and is expected to be in effect by March 2008. The 2005-2007 Interim Management Agreement has been extended until the new agreement is in place. The interim agreement titled “2005-2007 Interim Management Agreement for Upriver Chinook, Sockeye, Steelhead, Coho and White Sturgeon” provides specific fishery management

constraints for upriver spring and summer Chinook, steelhead, and sockeye. Guidelines from the Interim Management Agreement, and other agreements, are highlighted below.

Fisheries conducted in 2008 will be managed in accordance with the “2005-2007 Interim Management Agreement for Upriver Chinook, Sockeye, Steelhead, Coho and White Sturgeon”, through March 2008, pending finalization of the new management agreement, scheduled to be in effect through 2017. Fisheries conducted in 2008 will also follow Commission guidance regarding allocation between recreational and commercial fisheries of harvestable fish and/or impacts to ESA listed species.

### ***Upriver Spring Chinook***

Non-Indian and treaty Indian winter and spring season fisheries will be managed in accordance with harvest rate schedules provided in the 2008-2017 agreement that are expected to be similar to those provided in Table A1 of the "2005-2007 Interim Management Agreement for Upriver Chinook, Sockeye, Steelhead, Coho and White Sturgeon". Based on 2008 preseason forecasts, the spring Chinook harvest allocation table allows for non-Indian impacts up to 2.0% of the upriver spring Chinook run and treaty Indian impacts up to 10.0%.

Total Upriver Spring and Snake River Summer Chinook Run Size	Snake River Natural Spring/Summer Chinook Run Size <sup>1</sup>	Treaty Zone 6 Total Harvest Rate <sup>2,5</sup>	Non-Treaty Natural Harvest Rate <sup>3</sup>	Total Natural Harvest Rate <sup>4</sup>	Non-Treaty Natural Limited Harvest Rate <sup>4</sup>
<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	7.0%	2.0%	9.0%	1.5%
109,000	10,900	8.0%	2.0%	10.0%	
141,000	14,100	9.0%	2.0%	11.0%	
<b>217,000</b>	<b>21,700</b>	<b>10.0%</b>	<b>2.0%</b>	<b>12.0%</b>	
271,000	27,100	11.0%	2.0%	13.0%	
326,000	32,600	12.0%	2.0%	14.0%	
380,000	38,000	13.0%	2.0%	15.0%	
434,000	43,400	14.0%	2.0%	16.0%	
488,000	48,800	15.0%	2.0%	17.0%	

<sup>1</sup> 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.

<sup>2</sup> 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.

<sup>3</sup> 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 Enhancement) 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.

<sup>4</sup> 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.

The 2005-2007 Interim Management Agreement 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 from the January 1 through June 15 management period. Tributary harvest of spring and summer Chinook is not included in this entitlement. It is understood that if the total mainstem Columbia River treaty Indian harvest of spring and summer Chinook is greater than or equal to 10,000 spring and summer Chinook, then this entitlement has been met. If the total mainstem Columbia River treaty Indian harvest of spring and summer Chinook is less than 10,000, then the difference will be distributed to the tribes from spring Chinook hatcheries below Bonneville Dam as first priority. If spring Chinook are not available from hatcheries below Bonneville Dam, or by agreement of the parties, the entitlement may be filled from other hatchery sources of equivalent quantity and quality.

### **Upper Columbia River Summer Chinook**

Non-Indian and treaty Indian summer fisheries will be managed in accordance with the 2008-2017 management agreement. Although the new harvest rate schedule is not available at this time, the 2008-2017 schedule is expected to be similar to Table A2 of the "2005-2007 Interim Management Agreement for Upriver Chinook, Sockeye, Steelhead, Coho and White Sturgeon". 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. In the 2005-2007 agreement, 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. Mainstem fisheries will not be managed for these individual components. The following table lists the components of the goal:

<b>Run Size at River Mouth</b>	<b>Allowed Treaty Harvest</b>	<b>Allowed Non-Treaty Harvest</b>
<5,000	5%	<100 Chinook
5,000-<16,000	%	<200 Chinook
16,000-<29,000	10%	5%
29,000-<32,000	10%	5-6%
32,000-<36,250	10%	7%
(125% of 29,000 goal)		
36,250-50,000	50% of total harvestable <sup>1</sup>	50% of total harvestable <sup>1</sup>
<b>&gt;50,000</b>	<b>50% of 75% of margin above 50,000 plus 10,500<sup>2</sup></b>	<b>50% of 75% of margin above 50,000 plus 10,500<sup>2</sup></b>

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

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

Based on the run forecast for 2008 of 52,000 upper Columbia summer Chinook at the mouth of the Columbia River, the available harvest is 22,000 fish divided equally between treaty Indian fisheries and all recreational and commercial non-Indian fisheries, including recreational and non-treaty tribal fisheries above McNary Dam.

***Sockeye***

Management and harvest rate schedules for sockeye during 2008-2017 are expected to be similar to those in place during 2005-2007. 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:

<i>Table A3. Treaty Indian Sockeye Harvest Rate Schedule, 2005-2007.</i>	
<b>Upriver Sockeye Run Size</b>	<b>Harvest Rate</b>
<50,000	5%
50,000-75,000	7%
>75,000	7%, with further discussion

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

**Non-Indian Allocation of Upriver Impacts**

2008-2017 management and harvest rate schedules for spring Chinook are expected to be similar to those in place during 2005-2007. The 2005-2007 Interim Management Agreement provides a harvest rate for upriver spring Chinook of 2.0% for non-Indian recreational and commercial fisheries for 2008, based on the preseason forecast. Guiding principles and fisheries management objectives will be adopted to provide staff with guidance when shaping fisheries preseason and managing fisheries in-season. Guidelines for fisheries during 2004-2007 have been similar.

The Directors of WDFW and ODFW also provide staff with additional guidance for implementing OFWC and WFWC Commission policies concerning allocation of non-Indian spring Chinook impacts between recreational and commercial fisheries.

Until guiding principles and management objectives are adopted for 2008 fisheries, staff will continue to follow those adopted for 2006-2007.

**Mainstem Columbia River Spring Chinook Allocation for Non-Indian Fisheries, 2006-2007.**

**Guiding Principles**

- Meet conservation requirements for wild spring Chinook, including populations listed under the federal Endangered Species Act.
- Manage non-Indian harvest of spring Chinook within the provisions of the *US v Oregon* Management Agreement for upriver spring/summer Chinook.
- Manage harvest to meet hatchery escapement goals.
- Focus recreational and commercial fisheries allocation on harvest of hatchery fish by implementing live capture and release of unmarked spring Chinook.

**Fisheries Management Objectives**

- Specific structure of recreational and commercial fisheries will be set by the Columbia River Compact on an annual basis to meet adopted allocation policies and fisheries objectives after annual run size forecasts are available.
- Provide for in-season management flexibility to utilize the non-Indian upriver spring Chinook impact allocation to meet the objectives of both fisheries, i.e., upriver impact sharing adjustments in response to in-season information pertaining to catch and run size.
- Adjustments to the recreational fishery may occur in-season if it is estimated the fishery will not continue through April. In-season adjustments may include such options as day and area closures.
- Recognize economic benefits of recreational and commercial fisheries in the Columbia River.
- Provide for recreational fisheries throughout the Columbia River downstream of McNary Dam, sport/tribal fisheries in the Snake River and Upper Columbia River, commercial fisheries in the lower Columbia River, and commercial and recreational fisheries in Select Areas.

**Willamette Spring Chinook Management**

***Fishery Management and Evaluation Plan for Willamette Spring Chinook***

On May 24, 1999 wild spring Chinook destined for the Willamette River Basin were listed as threatened under the ESA. In accordance with the threatened listing, the state of Oregon completed an FMEP to comply with Section 4(d) of the ESA. The FMEP set forth wild Willamette River spring Chinook freshwater impact limits of 20% for 2001 and 15% for 2002 and beyond. The FMEP also addresses 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 also requires that all wild Willamette River spring Chinook landed in mainstem Columbia River and Willamette River fisheries be released. The ODFW annually conducts a comprehensive review of fisheries to evaluate whether fisheries and wild populations are performing as expected. Annual reviews will be conducted until such time as wild stocks are recovered or de-listed. In accordance with the FMEP, recreational and commercial fisheries occurring in 2008 will be managed to ensure that cumulative freshwater mortality from recreational and commercial fisheries do not exceed 15% on wild spring Chinook 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 for the main-stem Willamette River, the Clackamas River Basin, the Molalla and Pudding rivers, the Santiam and Calapooia River basins, the McKenzie River Basin, and the Willamette River Basin above the mouth of the McKenzie River. On February 27, 1998 the OFWC adopted revisions to the spring Chinook chapters of the WFMP, and on February 19, 1999 the OFWC further revised the fishery matrix regime in the “Mainstem Willamette Spring Chinook” chapter. Beginning in 2001, freshwater fisheries were managed in

accordance with a new FMEP, which superseded the prior fishery matrix regime. For 2001 mainstem Columbia River fisheries, impact limits of 6-7% for commercial fisheries and 1.7% for recreational fisheries were adopted by the OFWC.

More recently, the operating policies and objectives of the mainstem WFMP for spring Chinook were revised in accordance with the recently completed FMEP for Willamette spring Chinook, and these revisions were adopted at the OFWC meeting on December 14, 2001. 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. These escapement levels are designed to provide for full mark-selective fisheries in Willamette River tributaries and the mainstem Willamette River above Willamette Falls, and meet hatchery broodstock escapement goals. The increase in escapement goals as the hatchery run size increases allows fisheries above Willamette Falls and lower Willamette River and mainstem Columbia River recreational and commercial fisheries to share in increased fishery benefits created by increased abundances of hatchery fish.

<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
<b>&lt;40,000</b>	<b>20,000</b>	<b>3,000</b>	<b>23,000</b>
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

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. The allocation plan is designed to allow for full 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
<b>23,000-39,999</b>	<b>100%</b>	<b>&lt;1% of predicted return as incidental for other fisheries</b>
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 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. The 2006-2008 agreement provides guidance on season structure, allocation, and other issues for recreational and commercial fisheries in the mainstem Columbia River and Select Areas. For detailed information, see "2008 Joint Staff Report: Stock Status and Fisheries for Sturgeon and Smelt" dated December 3, 2007.

### 2008 WINTER, SPRING, AND SUMMER SEASON EXPECTATIONS

Fisheries conducted in 2008 will be managed in accordance with the "2005-2007 Interim Management Agreement for Upriver Chinook, Sockeye, Steelhead, Coho and White Sturgeon", through March 2008, pending finalization of the new management agreement, scheduled to be in effect through 2017. Fisheries conducted in 2008 will also follow Commission guidance regarding allocation between recreational and commercial fisheries of harvestable fish and/or impacts to ESA listed species.

A sliding scale harvest matrix will continue to be in effect for upriver spring Chinook. Based on the 2005-2007 harvest rate schedule and the 2008 river mouth run size forecast for upriver spring Chinook, the total harvest rate on upriver spring Chinook is expected to be 12.0%, with 2.0% allocated to non-Indian fisheries, and 10% allocated to treaty Indian fisheries. Non-Indian fisheries will include mark-selective recreational and commercial spring Chinook fisheries where the release of unmarked Chinook will be required. 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 (Table A1). Mainstem summer Chinook fisheries occurring after June 15 will be managed based on the 2008-2017 Interim Management Agreement and the draft Upper Columbia Management Agreement. Impacts to listed sockeye will vary depending on run size, which will be updated in-season. Impacts to steelhead in non-Indian fisheries will occur as release mortalities during recreational and commercial fisheries.

Recognizing the complexities of managing a mixed stock fishery, 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. Potential mainstem Columbia River commercial and recreational fisheries for the winter, spring, and summer time frames will be considered at the February 15, 2008 Compact/Joint State hearing. Ongoing and proposed fisheries will be considered at future hearings and other management forums.

### 2008 Non-Indian Fisheries

#### *Commercial Winter Sturgeon Fishery*

*(Adopted by the Compact on December 13, 2007, amended at the January 24, 2008 hearing)*

- 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 8 - February 12, 2008.
- Season dates, gear restrictions, and expected catches are included in the **2008 Winter Fact Sheets #1 and #2** and associated action notices dated December 13, 2007 and January 24, 2008.

### ***Commercial Spring Chinook Fisheries***

- Allocation to be determined by Commissions in early February.
- 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).
- Low forecasted return of Willamette hatchery spring Chinook results in few Willamette fish available for commercial harvest (incidental catch in 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 periods 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 February 15, 2008 hearing)***

- Allocation to be determined by Commissions in early February.
- Mark-selective fishery – release of all non-adipose fin clipped salmon required.
- Catch expectations and impact limits are set forth in the Interim Management Agreement and the Willamette FMEP.
- Approximately 4,200-6,000 Willamette hatchery spring Chinook available for harvest below Willamette Falls (including the mainstem Columbia).
- Under permanent regulations, the fishery is currently scheduled to remain 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 may 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.

### ***Select Area Commercial Fisheries***

#### ***(Compact and Joint State consideration at both the January 24, 2008 and February 15, 2008 hearings)***

- Proposed fishing periods for February in Blind Slough, Deep River, and Youngs Bay Select Areas were described in the **Winter Fact Sheet #2** developed for the January 24, 2008 Compact hearing. Additional fishing periods for winter (March through mid-April), spring and summer seasons will be considered at the February 15, 2008 hearing.
- Winter and spring seasons will be proposed for all sites, and a summer season will be proposed for Youngs Bay. Additional fishing time in upper Youngs Bay similar in structure to that in 2006-2007 will be considered.
- Staff propose that 2008 Select Area winter/spring commercial fisheries be managed for a stable, full-season while still minimizing harvest of non-target stocks.
- A limited spring season may be proposed for Tongue Point at a late spring Compact hearing, after impacts have been assessed for the winter and early spring seasons.
- The Compact will set seasons for Select Areas in concurrent jurisdiction waters, and ODFW and WDFW 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 2008 will be similar to those proposed in 2007, but will be finalized based on input from a public meeting concerning spring Select Area fisheries that occurred on January 17, 2008 in Astoria, Oregon.
- Effective February 13, 2008, non-resident fishing and boat licenses are not required of Washington fishers participating in Youngs Bay Select Area commercial fisheries.

***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.
- Any modifications to the fisheries listed above may be addressed at the February 15 hearing, or at future hearings as the season progresses
- Retention of sockeye is not expected to be allowed in Oregon or Washington waters during 2008.

***Columbia River Summer Chinook Recreational and Commercial Fisheries***

- Summer season occurs during June 16 to July 31.
- Non-treaty Indian allocation is 11,000 summer Chinook (based on the preseason forecast).
- WDFW Draft Upper Columbia Management plan calls for the majority of the allocation to be harvested in areas above Priest Rapids Dam.
- Washington and Oregon Commission guidance will be provided for the remaining harvestable fish to be split between commercial fisheries and recreational fisheries conducted below Priest Rapids Dam.

***Area 2S Shad Fishery  
(Compact consideration February 15, 2008)***

- Recommendations are that the Area 2S shad fishery operate using 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 2008 shad fishery is expected to be similar to the low levels observed since 1996.

***Washougal Reef Shad Fishery***

- A commercial shad season for the Washougal Reef area will not be proposed for 2008.

**2008 Treaty Indian Fisheries**

Spring Chinook harvest in treaty Indian fisheries has occurred primarily in the C&S fisheries except in years of high abundance, such as in 2000-2004, when commercial fisheries have been allowed. 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 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 fisheries. Tribal staffs will continue to monitor the C&S fishery and provide in-season accounting of this fishery. The tribes may implement commercial spring Chinook fisheries depending on the run size and would bring any commercial proposal before the Compact. Based on the 2008 pre-season forecast, spring season commercial fisheries are possible, 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 2008. Based on the 2008 pre-season forecast for sockeye, it is possible 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.

***2008 Treaty Winter Commercial Fisheries  
(Washington State consideration January 24, 2008)***

- The winter sturgeon setline fishery occurs by permanent regulation from January 1 through January 31.
- The tribes plan to manage the winter gillnet fishery consistent with the expired Columbia River Fish Management Plan (CRFMP) which states in section II.B.1. “The treaty Indian winter gillnet fishery shall commence on February 1 and shall terminate on March 21 to minimize the incidental harvest of upriver destined spring Chinook.”
- The 2008 winter gillnet fishery is expected to be open in all of Zone 6 from February 1 to March 21. The fishery may close early if sturgeon harvest guidelines are met. In recent years, most of the winter gillnet harvest has been sturgeon with incidental catches of steelhead and Chinook. The steelhead catch is a mix of hatchery and wild steelhead. The wild steelhead harvest would be comprised of winter steelhead and holdover summer steelhead in the Bonneville Pool and holdover summer steelhead in The Dalles and John Day Pools.
- The 2008 winter season fisheries are expected to have similar effort compared to 2007 and similar impacts to salmon and steelhead.
- The 2008 Zone 6 sturgeon harvest guidelines will be set by the states and tribes in late January.

***2008 Treaty Indian Spring Season Fisheries***

- The treaty tribes have not yet determined the structure of their 2008 spring Chinook fisheries.
- Treaty Indian winter and spring season fisheries will be managed in accordance with the 2008-2017 management agreement, which is expected to be similar to Table A1 of the "2005-2007 Interim Management Agreement for Upriver Chinook, Sockeye, Steelhead, Coho and White Sturgeon".
- Based on the 2005-2007 Interim Management Agreement and the preseason run size forecast, the tribes will manage for a 10% harvest rate on upriver spring Chinook.
- The tribes anticipate that no more than 600 steelhead will be caught in spring fisheries. The majority of the catch would be Skamania stock hatchery summer steelhead returns, holdovers summer steelhead, and kelts.

### ***2008 Treaty Indian Summer Season Fisheries***

- The treaty tribes have not yet determined the structure of their 2008 summer Chinook and sockeye fisheries (platform and permit gillnet or potential commercial fisheries). Summer Chinook, sockeye, and steelhead are expected to be caught in the summer fishery.
- Summer season fisheries will target unlisted upper Columbia summer Chinook and possibly upper Columbia River sockeye if returns are similar to preseason forecast. Based on the preseason forecast, treaty fisheries will be allowed a summer Chinook catch of approximately 11,500 fish. The 2008 summer steelhead harvest is expected to be similar to recent years. Commercial fisheries targeting summer Chinook are likely. Commercial sockeye fisheries are possible.

### ***2008 Treaty Indian Shad Fisheries***

Implementation of a shad dipnet fishery at The Dalles Dam east ladder exit will depend on identifying a market. Any new gears or methods would be expected to have little or no adverse impact to listed salmonids. Run timing data indicate that shad fishing in Zone 6 should occur in the month of June. This is generally the period of maximum shad-to-Chinook and shad-to-sockeye ratios, based on counts at Bonneville Dam (Figure 1). Daily fish ladder counts during this period average about 50,000 shad, 370 Chinook, and 30 sockeye.

Summer Chinook counting at Bonneville Dam begins on June 16. Results of experimental fisheries in 1994-1996 suggest that trap net and dip net harvest methods encounter very few salmonids. This information suggests that less than 20 Chinook will be handled, with zero mortalities. Any Chinook or sockeye mortalities will be counted as part of the allowable impacts for those species. Sockeye salmon will begin to enter the shad fishing area in mid-June. On average, 45% of the sockeye run will have passed The Dalles Dam by June 28.

Primary issues with the experimental shad fishery are related to safety, possible delay in upstream salmonid migration, and associated delayed mortality of salmonids that may be caused if fishing activities are carried out in the immediate vicinity of fishway entrances and exits. Resolution of these issues and mutual agreement by the managing entities will be sought before exact fishing locations are established. Based on recent years' experience, it is unlikely that significant numbers of salmonids will be encountered in dip nets or trap nets. However, in the event that a salmon is observed in the dip net or trap net, it will be immediately released unharmed upstream of the fishing area and gear. Impacts associated with experimental shad fisheries will be included in the total harvest of all treaty Indian fisheries.

The Joint Staff recommends that treaty Indian fishers continue to be allowed to sell shad caught incidentally to commercial salmonid seasons and in traditional platform/hook-and-line and dip net fisheries, as well as the proposed trap fisheries.

## **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 2008, the Joint Staff will include any recommended changes to miscellaneous regulations in the February 15, 2008 Fact Sheet.

The Sturgeon Management Task Force (SMTF) met January 23, 2008 to discuss and develop a management plan for 2008 Zone 6 white sturgeon fisheries. Results of the SMTF meetings were presented at the January 24, 2008 Compact hearing.

Oregon Department of Fish and Wildlife  
Washington Department of Fish and Wildlife  
January 31, 2008

**Table 1. Minimum Adult Spring Chinook Run Entering The Columbia River, 1980-2007. <sup>1</sup>**

Year	Select Areas <sup>2</sup>	Cowlitz River	Kalama River	Lewis River	Sandy River	Willamette River	Upriver Run <sup>3</sup>	Total
<i>1980-1984 Ave.</i>	--	22,737	4,165	3,834	2,020	64,800	63,153	160,709
<i>1985-1989 Ave.</i>	--	11,176	1,552	10,312	1,980	93,700	104,837	223,557
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	95,323	194,879
1993	851	9,458	2,874	8,195	6,369	62,778	119,203	209,728
1994	155	3,149	1,265	3,068	3,498	48,834	23,809	83,778
<i>1990-1994 Ave.</i>	503	7,892	2,234	6,984	5,119	83,448	81,556	187,736
1995	201	2,102	697	3,726	2,686	40,854	12,634	62,900
1996	789	1,787	627	1,730	3,997	33,358	55,299	97,587
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	42,582	105,930
<i>1995-1999 Ave.</i>	1,421	1,778	643	2,203	3,812	40,966	55,570	106,393
2000	6,631	2,199	1,418	2,515	3,641	55,788	186,141	258,333
2001	9,719	1,649	1,784	3,777	5,329	78,436	437,910	538,604
2002	12,251	5,019	2,883	3,554	5,903	120,164	331,303	481,077
2003	8,783	15,890	4,528	5,104	5,600	123,352	242,638	405,895
2004	11,643	16,712	4,573	11,090	12,675	143,242	221,600	421,535
<i>2000-2004 Ave.</i>	9,805	8,294	3,037	5,208	6,630	104,196	283,918	421,088
2005	2,553	9,200	3,100	3,400	7,475	59,495	106,935	192,158
2006	7,581	7,000	5,600	7,500	4,812	59,311	132,140	223,944
2007 <sup>4</sup>	3,700	3,700	7,300	6,700	3,400	39,943	86,230	150,973

<sup>1</sup> 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.

<sup>2</sup> Minimum run sizes for SAFE stocks is based only on harvest of returning adults. Estimates of escapement are not available.

<sup>3</sup> 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

<sup>4</sup> Preliminary.

**Table 2. Predicted and Actual Spring Chinook Entering the Columbia River, 1985-2007 and 2008 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 n	Predicted	Forecast	Return	Predicted	Forecast	Return n	Predicted
1985	70.0	68.1	97	--	--	--	52.6	84.7	161
1986	65.0	73.6	113	--	--	--	115.0	120.6	105
1987	78.0	93.6	120	--	--	--	79.7	99.8	125
1988	97.0	118.1	122	32.0	24.8	78	53.4	97.0	182
1989	102.0	114.9	113	16.1	22.3	139	92.7 <sup>2</sup>	82.6	89
1990	128.0	130.6	102	18.6	18.9	102	120.8	99.1	82
1991	110.0	109.9	100	19.7	19.8	101	61.9 <sup>3</sup>	59.2	96
1992	106.0	75.0	71	26.6 <sup>4</sup>	18.4 <sup>4</sup>	69	71.4	89.8	126
1993	70.0	65.9	94	21.3 <sup>4</sup>	19.0 <sup>4</sup>	89	76.2	111.0	146
1994	75.0	49.6	66	12.3 <sup>4</sup>	7.4 <sup>4</sup>	60	49.0	20.8	42
1995	49.0	42.6	87	4.6	6.6	143	12.0	9.8	82
1996	41.0	34.8	85	4.4	4.1	93	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	107	36.2	38.3	106
1999	46.5	54.2	117	3.9	4.9	126	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	11.5	172	333.7	295.1	88
2003	109.8	126.6	115	11.6	25.5	220	145.4	208.9	144
2004	109.4	144.4	132	27.3	32.4	119	360.7	193.4	54
2005	116.9	61.0	52	24.8	15.7	63	254.1	106.9	42
2006	46.5	59.7	121	15.2	20.1	132	88.4	132.1	149
2007 <sup>5</sup>	52.0	40.5	78	15.9	17.7	111	78.5	86.2	110
2008	34.0			12.4			269.3		

<sup>1.</sup> 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.

<sup>2.</sup> New upriver predictor developed by Joint Staff and approved by TAC.

<sup>3.</sup> New upriver predictor refined by Joint Staff and approved by TAC.

<sup>4.</sup> Excludes Willamette stock released in Lewis River.

<sup>5.</sup> 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, 1970-2007. Includes Jacks.**

Year	Minimum Run Entering Columbia R. <sup>1</sup>	Mainstem Columbia River Catch Comm. <sup>2</sup>	Sport <sup>3</sup>	Run Entering Willamette R.	Lower Willamette R. Recreational Catch Number <sup>4</sup>	% of Run	Willamette Falls Count	Run Entering Clackamas R.
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

<sup>1</sup>. Includes small numbers of observed or estimated losses below Willamette Falls each year.

<sup>2</sup>. 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.

<sup>3</sup>. 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.

<sup>4</sup>. 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, and 203 in 2006.

<sup>5</sup>. Early closure on April 28 reduced catch and harvest rate.

<sup>6</sup>. Includes 700 and 400 spring Chinook catch from late January-early February 1986 and 1987 sturgeon seasons.

**Table 4. Willamette Falls Spring Chinook Escapement, Upper Willamette Recreational Catch, Number Returning to Hatcheries, and Tribal Use, 1980-2007. Includes jacks.**

Year	Willamette Falls Count <sup>1</sup>	Upper Willamette Recreational Catch		Upper Willamette Hatchery Return		Clackamas Hatchery Return	Received by Columbia River Tribes <sup>2</sup>
		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 <sup>3</sup>
1995	20,592	3,380	16	8,757	43	3,112	1,504 <sup>4</sup>
1996	21,605	5,041	23	10,056	47	3,044	4,386 <sup>5</sup>
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	6,256	0
2003	87,749	13,810	16	25,528	29	3,532	0
2004	95,970	15,375	16	33,560	35	11,530	0
2005	36,633	4,321	12	15,386	42	4,464	0
2006	37,041	NA	NA	16,678	45	7,287	0
2007	23,098	NA	NA	9,756	42	6,106	0

<sup>1.</sup> Includes jacks.

<sup>2.</sup> Given toward the Treaty Tribes' minimum ceremonial and subsistence entitlement per the Columbia River Fish Management Plan.

<sup>3.</sup> Columbia Treaty Tribes at Willamette Falls also harvested 759 Chinook and 396 marked summer steelhead.

<sup>4.</sup> Columbia Treaty Tribes at Willamette Falls also harvested 29 Chinook June 12-17 and 112 summer steelhead.

<sup>5.</sup> Columbia Treaty Tribes at Willamette Falls also harvested 12 Chinook.

( ) indicates preliminary.

**Table 5. Smolt Releases at Select Area Fisheries Enhancement Project Sites, Brood Years 1993-2005.**

Brood Year	Species <sup>1</sup>	Release Site							
		Youngs Bay			Tongue Point				
		South Fork Klaskanine Hatchery	Klaskanine Hatchery	Youngs Bay Net Pens	Blind Slough Net Pens	Tongue Point Net Pens	Tongue Pt. – MERTS Net Pens	John Day R. Net Pens	Deep River Net Pens
1993	CHS	86,978	--	363,222	--	--	--	--	--
	SAB	--	--	--	--	--	--	--	--
	CO	433,674	--	1,708,499	140,267	130,623	--	--	201,200
1994	CHS	76,618	--	374,438	199,389	242,319	--	--	--
	SAB	15,758	--	1,251,787	--	--	--	--	--
	CO	443,183	--	2,490,901	209,761	190,032	--	--	200,100
1995	CHS	76,821	--	387,228	171,229	301,794	--	--	--
	SAB	--	--	1,366,973	27,380	26,792	--	--	--
	CO	621,932	--	780,128	196,963	430,221	--	--	--
1996	CHS	--	--	456,282	248,714	253,770	--	--	56,414
	SAB	--	26,178	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	--	603,960	117,583	--	--	--	--	--
	CO	429,652	--	1,439,561	197,089	204,143	--	--	414,108
1998	CHS	--	--	464,650	196,401	250,009	--	--	--
	SAB	--	661,977	221,972	--	--	--	--	--
	CO	610,658	--	1,819,500	195,645	754,123	--	--	431,143
1999	CHS	--	--	537,898	250,396	--	--	--	159,565
	SAB	--	703,200	153,928	--	--	--	--	--
	CO	344,738	--	1,724,031	299,411	655,613	--	--	395,337
2000	CHS	--	--	478,062	390,908	--	--	--	95,940
	SAB	--	408,492	205,145	--	--	--	--	--
	CO	583,248	--	1,688,696	343,842	667,758	--	--	354,557
2001	CHS	--	--	451,623	426,309	--	30,385	27,412	141,904
	SAB	--	669,913	467,056	--	--	--	--	--
	CO	641,555	--	1,686,711	316,804	675,712	--	--	366,435
2002	CHS	639,446	--	455,825	408,495	--	20,913	27,143	97,318
	SAB	--	620,527	780,314	--	--	--	--	--
	CO	--	--	1,470,914	298,748	--	697,522	--	357,200
2003	CHS	458,659	--	457,994	433,044	--	26,344	26,955	254,471
	SAB	53,963	702,188	519,676	--	--	--	--	--
	CO	--	--	1,146,068	309,527	--	202,727	--	144,900
2004	CHS	566,030 <sup>2</sup>	--	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	--	--

<sup>1</sup> CHS = Spring Chinook, SAB = Select Area Bright Fall Chinook, CO = coho.

<sup>2</sup> Released early (September 26, 2005) due to disease.

**Table 6. Winter/Spring/Summer Season Commercial and Recreational Chinook Harvest in Select Area Sites, 1993-2007.**

Year	Commercial				Recreational <sup>2</sup>					Sum
	Youngs Bay	Blind Slough	Tongue Point <sup>1</sup>	Deep River	Youngs Bay	Blind Slough	Tongue Point	SAFE Tributaries	Deep River	
1993	851	--	--	--	--	--	--	--	--	851
1994	155	--	--	--	--	--	--	--	--	155
1995	201	--	--	--	--	--	--	--	--	201
1996	789	--	--	--	--	--	--	--	--	789
1997	1,821	--	--	--	--	--	--	--	--	1,821
1998	2,167	60	31	--	55	--	--	--	--	2,313
1999	1,298	458	199	--	25	--	--	--	--	1,980
2000	4,731	818	947	--	14	121	--	120	--	6,751
2001	5,593	2,045	1,631	--	50	400	--	50	--	9,769
2002	6,643	2,053	3,003	--	121	430	1	--	--	12,251
2003	5,283	2,041	348	117	51	493	--	450	--	8,783
2004	6,916	3,531	--	115	96	285	--	700	--	11,643
2005	969	1,377	--	50	9	81	--	67	--	2,553
2006	5,798	1,419	--	28	53	73	--	210	--	7,581
2007	5,209	1,536	--	29	45	100	--	49	--	6,968

<sup>1.</sup> No winter, spring, or summer seasons have occurred in Tongue Point since 2003.

<sup>2.</sup> Estimates of recreational harvest have been made annually starting when effort was first observed in a particular site.

**Table 7. Estimated Numbers of Adult Upriver Spring Chinook Entering the Columbia River, Mainstem Harvest and Escapement, 1980-2007.**

Year	Upriver Run <sup>2</sup>	Non-Indian Catch				Bonn. Dam Count <sup>5</sup>	Non-Indian Zone 6 Sport	Treaty Indian Zone 6 <sup>1</sup>				Zones 1-6 % of run	Escapement	
		Comm.	Sport <sup>3</sup>	Misc. <sup>4</sup>	Total			Winter Gillnet	Comm. Gillnet	Ceremonial & platform	Total		No. <sup>6</sup>	% of Run
80-84 Ave.	63,153	951	320	182	1,452	61,700	0	1,008	0	2,306	3,313	7.5%	58,387	92.5%
85-89 Ave.	104,837	2,308	806	222	3,335	101,501	0	208	0	5,991	6,199	0%	95,303	90.9%
1990	105,213	2,082	3,115	150	5,347	99,866	0	4	0	6,924	6,928	11.2%	92,938	88.3%
1991	64,233	897	1,537	120	2,254	61,679	0	5	0	3,871	3,876	9.5%	57,803	90.0%
1992	95,323	235	1,187	162	1,584	93,739	0	48	0	5,711	5,759	7.7%	87,980	92.3%
1993	119,203	238	413	373	1,024	118,179	0	0	0	7,296	7,296	7.0%	110,883	93.0%
1994	23,809	441	409	86	936	22,873	0	10	0	1,151	1,161	8.8%	21,712	91.2%
1995	12,634	0	5	2	7	12,627	0	13	0	620	633	5.1%	11,994	94.9%
1996	55,299	5	17	41	63	55,236	0	0	0	2,911	2,911	5.4%	52,325	94.6%
1997	123,824	9	13	44	66	123,758	0	14	0	8,309	8,323	6.8%	115,435	93.2%
1998	43,512	0	14	27	41	43,471	0	1	0	2,224	2,225	5.2%	41,246	94.8%
1999	42,582	2	21	26	49	42,533	0	1	0	1,983	1,984	4.8%	40,549	95.2%
2000	186,141	88	102	177	367	185,774	0	6	1,348	9,973	11,327	6.3%	174,447	93.7%
2001	437,910	1,579	22,714	964	25,257	412,653	93	85	43,630	10,985	54,700	18.3%	357,860	81.7%
2002	331,303	9,483	16,213	667	26,363	304,940	875	45	24,209	9,208	33,462	18.3%	270,603	81.7%
2003	242,638	2,759	9,615	765	13,139	229,499	1,302	857	8,348	9,090	18,295	13.5%	209,902	86.5%
2004	221,600	5,989	17,041	245	23,275	198,325	1,349	2	8,368	9,114	17,484	19.0%	179,492	81.0%
2005	106,935	2,246	7,235	57	9,538	97,397	449	1	0	6,163	6,164	15.1%	90,784	84.9%
2006	132,140	1,689	4,161	133	5,980	126,158	648	0	0	8,401	8,401	11.4%	117,109	88.6%
2007	86,230	1,430	3,918	53	91,631	80,829	611	3	0	6,141	6,755	14.0%	74,685	87.0%

<sup>1</sup> Tribal commercial catches include any spring Chinook sold in the winter season gillnet fishery. Ceremonial and subsistence include catch by gillnet, dipnet, and hook-and-line since 1982.

<sup>2</sup> Through 1979 all fish caught in April and May were considered upriver stocks. From 1980 to 1987 the February-March incidental catch in Zone 1-5 and lower Columbia River recreational catch was based on CWT recoveries. Since 1988, incidental commercial catch was based on GSI analysis and incidental recreational catch was based on VSI analysis. Commercial fishery became selective beginning in 2002.

<sup>3</sup> Includes mainstem fisheries up to McNary Dam. Recreational fishery became selective beginning in 2001.

<sup>4</sup> Miscellaneous fisheries include Select Area, test fisheries, mortalities from area 2S shad fisheries and selective tangle net experimental fishery in 2001.

<sup>5</sup> Chinook passing from January 1 through June 15 are considered spring Chinook. Dam counts in 1980, and 1981 were not adjusted for fallback; runsize and escapements are maximum in those years.

<sup>6</sup> Bonneville count minus Zone 6 harvest.

**Table 8. Columbia River Fisheries and Passage Loss Impacts on the Adult Upriver Columbia Wild Spring Chinook Run and Escapement, 1980-2007.**

Year	Upper Columbia Wild Run Size	Non-Indian Catch <sup>1</sup>		Treaty Indian Catch <sup>2</sup>		Fisheries Total		Bonn-McNary Passage Loss <sup>3</sup>		Escapement <sup>4</sup>	
		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

<sup>1.</sup> Includes incidental mortalities in mainstem recreational and commercial fisheries.

<sup>2.</sup> Includes winter season commercial sales and spring C&S catches. Since 1982 C&S catch includes gill net, dip net and hook and line.

<sup>3.</sup> Bonneville Dam to McNary Dam: calculated by Zone 6 escapement minus Priest Rapids Dam passage.

<sup>4.</sup> Priest Rapids Dam passage.

**Table 9. Columbia River Fisheries, Passage Loss and Escapement on Adult Snake River Wild Spring/Summer Chinook, 1980-2007.**

Year	Snake R.	Non-Indian Catch <sup>1</sup>		Treaty Indian Catch <sup>2</sup>		Total Fisheries		Passage Loss <sup>3</sup>		Escapement <sup>4</sup>	
	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	60.9	11,431	61.3
1981	19,819	270	1.4	1,005	5.1	1,275	6.4	6,407	32.3	6,439	32.5
1982	27,050	471	2.5	1,866	6.9	2,337	8.6	12,941	47.7	12,941	47.8
1983	20,363	983	5.3	825	4.1	1,808	8.9	8,137	40.0	8,177	40.2
1984	14,052	485	2.6	937	6.7	1,422	10.1	4,361	31.0	4,392	31.3
1985	14,551	528	2.8	497	3.4	1,025	7.0	2,749	18.9	2,768	19.0
1986	17,969	368	2.0	1,046	5.8	1,414	7.9	5,811	32.3	5,844	32.5
1987	15,424	240	1.3	939	6.1	1,178	7.6	4,043	26.2	4,069	26.4
1988	17,963	1,154	6.2	1,195	6.7	2,348	13.1	4,394	24.5	4,418	24.6
1989	14,271	340	1.8	1,073	7.5	1,413	9.9	6,068	42.5	6,110	42.8
1990	15,649	788	4.2	1,030	6.6	1,819	11.6	3,987	25.5	4,012	25.6
1991	11,935	471	2.5	720	6.0	1,191	10.0	4,727	39.6	4,766	39.9
1992	19,283	314	1.7	1,165	6.0	1,479	7.7	4,719	24.5	4,744	24.6
1993	15,435	128	0.7	945	6.1	1,072	6.9	1,527	9.9	1,537	10.0
1994	3,399	135	0.7	166	4.9	301	8.8	1,145	33.7	1,179	34.7
1995	2,952	2	0.0	148	5.0	150	5.1	1,617	54.8	1,672	56.6
1996	8,388	10	0.1	442	5.3	451	5.4	4,149	49.5	4,198	50.1
1997	7,995	4	0.0	537	6.7	542	6.8	3,047	38.1	3,085	38.6
1998	12,794	12	0.1	654	5.1	666	5.2	4,736	37.0	4,773	37.3
1999	5,336	6	0.0	249	4.7	255	4.8	2,225	41.7	2,267	42.5
2000	12,893	25	0.1	786	6.1	811	6.3	3,826	29.7	3,856	29.9
2001	60,437	900	4.8	7,941	13.1	8,841	14.6	6,536	10.8	6,547	10.8
2002	48,053	862	4.6	5,219	10.9	6,082	12.7	11,899	24.8	11,924	24.8
2003	52,179	813	4.4	4,102	7.9	4,914	9.4	14,696	28.2	14,724	28.2
2004	32,138	684	3.7	2,778	8.6	3,462	10.8	7,112	22.1	7,134	22.2
2005	15,341	261	1.4	956	6.2	1,217	7.9	3,919	25.5	3,945	25.7
2006	16,730	235	1.3	1,100	6.6	1,335	8.0	5,841	34.9	5,876	35.1
2007	10,642	132	0.7	800	7.5	932	8.8	2,547	23.9	2,571	24.2

- <sup>1.</sup> Includes incidental mortalities in mainstem recreational and commercial fisheries and Snake River recreational fisheries.
- <sup>2.</sup> Includes winter season commercial sales and spring C&S catches. Since 1982 C&S catch includes gill net, dip net and hook-and-line.
- <sup>3.</sup> Bonneville Dam to Lower Granite Dam: calculated by Zone 6 escapement - (Snake River Recreational + Tucannon River escapement + Lower Granite Dam escapement).
- <sup>4.</sup> Lower Granite Dam passage plus Tucannon River escapement.

**Table 10. Estimated Numbers of Adult Upper Columbia Summer Chinook Entering the Columbia River, Mainstem Harvest, and Escapement, 1980-2007.**

Year	Upriver Run <sup>1</sup>	Zones 1-5 Non-Indian Catch			Z 1-5 Total	Bonn. Counts	Zone 6 Sport	Zone 6 Treaty-Indian Catch <sup>3</sup>	Zone 6 Total	Escapement <sup>4</sup>		Dam Counts	
		Sport	Comm.	Shad/Misc <sup>2</sup>						No.	%	Priest Rapids	Wells
1980	22,991	-	-	-	-	22,975	-	1,181	1,181	21,794	95%	16,000	3,910
1981	19,124	-	-	-	-	19,115	-	1,364	1,364	17,751	93%	11,600	3,141
1982	14,677	-	-	-	-	14,560	-	1,295	1,295	13,265	90%	8,800	2,223
1983	13,576	-	-	-	-	13,484	-	297	297	13,187	97%	8,500	2,002
1984	18,999	-	-	-	-	18,977	-	457	457	18,520	97%	16,200	4,768
1985	19,084	-	-	-	-	19,048	-	1,353	1,353	17,695	93%	15,910	4,018
1986	19,307	-	-	-	-	19,198	-	1,116	1,116	18,082	94%	16,161	3,787
1987	23,604	5	-	-	5	23,457	-	1,684	1,684	21,773	92%	14,131	2,790
1988	23,397	8	-	-	8	23,308	-	1,497	1,497	21,811	93%	13,400	2,411
1989	22,739	17	-	-	17	22,713	-	100	100	22,613	99%	19,659	3,115
1990	19,296	6	-	-	6	19,275	-	111	111	19,164	99%	15,576	3,207
1991	14,569	3	-	-	3	14,557	-	171	171	14,386	99%	14,815	1,774
1992	9,796	12	-	-	12	9,749	-	46	46	9,703	99%	8,523	1,343
1993	14,781	15	-	-	15	14,686	-	328	328	14,358	97%	16,377	3,404
1994	14,977	27	-	-	27	14,927	-	171	171	14,756	99%	14,859	4,613
1995	12,615	18	-	-	18	12,597	-	417	417	12,180	97%	12,162	2,767
1996	12,333	27	-	-	27	12,291	-	374	374	11,917	97%	10,995	2,225
1997	18,277	19	-	-	19	18,252	-	270	270	17,982	98%	13,107	2,424
1998	16,332	27	-	-	27	16,304	-	335	335	15,969	98%	13,387	3,385
1999	22,347	41	-	-	41	22,305	-	411	411	21,894	98%	20,898	7,210
2000	23,169	25	-	-	25	23,144	-	209	209	22,935	99%	22,306	6,447
2001	54,935	64	-	-	64	54,870	-	692	692	54,178	99%	53,170	33,244
2002	92,820	1,503	-	-	1,503	91,309	65	2,093	2,158	89,151	96%	96,326	61,115
2003	83,120	2,007	-	36	2,043	81,077	269	4,297	4,566	76,511	92%	83,004	46,649
2004	65,446	1,240	233	3	1,476	63,970	38	8,394	8,432	55,538	85%	67,060	31,380
2005	60,060	1,622	2,574	0	4,196	55,864	75	7,642	7,717	48,147	80%	61,227	31,066
2006	76,196	3,360	5,008	9	8,377	67,819	40	16,319	16,359	51,460	68%	52,236	25,671
2007	37,190	2,369	1,122	0	3,491	33,699	60	5,375	5,435	28,264	76%	30,644	NA

<sup>1</sup> 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.

<sup>2</sup> Includes incidental non-retention mortality in commercial test, research, shad, and sockeye fisheries, and harvest in SAFE fisheries.

<sup>3</sup> Includes commercial and C&S catches.

<sup>4</sup> 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
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	
Columbia River Run size	21,825	33,711	23,452	29,566	14,672	16,613	14,985	
Columbia River Forecast					27,000	16,000	16,200	15,300

**Table 12. Skamania Index, Group A Index, and Group B Index Returns of Summer Steelhead to Bonneville Dam (in thousands of fish) During 1986-2007.**

Year	Skamania Index			Group A Index			Group B Index			Total Upriver		
	Wild	Hatchery	Total	Wild	Hatchery	Total	Wild	Hatchery	Total	Wild	Hatchery	Total
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 <sup>1</sup>	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 <sup>2</sup>	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			9.5			NA			NA			319.4

*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 preseason proportions applied to April through June passage for Skamania stock and between July1- October 31 for Group A and B stocks.*

**Table 13. Summer Steelhead Counts by Run Year at Lower Granite Dam with Wild Steelhead Estimates and Goals, 1984-2007.**

Run Year	Run Year Totals	Wild <sup>1</sup>		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

<sup>1</sup>. 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.

( ) indicates preliminary

**Table 14. Minimum Numbers (in Thousands) of Lower River Summer Steelhead Entering the Columbia River, 1980-2007.**

Year	Lower Columbia Recreational (May-June) <sup>1</sup>	Tributary Dam Counts <sup>2</sup>	Hatchery Returns <sup>3</sup>	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	2.0	14.6	(23.2)	(4.3) <sup>5</sup>	(26.3) <sup>5</sup>	(70.4)
2006	3.0	NA	NA	NA	NA	NA
2007	NA	NA	NA	NA	NA	NA

<sup>1.</sup> Beginning in 1977, May-June lower Columbia recreational catch determined to be mostly lower river stock.

<sup>2.</sup> 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.

<sup>3.</sup> Skamania, Lewis River, and Cowlitz hatcheries and beginning in 1998 Kalama River hatcheries.

<sup>4.</sup> From Oregon and Washington catch record estimates, Washington catches prior to 1975 not corrected for non-response bias. Oregon catch unavailable for 1969-1974.

<sup>5.</sup> Based on recent 5-year average.

( ) indicates preliminary.

**Table 15. Minimum Numbers (in Thousands) of Upriver Summer Steelhead Entering the Columbia River, 1980-2007.**

Year	Lower Columbia Catch		Bonneville Dam Counts <sup>3</sup>	Minimum Run
	Recreational <sup>1</sup>	Commercial <sup>2</sup>		
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	NA	--	NA	NA

- <sup>1.</sup> 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.
- <sup>2.</sup> 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.
- <sup>3.</sup> 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, 1980-2007.**

Year	Return to Columbia River Mouth <sup>1</sup>	Non-Indian Fisheries Catch	Bonn. Dam Count	Treaty Indian Catch		Dam Counts		Snake River Sockeye			
						Priest Rapids <sup>2</sup>	Snake River <sup>3</sup>	At River Mouth	Non-Indian Catch	Treaty Indian Catch	Lower Granite Esc. <sup>4</sup>
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

<sup>1</sup> Upriver run is larger of (Bonn. Count + Zones 1-5 harvest) or (Priest Rapids Dam count + Snake River count + Zones 1-6 harvest).

<sup>2</sup> Counts have been adjusted from the actual 24-hour counts to 16-hour counts to maintain a consistent database since 1992.

<sup>3</sup> 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.

<sup>4</sup> Prior to 1992, Lower Granite Dam sockeye counts may include kokanee. Beginning in 1992, video counts at LWG were used to identify true sockeye.

<sup>5</sup> Washougal Reef landings included in Area 2S landings until 1986. No season set during 2001-2004 and 2006-2007.

**Table 17. Commercial Landings of Shad in Area 2S, Washougal Reef, and Treaty Indian Fisheries and Minimum Shad Run Size (in Thousands) 1977-2007.**

Year	Area 2S		Washougal Reef		Total Zone	Treaty Indian	Total	Run Size	% of
	Days	Catch <sup>1</sup>	Days	Catch <sup>1</sup>	1-5 Catch <sup>2</sup>	Catch	1-6 Catch		Landed
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 <sup>3</sup>	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 <sup>4</sup>	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 <sup>5</sup>	78.4	5,678.3	1.4
2005	26	48.8	30	0.0	48.8	30.0 <sup>5</sup>	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

<sup>1.</sup> Washougal Reef landings included in Area 2S landings until 1986. No season set during 2001-2004 and 2006-2007.

<sup>2.</sup> Includes landings during sockeye seasons, Select Area fisheries, and John Day River shad fisheries in some years.

<sup>3.</sup> Limited experimental fishery with three boats.

<sup>4.</sup> Includes shad caught in experimental tangle net permit fishery for spring Chinook.

<sup>5.</sup> 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, 1970-2007.**

Year	Season	Fishing		Commercial Landings <sup>1</sup>	
		Days	Mesh Size <sup>2</sup>	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	<sup>3</sup> 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	<sup>3</sup> 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	<sup>3</sup> 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

<sup>1</sup>. Sale of steelhead prohibited since 1975. Catches ranged from 2,100 to 8,500 steelhead during 1970-74.

<sup>2</sup>. Since 1997, maximum mesh size of 9¾" unless specified otherwise.

<sup>3</sup>. 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, 2007.**

Season	Fishing Period	Hrs	Zones	Mesh	STG Limit <sup>1</sup>	Del.	Chinook	Coho	WSTG	GSTG <sup>2</sup>
Winter Sturgeon	6 PM Jan. 9 – 6 PM Jan. 10	24	1-5	9-9 <sup>3</sup> / <sub>4</sub> "	none	11	0	--	413	--
	6 PM Jan. 16 – 6 PM Jan. 17	24	1-5	9-9 <sup>3</sup> / <sub>4</sub> "	none	8	0	--	185	--
	6 PM Jan 23 – 6 PM Jan. 24	24	1-5	9-9 <sup>3</sup> / <sub>4</sub> "	none	23	1	--	254	--
	6 PM Jan 30 – 6 PM Jan. 31	24	1-5	9-9 <sup>3</sup> / <sub>4</sub> "	none	30	1	--	253	--
	6 PM Feb. 6 – 6 PM Feb. 7	12	1-5	9-9 <sup>3</sup> / <sub>4</sub> "	none	21	3	--	125	--
	6 PM Feb. 13 – 6 PM Feb. 14	24	1-5	9-9 <sup>3</sup> / <sub>4</sub> "	10	22	10	--	52	--
	6 PM Feb. 15 – noon Feb. 16	18	1-5	9-9 <sup>3</sup> / <sub>4</sub> "	10	18	15	--	32	--
	6 PM Feb. 20 – 6 PM Feb. 21	24	1-5	9-9 <sup>3</sup> / <sub>4</sub> "	10	40	77	--	63	--
6 PM Feb. 22 – noon Feb. 23	18	1-5	9-9 <sup>3</sup> / <sub>4</sub> "	10	44	87	--	47	--	
						24	194	0	1,424	--
Winter/Spring Salmon	noon – midnight Mar. 6	12	1-4 <sup>3</sup>	8-9 <sup>3</sup> / <sub>4</sub> "	none	89	434	--	19	--
	8 PM Mar. 20 – 6 AM Mar. 21	10	1-4 <sup>3</sup>	8-9 <sup>3</sup> / <sub>4</sub> "	none	122	1,135	--	10	--
	10 PM Mar. 22 – 6 AM Mar. 23	8	1-4 <sup>3</sup>	8-9 <sup>3</sup> / <sub>4</sub> "	none	116	1,157	--	5	--
9 PM Jun. 14 – 5 AM Jun. 15	8	4-5 <sup>4</sup>	8-9 <sup>3</sup> / <sub>4</sub> "	5	6	30	--	13	--	
						83	2,756	0	47	--
Summer	7 PM Jun. 25 – 5 AM Jun. 26	10	1-5	8-9 <sup>3</sup> / <sub>4</sub> "	5	98	754	--	237	--
	7 PM Jul. 2 – 5 AM Jul. 3	10	1-5	8-9 <sup>3</sup> / <sub>4</sub> "	5	77	368	--	177	--
						88	1,122	0	414	--
2007 Total							4,072	0	1,885	--

1. White sturgeon possession and sales limit (per vessel per week).
2. The retention of green sturgeon was prohibited during 2007.
3. Mouth upstream to Kelley Point.
4. True north/south line through navigation marker #50 near the mouth of Sandy River upstream to navigation marker #85.

**Table 20. Estimates of the Spring Chinook Stock Composition (in Thousands) in Mainstem Lower Columbia Commercial Fisheries, 1990-2007.**

Year	February – March Catch by Stock					April – June 15 Catch by Stock				
	Willamette River	C,K,L,S <sup>1</sup>	Upriver	SAFE	Feb-Mar Total	Willamette River	C,K,L,S <sup>1</sup>	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

<sup>1</sup> C = Cowlitz River, K = Kalama River, L = Lewis River, and S = Sandy River.

**Table 21. Columbia River Recreational Spring Chinook Fishing Regulations, 2000-2007.**

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.	Open January 1-April 30. Two adipose fin-clipped adult spring chinook daily bag limit. Unlawful to remove unclipped fish from the water.	Open March 16-April 21. Two adipose fin-clipped adult spring chinook daily bag limit. Unlawful to remove unclipped fish from the water.	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.
2005	Open January 1-April 20. Two adipose fin-clipped adult spring chinook daily bag limit. Unlawful to remove unclipped fish from the water.	Open January 1-April 20 and June 4-15. Two adipose fin-clipped adult spring chinook daily bag limit. Unlawful to remove unclipped fish from the water.	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. Unlawful to remove unclipped fish from the water.	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. Unlawful to remove unclipped fish from the water.
2006	Open January 1-April 13. Two adipose fin-clipped adult spring chinook daily bag limit. Unlawful to remove unclipped fish from the water.	Open January 1-April 13 and May 17-June 15. Two adipose fin-clipped adult spring chinook daily bag limit. Unlawful to remove unclipped fish from the water.	Open May 17-June 15. Two adipose fin-clipped adult spring chinook daily bag limit. Unlawful to remove unclipped fish from the water.	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. Unlawful to remove unclipped fish from the water.
2007	Open January 1-April 15 and May 16-June 15. Two adipose fin-clipped adult spring chinook daily bag limit. Unlawful to remove unclipped fish from the water.	Open January 1-April 15 and May 16-June 15. Two adipose fin-clipped adult spring chinook daily bag limit. Unlawful to remove unclipped fish from the water.	Open June 6-15. Two adipose fin-clipped adult spring chinook daily bag limit. Unlawful to remove unclipped fish from the water.	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. Unlawful to remove unclipped fish from the water.

**Table 22. Salmonid Angler Trips and Chinook Catch by Month on the Lower Columbia River, 2000-2007.**

Year	Month	Angler Trips	Chinook		Year	Month	Angler Trips	Chinook	
			Kept	Released				Kept	Released
2000	Feb	1,523	0	0	2004	Feb	9,467	48	31
	Mar	8,360	322	0		Mar	44,576	2,614	727
	Apr	0	0	0		Apr	102,058	21,078	6,482
	May	6,156	0	92		May	5,891	0	180
	Jun	10,369	0	171		Jun 1-15	2,046	0	59
	Jul	17,669	0	170		Jun 16-30	17,929	619	844
2000	Total	44,077	322	433	2004	Total	203,842	24,859	8,745
Year	Month	Angler Trips	Chinook		Year	Month	Angler Trips	Chinook	
			Kept	Released				Kept	Released
2001	Feb	5,017	84	0	2005	Feb	7,551	39	0
	Mar	44,356	4,550	2,323		Mar	36,865	1,899	542
	Apr	122,939	21,077	13,138		Apr	65,705	8,653	2,389
	May	5,330	0	56		May	4,082	0	143
	Jun	13,155	0	503		Jun 1-15	10,492	724	486
	Jul	19,157	0	386		Jun 16-30	12,824	669	485
2001	Total	209,954	25,711	16,406	2005	Total	163,200	12,886	4,060
Year	Month	Angler Trips	Chinook		Year	Month	Angler Trips	Chinook	
			Kept	Released				Kept	Released
2002	Feb	5,147	18	6	2006	Feb	2,471	19	0
	Mar	35,629	2,036	1,699		Mar	27,418	1,810	413
	Apr	107,906	14,428	9,846		Apr	33,750	3,595	712
	May	31,445	3,982	2,670		May	12,225	634	345
	Jun 1-27	13,919	0	895		Jun 1-15	10,971	927	991
	Jun 28-30	5,591	472	221		Jun 16-30	19,089	3,360	5
	Jul	35,329	880	724		Jul	24,714	1,564	11
2002	Total	234,966	21,816	16,061	2006	Total	130,638	11,909	2,477
Year	Month	Angler Trips	Chinook		Year	Month	Angler Trips	Chinook	
			Kept	Released				Kept	Released
2003	Feb	9,573	209	223	2007	Feb	4,405	24	0
	Mar	65,841	5,597	3,193		Mar	27,949	1,110	317
	Apr	66,351	9,110	4,729		Apr 1-15	34,890	4,507	924
	May	24,875	1,976	1,122		May 16-31	10,989	505	234
	Jun 1-15	7,776	0	106		Jun 1-15	4,777	330	179
	Jun 16-30	15,114	1,348	908		Jun 16-30	23,732	2,214	0
	Jul	24,053	506	763		Jul	16,036	0	219
2003	Total	213,583	18,746	11,044	2007	Total	122,778	8,690	1,867

**Table 23. Catch, Effort, and Season Structure of the Spring Chinook Recreational Fisheries Above Bonneville Dam.**

Zone 6 Recreational Fishery (BON-MCN)						
Year	Anglers	Kept	Released	Spring Season Open	General Area	
1999				No Season		
2000				No Season		
2001	1,000	73	199	May 3-8	The Dalles - McNary	
2002	7,996	1,149	875	March 16- May 15	The Dalles - McNary	
2003	15,100	1,206	863	March 15 - May 16 (4 days/week)	Bonneville - McNary	
2004	7,600	1,299	400	March 16-May 6	Bonneville - McNary	
2005	2,707	419	291	March 16- April 21, Jun 4-15	Bonneville – McNary, Bonneville-395	
2006	4,211	634	137	March 16- April 30, May 12-June 15	Bonneville – McNary, Bonneville-395	
2007	3,734	596	150	March 16- May 3, June 6-15	Bonneville - McNary	
Snake River Recreational						
Year	Anglers	Kept	Released	Spring Season Open	General Area	
2003	5,600	513	426	April 26 – June 15	Little Goose Dam	
2004	2,800	1,224	347	April 16 – May 7	Little Goose Dam	
2005	967	75	83	June 11 -30	Little Goose Dam	
2006	1,552	193	185	May 17 – June 30	Little Goose Dam	
2007		276	67	May 9 – June 30	Little Goose Dam	

**Table 24. Estimates of the Spring Chinook Stock Composition (in Thousands) in Mainstem Lower Columbia Recreational Fisheries, 1990-2007.**

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

<sup>1</sup> 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, 1980-2007.**

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 <sup>1</sup>	33	2	3	0	2,437	66	1,308	49	3,781	41
1996 <sup>1</sup>	29	2	190	30	351	20	1,495	37	2,065	25
1997 <sup>1</sup>	144	8	5	1	781	36	1,418	31	2,348	26
1998 <sup>1</sup>	0	0	0	0	228	14	1,197	32	1,425	21
1999 <sup>1</sup>	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 <sup>1</sup>	538	24	397	28	1,260	50	1,268	35	3,463	35
2001 <sup>1</sup>	54	3	487	23	2,020	53	1,580	30	4,141	29
2002	1,466	29	510	18	1,293	36	1,586	27	4,855	28
2003	2,947	19	805	18	1,865	37	1,580	28	7,197	23
2004	2,127	13	1,210	26	6,520	59	4,447	35	14,304	32
2000-2004 Average	1,426	18	681	22	2,592	47	2,092	31	6,791	29
2005	1,166	13	979	31	1,472	43	1,755	24	5,372	23
2006	842	12	1,395	26	2,737	38	(1,379)	29	6,353	26
2007	500	13	1,450		2,800	41	(972)	29	5,722	27

<sup>1</sup>. 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, 1977-2007.**

Year	Season <sup>1</sup>	Peak Net Count	Numbers of Fish Landed <sup>2</sup>			
			Chinook	Steelhead	Sturgeon	Walleye
1977-1981	Feb 1-Apr 1 <sup>3</sup>	170	1,400	3,700	110	--
Average						
Range		87-246	30-2,800	2,600-4,900	20-220	
1982-1986	Feb 1-Mar 21 <sup>4,5</sup>	107	50	4,700	670	--
Average						
Range		61-180	5-100	3,000-7,800	70-1,700	
1987-1991	Feb 1-Mar 21 <sup>4,5</sup>	183	100	6,700	2,100	500
Average						
Range		124-299	0-280 <sup>6</sup>	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 <sup>7</sup>	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 <sup>8</sup> (37 days)	--	2	70	1,748	48
2005 <sup>9</sup>	Feb 1-Mar 16 <sup>10</sup> (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

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)