



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

**JOINT STAFF REPORT  
CONCERNING THE 2001 IN-RIVER COMMERCIAL HARVEST  
OF COLUMBIA RIVER FALL CHINOOK SALMON, SUMMER  
STEELHEAD, COHO SALMON, AND STURGEON**

Joint Columbia River Management Staff

*Oregon Department of Fish and Wildlife  
Washington Department of Fish and Wildlife*

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## TABLE OF CONTENTS

LIST OF TABLES .....	4
LIST OF FIGURES .....	5
INTRODUCTION .....	6
THE COMPACT .....	7
STOCK STATUS .....	8
<i>Fall Chinook</i> .....	8
<i>Stock Description</i> .....	8
<i>2000 Returns</i> .....	9
<i>2001 Forecast</i> .....	12
<i>Upriver Summer Steelhead</i> .....	13
<i>Stock Description</i> .....	13
<i>2000 Returns</i> .....	14
<i>2001 Forecast</i> .....	15
<i>Coho</i> .....	15
<i>Stock Description</i> .....	15
<i>2000 Returns</i> .....	17
<i>2001 Forecast</i> .....	17
<i>Chum</i> .....	21
<i>Sturgeon</i> .....	22
MANAGEMENT GUIDELINES .....	22
<i>Endangered Species Act</i> .....	22
<i>Washington State Salmon Conservation Policy</i> .....	23
<i>2001 Columbia River Salmon Management Guidelines</i> .....	24
<i>2001 Non-Indian Columbia River Fall Fishery Chinook Allocation Agreement</i> .....	24
<i>Lower Columbia River Sturgeon Allocation</i> .....	25
<i>Zone 6 Sturgeon Allocation</i> .....	26
REVIEW OF MAINSTEM FISHERIES .....	28
<i>Past Seasons</i> .....	28
<i>2000 Fall Season Summary</i> .....	30
<i>Zone 6 Fisheries</i> .....	34
<i>Treaty Indian Commercial Fishery</i> .....	34
<i>Sturgeon Fisheries</i> .....	38
<i>Lower River Commercial Fisheries</i> .....	39

<i>Early Fall Mainstem Fisheries</i> .....	39
<i>Late Fall Seasons</i> .....	40
<i>Select Area Fisheries</i> .....	41
<i>Lower River Recreational Fisheries</i> .....	42
<i>Buoy 10 Sport Fishery</i> .....	42
<i>Lower Columbia Mainstem Sport Fishery</i> .....	43
<i>2000 Fishery Impacts</i> .....	46
<b>2001 FALL SEASON FISHERY EXPECTATIONS</b> .....	47
<i>Non-Indian Fisheries</i> .....	47
<i>Early August Commercial Fisheries</i> .....	47
<i>Late August Commercial Fisheries</i> .....	48
<i>Late September Commercial Fisheries</i> .....	48
<i>October Commercial Fisheries</i> .....	48
<i>Youngs Bay Select Area Fisheries</i> .....	49
<i>Other Select Area Fisheries</i> .....	49
<i>Buoy 10 Sport Fisheries</i> .....	49
<i>Mainstem Sport Fisheries</i> .....	49
<i>Treaty Indian Commercial Fisheries</i> .....	51
<i>Miscellaneous Regulations</i> .....	51

## LIST OF TABLES

Table 1. Summary of 2000 Actual and Current 2001 Forecasts of Adult Salmon and Steelhead Returns to the Columbia River.....	6
Table 2. Predicted and Actual Returns of Columbia River Adult Fall Chinook, 1990-2000, and 2001 Forecasts (Thousands).....	10
Table 3. Estimated Columbia River Returns and Lower Granite Dam Escapement of Snake River Wild Fall Chinook Adults, 1986-2000, and Forecasts for 2001 .....	11
Table 4. Group A Index and Group B Index Returns of Summer Steelhead to Bonneville Dam During 1984-2000 and 2001 Projections.....	15
Table 5. Minimum Numbers (Thousands) of Coho Adults Entering the Columbia River, 1970-2000 .....	18
Table 6. Minimum Numbers (Thousands) of Early Coho Adults Entering the Columbia River, 1970-2000.....	19
Table 7. Minimum Numbers (Thousands) of Late Coho Adults Entering the Columbia River, 1970-2000.....	20
Table 8. Escapement Index Values for Chum in Washington Lower Columbia River Tributaries and for Late Run Coho in Oregon Columbia River Tributaries downstream from the Willamette River, 1950-2000.....	21
Table 9. Federally-listed Salmon, Steelhead, and Smelt of the Columbia River Basin.....	23
Table 10. Zone 6 Sturgeon Catch Guidelines .....	27
Table 11. Fall Lower River and Zone 6 Mainstem Commercial Fishing Seasons, 2000.....	31
Table 12. Fall Select Area Commercial Fishing Seasons, 2000 .....	32
Table 13. Salmon, Steelhead, and Sturgeon Catch in 2000 Fall Fisheries.....	33
Table 14. Stock Composition of Adult Fall Chinook Landed in Mainstem Columbia River Fisheries, 2000. ....	34
Table 15. Catch Composition of Fall Zone 6 Treaty Indian Fisheries, 2000.....	35
Table 16. Number of Adult Chinook, Coho, Steelhead, and Sturgeon Landed During Treaty Indian Fall Seasons (Aug-Nov) Above Bonneville Dam, 1970-2000 .....	36
Table 17. Wild Steelhead Catch in Treaty Indian Fisheries, 1985-2000.....	38
Table 18. Sturgeon Catches in Zone 6 Reservoirs above Bonneville Dam, 1991-2000 .....	39
Table 19. Number of Adult Chinook, Chum, Coho, Steelhead, and Sturgeon Landed During Early Fall Mainstem Columbia River Seasons Below Bonneville Dam, 1970-2000 ...	44
Table 20. Number of Adult Chinook, Coho, Steelhead, and Sturgeon Landed during Late Fall Mainstem Columbia River and Select Area Seasons (mid-Sep to mid-Nov) below Bonneville Dam, 1970-2000 .....	45
Table 21. Lower Columbia River White and Green Sturgeon Catches, 1991-2000.....	46
Table 22. Summary of 2000 Fall Fishery Impacts .....	47

**LIST OF FIGURES**

Figure 1. Columbia River Commercial Fishing Zones. ....7

Figure 2. Average Run Timing of Adult Fall Chinook Over Bonneville Dam (1990-2000)  
Applied to the 2001 Forecast. ....8

Figure 3. Stock Components of Columbia River Fall Chinook and 2001 Adult Pre-season  
Forecasts.....12

Figure 4. Daily Passage of Summer Steelhead over Bonneville Dam. ....14

Figure 5. Average Daily Counts of Salmon and Shad at Bonneville Dam, 1986-1997. ....28

**JOINT STAFF REPORT CONCERNING THE 2001 IN-RIVER COMMERCIAL  
HARVEST OF COLUMBIA RIVER FALL CHINOOK SALMON, SUMMER  
STEELHEAD, COHO SALMON, AND STURGEON**

**INTRODUCTION**

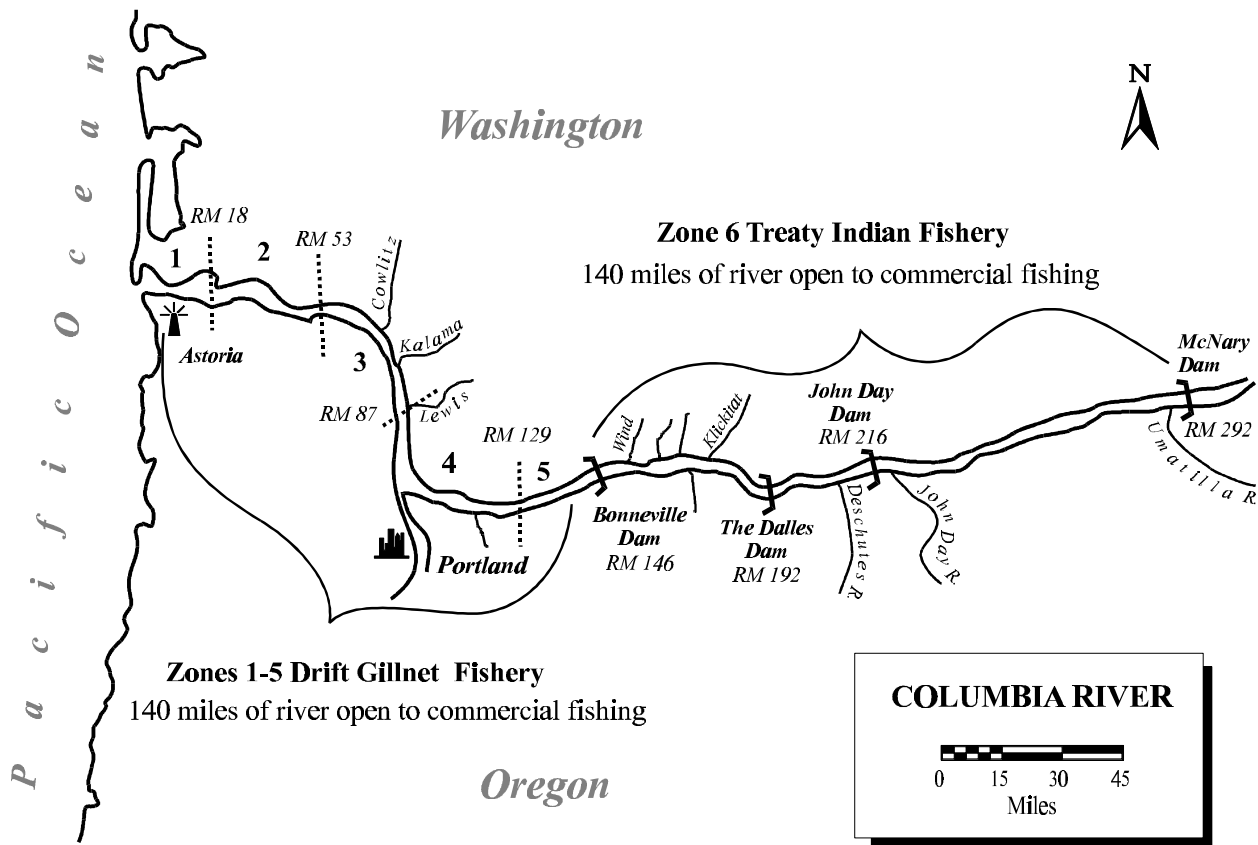
This report describes fall fisheries in the mainstem Columbia River and includes summaries of 2000 fall fisheries, 2001 management guidelines, expected 2001 fall fish runs, and the outlook for 2001 fall fisheries. This report is the third in an annual series produced by the Joint Columbia River Management Staff of the Oregon Department of Fish and Wildlife (ODFW) and Washington Department of Fish and Wildlife (WDFW) prior to each major Columbia River Compact hearing. Information concerning Select Area fisheries and early and late fall mainstem management periods are combined in this report.

The 2001 fall Compact hearing will begin at 10 AM, Friday August 17 at the Water Resources Education Center located at 4600 S. E. Columbia Way, Vancouver, Washington. The purpose of the hearing is to review salmon, steelhead, and sturgeon stock status and to consider fishing seasons for the commercial harvest of fall chinook, coho, steelhead, and sturgeon in Compact jurisdiction waters of the Columbia River. Following the hearing, the states will consider Select Area fall salmon seasons for Big Creek, Youngs Bay, Tongue Point, Blind Slough, Deep River, and Steamboat Slough. Additional Compact hearings will be scheduled to address additional treaty Indian and non-Indian commercial seasons and in-season adjustments to ongoing commercial fisheries.

Salmon and summer steelhead returns are forecast prior to the fall season and are updated in-season based on the most current ocean and in-river fishery information plus Columbia River dam counts (Table 1). The data in this report are a consensus of the Technical Advisory Committee (TAC) which completed its review prior to printing. The TAC is comprised of biologists from state and federal fish management agencies and the Columbia River treaty Indian tribes, and functions by agreement of the parties under *U. S. v. Oregon*.

<i>Table 1. Summary of 2000 Actual and Current 2001 Forecasts of Adult Salmon and Steelhead Returns to the Columbia River.</i>			
<b>Species, stock</b>	<b>2000 Run<sup>1</sup></b>	<b>2001 Forecast<sup>1</sup></b>	<b>Comments</b>
<b>Fall chinook</b>	<b>254,000</b>	<b>292,300</b>	
Upriver bright (URB)	155,900	132,700	Similar to recent 10-year average
Snake River wild (SRW)	2,000	7,600	
Mid-Columbia bright (MCB)	36,700	45,300	Similar to the recent 5-year average
Bonneville upriver bright (BUB)	12,100	17,700	
Pool upriver bright (PUB)	24,600	25,200	
Lower river bright (LRB)	700	2,400	Formerly a component of the BUB stock
Bonneville pool hatchery (BPH)	20,100	61,900	Largest since 1982
Lower river hatchery (LRH)	27,000	30,500	2 <sup>nd</sup> smallest return on record
Lower river wild (LRW)	10,200	18,500	Largest since 1991
Select area bright (SAB)	3,400	3,400	Similar to recent 5-year average
<b>Upriver summer steelhead</b>	<b>274,200</b>	<b>249,300</b>	Similar to recent 5-year average
Skamania index (May 1 - June 30)	16,600	12,000	
A-run index (length <78cm)	216,700	201,300	Includes only fish after June 30
B-run index (length ≥78cm)	40,900	36,000	Includes only fish after June 30
<b>Coho</b>	<b>551,000</b>	<b>1,071,200</b>	
Early stock	326,200	760,500	Largest on record
Late stock	224,800	310,700	Largest since 1991

<sup>1</sup> Columbia River mouth return, except summer steelhead is Bonneville Dam return.



**Figure 1. Columbia River Commercial Fishing Zones.**

### THE COMPACT

The Columbia River Compact is charged by congressional and statutory authority to adopt seasons and rules for Columbia River commercial fisheries (Figure 1). 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 salmon, steelhead, and sturgeon, the Compact must consider the effect of the commercial fishery on escapement, treaty rights, and sport fisheries, as well as the impact on species listed under the Endangered Species Act (ESA). Although the Compact has no authority to adopt sport fishing seasons or rules, it is an inherent responsibility of the Compact to address the allocation of limited resources among users. This responsibility has become increasingly demanding in recent years. The Compact can be expected to continue its conservative management strategy when considering fisheries that will impact listed salmon and steelhead.

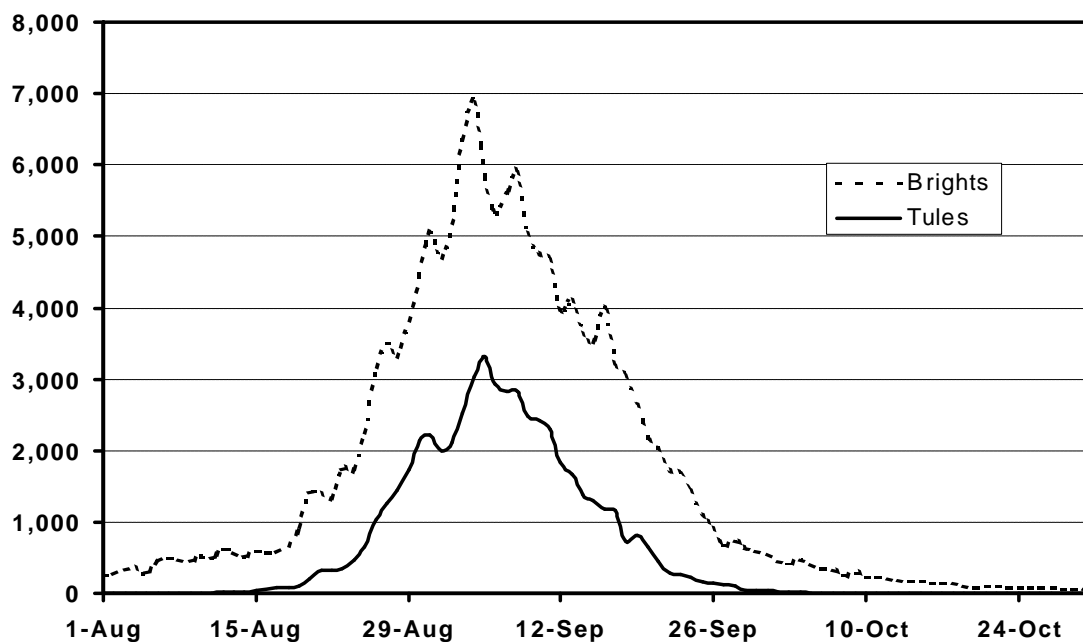
## STOCK STATUS

### Fall Chinook

#### *Stock Description*

Fall chinook generally enter the Columbia River from late July through October with abundance peaking in the lower river from mid-August to mid-September and passage at Bonneville Dam peaking in early September. Columbia River fall chinook are comprised of five major components: Lower River Hatchery (LRH), Lower River Wild (LRW), Bonneville Pool Hatchery (BPH), Upriver Bright (URB), and Mid-Columbia Bright (MCB). The LRH and BPH stocks are referred to as tules and the LRW, URB, and MCB stocks are referred to as brights. Minor run components include Lower River Brights (LRB) and Select Area Brights (SAB).

The URB, BPH, and a portion of MCB chinook are produced above Bonneville Dam, and in aggregate, comprise the upriver run, which is subject to treaty Indian/non-Indian allocation requirements. Most of the URB stocks are wild fish destined for the Hanford Reach section of the Columbia River. Smaller URB components are destined for the Deschutes, Snake, and Yakima rivers. Snake River wild (SRW) fall chinook are a sub-component of the URB stock. The MCBs originated from, and are considered a component of the URB stock. The upriver MCB component (Pool Upriver Brights or PUB stock) is comprised of brights reared at Bonneville, Little White Salmon, Irrigon, and Klickitat hatcheries and released in areas between Bonneville and McNary dams. Natural production of brights derived from PUB stock is also believed to occur in the mainstem Columbia River below John Day Dam, and in the Wind, White Salmon, Klickitat, and Umatilla rivers. The BPH stock is produced primarily at Spring Creek Hatchery in the Bonneville Pool. BPH passage at Bonneville Dam occurs over a shorter time frame than the URB and MCB chinook (Figure 2). Natural production of tules occurs in the Wind, White Salmon, and Klickitat rivers.



**Figure 2.** *Average Run Timing of Adult Fall Chinook over Bonneville Dam (1991-2000) Applied to the 2001 Forecasts.*



The lower river run is comprised of LRH, LRW, MCB, LRB, and SAB stocks, which are produced below Bonneville Dam. The LRH stock is currently produced from hatchery facilities (five in Washington and one in Oregon) while the LRW stock is naturally produced primarily in the Lewis River system, with smaller components also present in the Cowlitz and Sandy rivers. The MCB production below Bonneville Dam (Bonneville Upriver Brights, or BUB stock) occurs at Bonneville Hatchery in Oregon. The LRB's are a self-sustaining natural stock that spawns in the mainstem Columbia approximately three miles downstream from Bonneville Dam. The LRB stock is closely related to upriver brights and is thought to have originated from MCB or URB stock. Prior to 1998, LRB's were classified as BUB's, and therefore were considered to be a component of the MCB stocks. Beginning in 1998, LRB's were identified as a separate stock. SAB's are a local hatchery stock that originated from the Rogue River fall chinook stock and are currently being reared at Klaskanine Hatchery for release into Youngs Bay. SABs are expected to return only to Youngs Bay in 2001.

### ***2000 Returns***

The total Columbia River fall chinook adult return of 254,000 adults in 2000 was similar to the 1990-1994 average but smaller than the recent 5-year average of 294,000 (Table 2). The URB return of 155,900 adults was the third largest return since 1989 but well below the record return of 420,600 in 1987. URB's comprised more than half (61%) of the total river mouth return and the 2000 McNary Dam count of 67,600 adults surpassed the management goal of 46,000. The Deschutes basin return of 4,400 adults was the smallest return since 1992 and less than half of the recent 5-year average of 10,500.

**Table 2. Predicted and Actual Returns of Columbia River Adult Fall Chinook, 1990-2000,  
and 2001 Forecasts (Thousands).**

Stock	Year	Pre-season Forecast	Actual Return	Percent of Forecast
Lower River Hatchery	1990-1994	77.7	58.2	81
	1995	42.4	46.4	109
	1996	48.4	75.5	156
	1997	68.7	57.4	84
	1998	22.5	45.3	201
	1999	38.2	37.4	98
	2000	26.4	27.0	102
	<b>2001</b>	<b>30.5</b>		
Lower River Wild	1990-1994	15.8	15.7	104
	1995	11.5	16.0	139
	1996	8.1	14.6	180
	1997	7.2	12.3	171
	1998	7.0	7.3	104
	1999	2.5	3.3	132
	2000	2.7	10.2	378
	<b>2001</b>	<b>18.5</b>		
Bonneville Pool Hatchery	1990-1994	35.5	27.2	76
	1995	22.5	33.8	150
	1996	35.4	33.1	94
	1997	25.7	27.4	107
	1998	14.2	20.2	142
	1999	61.0	50.2	82
	2000	26.9	20.1	75
	<b>2001</b>	<b>61.9</b>		
Upriver Bright	1990-1994	91.9	114.6	125
	1995	125.0	106.5	85
	1996	94.2	143.2	152
	1997	158.0	161.7	102
	1998	141.8	142.3	100
	1999	102.1	166.2	163
	2000	208.2	155.9	75
	<b>2001</b>	<b>132.7</b>		
Mid-Columbia Bright	1990-1994	43.2	37.4	90
	1995	30.0	34.1	114
	1996	43.2	59.7	138
	1997	61.9	58.9	95
	1998	44.9	36.8	82
	1999	27.7	50.0	181
	2000	61.6	36.7	63
	<b>2001</b>	<b>45.3</b>		
Columbia River Total <sup>1</sup>	1990-1994	264.2	253.1	97
	1995	231.4	236.7	102
	1996	229.3	326.0	142
	1997	321.5	317.8	98
	1998	230.4	251.9	109
	1999	231.5	307.1	133
	2000	325.8	249.9	76
	<b>2001</b>	<b>292.3</b>		

<sup>1</sup> Does not includes Lower River Brights (LRB) or Select Area Brights (SAB).

The 2000 return of SRW fall chinook to the Columbia River of 1,977 adults was similar to both the recent 5-year average of 1,900 and the pre-season forecast of 1,764. The combined hatchery and wild fall chinook escapement into the Snake River, based on the Ice Harbor Dam count, was 6,509 adults. A total of 1,970 adults swam into Lyons Ferry Hatchery, and an estimated 48 spawners returned (19 redds observed) to the Tucannon River. The Lower Granite Dam count was 3,830 adults, which included 1,372 marked hatchery adults that were trapped at Lower Granite Dam and hauled to Lyons Ferry Hatchery. Spawning escapement above Lower Granite Dam was 2,458, of which an estimated 857 were SRW fall chinook (Table 3).

**Table 3. Estimated Columbia River Returns and Lower Granite Dam Escapement of Snake River Wild Fall Chinook Adults, 1986-2000, and Forecast for 2001.**

Year	Columbia River Return	Mainstem Harvest	Harvest Rate %	Passage Loss	BON-LGR Conversion Rate %	Lower Granite Escapement
1986	3,440	1,953	56.8	952	32.4	449
1987	2,295	1,309	57.1	554	33.7	253
1988	4,811	3,065	63.7	973	29.3	368
1989	2,527	1,444	57.1	569	36.5	295
1990	665	353	53.1	162	36.4	78
1991	2,261	908	40.2	1,035	23.5	318
1992	1,555	409	26.3	597	47.9	549
1993	1,620	450	27.8	428	63.4	742
1994	1,055	192	18.2	457	47.0	406
1995	1,223	232	19.0	641	35.3	350
1996	1,957	516	26.4	802	44.3	639
1997	2,048	659	32.2	592	57.4	797
1998	864	230	26.6	328	48.3	306
1999	2,739	831	30.34	1,003	47.5	905
2000	1,977	565	28.58	555	60.7	857
<b>2001 proj.</b>	<b>7,600</b>	<b>2,378</b>	<b>31.29</b>	<b>2,529</b>	<b>51.6</b>	<b>2,693</b>

The BPH return of 20,100 adults was similar to the poor return in 1998 and was well below the recent 5-year average of 32,900. Adult returns of BPH included 6,250 fish to Spring Creek Hatchery, which was slightly less than the escapement goal of 7,000 adults. Natural spawning escapement of BPH occurred in the Wind (14), White Salmon (167) and Klickitat (3,445) rivers.

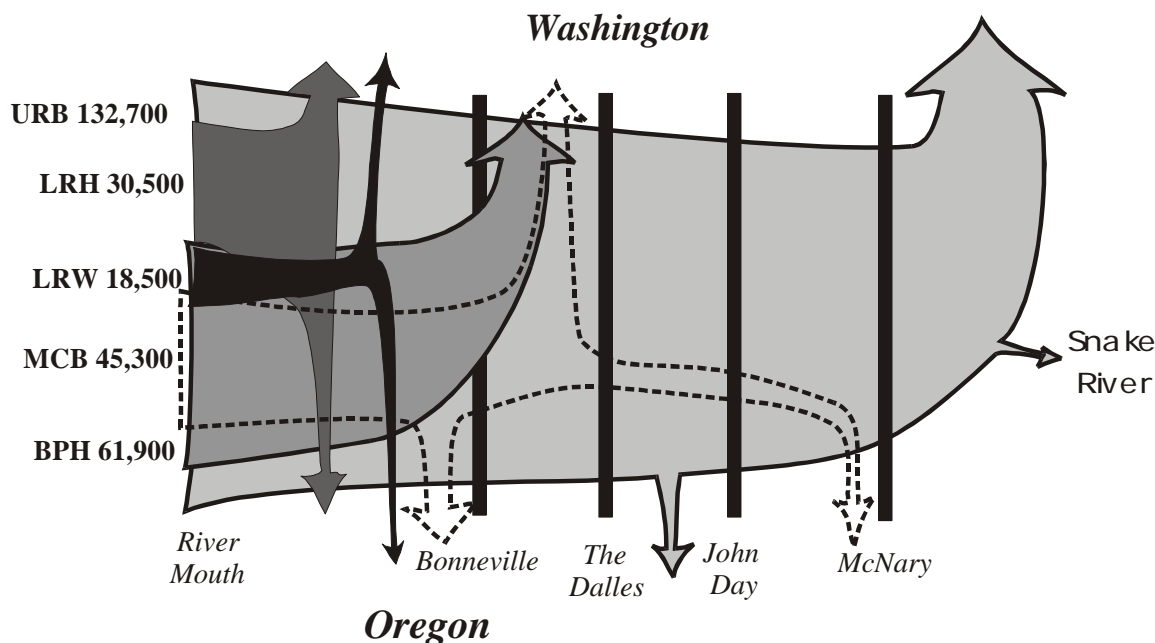
A total of 24,600 PUB fall chinook returned to the Columbia River in 2000, including 2,345 to Little White Salmon Hatchery, which achieved the 2,000 fish escapement goal. Natural escapement of PUB stock included 1,280 in the White Salmon River and 6,044 in the Klickitat River, as compared to the interim escapement goals of 1,300 and 1,000 fish, respectively. The return of BUB stock in 2000 was 12,100 fish to the mouth of the Columbia River. A total of 4,680 BUB's escaped to Bonneville Hatchery, which represents 66% of the 7,100 fish escapement goal. Significant natural escapement of BUBs does not occur.

LRH returns in 2000 totaled 27,000 adults. A total of 12,200 fish returned to Oregon and Washington hatcheries below Bonneville Dam, which was 88% of the aggregate escapement goal of 13,900. A total of 9,900 fish returned to Washington hatcheries (goal 10,900) and 2,300 returned to Big Creek Hatchery in Oregon (goal 3,000). An additional 9,000 LRH fall chinook spawned in Washington tributaries below Bonneville Dam and interim natural escapement goals in most Washington tributaries were not achieved in 2000. Returns of LRW chinook improved significantly in 2000 with a return of

10,200 adults which represents the largest LRW return since 1997 but is less than the recent 10-year average of 13,200. The natural spawning escapement goal of 5,700 fish to the North Fork Lewis River was achieved in 2000.

**2001 Forecast**

The forecasted total adult return of fall chinook in 2001 of 292,300 adults (Table 1 and Figure 3) is an increase from last year's return of 254,000 adults. The forecasted URB return of 132,700 adults would be less than the recent 5-year average of 153,900 adults while the forecasted MCB return of 45,300 adults would be similar to the recent 5-year average of 48,400 adults. The BPH forecast of 61,900 adults would be the largest return since 1982. The LRW forecast of 18,500 adults would be the largest return since 1991 and a large increase from the record low return of 3,300 adults in 1999. The LRH forecast of 30,500 adults would be the second smallest return on record, reflecting the continued poor survival of this stock and decreased smolt releases due to recent reductions in Mitchell Act funds supporting fall chinook hatcheries.



**Figure 3. Stock Components of Columbia River Fall Chinook and 2001 Adult Pre-season Forecasts.**

The expected upriver fall chinook surplus is 170,500 for 2001 ocean and freshwater fisheries, which includes 70,200 URB, 29,000 MCB, and 71,300 BPH. Surplus is the difference between run size and needed escapement. Surplus is used to set seasons, determine treaty Indian/non-Indian shares, and monitor compliance with management agreements. Although the number of URBs that are surplus to escapement needs is 70,200, only 41,500 are available for harvest below McNary Dam due to ESA constraints that limit the harvest rate on URBs to 31.29%. Surplus calculations for stocks originating below Bonneville Dam are based on river mouth run sizes. The expected 2001 return of LRH and LRW stocks provide a harvestable surplus of 1,700 and 7,500 fish in the Columbia River which are available for harvest. An estimated 1,500 adults are required to maintain the SAB releases at full program; however, this has not been achieved in recent years. An estimated 500 adults are required to maintain SAB broodstock at Klaskanine Hatchery. No escapement goals have been established for LRB fall chinook.

## Upriver Summer Steelhead

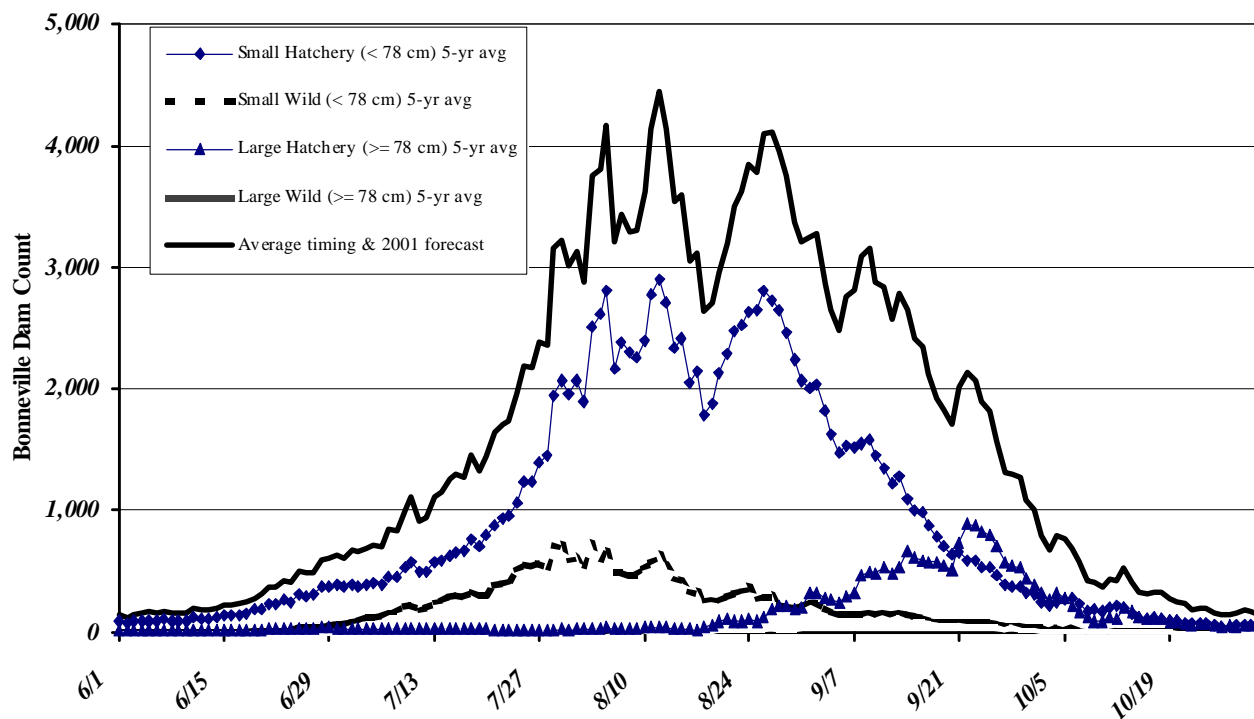
### *Stock Description*

Summer steelhead enter the Columbia River from March through October, with most of the run entering from late June through mid-September. The upriver steelhead run has historically been separated into A and B groups, which pass Bonneville Dam through and after August 25. Group A steelhead include early-returning Skamania stock which pass Bonneville Dam prior to July and are primarily destined for Bonneville Pool tributaries. Group A steelhead also include non-Skamania stock which pass Bonneville Dam from late June through late August on their way to tributaries throughout the Columbia and the Snake River basins. Group B steelhead return to the Clearwater and Salmon rivers in Idaho and pass Bonneville Dam from late August through October. Group B steelhead are generally larger than group A steelhead.

Group A and B steelhead cannot be distinguished based on run timing above Bonneville Dam where groups mix as fish seek temporary refuge in cooler tributaries. Steelhead counts at dams above Bonneville surge as mainstem water temperature declines in the fall. Counts peak at John Day, McNary, and the Snake River dams in September and October. During years of above average September-October flows and lower temperatures, steelhead move readily past lower Snake River dams during the fall counting period (June-December) and fewer fish are delayed until the spring count period (March-May). Snake River steelhead experience higher Bonneville to Lower Granite Dam survival rates in run years with lower spring count percentages.

In 1999, the TAC completed a review of steelhead assessment methods for Bonneville Dam and Zone 6 fisheries. While the bi-modal run timing distribution at Bonneville Dam has not been as distinct in recent years as it was historically, upon review of passage data the TAC determined that smaller steelhead are still earlier timed at Bonneville Dam and larger steelhead are still later timed. During 1989-1999, an average of 78% of steelhead less than 78 cm fork length crossed Bonneville Dam prior to August 26 and 75% of steelhead greater than or equal to 78 cm fork length crossed Bonneville Dam after August 25. Although about 85% of steelhead found in certain Idaho streams are large ( $\geq 78$  cm), the data are insufficient to make any definitive conclusions regarding the proportion of late-timed larger steelhead crossing Bonneville Dam that are destined for Idaho streams. The TAC concluded that separation using a 78 cm fork length criteria can be used as an index of Group A and Group B steelhead stock components; therefore, the TAC adopted a revised method of estimating fishery impacts to Group A and Group B steelhead using sampling data from Bonneville Dam (July 1-October 31) and fisheries data to estimate impacts for Group B ( $\geq 78$ cm) and Group A ( $< 78$  cm) index steelhead groups. Steelhead passing Bonneville Dam prior to July 1 classified as Skamania index steelhead and steelhead passing Bonneville Dam after June 30 are classified into Group A and Group B index steelhead based on the aforementioned length criteria (Figure 4).

Steelhead are subject to sport fisheries throughout the basin and treaty Indian fisheries in Zone 6. In all current sport fisheries only fin-clipped hatchery fish may be retained. Above Bonneville Dam, and in the tributaries, summer steelhead are caught in sport fisheries during the year of entry, and in the winter and spring of the following calendar year. Treaty Indian catch occurs throughout the year in platform and gillnet fisheries but most of the catch occurs in the fall gillnet season concurrent with landings of fall chinook. In recent years the tribes have reduced catch of wild steelhead during fall treaty Indian gillnet fisheries. Commercial harvest of steelhead by non-Indians has been prohibited since 1975 and time, area, and gear restrictions limit handling and mortality of steelhead by the non-Indian gillnet fishery to  $< 1\%$  of the run.



**Figure 4. 1996-2000 Average Daily Passage of Summer Steelhead over Bonneville Dam.**

**2000 Returns**

The 2000 upriver summer steelhead return of 274,200 past Bonneville Dam was the largest return since 1992 and much larger than the recent 5-year average of 210,500. Group A index steelhead total return in 2000 was the largest since 1992 and the wild return of 63,600 was the largest since 1988. The percent wild in the Group A index steelhead return was the second highest since 1989 and represented the third consecutive year in which the percent wild exceeded 25%. The Group B index steelhead total and wild returns in 2000 were the largest since 1992. The wild return of 8,400 more than doubled the 1993-1999 average of 3,800 but was less than the 1984-1992 average of 12,100. The percent wild in the Group B index return was 21% which is higher than the recent 5-year average of 14% (Table 4). During 2000 Bonneville passage occurring prior to August 26 included 52% 1-ocean fish and 46% 2-ocean fish and passage occurring after August 25 included 40% 1-ocean fish and 56% 2-ocean fish

The Lower Granite Dam count for the 2000 run was 115,200, which included 20,000 wild steelhead, about 17% of the total count. The Lower Granite Dam combined hatchery and wild steelhead passage was comprised of 95,300 (83%) Group A index fish and 19,900 (17%) Group B index fish and the wild passage was comprised of 17,100 (86%) Group A index fish and 2,800 (14%) Group B index fish. Wild fish represented 18% of the total Group A index return and 14% of the total Group B index return.

## 2001 Forecast

The 2001 forecast for the summer steelhead return to Bonneville Dam is 249,300 which would be smaller than the 2000 return of 274,200 but larger than the recent 5-year average of 225,000. Run components based on the revised index method include 12,000 Skamania index fish, 201,300 Group A index fish, and 36,000 Group B index fish as compared to the recent 5-year averages of 11,200, 182,100, and 31,700, respectively. The wild fish forecast includes 49,000 Group A index fish (24% of Group A return) and 8,900 Group B index fish (25% of Group B return). Steelhead returns to date are well ahead of preseason expectations with nearly 225,000 steelhead passing Bonneville Dam during the months of June and July. At the time this report was written daily counts had been at record high levels for eight consecutive days and 40% of the steelhead passing Bonneville Dam were wild, based on scale readings. The Skamania index stock steelhead forecast of 16,600 was exceeded with a count of 28,700. The Joint Staff expects that Group A index steelhead total and wild returns will also exceed preseason expectations by a large amount.

**Table 4. Group A Index and Group B Index Returns of Summer Steelhead to Bonneville Dam During 1984-2000 and 2001 Projections.**

Year	Group A Index (<78 cm)					Group B Index (≥78 cm)				
	Number Wild	%	Number Hatchery	%	Total	Number Wild	%	Number Hatchery	%	Total
1984	52,500	27	143,200	73	195,700	13,800	14	84,200	86	98,000
1985	51,900	18	229,600	82	281,500	13,000	32	27,900	68	40,900
1986	56,600	20	230,900	80	287,500	10,000	16	54,000	84	64,000
1987	106,700	45	131,600	55	238,300	14,000	31	31,000	69	45,000
1988	64,300	37	108,800	63	173,100	17,700	22	63,900	78	81,600
1989	57,500	30	135,600	70	193,100	12,400	16	65,200	84	77,600
1990	27,100	23	88,500	77	115,600	8,800	19	38,400	81	47,200
1991	60,300	26	173,800	74	234,100	6,200	22	22,100	78	28,300
1992	44,300	18	197,200	82	241,500	12,700	22	44,800	78	57,500
1993	28,700	21	108,000	79	136,700	4,400	12	31,800	88	36,200
1994	21,200	18	99,800	82	121,000	5,200	19	22,300	81	27,500
1995	26,000	14	154,000	86	180,000	1,900	14	11,300	86	13,200
1996	25,700	15	148,700	85	174,400	3,900	21	14,900	79	18,800
1997	30,900	15	177,300	85	208,200	3,900	11	32,800	89	36,700
1998	34,800	26	99,900	74	134,700	3,400	9	36,900	91	40,300
1999	56,600	32	119,900	68	176,500	3,700	17	18,400	83	22,100
2000 <sup>1</sup>	63,600	29	153,100	71	216,700	8,400	21	32,500	79	40,900
<b>2001<sup>2</sup></b>	<b>49,000</b>	<b>24</b>	<b>152,300</b>	<b>76</b>	<b>201,300</b>	<b>8,900</b>	<b>25</b>	<b>27,100</b>	<b>75</b>	<b>36,000</b>

<sup>1</sup> Preliminary

<sup>2</sup> Projected

## Coho

### Stock Description

Columbia River coho return primarily to Oregon and Washington hatcheries downstream from Bonneville Dam with some hatchery production destined for above Bonneville Dam. In recent years approximately one-third of the releases have occurred above Bonneville Dam. Since 1970 adult coho returns to the Columbia River have ranged from a low of 74,000 in 1995 to a high of 1,527,800 in 1986 (Table 5). The Columbia River coho return includes both early and late segments with commercial fisheries prior to mid-September landing primarily early stock,

fisheries during mid-September through early October landing a mixture of early and late stock, and fisheries occurring after early October landing primarily late stock.

Early stock coho enter the Columbia River from mid-August to early October with peak entry occurring in early September. Almost all early stock coho remain along the Oregon and southern Washington coasts and most migrate southward from the Columbia River. Since 1970, adult returns of Columbia River early stock coho have ranged from a low of 43,400 in 1983 (*El Niño* year) to a high of 730,800 in 1986 (Table 6). Releases of early coho above Bonneville Dam comprised 41% of the 2000 total.

Late stock coho enter the Columbia River from mid-September through December with peak entry occurring in mid-October. Hatchery production has expanded since 1975 and is primarily from Washington hatcheries below Bonneville Dam. Releases of late stock coho above Bonneville Dam comprised 18% of the 2000 total. The majority of late stock coho migrate northward from the Columbia River and reside along the Washington coast and Vancouver Island. Since 1970, Columbia River returns of late stock coho have ranged from a low of 16,800 in 1995 to a high of 796,900 in 1986 (Table 7).

Historic natural coho production areas in Washington included the Grays, Elokommin, Cowlitz, Toutle, Kalama, Lewis, and Washougal watersheds. Stream surveys conducted in Washington from 1945-1979 in the Toutle and lower Cowlitz River tributaries showed a steady decline of naturally spawning coho. Significant natural spawning still occurs in the lower Cowlitz system but is almost entirely composed of Cowlitz Hatchery fish. Surveys of 37 Washington streams below Bonneville Dam in 1991 suggested that natural spawning continues but production is low. Surveys of the majority of Washington tributaries below Bonneville Dam were performed again in 1998. Results of the 1998 surveys indicated that natural spawning occurs at low levels over a wide variety of areas; however, the bulk of the spawners (>90%) appear to be hatchery fish.

In Oregon, tributaries that were historic natural coho production areas include the Lewis and Clark, Youngs, Klaskanine, Clatskanie, Clackamas, and Sandy rivers plus Big, Gnat, Beaver, Milton, and Scappoose creeks. Annual spawning fish survey counts conducted in Oregon lower Columbia River tributaries from December through February since 1949 and intensive surveys conducted from 1990-1992 suggest that wild coho may have been extirpated from Oregon's lower Columbia tributaries below the mouth of the Willamette River (Table 8). However, in 2000 significant numbers of coho were observed in Oregon tributaries of the lower Columbia River for the first time since 1986 which suggests that some remnant populations may still be intact in the lower Columbia River basin. The 2000 counts of 8.8 fish per mile are the highest since 1972 but only about one third of the historic average of 25.1 fish per mile observed during 1949-1970. The Clackamas and Sandy rivers still contain significant natural populations of coho. Since 1978, natural coho returns to the Sandy and Clackamas rivers have varied widely with very low returns observed during 1996-1999. Natural coho returns to the Clackamas and Sandy rivers in 2000 increased significantly with counts at North Fork and Marmot dams returning to levels observed in the early 1990's.

The naturally produced Clackamas coho run is destined for areas above North Fork Dam, and includes an early segment that originated from hatchery plants in 1960-1972 and a late segment that recolonized the upper river after 1939 when the Faraday Dam fish ladder was built. Coho presently pass North Fork Dam in a bimodal pattern with peaks in September and January, although only a unimodal pattern was apparent before 1960 with a peak during November and December. Early and late run Clackamas coho pass through the lower Columbia River during September and November-December, respectively. Coded wire tag (CWT) studies on the 1985-1987 broods indicated that late stock Clackamas coho contributed only 0-0.2% of 1988-1990 late



fall commercial landings, with all landings occurring after mid-October. The Sandy River coho population passing Marmot Dam is primarily a wild population supplemented with some hatchery plants of adults and juveniles during 1961-1973 and 1979-1990. This run passes through the lower Columbia River primarily in September and passes Marmot Dam from early September through November with the peak in October. Historic passage at Marmot Dam occurred from late September through December.

Historical natural coho production areas above Bonneville Dam include the Spokane, Yakima, Wenatchee, Entiat, Methow, and Snake rivers. The majority of coho presently passing Bonneville Dam are returns from Columbia River Fish Management Plan (CRFMP)-mandated hatchery releases of lower river coho stocks in the Yakima, Umatilla, Little White Salmon, Klickitat, and Clearwater rivers. In the past, these releases have primarily been for the purpose of harvest augmentation, but the parties are also increasing efforts to restore naturally producing coho to appropriate habitats above Bonneville Dam (most recently the Snake and Methow rivers). Counts of coho destined for areas above Bonneville Dam have represented an increasing percentage of the total return in response to increased releases above Bonneville Dam. Since 1998 passage over Bonneville Dam has exceeded 40,000 adults and totaled 86,000 adults in 2000. (Table 5).

### ***2000 Returns***

The 2000 Columbia River coho return of 550,100 adults was the largest since 1991, but was only 36% of the record largest return of 1.5 million adults in 1986 (Table 5). Both early and late stock returns were the largest since 1991 and continue a trend of steadily increasing run sizes since the record low or near record low returns in 1995 (Tables 6 and 7). Overall, early and late coho aggregate hatchery escapement goals were met in 2000.

### ***2001 Forecast***

The projected 2001 Columbia River mouth return, following expected ocean fisheries, is 1,071,200 adults, which includes 760,500 early stock and 310,700 late stock (Table 1). This total return would be the largest since 1986 and would be the second largest return since at least 1970. The early stock forecast is nearly five times the recent 5-year average and the late stock forecast is nearly three and a half times the recent 5-year average. Approximately 147,300 coho are expected to pass above Bonneville Dam after ocean and lower river fisheries. Hatchery escapement goals of 19,600 early stock and 15,200 late stock are expected to be achieved after all mainstem and tributary fisheries have occurred and considerable number of both early and late stock coho are expected to be available for harvest numbers in 2001.

**Table 5. Minimum Numbers (Thousands) of Coho Adults Entering the Columbia River, 1970-2000.**

Year	Lower Columbia River							Minimum Run
	Comm. Catch	Sport Catch			Hatchery	Dam	Bonneville	
	Zones 1-5 <sup>1</sup>	Estuary <sup>2</sup>	L.Col.R. <sup>3</sup>	Tributary	Returns	Counts <sup>4</sup>	Dam Count	
1970	520.9	--	2.2	21.8	275.4	20.1	54.9	895.3
1971	264.3	--	1.4	16.0	187.7	21.3	53.8	544.5
1972	131.3	--	0.8	9.2	91.3	11.0	34.2	277.8
1973	183.7	--	0.3	7.4	68.2	5.8	25.8	291.2
1974	261.0	--	0.5	12.6	152.8	2.4	31.6	460.9
1975	156.6	--	0.6	10.0	85.4	7.1	32.8	292.5
1976	168.4	--	0.3	10.8	117.3	3.5	36.7	337.0
1977	39.0	--	0.5	5.7	37.1	2.2	9.3	93.8
1978	132.7	--	1.1	8.7	131.8	2.9	30.3	307.5
1979	127.6	--	0.2	12.1	102.6	4.4	29.6	276.5
1980	150.1	--	0.1	11.1	122.2	5.1	13.0	301.6
1981	60.0	--	0.1	7.6	77.9	2.8	21.9	170.3
1982	201.7	18.8	0.1	17.6	154.1	5.0	55.8	453.1
1983	7.1	3.6	0.2	5.1	73.6	2.5	8.4	100.5
1984	201.5	74.3	0.7	14.9	101.7	4.2	16.8	414.2
1985	190.0	25.4	1.1	9.4	94.2	7.5	38.6	366.2
1986	981.0	120.5	4.0	20.7	284.1	8.9	108.6	1,527.8
1987	165.3	47.2	0.9	6.1	66.1	4.2	17.9	307.6
1988	361.5	143.4	0.5	11.8	113.6	6.9	27.1	664.8
1989	387.3	81.9	0.2	15.1	183.3	6.4	27.4	701.6
1990	66.2	18.5	0.3	9.7	87.8	2.0	11.6	196.1
1991	407.5	208.7	1.1	29.3	223.3	5.5	58.9	934.3
1992	54.1	43.1	0.6	8.4	85.1	5.2	14.4	210.9
1993	35.6	20.9	0.6	6.3	39.1	0.8	10.6	113.9
1994	60.7	1.8	0.9	3.4	77.7	4.1	20.3	168.9
1995	21.4	5.0	0.2	2.6	31.5	2.9	10.4	74.0
1996	26.2	4.5	0.8	3.8	62.2	0.6	15.7	113.7
1997	20.5	20.4	0.8	8.5	69.7	2.8	24.1	146.8
1998	23.0	3.2	3.7	7.1	84.6	1.0	46.3	168.9
1999	79.0	9.3	1.3	17.8	111.6	1.0	40.7	260.7
<b>2000</b>	<b>168.8</b>	<b>21.5</b>	<b>1.6</b>	<b>35.7</b>	<b>232.0</b>	<b>5.6</b>	<b>85.8</b>	<b>551.0</b>

<sup>1</sup> Includes Youngs Bay, Big Creek (1970-present), other Select Area fisheries, and 1980-82 Washington terminal landings. Includes jacks, except beginning in 1987 jacks landed in Youngs Bay and other terminal fisheries are not included in this total.

<sup>2</sup> Catch from estuary recreational (Buoy 10) fishery. Catch from the estuary fishery prior to 1982 is included in ocean catch totals. Some non-Columbia River fish are caught in the estuary fishery and are included here.

<sup>3</sup> Catch from above Astoria-Megler Bridge.

<sup>4</sup> Willamette Falls on the Willamette River, North Fork Dam on the Clackamas River, and Marmot Dam on the Sandy River.

**Table 6. Minimum Numbers (Thousands) of Early Coho Adults Entering the Columbia River, 1970-2000.**

Year	Lower Columbia River							Minimum Run
	Comm. Catch	Sport Catch			Hatchery	Dam	Bonneville	
	Zones 1-5 <sup>1</sup>	Estuary <sup>2</sup>	L.Col.R. <sup>3</sup>	Tributary	Returns	Counts <sup>4</sup>	Dam Count	
1970	396.5	--	1.7	16.6	226.2	18.6	53.1	712.7
1971	166.2	--	1.1	12.4	158.6	18.7	46.4	403.4
1972	70.3	--	0.7	7.4	81.3	10.4	32.2	202.3
1973	144.3	--	0.2	4.8	49.8	5.4	24.8	229.3
1974	120.1	--	0.4	10.6	123.8	1.6	26.1	282.6
1975	89.1	--	0.4	7.0	69.0	6.4	30.2	202.1
1976	71.2	--	0.2	6.8	71.5	2.5	33.1	185.3
1977	17.2	--	0.4	4.0	23.5	1.4	7.7	54.2
1978	62.4	--	0.8	6.2	98.7	2.4	27.9	198.4
1979	69.2	--	0.2	8.8	78.6	3.1	26.3	186.2
1980	68.8	--	0.1	6.2	76.4	2.0	6.8	160.3
1981	22.0	--	0.2	4.3	50.4	2.4	21.0	100.3
1982	42.6	11.9	0.1	11.6	108.4	3.8	51.0	229.4
1983	4.7	2.3	0.1	2.4	28.3	1.0	4.6	43.4
1984	115.1	46.3	0.5	6.9	54.9	3.8	13.1	240.6
1985	105.8	16.5	0.8	6.3	57.3	6.5	35.2	228.4
1986	356.6	97.6	2.9	9.5	158.6	5.9	99.7	730.8
1987	100.5	28.4	0.7	4.2	32.6	3.4	16.4	186.2
1988	186.7	61.7	0.3	7.0	47.3	6.3	23.0	332.3
1989	78.2	54.7	0.2	7.0	98.0	5.0	19.6	262.7
1990	38.3	12.6	0.3	6.3	40.9	1.7	8.7	108.8
1991	203.2	142.9	0.8	15.1	108.9	4.3	43.2	518.4
1992	19.4	29.1	0.5	4.1	44.5	3.4	8.4	109.4
1993	20.9	16.5	0.5	2.9	22.9	0.7	8.0	72.4
1994	58.3	1.4	0.8	2.2	59.6	3.3	12.6	138.2
1995	21.2	4.9	0.2	1.2	20.4	2.3	7.0	57.2
1996	22.3	3.9	0.8	2.4	44.3	0.6	8.9	82.6
1997	18.1	19.3	0.8	4.8	39.1	2.8	18.1	103.0
1998	22.8	3.0	3.6	5.1	46.8	0.9	34.2	116.4
1999	46.2	6.9	0.9	9.3	56.3	1.0	32.9	153.5
<b>2000</b>	<b>78.5</b>	<b>18.7</b>	<b>1.0</b>	<b>26.0</b>	<b>138.2</b>	<b>4.9</b>	<b>58.9</b>	<b>326.2</b>

<sup>1</sup> Includes Youngs Bay, Big Creek (1970-present), other Select Area fisheries, and 1980-82 Washington terminal landings. Includes jacks, except beginning in 1987 jacks landed in Youngs Bay and other terminal fisheries are not included in this total.

<sup>2</sup> Catch from estuary recreational (Buoy 10) fishery. Catch from the estuary fishery prior to 1982 is included in ocean catch totals. Some non-Columbia River fish are caught in the estuary fishery and are included here.

<sup>3</sup> Catch from above Astoria-Megler Bridge.

<sup>4</sup> Willamette Falls on the Willamette River, North Fork Dam on the Clackamas River, and Marmot Dam on the Sandy River.

**Table 7. Minimum Numbers (Thousands) of Late Coho Adults Entering the Columbia River, 1970-2000.**

Year	Lower Columbia River							Minimum Run
	Comm. Catch	Sport Catch			Hatchery	Dam	Bonneville	
	Zones 1-5 <sup>1</sup>	Estuary <sup>2</sup>	L.Col.R. <sup>3</sup>	Tributary	Returns	Counts <sup>4</sup>	Dam Count	
1970	124.3	--	0.5	5.1	49.3	1.6	1.8	182.6
1971	98.1	--	0.3	3.7	29.0	2.6	7.4	141.1
1972	61.0	--	0.2	1.8	9.9	0.6	2.0	75.5
1973	39.4	--	0.1	2.6	18.4	0.4	1.1	62.0
1974	140.9	--	0.1	2.0	29.0	0.8	5.5	178.3
1975	67.6	--	0.2	2.9	16.4	0.7	2.6	90.4
1976	97.2	--	0.1	4.0	45.8	1.0	3.6	151.7
1977	21.8	--	0.1	1.7	13.6	0.9	1.6	39.7
1978	70.3	--	0.2	2.6	33.1	0.5	2.4	109.1
1979	58.4	--	0.0	3.4	23.9	1.3	3.3	90.3
1980	81.2	--	0.0	5.0	45.8	3.1	6.2	141.3
1981	37.9	--	0.0	3.3	27.5	0.4	1.0	70.1
1982	159.1	7.0	0.0	6.0	45.7	1.1	4.8	223.7
1983	2.4	1.3	<0.1	2.7	45.3	1.5	3.8	57.0
1984	86.4	28.1	0.2	8.0	46.8	0.4	3.6	173.5
1985	84.2	8.9	0.3	3.1	36.9	1.0	3.4	137.8
1986	624.4	22.8	1.1	11.3	125.5	2.9	8.9	796.9
1987	64.8	18.8	0.2	1.8	33.4	0.9	1.5	121.4
1988	174.9	81.7	0.2	4.8	66.3	0.6	4.1	332.6
1989	309.1	27.2	<0.1	8.1	85.3	1.4	7.8	438.9
1990	27.9	5.8	<0.1	3.5	46.9	0.3	2.9	87.4
1991	204.3	65.7	0.3	14.3	114.4	1.3	15.6	415.9
1992	34.7	14.0	<0.1	4.3	40.7	1.8	6.0	101.5
1993	14.8	4.4	0.1	3.4	16.1	0.1	2.6	41.5
1994	2.4	0.4	0.1	1.2	18.1	0.8	7.7	30.7
1995	0.2	0.2	<0.1	1.3	11.1	0.6	3.4	16.8
1996	3.8	0.6	<0.1	1.4	17.9	<0.1	6.8	30.5
1997	2.4	1.0	<0.1	3.7	30.7	<0.1	6.0	43.8
1998	0.2	0.2	0.2	2.0	37.8	0.1	12.1	52.6
1999	32.8	2.3	0.4	8.5	53.4	0.1	7.8	105.3
<b>2000</b>	<b>90.3</b>	<b>2.8</b>	<b>0.6</b>	<b>9.8</b>	<b>93.8</b>	<b>0.6</b>	<b>26.9</b>	<b>224.8</b>

<sup>1</sup> Includes Youngs Bay, Big Creek (1970-present), other Select Area fisheries, and 1980-82 Washington terminal landings. Includes jacks, except beginning in 1987 jacks landed in Youngs Bay and other terminal fisheries are not included in this total.

<sup>2</sup> Catch from estuary recreational (Buoy 10) fishery. Catch from the estuary fishery prior to 1982 is included in ocean catch totals. Some non-Columbia River fish are caught in the estuary fishery and are included here.

<sup>3</sup> Catch from above Astoria-Megler Bridge.

<sup>4</sup> North Fork Dam on the Clackamas River.

**Table 8. Escapement Index Values for Chum in Washington Lower Columbia River Tributaries and for Late Run Coho in Oregon Columbia River Tributaries downstream from the Willamette River, 1950-2000.**

Year	Chum (Washington Tributaries)			Coho (Oregon Tributaries)		
	Miles Surveyed	Fish Observed	Fish/Mile	Miles Surveyed <sup>1</sup>	Fish Observed	Fish/Mile
<i>50's Average</i>	2.2	903	450	9.4	263	28
<i>60's Average</i>	4.9	767	179	6.8	161	24
<i>70's Average</i>	6.0	450	77	9.3	61	7
1980	6.7	276	41	9.3	81	9
1981	4.0	56	14	9.3	16	2
1982	6.1	1,127	185	9.3	17	2
1983	5.8	317	55	9.3	11	1
1984	7.1	499	70	9.3	17	2
1985	7.1	500	70	7.8	3	<1
1986	7.4	1,138	154	9.3	51	5
1987	7.1	1,016	143	9.3	7	1
1988	7.1	1,917	270	9.3	5	1
1989	7.1	367	52	9.3	3	<1
<i>80's Average</i>	6.6	721	105	9.2	21	2
1990	7.1	832	117	9.4	4	<1
1991	7.1	673	95	9.4	3	<1
1992	7.1	3,273	461	9.4	4	<1
1993	7.1	1,411	199	9.3	2	<1
1994	7.1	509	72	9.3	3	<1
1995	7.2	922	128	9.3	2	<1
1996	7.2	1,545	215	9.3	0	0
1997	7.2	1,054	146	9.3	0	0
1998	7.2	1,666	231	9.3	4	<1
1999	7.2	2,096	291	9.3	4	<1
<i>90's Average</i>	7.1	1,321	185	9.3	2	0
<b>2000</b>	<b>6.1</b>	<b>2,425</b>	<b>398</b>	<b>9.3</b>	<b>82<sup>2</sup></b>	<b>9</b>

<sup>1</sup> In 1975 the database was reorganized into 9.3 miles of ten standard index streams that best indicate trends in escapement since 1967. Prior to 1967 the same ten streams were used; however, survey miles and frequency vary. In 1968 two streams were not surveyed and in 1985 observations in a survey heavily influenced by hatchery adult introduction were not included.

<sup>2</sup> Includes adipose fin-clipped coho.

## Chum

Naturally produced chum salmon return to small tributaries of the lower Columbia River, primarily in Washington and the mainstem Columbia River just below Bonneville Dam. Limited hatchery releases also contribute to returns, which have fluctuated at low levels since the mid-1960's. Washington tributaries have been surveyed annually since 1950 and the mainstem Columbia River has been surveyed annually since 1998. More intensive surveys were conducted during the 2000 spawning season. Surveys were expanded to include non-index streams in Washington and all Oregon tributaries entering the Columbia River below Bonneville Dam. Chum were observed in non-index Washington tributaries; however, only one chum was observed in Oregon tributaries. Counts during 2000 in index areas were the second largest since 1970, and much larger than average counts observed during the 1960's and 1970's (Table 8). Chum are caught incidentally in the late fall non-Indian commercial fishery with landings typically beginning in mid-October and peaking about November 1. During 2000 chum landings totaled 26 which included 24 in the late fall fishery, and two in the fall Select Area fisheries (Table 13).

## Sturgeon

Both white and green sturgeon are present in the lower Columbia River. Green sturgeon originate primarily from the Klamath, Sacramento, and Rogue rivers and use the Columbia River estuary extensively during summer and early fall. Columbia River white sturgeon originate from spawning areas near Bonneville Dam and range seasonally up and down the lower Columbia River, use the near shore ocean along the Oregon and Washington coasts, and contribute to populations in other coastal bays and estuaries. Columbia River sturgeon fisheries are designed primarily for white sturgeon. Green sturgeon are seldom caught by sport anglers but have contributed significant commercial catches in some years.

The current white sturgeon population is considered to be healthy with more than 1 million fish exceeding 2' in length. In general, indicators of sublegal (<42 inches) and oversize (>60 inches) abundance are good at this time. The 1998 estimate of harvestable size fish (42-60 inches) within the Columbia River is less than 1995 but is larger than estimates for 1996 and 1997. There is strong evidence that the 1996 and 1997 harvestable population estimates were negatively impacted by a mass emigration of white sturgeon from the lower Columbia River. Tag recoveries from outside the Columbia River basin indicated that this emigration began in 1996. The increased abundance estimate for 1998, relative to the two previous years, indicates that the harvestable population remains strong and emigrated sturgeon may be returning to the Columbia River. The 1998 harvestable population estimate is the 2<sup>nd</sup> largest since 1989. The 1999 population estimate is not complete at this time but the range of estimates are generally less than the 1998 estimate and more similar to the 1996 and 1997 estimates. Population estimates produced since 1995 indicate that the number of 42"-60" sturgeon in the population are not increasing at the rate the abundance models predicted. These results suggest the current combined sport and commercial annual harvest rates may be exceeding levels considered to be adequate for broodstock recruitment needs.

Isolated white sturgeon populations also occur in reservoirs upstream of Bonneville Dam. Abundance varies among populations and is limited primarily by lack of quality spawning habitat in each reservoir. The sturgeon populations in three Zone 6 reservoirs are evaluated every three to five years to monitor the effects of hydro-system mitigation activities, which include quota management based on OSY harvest strategy. Pool specific abundances of sturgeon 3-6 feet in total length are estimated using mark-recapture methodology, which results in abundance estimates of 48,600 in Bonneville (1999), 46,800 in The Dalles (1997), and 23,400 in John Day (1996) reservoirs. The projected 3-6 foot abundances in 2000, based on observed growth and mortality rates, are 59,300, 57,700 and 26,700 for Bonneville, The Dalles, and John Day pools, respectively.

## MANAGEMENT GUIDELINES

### Endangered Species Act

Status reviews occurring since 1991 have resulted in the majority of Columbia Basin salmon and steelhead stocks being listed under the ESA (Table 9). In order to facilitate consultations with the National Marine Fisheries Service (NMFS) for past mainstem treaty Indian and non-Indian fisheries, the *U. S. v. Oregon* TAC has prepared biological assessments for combined fisheries based on relevant *U. S. v. Oregon* management plans and agreements. The TAC completed Biological Assessments (BAs) of impacts to all ESA-listed salmon stocks (including steelhead) for all mainstem Columbia River fisheries since January 1992 and for Snake River basin fisheries since January 1993.

In 1999, separate Indian and non-Indian BAs were submitted to the NMFS for 1999 fall fisheries. Again in 2000 and 2001, the tribes and states submitted separate BAs to the NMFS for fall fisheries. A Biological Opinion has not yet been received from the NMFS for 2001 fall season fisheries.

The State of Oregon listed wild coho destined for Oregon tributaries of the lower Columbia River as an endangered species under Oregon state law in July 1999. The ODFW has recently completed a recovery plan for state-listed wild coho. The recovery plan includes separate abundance based harvest matrices for ocean and freshwater fisheries and was adopted at the July 20, 2001 OFWC meeting. For ocean and freshwater fisheries the OFWC has adopted a maximum fishery impact rate of 15% for 2001 fisheries.

**Table 9. Federally-listed Salmon, Steelhead, and Smelt of the Columbia River Basin.**<sup>1</sup>

Species - ESU	Designation	Listing Date	Effective Date
<b>Chinook</b>			
<b>Snake River Fall</b>	<b>Threatened</b>	<b>April 22, 1992</b>	<b>May 22, 1992</b>
Snake River Spring/Summer	Threatened	April 22, 1992	May 22, 1992
Upper Columbia Spring	Endangered	March 24, 1999	May 24, 1999
<b>Upper Columbia Summer/Fall</b>	<b>Not warranted</b>	--	--
Middle Columbia Spring	Not warranted	--	--
<b>Lower Columbia River Spring/Fall</b>	<b>Threatened</b>	<b>March 24, 1999</b>	<b>May 24, 1999</b>
Upper Willamette Spring	Threatened	March 24, 1999	May 24, 1999
<b>Deschutes River Fall</b>	<b>Not warranted</b>	--	--
<b>Steelhead</b>			
<b>Snake River</b>	<b>Threatened</b>	<b>August 18, 1997</b>	<b>October 17, 1997</b>
<b>Upper Columbia River</b> <sup>2</sup>	<b>Endangered</b>	<b>August 18, 1997</b>	<b>October 17, 1997</b>
Lower Columbia River	Threatened	March 19, 1998	May 18, 1998
<b>Middle Columbia River</b>	<b>Threatened</b>	<b>March 25, 1999</b>	<b>May 24, 1999</b>
Southwest Washington	Not warranted	--	--
Upper Willamette	Threatened	March 25, 1999	May 24, 1999
<b>Sockeye</b> – Snake River	Endangered	November 20, 1991	December 20, 1991
<b>Chum</b> – Columbia River	<b>Threatened</b>	<b>March 25, 1999</b>	<b>May 24, 1999</b>
<b>Coho</b> – Columbia River <sup>3</sup>	<b>Under review</b>	--	--
<b>Smelt</b> - Columbia River	Petition not accepted	--	--

<sup>1</sup> The ESU's 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> In 1991, the NMFS decided not to list wild coho of the lower Columbia River (Columbia River and its tributaries below Bonneville Dam, exclusive of the Willamette River) because the remaining small remnant runs are predominately hatchery-maintained and are not a species as defined in the ESA. In 1995, the NMFS combined Columbia River coho with Willapa Bay and Grays Harbor coho into a single evolutionarily significant unit (ESU) and identified it as a candidate species, worthy of further study. In 2000, the NMFS began another status review of lower Columbia River coho and a preliminary listing decision from NMFS is expected this summer. Lower Columbia River coho destined for Oregon tributaries were listed as an endangered species under Oregon state law in July 1999.

### Washington State Salmon Conservation Policy

The state of Washington has implemented a statewide conservation policy that limits total impacts, including ocean and freshwater fisheries, to less than 10% on depressed stocks. In recent years the low returns of LRW chinook, destined primarily for the Lewis River, have resulted in ocean and freshwater fisheries being managed within the state of Washington's 10% impact limit. The LRW forecast for 2001 is for a significantly improved return which will result

in LRW fall chinook not being classified as depressed and therefore fall fisheries will not be limited to a 10% impact on LRW fall chinook.

### **2001 Columbia River Salmon Management Guidelines**

The CRFMP expired on July 31, 1999. A Management Agreement for upper Columbia River fall chinook, steelhead, and coho has been reached by all parties for fall fisheries occurring in 2001. The following guidelines will be in place for the 2001 fall fishery management period.

- ✓ Allowable SRW fall chinook impacts in combined non-Indian and treaty Indian mainstem fisheries below the confluence of the Snake River for 2001 result in a 30% reduction from base period harvest rates. The corresponding impact rate is 31.29% of the aggregate URB run.
- ✓ The freshwater URB impact rate of 31.29% will be allocated 23.04% for treaty Indian fisheries and 8.25% for non-Indian fisheries.
- ✓ Treaty Indian fall fisheries will be managed to limit impacts on wild Group B index steelhead to no greater than 15%. All non-Indian fisheries outside the Snake River basin will be managed for an upriver wild steelhead impact rate to not exceed 2% on wild Group B index steelhead.
- ✓ Upriver fall chinook escapement goals include 7,000 adult fall chinook (4,000 females) to Spring Creek Hatchery and 43,500 adult fall chinook (natural and hatchery included) for spawning escapement above McNary Dam.
- ✓ Ocean and lower river fisheries will be managed to provide for Bonneville Dam escapement of at least 50% of the upriver coho salmon return.
- ✓ Non-Indian fisheries will be managed for an impact rate of less than 5% for Columbia River chum salmon.
- ✓ Combined ocean and freshwater fisheries will be managed to limit impacts on wild coho destined for Oregon tributaries to no more than 15% based on the 2001 Incidental Take Permit from the OFWC.

### **2001 Non-Indian Columbia River Fall Fishery Chinook Allocation Agreement**

This agreement was negotiated through Pacific Fishery Management Council's (PFMC) North of Falcon negotiations process and addresses the allocation of chinook catch and URB impacts between recreational and commercial users during the fall of 2001.

- ✓ This agreement is limited by the non-Indian allocation of upriver bright (URB) fall chinook impacts. This agreement is dependent on an 8.25% harvest of URB fall chinook allocated to non-Indian fisheries. Non-Indian catch estimates are based on pre-season abundance forecasts referenced in Model Run 10 (MR-10).
- ✓ URB fall chinook impacts in fisheries downstream of the Snake River are allocated pre-season at 4.90% to the sport fishery and 3.35% to the commercial fishery. The Columbia River Compact will use this URB impact allocation as guidance for making in-season management decisions concerning the Columbia River sport and commercial fisheries. Actual URB impacts in the fisheries may differ from pre-season estimates based on actual fishery stock composition and run-size updates. ODFW and WDFW staff will update the URB run-size beginning in mid-September.



- ✓ Expected total catch of fall chinook on the mainstem Columbia River downstream of the Snake River and in lower Columbia River tributaries is 37,500 of which 19,500 (52%) are expected to be harvested by the sport fishery and 18,100 (48%) are expected to be harvested by the commercial fishery. These catch estimates are based on pre-season abundance forecasts and actual harvest will be driven by in-season abundance estimates for individual fall chinook stocks.
- ✓ The Buoy 10 sport fishery (Buoy 10 upstream to Tongue Point) will be managed for a 7,900 chinook harvest. The Buoy 10 fishery will open on August 1<sup>st</sup> with a bag limit of 2 salmon/1 one of which can be a chinook. The bag limit will be modified on August 16 to include 3 salmon/1 of which can be a chinook. Only coho with an adipose fin-clip may be retained.
- ✓ The Buoy 10 sport fishery may receive up to 900 additional chinook to be transferred from the commercial fishery in-season if 7,900 chinook are expected to be harvested at Buoy 10 before September 3 (Labor Day). Chinook retention may be prohibited at Buoy 10 prior to September 3 if the catch is projected to exceed 8,800 chinook.
- ✓ Chinook retention may be prohibited in the Buoy 10 fishery beginning September 4 if more than 7,900 chinook are projected to be caught prior to the end of the season.
- ✓ If chinook retention is prohibited at Buoy 10, the salmon bag limit may be modified in-season to include 4 adipose fin-clipped coho. If Buoy 10 continues to include chinook in the bag limit after September 3, the bag limit may be modified to allow the retention of 2 chinook. If the Buoy 10 fishery harvests less than 7,900 chinook, the remaining impacts will be transferred to commercial fisheries.
- ✓ The commercial fishery season structure will be guided by MR-10 subject to potential modifications associated with the Buoy 10 chinook transfer criteria in this agreement and subject to in-season fishery and chinook abundance updates.
- ✓ September and October commercial and mainstem sport fisheries will be managed in-season to assure the combined non-Indian harvest remains within the 8.25% URB fall chinook harvest rate.

### **Lower Columbia River Sturgeon Allocation**

Sturgeon fisheries between the Columbia River mouth and Bonneville Dam during 2000-2002 are guided by a management plan signed by the ODFW and WDFW Directors in March 2000. Major tenets of the "Joint State Agreement on Sturgeon Fishery Management" include:

- ✓ Management for optimum sustained yield of white sturgeon.
- ✓ Absent significant update, annual harvestable number is 50,000.
- ✓ Harvestable number may be adjusted if there is a significant population update resulting from new biological information, new analytical/theoretical approach, or a substantial change in harvest impacts outside of the Columbia system.
- ✓ Allocate white sturgeon harvestable number 20% commercial (10,000) and 80% sport (40,000).
- ✓ Sport and commercial seasons will be modified as necessary to ensure that average catch during the three-year period (2000-2002) does not exceed fishery specific harvestable number.

- ✓ Commercial target seasons allowed as necessary to access allocation and maximize economic benefit consistent with conservation objectives for other species.
- ✓ Green sturgeon may be taken during white sturgeon commercial seasons but green sturgeon-only commercial seasons are not allowed (green sturgeon catch rate not to exceed historical rates).
- ✓ Commercial size limits are 48"-60" for white sturgeon and 48"-66" for green sturgeon.
- ✓ Recreational size limit for white and green sturgeon is 42"-60" with one fish daily limit, ten fish annual (per calendar year) limit, and barbless hooks required.
- ✓ For the fall sport fishery in 2001, during August 1 -September 30 in the Columbia River below Bonneville Dam, including Youngs Bay, retention of sturgeon by boat and bank anglers will be prohibited but catch and release angling may continue.

Catch of white sturgeon in Select Areas is included in the annual commercial allocation (10,000 white sturgeon) of the harvestable number (50,000 white sturgeon). Past management practices regarding white sturgeon catch in Select Areas have varied and were developed in consultation with participants of Select Area commercial fisheries. Prior to 1997 no catch limit restrictions were in place. Beginning in 1997 white sturgeon catch in Select Areas was limited to 5% of the commercial white sturgeon allocation and this limit was subsequently increased to 10% for 1998 and 1999. Sales of sturgeon were allowed in the Youngs Bay fisheries only prior to 1998, and in all Select Area fisheries thereafter. On April 12, 2000 commercial fishing industry leaders met to discuss the harvest of white sturgeon in Select Areas as it relates to the commercial allocation and arrived at the following consensus points:

- 1) Select Area fisheries should be managed as salmon directed fisheries.
- 2) Use of gear (mesh size) restrictions should be adopted to target salmon, not sturgeon. New regulations should be phased in to limit economic impact on participating fishers.
- 3) Enforcement presence is encouraged to ensure compliance with gear restrictions.

In future fisheries mesh size restrictions will be adopted to ensure that Select Area fisheries target salmon, not sturgeon. Based on a June 8, 2000 public meeting with interested participants in Select Area fisheries a 6-inch maximum mesh size was considered appropriate for coho-directed fisheries and a 7-inch to 8-inch maximum mesh size was considered appropriate for chinook directed fisheries.

The Joint State Agreement on sturgeon fishery management allows for changes based on new biological information. The Joint Staff recommends that the harvestable number in 2001 remain 50,000 white sturgeon; however, based on the trend in recent population updates, the Joint Staff is requiring that any overages from 2000 fisheries be applied to 2001 catch guidelines which results in a 39,500 white sturgeon catch limit for sport fisheries and a 9,300 white sturgeon catch limit for commercial fisheries. Both fisheries will be managed not to exceed the aforementioned catch limits in 2001. Additionally, this data suggest that a harvestable number of 50,000 white sturgeon may not be appropriate for future fisheries and additional catch reductions may be required for both sport and commercial sturgeon fisheries beginning in 2002.

### **Zone 6 Sturgeon Allocation**

Sturgeon catch guidelines and sport/treaty commercial allocations have been reviewed annually since 1987 by the Sturgeon Management Task Force (SMTF) which is comprised of representatives from state fish management agencies and the Columbia River treaty Indian tribes.

Guidelines are based on desired harvest rates and current stock assessments. In March of 1997, the SMTF agreed to pool-specific management with catch guidelines, based on optimum sustainable yield (OSY), that are designed to allow for survival of adequate numbers of juvenile sturgeon through existing fisheries to increase harvestable and broodstock numbers. Current sturgeon size limits are 48-60" in all treaty Indian fisheries, 48-60" in sport fisheries in The Dalles and John Day reservoirs, and 42-60" in Bonneville Reservoir sport fisheries.

Sturgeon catch guidelines increased in 1997 and 1998 as updated stock assessments indicated that these sturgeon populations were rebuilding under the catch restrictions implemented by the SMTF. For 2001 management the SMTF agreed to use catch guidelines that were in place during 1998-2000, except for a slight modification to the guideline for The Dalles Pool (Table 10). The SMTF agreed to use the midpoint of the ranges used during 1998-2000 as the

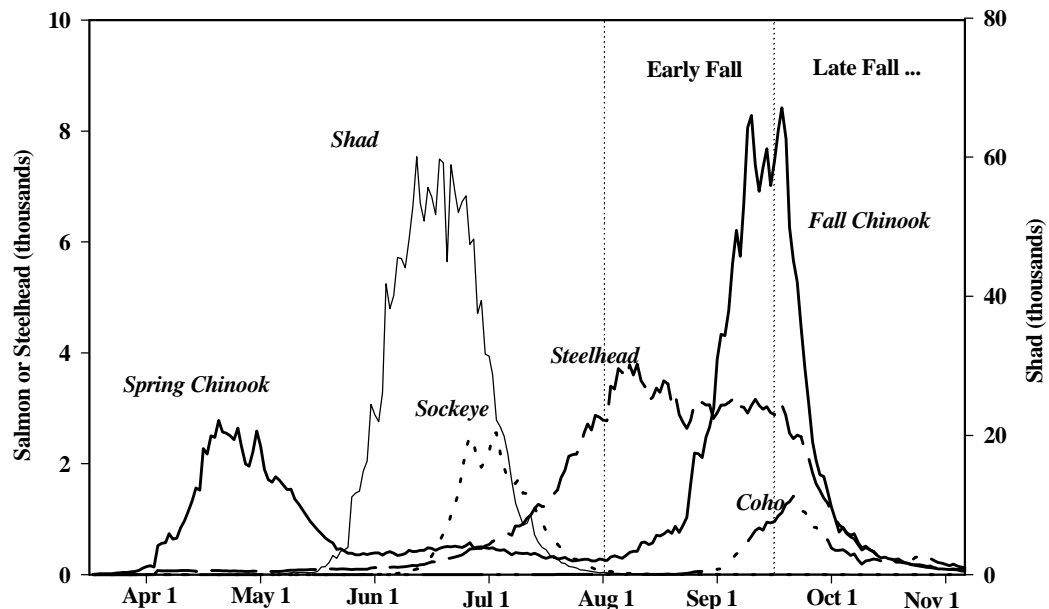
<i>Reservoir / Fishery</i>	<i>1997</i>	<i>1998-2000</i>	<i>2001</i>
<b>Bonneville</b>	<b>2,820</b>	<b>2,820</b>	<b>2,820</b>
Sport	1,520	1,520	1,520
Treaty Commercial	1,300	1,300	1,300
<b>The Dalles</b>	<b>600</b>	<b>1,800</b>	<b>1,800</b>
Sport	200	600-800	700
Treaty Commercial	400	1,000-1,200	1,100
<b>John Day</b>	<b>1,720</b>	<b>1,720</b>	<b>1,720</b>
Sport	560	560	560
Treaty Commercial	1,160	1,160	1,160

management guidelines for sport and treaty Indian commercial fisheries occurring in The Dalles Pool during 2001. Allocation is approximately 50:50 between sport and tribal fisheries, although reservoir-specific guidelines are shaped to meet fishery demands. For instance, the sport fishery is allowed a greater share of the Bonneville Reservoir catch while the treaty Indian fishery is allowed a greater share of the catch in the Dalles and John Day reservoirs. Treaty Indian fishers may continue to take sturgeon for subsistence purposes after commercial seasons have been completed. Subsistence catch is estimated through a monitoring program conducted by the Yakama Indian Nation (YIN) and annually averages less than 300 sturgeon. Subsistence catch is not included in the aforementioned catch guidelines. Sport anglers may continue to fish for sturgeon and release them unharmed when catch guidelines are reached and retention is prohibited.

## REVIEW OF MAINSTEM FISHERIES

### Past Seasons

Traditional commercial fisheries below Bonneville Dam occurred during "early fall" (August to mid-September) targeting on chinook and "late fall" (mid-September to mid-November) targeting on coho (Figure 5). Coho typically outnumbered chinook in the late fall season catch and in some years by a wide margin; however, chinook landings could be significant during the mid-September time frame. Incidental landings of steelhead occurred in both early and late fall seasons until commercial sale of this species was banned in 1975.



*Figure 5. Average Daily Counts of Salmon and Shad at Bonneville Dam, 1986-2000.*

In recent years commercial fisheries below Bonneville Dam during the fall fishing period have been reduced in response to the decreasing abundances of target species and ESA listing decisions. Mesh size restrictions are frequently imposed on both the early fall and late fall segments of the non-Indian commercial fishery to reduce the incidental catch of non-target species. Commercial fisheries are also frequently restricted to zones or daylight only time periods to concentrate on target stocks or avoid non-target stocks. Early fall fisheries have occurred during the last half of August, primarily in Area 2S (upstream of the Sandy River mouth) near Bonneville Dam. These fisheries target on chinook with some sturgeon and a few coho also landed. Late fall seasons have typically occurred from mid to late September through the end of October. The majority of the seasons target coho in the lower river below the mouth of the Lewis River. Some target chinook seasons also occur during mid to late September in expanded Area 2S (upstream of the I-205 Bridge). During several years in the 1990's extremely low coho abundance curtailed nearly all commercial opportunities during the fall fishing period.

With the reduction in non-Indian commercial salmon fishing opportunities in recent years, and the adoption of Joint State Sturgeon Management Agreements, target sturgeon fisheries have

become an important part of fall fishing strategies. Sturgeon sales are typically allowed during salmon seasons; however, in recent years target sturgeon seasons have been adopted to allow the commercial fishery to access its allocation. Target sturgeon seasons typically occur during first week of August and the last three weeks of October.

Recent declines in mainstem fishing opportunities and success of the Youngs Bay fishery prompted the Bonneville Power Administration (BPA) to fund a research project to expand net-pen programs into select off-channel fishing areas. This BPA funding now supports the Select Area Fishery Enhancement (SAFE) Project which has been expanded to include Tongue Point/South Channel and Blind Slough/Knappa Slough on the Oregon shore plus Deep River and Steamboat Slough on the Washington shore. These fisheries target primarily hatchery coho returning to release sites in these areas; however, SAB fall chinook are also released and subsequently caught upon their return to Youngs Bay. A target chinook fishery occurs intermittently in Knappa Slough near the mouth of Big Creek when surplus coho or tule fall chinook returns are expected for Big Creek Hatchery.

Treaty Indian commercial seasons above Bonneville Dam traditionally opened during early to mid-August and ended in mid-October. Fall chinook and steelhead dominated the catch, but could include substantial numbers of white sturgeon and coho. In recent years commercial fishing opportunities in the Zone 6 management area have also declined. Recent fisheries have typically occurred during a four or five week period between mid-August and late September. Fisheries continue to target on chinook but have been modified to reduce impacts on listed wild steelhead. Zoning has also been used to increase escapement of some segments of fall chinook runs and mesh size restrictions have sometimes been adopted for the treaty Indian fishery to reduce impacts on listed wild steelhead. Most recently fall fisheries have been closed for white sturgeon because catch guidelines have been achieved prior to August 1.

A mainstem recreational fall chinook fishery exists in much of the Columbia River. In recent years, primary catch areas for fall chinook have been the lower estuary (Buoy 10), the lower river between Astoria and Bonneville Dam, and the Vernita-Hanford Reach area below Priest Rapids Dam. Small recreational fisheries for chinook can also occur at tributary mouths in the Zone 6 management area. Significant numbers of coho are landed in the Buoy 10 fishery below Astoria-Megler Bridge. Hatchery steelhead fisheries in the mainstem Columbia occur primarily between Tenasillahe Island and Bonneville Dam with few caught below Tenasillahe Island. Significant steelhead landings can occur during sport fisheries above Bonneville Dam, especially near tributary mouths.

Commercial fishing in off-channel areas (Select Areas) was initiated in 1962 with the adoption of salmon seasons for Youngs Bay. Initially Youngs Bay seasons were concurrent with the late fall mainstem gillnet season; however, since 1977 the Youngs Bay season has been separated from mainstem seasons and has increased in importance with the involvement of the Clatsop Economic Development Council's (CEDC) Fisheries Program. The CEDC fisheries project pioneered the successful net-pen acclimation program that is a cornerstone of Select Area fisheries projects.

## 2000 Fall Season Summary

- ✓ The 2000 fall chinook run was similar to recent years while the coho return was the largest since 1991. The wild Group A index steelhead return was the largest since 1988 and the wild Group B index steelhead return was the largest since 1992.
- ✓ Low numbers of Snake River wild fall chinook and the pre-season expectation of a near record low return of lower river wild fall chinook constrained harvest of healthier stocks.
- ✓ All fisheries were constrained to remain within Management Agreement and ESA limitations. Post-season impacts totaled 28.64% for URB fall chinook (31.29% guideline) and 16.1% for wild Group B index steelhead (17.0% guideline).
- ✓ Actual Oregon wild coho fishery impacts of 13.3% for early stock, 11.1% for late stock, and 12.8% for early and late combined were within the 2000 OFWC permit of 13.3% and the state ESA survival guideline of 15%.
- ✓ White sturgeon catches of 10,700 in the non-Indian commercial fishery and 40,500 in the sport fishery slightly exceeded the 10,000 and 40,000 fish catch guidelines.
- ✓ Treaty Indian fisheries landed 52,100 chinook (43% of the harvestable surplus) and the 67,600 chinook passing McNary Dam exceeded the escapement goal of 43,500.
- ✓ The Buoy 10 sport fishery was closed to the retention of chinook from August 28-31 (4 days) due to ESA constraints.
- ✓ The mainstem Columbia River sport fishery remained open during August 1-December 31 with a two fish salmon/steelhead bag limit in effect throughout.
- ✓ Lower river mainstem commercial fisheries focused on coho and sturgeon while minimizing impacts on ESA-listed and LRW fall chinook.
- ✓ Lower Columbia River mainstem fall commercial fisheries landed an estimated 110,500 coho, 10,800 chinook, and 7,200 white sturgeon.
- ✓ Select area fall landings totaled 2,300 chinook, 61,100 coho, and 200 white sturgeon.
- ✓ Fall seasons and catches are summarized in Tables 11 - 15.
- ✓ A total of 11 Compact hearings were held between the dates of July 27, 2000 and October 27, 2000 to make commercial fishery management decisions. Joint State action was taken at three Compact hearings and one additional Joint State hearing was held to consider modifications to sport fishing seasons.

**Table 11. Fall Lower River and Zone 6 Mainstem Commercial Fishing Seasons, 2000**














	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<b>AUG</b>			1	2	3 7 pm	4 7 am	5
	6	7	8	9	10	11	12
	13	14	15	16	17	18	19
	20	21 8 pm	22 6 am 8 pm	23 6 am	24	25	26
<b>SEPT</b>	27	28	29	30 6 am	31	1	2 6 pm
	3	4	5 6 am	6	7	8	9 6 pm
	10	11	12 6 am	13	14	15	16 6 pm
	17	18 7 am 7 pm	19 6 am 7 am	20 7 pm	21	22	23 6 pm
	24	25 7 am 7 pm	26 7 am 7 pm	27	28 7 am 7 pm	29	30
	1	2	3	4	5 7 am 7 pm	6	7
<b>OCT</b>	8	9 7 am 7 pm	10 Noon	11	12	13 Noon	14
	15	16 7 am 7 pm	17 Noon	18	19	20 Noon	21
	22	23 7 am 7 pm	24 7 am	25	26	27 7 pm	28
<b>NOV</b>	29	30 7 am 7 pm	31	1 10 am 4 pm	2	3	4
Lower River:  Zone 6: 							

Table 12. Fall Select Area Commercial Fishing Seasons, 2000<sup>1</sup>

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
AUGUST			Noon  6 pm 1	2	3	4	5
	6	7	Noon  6 pm 8	9	10	11	12
	13	14	Noon  6 pm 15	16	17	18	19
	20	21	Noon  6 pm 22	23	24	25	26
SEPTEMBER	27	28	Noon  6 pm 29	30	31	1	2
	3	4	Noon  6 pm 5	6	7	8	9
	10	11	12	13	14	15	16
	17	18	19	20	21	22	23
	24	25	26	27	28	29	30
	1	2	3	4	5	6	7
OCTOBER	8	9	10	11	12	13	14
	15	16	17	18	19	20	21
	22	23	24	25	26	27	28
	29	30	31 6pm	1	2	3	4

Youngs Bay:  Tongue Point./South Channel.:  Blind Slough/Knappa Slough   
 Deep River  Steamboat Slough 

<sup>1</sup> For all fishing areas except Youngs Bay nightly fishing periods extended from 7 am to 7 pm prior to October 1 and 6 pm to 8 am thereafter.



**Table 13. Salmon, Steelhead, and Sturgeon Catch in 2000 Fall Fisheries.**

Fishery	Date	Chinook	Coho	Chum	Summer Steelhead	White Sturgeon	Green Sturgeon
<b>Treaty Indian Fisheries</b>							
Zone 6 Commercial <sup>1</sup>	Aug. 30-Sept. 2	14,830	593	--	1,920	--	--
Zone 6 Commercial <sup>1</sup>	Sept. 5-9	20,230	1,451	--	3,670	--	--
Zone 6 Commercial <sup>1</sup>	Sept. 12-16	9,700	1,846	--	3,870	--	--
Zone 6 Commercial <sup>1</sup>	Sept. 19-23	7,120	2,329	--	3,250	--	--
Zone 6 Setline <sup>2</sup>	Aug. 8-20	--	--	--	--	46	--
Zone 6 Setline <sup>3</sup>	Oct. 2-Dec. 31	--	--	--	--	268	--
Zone 6 C&S and Test	Aug.-Dec.	269	80	--	2,830	166	--
<b>Indian Total</b>		<b>52,149</b>	<b>6,229</b>	<b>--</b>	<b>15,540</b>	<b>480</b>	<b>--</b>
<b>Non-Indian Fisheries</b>							
Zone 1-3 Sturgeon <sup>3</sup>	Aug. 3-4	1,699	2	0	--	2,489	563
Area 2S <sup>4</sup>	Aug. 21-23	5,694	159	0	--	310	5
Zones 1-3 <sup>5</sup>	Sept. 18, 19, 20	1,026	10,057	0	--	186	371
Zones 4-5 <sup>6</sup>	Sept. 19-20	907	157	0	--	201	0
Zones 1-3 <sup>5</sup>	Sept. 25, 26, 28	707	23,189	0	--	72	34
Zones 1-3 <sup>5</sup>	Oct. 5	172	6,843	4	--	61	21
Zones 1-5 <sup>7</sup>	Oct. 9	130	7,433	2	--	1,326	100
Zones 1-5 <sup>8</sup>	Oct. 10-13	344	41,692	5	--	207	44
Zones 1-5 <sup>7</sup>	Oct. 16	20	5,030	1	--	890	14
Zones 1-5 <sup>8</sup>	Oct. 17-20	98	14,011	2	--	111	3
Zones 1-5 <sup>9</sup>	Oct. 23	23	1,083	5	--	621	19
Zones 2-5 <sup>10</sup>	Oct. 24-27	13	734	5	--	8	0
Zones 2-5 <sup>11</sup>	Oct. 30	0	152	0	--	0	0
Zones 1-5 <sup>12</sup>	Nov. 1	0	0	0	--	1,250	19
<b>Subtotal</b>		<b>10,833</b>	<b>110,542</b>	<b>24</b>	<b>--</b>	<b>7,193</b>	<b>1,193</b>
Youngs Bay <sup>13</sup>	Aug. 1 – Oct. 31	1,744	33,214	1	--	88	0
Tongue Pt./South Ch. <sup>14</sup>	Sept. 5 – Oct. 31	252	10,731	0	--	59	10
Blind & Knappa Sl. <sup>15</sup>	Sept. 7 – Oct. 31	132	3,398	0	--	9	0
Deep River <sup>15</sup>	Sept. 5 – Oct. 31	109	13,392	1	--	0	1
Steamboat Slough <sup>15</sup>	Sept. 7 – Oct. 28	78	362	0	--	1	0
<b>Subtotal</b>		<b>2,315</b>	<b>61,097</b>	<b>2</b>	<b>--</b>	<b>157</b>	<b>11</b>
Buoy 10 Sport <sup>16</sup>	Aug. 1-Dec. 31	6,085	21,478	--	<100	--	--
Lower River Sport	Aug. 1-Dec. 31	7,620	1,620	--	5,050	12,264	32
Bonn. Dam to Priest Rapids Dam Sport	Aug. 1-Dec. 31	4,360	--	--	NA	187 <sup>2</sup>	--
<b>Subtotal</b>		<b>18,065</b>	<b>23,098</b>	<b>--</b>	<b>5,100</b>	<b>12,451</b>	<b>32</b>
<b>Non-Indian Total</b>		<b>31,213</b>	<b>194,737</b>	<b>26</b>	<b>5,100</b>	<b>19,801</b>	<b>1,236</b>
<b>Grand Total</b>		<b>68,996</b>	<b>199,232</b>	<b>26</b>	<b>16,842</b>	<b>19,967</b>	<b>1,236</b>

1 No minimum mesh size restriction. No sturgeon sales allowed. Large Spring Creek sanctuary.

2 John Day pool only.

3 Mesh size restrictions are 9" minimum and 9 3/4" maximum. Zones 1-3 to the Longview Bridge. Salmon and sturgeon sales allowed.

4 Mesh size restrictions are 9" minimum and 9 3/4" maximum. Area 2S. Salmon and sturgeon sales allowed.

5 Mesh size restriction is 6" maximum unslackened gillnet. Zones 1-3 upstream to Longview Bridge during daylight. Salmon and sturgeon sales allowed.

6 Mesh size restrictions are 8" minimum and 9 3/4" maximum. Warrior Rock/Bachelor Island line up to Beacon Rock. Salmon and sturgeon sales allowed.

7 Mesh size restrictions are 6" maximum unslackened or 9" minimum and 9 3/4" maximum. Zones 1-5 except closed from Longview Bridge to Warrior Rock/Bachelor Island line. Salmon and sturgeon sales allowed.

- 8 Mesh size restriction is 6" maximum. Zones 1-5 except closed from Longview Bridge to Warrior Rock/Bachelor Island line. Salmon and sturgeon sales allowed.
- 9 Mesh size restrictions are 6" maximum unslackened or 9" minimum and 9<sup>3</sup>/<sub>4</sub>" maximum. Zones 1-5 except closed from upper end of Cottonwood Island to Warrior Rock/Bachelor Island line. Salmon and sturgeon sales allowed.
- 10 Mesh size restriction is 6" maximum unslackened. Zones 1-5 except closed from upper end of Cottonwood Island to Warrior Rock/Bachelor Island line. Salmon and sturgeon sales allowed.
- 11 Mesh size restriction is 6" maximum unslackened. Harrington Point/Settler Point line upstream from to Beacon Rock except closed from the upper end of Cottonwood Island to the Warrior Rock/Bachelor Island line. Salmon and sturgeon sales allowed.
- 12 Mesh size restrictions are 9" minimum and 9 <sup>3</sup>/<sub>4</sub> maximum. Zones 1-5. Salmon and sturgeon sales allowed.
- 13 Mesh size restriction is 8" maximum. Nets may not exceed 250 fathoms in length. Leadline not to exceed 2 lbs /fathom. Monofilament nets are allowed. Salmon and sturgeon sales allowed.
- 14 Mesh size restriction is 8" maximum. Net lengths may not exceed 250 fathoms in Tongue Point Basin and 100 fathoms in South Channel. Leadline not to exceed 2 lbs /fathom in Tongue Point Basin. Salmon and sturgeon sales allowed.
- 15 Mesh size restriction is 8" maximum. Nets may not exceed 100 fathoms in length. No weight restriction on leadline. Salmon and sturgeon sales allowed.
- 16 Buoy 10 upstream to Tongue Point/Rocky Point line. Chinook retention prohibited August 28-31. Buoy 10 remained open to coho retention from August 1 through December 31.

**Table 14. Stock Composition of Adult Fall Chinook Landed in Mainstem Columbia River Fisheries, 2000<sup>1</sup>.**

	Stock						Total
	LRH	LRW	BPH	URB	MCB	Other <sup>2</sup>	
<b>Non-Indian Fisheries</b>							
Recreational <sup>3</sup>	2,900	0	400	10,200	2,400	700	16,600
August 3-4 Commercial	700	0	1,000	3,000	2,400	<300	7,300
Early Fall Commercial	<100	<100	0	1,000	600	<100	1,800
Late Fall Commercial	0	500	0	600	<200	<50	1,200
Select Area Commercial	100	0	100	200	100	1,400	2,000
<b>Subtotal</b>	<b>3,700</b>	<b>500</b>	<b>1,500</b>	<b>15,000</b>	<b>5,700</b>	<b>2,400</b>	<b>28,900</b>
<b>Treaty Indian Fisheries</b>							
Total Fall Season C&S and Commercial (ticketed and non-ticketed) Catch.	0	0	6,500	36,100	9,500	<100	52,100
<b>Total</b>	<b>3,700</b>	<b>500</b>	<b>8,000</b>	<b>51,100</b>	<b>15,200</b>	<b>2,500</b>	<b>81,000</b>

<sup>1</sup> Stock composition estimates are preliminary.

<sup>2</sup> Includes Select Area bright and out-of-basin stocks.

<sup>3</sup> Includes sport catch from mouth to Priest Rapids Dam.

## Zone 6 Fisheries

During the fall, fisheries in the mainstem Columbia River between Bonneville and McNary dams include treaty Indian commercial and Ceremonial & Subsistence (C&S) fisheries, recreational sturgeon fisheries, and limited fall chinook sport fisheries focussing around tributary mouths. All fisheries occurring in this section of the Columbia River are managed in accordance with predetermined harvest impact rates or catch guidelines. Landings during 2000 fall seasons are summarized in Table 13.

### **Treaty Indian Commercial Fishery**

The treaty Indian fishery in the fall of 2000 was managed to target on healthier URB and BPH fall chinook stocks while allowing some harvest of hatchery summer steelhead and limiting

impacts on listed SRW fall chinook and Group B summer steelhead. The set gillnet fishery consisted of four fishing periods; one 3½day fishing period followed by three 4½day fishing periods. The set gillnet fishery began strong with chinook catches peaking during the second fishing period (Table 15). On September 8 run sizes were updated by TAC with the URB and Group B wild index run size estimates remaining unchanged and the Group A wild index run size being upgraded to 65,000. The URB run size was subsequently downgraded on September 14 and again on September 21. The Group B wild index run size was downgraded on September 21 and again on September 27. Because wild Group B index harvest rates remained within ESA guidelines, it was not necessary to institute the 8" minimum mesh size restriction that has been used in the past to limit handle of Group B wild index summer steelhead. After peaking during the second fishing period, chinook catches dropped sharply. Aerial counts of nets being fished indicated that effort was relatively stable throughout the duration of the fishery with total net counts ranging between 485 and 626.

Date		Chinook <sup>1</sup>	Steelhead <sup>1</sup>	Coho <sup>1</sup>	Walleye <sup>1</sup>
Aug.	C & S	224	2,658	0	0
Aug. 30-Sep. 2	Ticket	11,384	1,147	423	8
	Other	3,446	773	170	10
	<b>Total</b>	<b>14,830</b>	<b>1,920</b>	<b>593</b>	<b>18</b>
Sept. 5-9	Ticket	13,627	2,723	1,351	13
	Other	6,603	947	100	1
	<b>Total</b>	<b>20,230</b>	<b>3,670</b>	<b>1,451</b>	<b>14</b>
Sept. 12-16	Ticket	8,210	2,623	1,515	6
	Other	1,490	1,247	331	0
	<b>Total</b>	<b>9,700</b>	<b>3,870</b>	<b>1,846</b>	<b>6</b>
Sept. 19-23	Ticket	4,293	2,419	1,126	3
	Other	2,827	831	1,203	6
	<b>Total</b>	<b>7,120</b>	<b>3,250</b>	<b>2,329</b>	<b>9</b>
Sept.–Dec. <sup>2</sup>	Misc.	45	172	80	0
	<b>Ticket</b>	<b>37,514</b>	<b>8,912</b>	<b>4,415</b>	<b>30</b>
	<b>Other</b>	<b>14,635</b>	<b>6,628</b>	<b>1,884</b>	<b>17</b>
<b>Total</b>		<b>52,149</b>	<b>15,540</b>	<b>6,299</b>	<b>47</b>

<sup>1</sup> Based on preliminary fish ticket reports and YIN summary report of fisher interviews.

<sup>2</sup> Includes tribal permits from August through October, projected platform and hook-and-line landings from September 24-December 31, and mesh size test fishery. Does not include Klickitat landings during this period.

The 2000 fall commercial fishing season consisted of 15 fishing days occurring between August 30 and September 23 and resulted in a catch of 52,100 chinook, 15,500 steelhead, and 6,300 coho of which an estimated 28% (14,600) of the chinook and 43% (6,600) of the steelhead were taken home or sold to the public (Table 15). All of Zone 6 was open to fishing throughout the duration of the fishing season except for standard dam and river mouth, including the standard Spring Creek Hatchery sanctuary. The 15-day season was similar in length to the last three years but far less than in the late 1980's when season lengths ranged from 35-46 days. The chinook catch of 52,100 was the similar to the recent 5 and 10-year averages but well below the strong return years of 1986-1989 when catches averaged 128,700 chinook annually (Table 16). Impact on listed species was low with listed SRW fall chinook fish comprising 0.8% (422 fish) of the catch.

The catch of 52,100 fall chinook during fall fisheries represented a 21.35% impact on URB fall chinook which was less than the 23.04% set forth in the 2000 fall Management Agreement. Additionally, the 52,100 fall chinook catch represented 43% of the harvestable surplus, which is less than the 50% goal. Treaty Indian fisheries were unable to catch 50% of harvestable surplus in part due to fishery restrictions associated with ESA-listed Group B steelhead and SRW fall chinook plus the stock mix of fall chinook returning to the Columbia River in the fall of 2000.

The total steelhead catch of 15,500 summer steelhead in all treaty Indian fisheries included 2,400 Group A wild index steelhead and 1,000 Group B wild index steelhead. The 2000 total catch was similar to the recent 5-year average of 18,300 but far less than the strong return years of 1984-1989 when catches averaged 63,900 steelhead annually. Stock specific impact rates were 3.8% on wild Group A index steelhead and 11.9% on wild Group B index steelhead (Table 17). The 11.9% impact rate on wild Group B steelhead was less than the ESA impact limit of 15%.

**Table 16. Number of Adult Chinook, Coho, Steelhead, and Sturgeon Landed During Treaty Indian Fall Seasons (Aug-Nov) Above Bonneville Dam, 1970-2000.**

Year	Season <sup>2</sup>	Fishing Days <sup>3</sup>	Numbers Landed <sup>1</sup>			
			Chinook Adults	Coho	Steelhead <sup>28</sup>	White Sturgeon
1970	Aug 9-Oct 16	48	34,800	21,300	11,400 (13,200)	200
1971	Aug 9-Oct 15	49	50,900	17,100	22,500 (25,700)	600
1972	Aug 9-Oct 13	46	39,000	9,600	25,100 (28,800)	500
1973	Aug 12-Oct 12	56	57,000	11,400	26,200 (26,800)	400
1974	Aug 8-Oct 18	63	51,100	6,900	12,900 (13,200)	400
1975	Aug 8-Oct 10	54	122,300	6,000	7,000 (7,800)	600
1976	Aug 8-Oct 18	60	121,500	4,600	8,800 (11,800)	300
1977	Aug 25-Sep 13	19	46,300	1,000	31,300 (36,000)	200
1978	Aug 25-Oct 3	27	56,200	4,400	15,800 (19,100)	400
1979	Aug 25-Sep 18	18	59,900	4,600	5,900 (8,500)	300
1980	Sep 2-Sep 11	5	32,600	300	4,700 (9,600)	200
1981	Sep 1-Sep 18	10	48,900	1,800	5,100 (9,400)	100
1982 <sup>4</sup>	Sep 1-Nov 5	14	53,600	4,300	5,100 (8,300)	100
1983	Aug 31-Oct 7	15	22,800	200	14,800 (18,300)	200
1984	Aug 6-Oct 15	32	50,900	1,600	68,900 (78,200)	700
1985 <sup>5</sup>	Aug 23-Sep 28	29	68,300	5,300	75,600 (91,300)	1,800
1986 <sup>6</sup>	Aug 18-Oct 4	37	102,300 <sup>7</sup>	40,300 <sup>8</sup>	62,500 (73,200)	4,300
1987	Aug 10-Oct 15	46	138,600 <sup>9</sup>	2,400	65,900 (86,000)	4,400
1988 <sup>10</sup>	Aug 10-Oct 1	35	145,700 <sup>11</sup>	12,700 <sup>12</sup>	59,000 <sup>11</sup> (81,800)	2,000
1989 <sup>13</sup>	Aug 7-Sep 29	36	128,200 <sup>14</sup>	8,700 <sup>15</sup>	51,400 (65,800)	--
1990 <sup>16</sup>	Aug 8-Sep 29	34	79,300 <sup>17</sup>	2,900 <sup>18</sup>	29,000 (36,800)	1,700
1991 <sup>19</sup>	Aug 12-Oct 28	20	51,100	12,800 <sup>20</sup>	34,900 (48,700)	--
1992 <sup>21</sup>	Aug 10-Oct 17	32	28,100	1,000	47,900 (59,500)	100
1993 <sup>22</sup>	Aug 9-Oct 2	26	30,400	1,000	25,300 (33,300)	100
1994 <sup>23</sup>	Aug 29-Oct 15	10	33,700 <sup>24</sup>	1,300	15,500 <sup>24</sup> (18,800)	500
1995 <sup>25</sup>	Aug 29-Sep 15	9	41,400	400	20,400 (22,800)	400
1996 <sup>26</sup>	Sep 2-Sep 28	17	63,200	700	18,600 (23,200)	300
1997 <sup>27</sup>	Aug 27-Sep 20	16	65,000	600	22,700 (27,800)	<100
1998 <sup>29</sup>	Aug 25-Sep 25	19	44,700	1,500	12,600 (16,900)	<100
1999 <sup>30</sup>	Aug 31-Oct 2	17	77,200	2,300	17,350 (20,600)	100
<b>2000<sup>31</sup></b>	<b>Aug 30-Sep 23</b>	<b>15</b>	<b>52,100</b>	<b>6,300</b>	<b>15,500 (17,600)</b>	<b>200</b>

- <sup>1</sup> *Includes Spring Creek terminal area fishing since 1975 (1977-83 & 92), sales to the general public and C&S catches beginning in 1994, Klickitat R. dipnet catches during open mainstem seasons, and extended Klickitat River commercial seasons beginning in 1988.*
- <sup>2</sup> *Minimum mesh size: 1970-74 none; 1975 7-1/2"; 1976-82 8"; 1983 none; 1984 none, except 8" Oct 9-15; 1985 none, except 8" Sep 14-28; 1986 none, except 8" Sep 6-Oct 4; 1987 none; 1988 none, except 8" Aug 17-27 and Sep 18-24 and 8" and 9" test fishery Sep 28-Oct 1; 1989 8" except none Aug 7-12; 1990 8" except none Sep 3-5, Sep 12-15 below Hood River Br., Sep 17-22, and Sep 24-29; 1991-97 none; 1998 8".*
- <sup>3</sup> *Mainstem commercial seasons only.*
- <sup>4</sup> *Includes Nov 1-5 coho fishery below Klickitat River.*
- <sup>5</sup> *Spring Creek sanctuary area open to fishing Aug 23-28 and Aug 29-Sep 3.*
- <sup>6</sup> *Includes Sep 29-Oct 4 dipnet and experimental gillnet fishery.*
- <sup>7</sup> *An additional 1,000 catch occurred above Priest Rapids Dam.*
- <sup>8</sup> *Over half of the catch (24,100) was Klickitat River dipnet.*
- <sup>9</sup> *An additional 2,200 catch occurred above Priest Rapids Dam.*
- <sup>10</sup> *Includes Sep 28-Oct 1 test fishery in John Day Pool. No sturgeon sales allowed after Sep 3. Reduced Spring Creek sanctuary to 150' Aug 10-27 and after Sep 20.*
- <sup>11</sup> *An additional catch of 2,300 chinook and an estimated 300 steelhead occurred above Priest Rapids Dam.*
- <sup>12</sup> *Includes 5,500 captured in an extended Klickitat River dipnet season.*
- <sup>13</sup> *No sturgeon sales allowed. Reduced Spring Creek sanctuary to 150 feet Aug 7-26.*
- <sup>14</sup> *An additional catch of 800 chinook occurred above Priest Rapids Dam.*
- <sup>15</sup> *Includes 6,100 captured in an extended Klickitat River dipnet season.*
- <sup>16</sup> *Reduced Spring Creek sanctuary to 150 feet Aug 8-25 and Sep 24-29.*
- <sup>17</sup> *An additional 200 catch occurred above Priest Rapids Dam.*
- <sup>18</sup> *Includes 1,900 captured in an extended Klickitat River dipnet season.*
- <sup>19</sup> *No sturgeon sales allowed. Reduced Spring Creek sanctuary to 150 feet Aug 12-Sep 10 and reduced to 50 feet Sep 10-Oct 28.*
- <sup>20</sup> *Includes 5,500 captured in an extended Klickitat River dipnet season.*
- <sup>21</sup> *No sturgeon sales allowed. Reduced Spring Creek sanctuary to 150 feet Aug 10-22, and reduced to 50 feet Sep 2-5 and Oct 5-17. Spring Creek sanctuary area only open to fishing Sep 7-11. Fishing restricted to upper two pools Sep 17-19.*
- <sup>22</sup> *No sturgeon sales allowed. Small Spring Creek sanctuary (150 feet) Aug 9-28 and large Spring Creek sanctuary (2 mile) for rest of season. Gillnet fishery restricted to upper two pools Sep 13-18.*
- <sup>23</sup> *No sturgeon sales allowed. Large Spring Creek sanctuary (2 mile) Aug 29-Sep 3 and Sep 8-10, and small Spring Creek sanctuary (150 feet) Oct 12-15.*
- <sup>24</sup> *An additional catch of 570 chinook and 70 steelhead occurred above Priest Rapids Dam. An additional catch of 220 chinook and 80 steelhead occurred above McNary Dam.*
- <sup>25</sup> *No sturgeon sales allowed. Large Spring Creek sanctuary (2 mile).*
- <sup>26</sup> *No sturgeon sales allowed. Large Spring Creek sanctuary (2 mile) Sep 2-21. Closed below Hood River Bridge Sep 23-28.*
- <sup>27</sup> *No sturgeon sales allowed. Large Spring Creek sanctuary (2 mile) Aug 27-Sep 6. Closed below Hood River Bridge Sep 9-13.*
- <sup>28</sup> *Steelhead run year totals are in parentheses. Sales to licensed buyers during sockeye and fall seasons only through 1984. Sales to licensed buyers, general public and C&S catch, including winter season catch of holdover and fresh run summer steelhead, for calendar year from 1985-present.*
- <sup>29</sup> *No sturgeon sales allowed. 8" min mesh size. Closed below Hood River Bridge Sep 8-12. Enlarged Spring Creek sanctuary from Nav. Light #27 to #35, Washington shore only to mid-channel, Sep 15-25.*
- <sup>30</sup> *No sturgeon sales allowed. 8" min mesh size Sep. 15-18 and Sep. 29-Oct 2, sturgeon catch during Oct. 11-Dec 31 season not included in total. Klickitat dipnet catch of 900 chinook included.*
- <sup>31</sup> *No sturgeon sales allowed. Does not include fall sturgeon setline catch.*

Year	Group A Index		Group B Index	
	Number	% of wild run <sup>1</sup>	Number <sup>2</sup>	% of wild run <sup>1</sup>
1985	10,800	20.7	4,000	31.0
1986	7,800	13.8	2,700	26.7
1987	16,800	15.7	5,200	37.2
1988	11,000	17.1	4,200	23.4
1989	9,000	15.9	4,300	35.0
1990	4,300	16.0	1,900	21.5
1991	8,800	14.6	1,900	30.0
1992	7,200	16.2	3,300	26.3
1993	4,400	15.2	800	19.1
1994	2,200	10.3	1,000	18.6
1995	2,700	10.4	300	18.6
1996	2,300	8.9	1,400	34.8
1997	3,200	10.4	600	14.3
1998	3,100	8.8	500	15.6
1999	4,300	7.6	500	12.6
<b>2000</b>	<b>2,400</b>	<b>3.8</b>	<b>1,000</b>	<b>11.9</b>

*1 Percentage calculated before rounding. Steelhead impacts based on date method through 1998. Fork length index method used beginning in 1999.*

*2 Includes sales to licensed buyers only prior to 1994. Includes sales to the general public and C&S catch beginning in 1994.*

### **Sturgeon Fisheries**

Treaty Indian and non-Indian sport fisheries had achieved the catch guidelines for Bonneville and The Dalles pools prior to initiation of the fall fishing period (Table 18). Although the catch guideline for the John Day Pool had not been achieved the tribes chose not to allow sales of sturgeon during fall commercial fisheries occurring in the John Day Pool. Following the completion of the fall fishing periods a sturgeon setline season was adopted in John Day Pool. The setline fishery began 6 am October 2 and continued through 6 pm December 31. An estimated 604 sturgeon remained on the catch guideline after completion of winter/spring fisheries and this setline fishery was not expected to reach that total. A total of 166 white sturgeon were landed in this setline fishery bringing the total catch to 846 white sturgeon in 2000. Commercial sales were not allowed in all three pools during fall fisheries; however, fish could be taken home for subsistence purposes.

At the initiation of the fall fishing period (August 1) the retention of sturgeon was disallowed in recreational fisheries in Bonneville (effective April 8) and The Dalles Pool (effective June 19) but was allowed in the John Day Pool recreational fishery. Catch and release fishing was allowed after retention restrictions were adopted. The recreational fishery in the John Day Pool was very slow with catches estimated to total 437 white sturgeon in 2000 (Table 18).

**Table 18. Sturgeon Catches in Zone 6 Reservoirs above Bonneville Dam, 1991-2000.**

	Non-Indian Sport				Treaty Indian Commercial				Sub- sistence
	Bonne- ville <sup>1</sup>	The Dalles <sup>2</sup>	John Day <sup>3</sup>	Total	Bonne- ville <sup>4</sup>	The Dalles <sup>5</sup>	John Day	Total	
1991	2,270	200	150	2,620	1,000	460	40	1,500	NA
1992	1,720	140	150	2,010	1,150	430	20	1,600	210
1993	2,310	160	140	2,610	1,420	580	10	2,010	260
1994	2,220	155	235	2,610	1,175	310	115	1,600	650
1995	1,370	50	90	1,510	1,420	310	310	2,040	1,150
1996	1,360	90	80	1,530	1,000	230	360	1,590	480
1997	1,470	180	480	2,130	1,852	498	1,260	3,610	236
1998	1,625	857	599	3,081	1,462	1,108	1,100	3,670	240
1999	1,236	694	422	2,352	1,280	1,051	760	3,091	244
<b>2000</b>	<b>1,262</b>	<b>809</b>	<b>437</b>	<b>2,508</b>	<b>1,145</b>	<b>1,456</b>	<b>846</b>	<b>3,447</b>	<b>324</b>

<sup>1</sup> Disallowed effective : April 1, 1996; April 5, 1997; April 20, 1998; April 17, 1999; April 8, 2000.

<sup>2</sup> Disallowed effective: May 1, 1996; May 5, 1997; June 8, 1998; June 12, 1999; June 19, 2000.

<sup>3</sup> Disallowed effective: May 1, 1996; Sept 2, 1997; Nov. 23, 1998.

<sup>4</sup> Closed June 5, 1999 and June 10, 2000.

<sup>5</sup> Closed March 20, 1999 and March 18, 2000.

### Lower River Commercial Fisheries

Commercial fisheries in the mainstem Columbia River below Bonneville Dam are generally divided into early fall (August through mid-September) fisheries focussing on fall chinook and sturgeon and late fall (late September through early November) fisheries focussing primarily on hatchery coho and sturgeon. Select Area commercial fisheries occur in off-channel mainstem areas, bays or sloughs at tributary mouths, and focus on fish returning from net-pen releases in these areas. The Select Area fisheries generally occur from early September through October and focus primarily on coho with chinook landed in some fisheries. All non-Indian fisheries are managed in accordance with predetermined harvest impact rates or catch guidelines; however, Select Area fishery impacts on listed fish are negligible and the adopted seasons are seldom modified in-season. Landings during 2000 fall seasons are summarized in Table 13.

#### *Early Fall Mainstem Fisheries*

The lower river commercial fishery during the early fall time period of 2000 was managed to harvest primarily sturgeon with some limited chinook catch allowed in the area upstream of the Sandy River mouth. The early fall season began with a 12-hour target sturgeon fishery the night of August 3 below the Longview Bridge and concluded with two 10-hour periods of target chinook fishing in Area 2S (mouth of Sandy River to Bonneville Dam) on the nights of August 21 and August 22. Landings in these fisheries totaled 2,500 white sturgeon, 600 green sturgeon, and 1,700 chinook in the lower river sturgeon target fishery and 5,700 chinook and 300 white sturgeon in the Area 2S salmon fishery (Table 13). Landings of 7,400 chinook, 2,800 white sturgeon, and 600 green sturgeon in the both fisheries were similar to the pre-season planned catches (Tables 11 and 12). A season length of three fishing days is similar to recent years but far less than the stronger run years of 1986-1990 when season length averaged six days annually and the more heavily fished time period of 1970-1975 when season length was 11 days annually. Impact on listed species during the early fall time period was low with only eight (0.1%) of the chinook caught being SRW.

### *Late Fall Seasons*

The lower Columbia River commercial fishery operating during the late fall fishing time frame of 2000 was managed to harvest primarily coho and white sturgeon while minimizing impacts on listed species. The late fall fishery began with two fishing periods during the last two weeks of September consisting of 3 days per week of target coho fishing that resulted in landings of over 33,000 coho, about 1,700 chinook, and less than 300 white sturgeon (Tables 11 and 12). Target coho seasons were restricted to daylight hours (7 am-7 pm) only and a 6-inch maximum mesh size restriction was adopted to minimize the handle of fall chinook. Concurrent with the second fishing period, a chinook target fishery occurred in Area 2S the night of September 19 resulting in catches of 900 chinook, 200 coho, and 200 white sturgeon. The third fishing period included one target coho fishing day (October 5) below Longview Bridge that resulted in landings of 6,800 coho, 200 chinook, and 60 white sturgeon. A combination of salmon/sturgeon and coho target seasons were adopted for the last three weeks of October and resulted in landings of over 70,000 coho, less than 700 chinook, and about 3,900 white sturgeon (Tables 11 and 12). Salmon/sturgeon fishing days occurred on the last four Mondays in October and consisted of 12-hour daylight only periods (7 am-7 pm) with a 6-inch maximum or 9-inch minimum and 9<sup>3</sup>/<sub>4</sub> inch maximum mesh size restrictions in effect to allow commercial fishers to target on either coho or sturgeon. Target coho fishing periods occurred later in the week and consisted of two 3-day fishing periods followed by one 3<sup>1</sup>/<sub>2</sub> day fishing period. During target coho fisheries the 6-inch maximum mesh size restriction was retained to limit chinook handle, but nighttime fishing was allowed. The late fall fishing period concluded with a 6-hour target sturgeon fishery intended to harvest the remainder of the commercial sturgeon allocation and resulted in landings of 1,250 white sturgeon, 19 green sturgeon, and no salmon (Tables 11 and 12). The fishery was open in all five zones but included a 9-inch minimum mesh size restriction was adopted to target legal-sized white sturgeon. After completion of target sturgeon fishery, the commercial catch exceeded the commercial allocation guideline of 10,000 by 700 fish and no additional fisheries were adopted (Table 21).

Late fall fisheries were managed to minimize impacts on LRW fall chinook, and wild coho destined for the Clackamas and Sandy rivers, plus ESA-listed chinook, chum and steelhead. Late fall fisheries were open in all zones except that: 1) during the late September and through early October time frame (September 18-October 5) the area above Longview Bridge was closed to limit handle of wild fall chinook destined for the Lewis River and early wild coho destined for the Clackamas and Sandy rivers, 2) during the middle of October time frame (October 9-20) the area between Longview Bridge and Warrior Rock was closed to limit handle of wild fall chinook destined for the Lewis River, 3) during the late October time frame (October 23-27) time frame the area between the upper end of Cottonwood Island and Warrior Rock was closed to limit the handle of wild fall chinook destined for the Lewis River, and 4) during the final coho target fishing period on October 30 the area between the upper end of Cottonwood Island and Warrior Rock was closed to limit the handle of wild fall chinook destined for the Lewis River and the area downstream from Harrington Point at the upper end of Grays Bay and Settler Point at the lower end of Svensen Island was closed to limit the handle of late wild coho destined for the Clackamas River and wild chum salmon.

The 2000 late fall mainstem fisheries consisted of a total of 21 days occurring between September 18 and November 1 and resulted in catches of 110,400 coho, 3,400 chinook, 4,600 white sturgeon, 600 green sturgeon, and 26 chum (Table 20). The season length for late fall fisheries of 21 days is similar to recent years but only about half of the strong return years of 1985-1989 when season length averaged 39 days annually. Coho catches of 110,400 fish are the highest since 1991 but only 12% of the record high catch of nearly 1 million fish in 1986.



Chinook catches were less than 10,000 for the seventh consecutive year as compared to 1970-1993 when catch exceeded 10,000 fish in 21 of the 24 years and peaked in 1987 with a catch of nearly 300,000 fish. Chum catch did not exceed 100 fish for the eighth consecutive year and sturgeon catches were similar to past years. The impact on listed fish during the late fall time period was low with only 18 (0.5%) of the chinook caught being listed SRW's.

### **Select Area Fisheries**

Select Area fisheries during the fall time frame of 2000 were managed to harvest primarily hatchery or net-pen reared coho with some chinook catch occurring primarily in Youngs Bay. Select Area fisheries are managed to have minimal impacts on listed species and occurred in Youngs Bay, Tongue Point/South Channel, Blind Slough/Knappa Slough, Deep River, and Steamboat Slough. A fishery did not occur in the Big Creek Select Area due to escapement concerns for SAB fall chinook destined for Big Creek Hatchery.

As has been the pattern in recent years, the Youngs Bay Select Area fishery began with weekly fishing periods through Labor Day followed by continuous fishing through the end of October (Table 12). A total of five 30-hour fishing periods during August were intended to harvest net-pen produced SAB fall chinook and early returning coho without jeopardizing SAB fall chinook broodstock needs at Klaskanine Hatchery. The 56 consecutive days of fishing from September 5 through October 31 were intended to harvest late returning SAB fall chinook and 100% of the surplus hatchery origin coho whose abundance peaks in mid-September. The upper fishing boundary was moved downstream from the confluence of the Youngs and Klaskanine rivers to Battle Creek Slough for the purpose of increasing escapement of SAB fall chinook to Klaskanine Hatchery. The 61-day fishing season resulted in a catch of about 1,700 chinook, 33,200 coho, and 100 white sturgeon (Table 12). The coho catch was less than the pre-season expectation of 53,000 while the chinook catch was similar to the pre-season expectation of 1,500.

As has been the case since 1999, the Tongue Point/South Channel fishery initially included the Tongue Point fishing area only and was subsequently expanded to include the South Channel fishing area also. The fishing area was limited to Tongue Point only during the first six nightly fishing periods for the purpose of minimizing catch of nonlocal fall chinook whose abundance peaks in the lower river in early September. Expansion of the fishery into the South Channel area was adopted in an effort to catch 100% of the net-pen produced coho. The fishery continued with four nightly periods per week in mid-September and October (Table 12). Beginning in October the nightly fishing hours were expanded from 12 to 14 as the days grew shorter in an effort to catch 100% of the net-pen reared coho. The 32-night season, which began on September 5 and was concluded on October 31, resulted in landings of less than 300 chinook, 10,700 coho, about 60 white sturgeon, and 10 green sturgeon (Table 12). The coho catch was twice the pre-season expectation of 5,000.

The structure of the Blind Slough/Knappa Slough fishery was similar to that used in the Tongue Point/South Channel fishery with some difference in days that were open during the week (Table 12). As with the Tongue Point/South Channel fishery, the open fishing area was initially restricted in the Blind Slough fishing area during the first six fishing periods and expanded to include Knappa Slough thereafter, as has been the case since 1999 (Table 12). These fishing area restrictions were intended to minimize impact on Big Creek tule fall chinook while harvesting 100% of the net-pen produced coho. The fishing periods were again increased in length in October in response to shorter days in an effort to catch 100% of the net-pen produced coho. The 31-night season, which began on September 7 and concluded on October 31, resulted

in landings of about 100 chinook, nearly 3,400 coho, and only 9 white sturgeon (Table 12). The coho catch was less than the pre-season expectation of 5,000.

The structure of the Deep River fishery was similar to that used in the Tongue Point/South Channel area; however, there was no expansion of the area for this fishery because past efforts to increase fishing area didn't result in significant catches of net-pen produced coho and did increase impacts on nonlocal and listed stocks. The fishery consisted of two nightly periods (12 hours) per week during the second week of September and four nightly periods per week thereafter. Again the October periods were lengthened in response to shorter days. The 32-night season, which began on September 5 and concluded on October 31 resulted in landings of about 100 chinook, nearly 13,400 coho, one green sturgeon, and one chum (Table 12). The coho catch was about 40% more than the pre-season expectation of 10,000.

The season structure for the Steamboat Slough fishery was similar to the Deep River fishery with some difference in open days of the week. As was the case in Deep River there was no expansion outside the initial boundaries adopted for the Steamboat Slough area. Expansion of the Steamboat Slough area is not feasible due to its location. Areas surrounding Steamboat Slough are part of the mainstem Columbia River and would likely have excessive impacts on nonlocal stocks or listed species. As with other Select Areas this fishery began with two periods per week during the second week of September and four fishing periods per week thereafter. The 30-night season which began on September 7 and completed on October 28 resulted in landings of less than 100 chinook, 400 coho, and one white sturgeon. The coho catch was very poor in light of the pre-season catch expectation of 5,000 fish and the low catch may be attributed to poor condition of smolts at the time of release.

Catch totals for the five Select Area fisheries during the fall of 2000 were 2,300 chinook, 61,100 coho, 2 chum, 160 white sturgeon, and 11 green sturgeon (Table 12). Impact on listed fall chinook was very low with less than one SRW landed in all Select Area fisheries combined.

### **Lower River Recreational Fisheries**

Recreational fisheries below Bonneville Dam can be segregated into two distinct fisheries. The Buoy 10 estuary fishery catches fall chinook and coho in the area from Buoy 10 upstream to a line between Tongue Point on the Oregon shore and Rocky Point on the Washington shore. Prior to 1999 the two fisheries were separated by the Astoria-Megler Bridge. The lower Columbia River mainstem sport fishery catches salmon, steelhead, shad, and sturgeon in the area from the Tongue Point/Rocky Point line upstream to Bonneville Dam. Both fisheries are intensively managed to ensure that impact limits on listed species are not exceeded. Sport fisheries for coho are limited to adipose fin-clipped hatchery fish only. All nonadipose fin-clipped coho must be released immediately unharmed. Oregon tributary seasons generally close November 1 after the majority of the early stock hatchery coho have entered the hatchery.

#### ***Buoy 10 Sport Fishery***

The Buoy 10 fishery was initially scheduled to be open for fall chinook and coho during August 1 through December 31 and was to be managed for a total catch and mortality of 9,000 chinook, including release mortalities. This fishery began slowly, but like previous years, catch rates improved steadily as the month progressed. Based on trends in angler effort and chinook catch per unit effort it appeared that chinook catches would exceed the 9,000 chinook management guideline by August 27. The states took emergency action on August 23, disallowing the retention of chinook in the Buoy 10 fishery effective August 28. The chinook retention

restriction encompassed the area from Buoy 10 upstream to the Tongue Point/Rocky Point line. Subsequent to that emergency action, chinook catch per unit effort did not increase as predicted and the states rescinded the chinook retention restriction effective September 1. The Buoy 10 fishery produced 72,500 angler trips with catches of 6,100 chinook and 21,500 adipose fin-clipped coho (Table 13). The preliminary estimated impact to listed SRW fall chinook was 22 fish or 1.2% of the run.

The Buoy 10 fishery was generally poor for hatchery coho in spite of the largest coho return since 1991. When the chinook retention restriction was adopted, some anglers quit participating rather than target on coho. The season total catch of 21,500 hatchery coho was well short of the pre-season expectation of 55,000. The recent change in recreational fishing strategies to target on chinook and the generally poor catch rates on coho in 2000 combined to produce the lower than expected coho catch.

### ***Lower Columbia Mainstem Sport Fishery***

The lower Columbia River sport fishery was also scheduled to be open during August 1 through December 31. Pre-season expectations were for a catch of 9,780 chinook, of which 52 were expected to be SRW fall chinook. As with Buoy 10, the lower Columbia River sport fishery was heavily monitored with frequent in-season catch updates. For the first time since 1997, no emergency action was warranted for this fishery. The mainstem sport fishery below Bonneville Dam produced 80,800 angler trips with a catch of 7,600 adult chinook, 1,600 adipose fin-clipped adult coho, and 5,100 adipose fin-clipped summer steelhead (Table 13).

**Table 19. Number of Adult Chinook, Chum, Coho, Steelhead, and Sturgeon Landed During Early Fall Mainstem Columbia River Seasons Below Bonneville Dam, 1970-2000.**

Year	Season <sup>1</sup>	Fishing Days	Chinook Adults	Coho	Steelhead <sup>2</sup>	Sturgeon	
						White	Green
1970	August 9-26	13	142,100	66,600	6,200	2,000	1,000
1971	August 8-25	13	91,900	31,900	9,600	2,900	1,000
1972	August 9-25	12	94,400	18,800	3,800	2,700	900
1973	August 12-24	10	101,200	10,900	6,800	1,800	1,000
1974	August 11-23	10	51,700	20,100	2,600	3,900	2,700
1975	August 10-22	10	92,100	6,600	--	4,900	1,000
1976	August 8-18	7	31,700	2,500	--	8,300	1,400
1977	August 14-23	7	67,000	4,400	--	4,300	600
1978	August 15-21	4	38,900	1,300	--	2,700	1,600
1979	August 14-16	2	28,100	1,800	--	2,300	700
1980 <sup>3</sup>	September 2-3	1	58,400	7,000	--	1,700	600
1981	None	0	--	--	--	--	--
1982 <sup>3</sup>	August 30-31	0.5	79,200	5,800	--	500	300
1983 <sup>3</sup>	September 1-2	0.5	15,400	200	--	1,200	600
1984	None	0	--	--	--	--	--
1985	None	0	--	--	--	--	--
1986 <sup>4</sup>	July 30-August 6	4	800	0	--	5,400	5,100
1987 <sup>5</sup>	August 9-12	3	11,500	100	--	3,900	3,200
1988 <sup>6</sup>	August 14-15	0.5	51,100	300	--	1,700	2,300
1989 <sup>7</sup>	August 7-29	13	29,800	100	--	1,800	0
1990 <sup>8</sup>	August 12-24	10	6,700	20	--	1,500	0
1991 <sup>9</sup>	August 25-29	4	5,400	10	--	500	0
1992 <sup>3</sup>	September 8-9	0.5	2,200	400	--	800	1,800
1993	None	0	--	--	--	--	--
1994	None	0	--	--	--	--	--
1995	None	0	--	--	--	--	--
1996 <sup>10</sup>	August 26-29	3	4,400	0	--	300	0
1997 <sup>11</sup>	August 4 - 25	2	1,300	1	--	2,000	1,500
1998 <sup>12</sup>	Aug 4 - 26	2	1,800	0	--	2,600	700
1999 <sup>13</sup>	Aug 4 - 24	2	1,400	0	--	2,900	500
<b>2000</b> <sup>14</sup>	Aug 3-23	3	7,400	200	--	2,800	600

<sup>1</sup> Minimum mesh size: 1970-1974 7-1/4"; 1975-1979 8"; 1980-2000 see following footnotes.

<sup>2</sup> Sale of steelhead by non-Indians prohibited since 1975. Annual handling and mortality limited by time, area, and gear regulations.

<sup>3</sup> Zone 1 only with no mesh restriction in 1980, 1983, and 1992 and 8" minimum mesh in 1982. Night fishing only in 1982-83 and 1992 (6PM-6AM).

<sup>4</sup> Experimental large-mesh (9" min.) sturgeon season. Night fishing only Jul 30-Aug 1 and Aug 4-6 in Zone 1 only.

<sup>5</sup> Night fishing only in Zones 1 and 2 with 8" minimum mesh size.

<sup>6</sup> Aug 14 6pm-Aug 15 5am (11 hrs) below Astoria-Megler Bridge, 8" min. mesh. Aug 14 6pm-Aug 15 Noon (18 hrs) Astoria-Megler Bridge to I-5 Bridge, 8" min. mesh except 9" min. mesh Longview Bridge to I-5 Bridge.

<sup>7</sup> Aug 7-11 in Zones 1-5, Aug 13-14 in Zones 3-5, and Aug 14-15 above Wauna powerlines. Night fishing only (6pm-6am). Eight inch minimum mesh below Longview Br. and 9" minimum mesh above Longview Br. Aug 20-25 and 27-29 in Area 2S. Night fishing only (6pm-6am). Nine inch minimum mesh.

<sup>8</sup> Aug 12-17 and Aug 19-24 above I-205 Br. (extended Washougal sanctuary) with 9" min. mesh, night fishing only (6pm-6am).

<sup>9</sup> I-205 Br. to Beacon Rock (with extended Washougal sanctuary) with 9" min. mesh, night fishing only (6pm-6am).

<sup>10</sup> Area 2S, 8pm-6am nightly.

<sup>11</sup> 9" min. mesh Zone 1 9pm Aug 4 to 3am Aug 5 and Area 2S 8pm Aug 24 to 6am Aug 25.

<sup>12</sup> 9" min and 9 3/4 max. mesh restrictions. Aug.4-5, 5pm to 5 am, Zone 1-3, Aug. 25-26 8pm to 6 am Area 2S.

<sup>13</sup> 9" min mesh Aug 4 7 pm to Aug 5 7 am (12 hours) below Longview Bridge; Aug 23 9 pm to Aug 24 6 am (10 hrs) in Area 2S.

<sup>14</sup> 9" min and 9 3/4 max. mesh restrictions. Aug 3-4 (12 hrs) below Longview Bridge; Aug 21-22 (10 hr) and Aug 22-23 (10 hr) in Area 2S.

**Table 20. Number of Adult Chinook, Coho, Steelhead, and Sturgeon Landed during Late Fall Mainstem Columbia River and Select Area Seasons (mid-Sep to mid-Nov) below Bonneville Dam, 1970-2000.**

Year	Mainstem Season <sup>1</sup>	Mainstem Fishing Days	Chinook		Coho			Chum <sup>3</sup>	Steelhead <sup>4</sup>	Sturgeon	
			Columbia Mainstem	Select Area <sup>2</sup>	Columbia Mainstem	Select Area <sup>2</sup>	White			Green	
1970	Sep 10-Nov 5	35	93,900	700	432,500	21,700	600	6,200	1,300	100	
1971	Sep 12-Nov 3	34	119,600	100	224,400	8,000	500	6,300	1,800	200	
1972	Sep 20-Nov 3	27	39,400	900	103,100	9,300	1,300	9,200	1,600	100	
1973	Sep 12-Nov 2	32	158,400	300	166,000	6,800	1,400	13,000	2,400	200	
1974	Sep 17-Nov 1	29	43,300	100	231,800	9,100	900	1,200	4,800	400	
1975	Sep 10-Nov 7	39	72,700	< 100	148,000	2,100	500	--	5,300	300	
1976	Sep 7-Nov 12	47	105,400	300	160,700	5,200	1,200	--	8,100	1,200	
1977	Sep 8-Oct 27	23	90,400	1,700	33,100	1,600	200	--	2,300	200	
1978	Sep 10-Nov 15	37	64,900	500	128,000	3,400	1,500	--	3,900	100	
1979	Sep 11-Nov 7	30	65,300	1,600	103,200	22,500	100	--	13,500	500	
1980	Sep 28-Oct 16	12	14,600	40,000	114,200	28,900	200	--	3,100	50	
1981	Sep 27-Nov 12	25	5,200	24,900	47,400	12,400	1,400	--	6,700	100	
1982	Oct 3-Nov 12	27	4,500	6,000	181,600	14,300	1,800	--	4,600	400	
1983 <sup>5</sup>	Oct 4-Oct 13	4	4,800	4,700	3,600	3,600	200	--	4,500	100	
1984	Sep 10-Nov 16	35	60,300	3,600	160,900	40,600	1,800	--	9,800	2,700	
1985	Sep 16-Nov 15	39	56,400	3,600	138,800	51,200	700	--	4,900	1,500	
1986	Sep 12-Nov 14	43	153,000	4,600	925,400	55,600	1,800	--	4,100	800	
1987	Sep 13-Nov 12	35	280,900	36,900	150,900	16,900	1,300	--	4,100	1,600	
1988	Sep 12-Nov 11	41	242,200	28,800	311,100	51,400	2,500	--	3,100	1,000	
1989	Sep 17-Nov 15	36	95,700	6,600	360,700	28,100	1,300	--	2,700	1,700	
1990	Sep 18-Oct 31	26	35,300	3,100	47,400	27,600	800	--	3,100	2,200	
1991 <sup>6</sup>	Sep 10-Nov 5	32	33,500	2,100	324,400	82,100	400	--	2,400	3,200	
1992	Sep 22-Oct 30	22	14,100	1,500	37,900	19,600	700	--	4,200	400	
1993	Sep 20-Oct 20	17	16,700	300	20,600	15,500	40	--	7,100	2,200	
1994	Oct 9-Oct 19	4	1,500	100	6,000	57,800	20	--	3,400	200	
1995	Oct 9 & Oct 12	2	50	500	200	22,300	0	--	6,000	400	
1996 <sup>7</sup>	Sep 16-Oct 25	17	7,600	5,000	5,600	22,400	20	--	7,200	600	
1997 <sup>8</sup>	Sep 24-Nov 7	23	3,800	4,000	3,800	17,100	39	--	7,800 <sup>9</sup>	100 <sup>9</sup>	
1998 <sup>10</sup>	Oct 7-Nov 6	7	1,000	2,100	300	23,600	11	--	10,900 <sup>11</sup>	900 <sup>11</sup>	
1999 <sup>12</sup>	Sep 20-Nov 4	23	4,600	2,100	57,600	23,000	101 <sup>11</sup>	--	4,100 <sup>11</sup>	300 <sup>11</sup>	
<b>2000<sup>13</sup></b>	<b>Sep 18-Nov 1</b>	<b>21</b>	<b>3,440</b>	<b>2,300</b>	<b>110,400</b>	<b>58,300</b>	<b>26<sup>11</sup></b>	<b>--</b>	<b>4,600<sup>11</sup></b>	<b>600<sup>11</sup></b>	

<sup>1</sup> Mesh restriction of 7" or less and 9" or greater, 1980-1982.

<sup>2</sup> Number of Oregon and Washington terminal areas and fishing days vary from year to year, and some early fall fisheries are included. Between 1983 and 1995 only Oregon terminal fisheries occurred. Prior to 1979, landings listed for Youngs Bay are minimal as Youngs Bay salmon could be sold outside of the bay during concurrent mainstem fishing periods.

<sup>3</sup> Includes 1970-1998 Youngs Bay, 1980-1982 Washington, and 1996-1998 Big Creek, Tongue Point. Blind Slough and Deep River terminal landings.

<sup>4</sup> Sale of steelhead by non-Indians prohibited since 1975. Handling and mortality limited by time, area, and gear regulations.

<sup>5</sup> Dates reflect coho season only. Six days of large-mesh sturgeon fishing occurred Oct 18-Nov 3 with sale of chinook allowed.

<sup>6</sup> Sep 10 and 17 daylight only coho target fishery. Late fall season opened on Sep 22.

<sup>7</sup> Sep 16-20 extended 2S night time fishery. Sep 30-Oct 25 all of Zones 1-5.

<sup>8</sup> Sep 24-Oct 3 Zone 1-Longview Bridge 6" maximum mesh and I-5 Bridge to Zone 5 9" min. mesh; Oct 6-Nov 7 Zones 1-5, 8" min. mesh after Oct 26.

<sup>9</sup> Includes mainstem and Select Area fisheries after Sep 24.

<sup>10</sup> Oct. 7 - Nov 4 Zones 1-5, 9" minimum mesh.

<sup>11</sup> Includes all fall Select Area catches.

<sup>12</sup> Sep 20-Oct 28, target coho fisheries; Oct 11, 18, 25, and 27, salmon/sturgeon fisheries; Sep 20-Oct 7, Zone 1-Longview Bridge; Oct 11-22, Zone 1-5 except closed from Longview Bridge to upper Bachelor Island; Oct 27-28, Harrington Pt/Setter Pt Line -Zone 5; Oct 5-7; I-5 Bridge - Zone 5, 8" min mesh; Nov 4 daylight target sturgeon fishery.

<sup>13</sup> See Table 13 for area and gear restrictions.

**Table 21. Lower Columbia River White and Green Sturgeon Catches, 1991-2000.**

Year	White Sturgeon					Green Sturgeon				
	Commercial					Commercial <sup>1</sup>				
	Sport	Winter <sup>1</sup>	Early Fall	Late Fall <sup>1</sup>	Total	Sport	Winter <sup>1</sup>	Early Fall	Late Fall <sup>1</sup>	Total
1991	22,700	840	530	2,430	3,800	20	4	2	3,180	3,190
1992	40,100	1,210	790	4,240	6,240	75	10	1,750	400	2,160
1993	37,900	1,020	--	7,050	8,070	15	1	--	2,220	2,220
1994	33,500	3,030	--	3,380	6,410	130	1	--	240	240
1995	45,100	110	--	6,040	6,150	20	--	--	390	390
1996	42,800	1,380	330	6,670	8,380	65	1	--	610	610
1997	38,200	3,064	1,971	7,792	12,828	41	2	1,474	138	1,614
1998	41,600	2,675	2,634	8,585	13,894	73	0	743	151	894
1999	39,800	2,303	2,854	4,336	9,493	93	2	508	279	789
<b>2000</b>	<b>40,500</b>	<b>2,795</b>	<b>2,790</b>	<b>4,560</b>	<b>10,700</b>	<b>32</b>	<b>0</b>	<b>568</b>	<b>636</b>	<b>1,204</b>

<sup>1</sup> Includes Youngs Bay and other Select Area fisheries landings.

### 2000 Fishery Impacts

As has been the case in recent years, 2000 was another season where fishery management under ESA restrictions required increased in-season monitoring and fishery modifications. The 25% decrease in the final URB run size, as compared to the pre-season forecast, and the inability to update the run size prior to mid-September greatly reduced fishery management flexibility in shaping fisheries around impacts on listed SRW fall chinook. Time restrictions were used in the treaty Indian fishery. Time, area, and gear restrictions, plus chinook retention restrictions in sport fisheries were used in non-Indian fisheries to limit impacts on listed SRW fall chinook.

Harvest impacts on URB fall chinook were 28.57% as compared with the ESA guideline of 31.29% (Table 22). URB fall chinook impacts totaled 7.22% in non-Indian fisheries and 21.35% in treaty Indian fisheries. Preliminarily, an estimated 622 SRW fall chinook were landed in Columbia River fisheries during the fall of 2000, of which 144 were landed in non-Indian fisheries and 422 were landed in treaty Indian fisheries. The 566 SRW fall chinook catch represents 0.7% of the total chinook catch during 2000 fall fisheries.

Impacts on Group B wild index steelhead were limited by the ESA to no more than 15.0% for treaty Indian fisheries and no more than 2.0% for non-Indian fisheries. Treaty fishery impacts occur as fish kept in commercial and C&S fisheries while non-Indian fishery impacts occur as catch and release mortalities in sport and commercial fisheries. Time and gear restrictions were used in treaty Indian fisheries to limit impacts on listed steelhead. Impact rates on wild group B index steelhead were estimated to be 11.9% for treaty Indian fisheries and 1.6% for non-Indian fisheries and totaled 13.5% for all fisheries.

Wild coho destined for Oregon shore tributaries of the Columbia River are listed as endangered under the Oregon State ESA and impacts on these fish were to be limited to no more than 13.3% for all fisheries, including ocean fisheries. Fisheries were managed with time and area constraints plus gear restrictions, to limit impacts on listed coho by commercial fisheries and only adipose fin-clipped coho could be retained in sport fisheries. Combined ocean and freshwater fisheries impacts were estimated to be 13.3% on early stock coho, 11.1% on late stock coho and 12.8% on both stocks combined. Columbia River fisheries accounted for impact rates of 6.0% on early stock, 4.2% on late stock, and 5.6% overall.

Season	Fall Chinook Catch	Snake R. Wild Fall Chinook		Total Steelhead Catch	Wild Steelhead			
		No.	%		Group A		Group B	
	No.			%	No.	%	No.	%
Treaty Indian Fisheries	52,100	422	21.35	15,540	2,400	3.8	1,000	11.9
Non-Indian Fisheries	31,200	144	7.22	16,800	800	1.2	132	1.6
<b>Total</b>	<b>83,300</b>	<b>566</b>	<b>28.57</b>	<b>32,340</b>	<b>3,200</b>	<b>5.0</b>	<b>1,132</b>	<b>13.5</b>

## **2001 FALL SEASON FISHERY EXPECTATIONS**

### **Non-Indian Fisheries**

Specific recommendations for fall commercial seasons to harvest sturgeon, chinook, and coho will be presented at Compact hearings occurring through the fall management period. Goals for fall fisheries are:

- Limit impact to SRW fall chinook as necessary while maximizing use of URB chinook impacts to prosecute non-Indian fisheries.
- Limit impacts on wild coho destined for tributaries of the lower Columbia River by adoption of time, area, and gear restrictions similar to those adopted in 1999 and 2000.
- Target surplus hatchery coho for maximum economic benefit to commercial fisheries.
- Attempt to harvest the balance of the commercial white sturgeon allocation by the end of October and provide maximum economic benefit for the commercial fishing industry.
- Set fishery checkpoints to allow for in-season adjustments to adopted seasons

Based on pre-season run size forecasts, a fishing schedule was developed for sport and commercial fisheries through the PFMC's North of Falcon management process. As the fall management period continues run size updates will occur which could alter pre-season planned fisheries. Run sizes are typically not updated prior to mid-September; therefore, fisheries occurring prior to mid-September will be managed conservatively to allow for some flexibility in shaping fishing opportunities during the mid-September through October time frame. Stock composition, and estimated URB impacts, for all fisheries will be modified in-season as inseason catch estimates, and CWT data become available. These data may alter URB impacts from pre-season expectations, which could subsequently result in modifications to other planned fisheries. The following section of this report generally describes fishery expectations for the 2001 fall management period. Fishery catch expectations and impacts to listed species for this fishing schedule are summarized in the 2001 Columbia River Fishery Model Summary (see page 50).

### **Early August Commercial Fisheries**

At the January 25, 2001 hearing the Compact adopted a 12-hour target sturgeon fishery for the night of August 5. Depending on chinook landings during the sturgeon fishery an additional 12-hour fishing period may be adopted during the night of August 8 to harvest additional fall

chinook. Both fishing periods would include a 9-inch minimum mesh size restriction and be restricted to the area below Longview Bridge. Sturgeon retention would be allowed during the second fishing period only if catch during the first fishing period is well below pre-season expectations. Based on pre-season run size forecasts and North of Falcon negotiations the catch expectation for this time period is approximately 3,700 chinook. White sturgeon catch is expected to range between 2,000 and 3,000.

### ***Late August Commercial Fisheries***

Pre-season fishing plans include target fall chinook fishing in Area 2S (above the mouth of the Sandy River) during the mid to late August time frame. Joint Staff recommendations will include fishing periods to begin during the week of August 20 and a 9-inch minimum mesh size restriction. Area 2S fisheries are designed to harvest primarily fall chinook with some sturgeon and few coho landed. Based on pre-season run sizes and North of Falcon negotiations the catch expectation for these fisheries is approximately 7,700 chinook. Catch of other species, such as sturgeon and coho is typically very low in this fishery.

### ***Late September Commercial Fisheries***

Pre-season fishing plans include primarily target coho fisheries in the lower river. Weekly coho fishing periods are scheduled to start during the week of September 17 and will include daylight only and 6-inch maximum mesh size restrictions to target coho and limit catch of listed fall chinook. Fisheries are scheduled to be restricted to below Longview Bridge during the first fishing week and below Trojan during the second fishing week to protect wild coho destined for Oregon tributaries of the lower Columbia River, primarily the Clackamas and Sandy rivers. If chinook impacts are less than expected during August fisheries then chinook fisheries may be considered in the Area 2S. Depending on run size updates, run timing, and SRW impacts remaining expanded Area 2S fisheries could occur during the last half of September and could extend into the first week of October. Chinook target fisheries in expanded Area 2S would be restricted by nighttime only and 8-inch minimum mesh size restrictions. Based on pre-season run sizes and North of Falcon negotiations the catch expectation for fisheries during the last half of September is approximately 3,500 chinook. Coho catches are expected to be large with a pre-season catch estimate of up to 100,000 fish.

### ***October Commercial Fisheries***

Pre-season fishing plans include primarily coho target fisheries with some sturgeon fishing opportunity also. Coho fisheries will maintain a 6-inch maximum mesh restriction but will expand to upstream areas and into nighttime hours as the month goes on and state listed coho move into tributaries to spawn. Depending on remaining impacts to SRW and state listed coho fisheries may increase to five days per week and the entire river could open beginning the week of October 8. Sturgeon fishing periods typically occur during daylight hours on Mondays in all of Zones 1-5 and have excluded nets with mesh sizes between 6" and 9" to allow participating fishers to target either coho or sturgeon. As has been the case in recent years, the Joint Staff expects to recommend fisheries that will result in the 9,300 white sturgeon catch limit being achieved near the end of October. Sturgeon fishing periods typically begin the second Monday in October; however, in 2001 the initial sturgeon fishing period may have to be delayed to provide access to sturgeon in late October. Based on pre-season run sizes and North of Falcon negotiations the catch expectation for all October fisheries is approximately 800 chinook. Coho catches are expected to be large with a pre-season catch estimate of up to 160,000. Sturgeon catch will depend on catches in previous fisheries but is expected to range between 1,000 and 3,000 white sturgeon.



### ***Youngs Bay Select Area Fisheries***

Fisheries this fall in Youngs Bay are expected to follow a similar pattern as past years. Daily fisheries occur during August to harvest net-pen produced SAB fall chinook and early returning coho. After Labor Day through the end of October it is expected that 7-day-per-week fishing would occur to harvest 100% of the net-pen produced coho. An 8-inch maximum mesh size restriction would be appropriate for fisheries prior to Labor Day with consideration given to a 6-inch maximum mesh size after Labor Day. Based on pre-season run size estimates approximately 175,000 coho are expected to be available for harvest in 2001. Chinook catches will likely range between 1,000 and 2,000 fish.

### ***Other Select Area Fisheries***

Other Select Area sites include Tongue Point, Blind Slough, Deep River, and Steamboat Slough fishing sites. Fisheries in these areas are target coho fisheries that are expected to open the week following Labor Day. Recent fisheries have included 1) four nightly fishing periods extending through the end of October, 2) nightly fishing periods from 12 to 14 hours in early October, and 3) 8-inch maximum mesh size restrictions. However, in 2001 consideration will be given for the adoption of a 6-inch maximum mesh size restriction to better target coho. Additionally, commercial fisheries in other Select Areas during the fall of 2001 may be expanded in time and area in an effort to harvest 100% of the unusually large expected return of net-pen produced coho. Past Big Creek fisheries have targeted surplus chinook destined for Big Creek Hatchery. With the large hatchery coho return expected for 2001 the Big Creek fishery may focus on hatchery coho rather than fall chinook. Based on pre-season run size forecasts it is estimated that approximately 92,000 coho will be available for harvest in the four other Select Area fishing sites (Tongue Point, Blind Slough, Deep River, and Steamboat Slough).

### ***Buoy 10 Sport Fisheries***

The Buoy 10 sport fishery is scheduled to open August 1 with a "two salmon of which only one can be a chinook" daily catch limit that will expand to a "three salmon of which only one can be a chinook" daily catch limit effective August 16. The fishery will be restricted to adipose fin-clipped coho and chinook retention may be prohibited if URB impacts exceed pre-season expectations. If chinook retention is disallowed the daily catch limit may increase to four adipose fin-clipped coho. Adipose fin-clipped coho retention will be allowed through the duration of this fishery (August 1 through December 31). Based on pre-season run size forecasts and North of Falcon negotiations the chinook catch expectation for this fishery is approximately 7,900-8,800 chinook. Coho catch is expected to be large with up to 150,000 landed this year.

### ***Mainstem Sport Fisheries***

The mainstem sport fishery upstream of the Tongue Point/Rocky Point line is scheduled to be open August 1 through December 31 with a two salmonid (chinook, coho, or steelhead) daily catch limit. Coho retention will be restricted to adipose fin-clipped coho only downstream of John Day Dam. The one chinook daily catch restriction will not be in place for this fishery. Based on pre-season run size forecasts and North of Falcon negotiations the chinook catch expectation for this fishery is approximately 7,400 chinook. Coho catch is typically low in this fishery and will probably not exceed 5,000 adults in 2001.

**COLUMBIA RIVER FISHERY MODEL SUMMARY****2001****2001MR-10**

2001 Adopted PFMC Fisheries. Non-Indian Columbia River Fisheries at 8.25% SRW Impact.

Final Preseason Model Run

Fishery Descriptions				Management Benchmarks					
<b>Ocean Fisheries:</b>	Adopted PFMC Fisheries: Chinook 97K, Coho 390K			<b>Chinook:</b>		<b>Non-Ind.</b>	<b>Tr. Ind.</b>	<b>Total</b>	<b>Limit or Goal</b>
<b>Inriver Fisheries:</b>				Projected SRW impacts:	8.25%	23.04%	31.29%	31.29%	
Buoy 10 sport	77%	Aug 1 for chinook & marked coho, thru Labor Day for chinook		% of Total	26%	74%	100%		
Mainstem sport	100%	Aug 1 for chinook & marked coho		% of Harvestable Surplus	29.8%	50.1%	66,940	43,500	
Lower R. Commercial	2.0	day August week 1 sturgeon fishery, B-10 to LVB		McNary Escapement:					
	4.6	day 2S commercial fishery late August		LRH Inriver Harvest Rate			20.1%		
	0.0	day Sept chinook		NI Catch	Sport:	19,500	Comm:	17,300	
	1.5	month Sept/Oct coho/sturgeon							
	0.0	day Mid-September, Zone 1 & 2 Coho							
Upriver sport	100%	August 1 Hanford sport open August 16 catch: 3,560		B Index Steelhead:					
				Constraint	2.0%	15.0%	17.0%		
				Projected impact	1.8%	14.2%	15.9%		
Treaty Indian				Coho:					
				% of Upriver Run to Bonn. Dam			62%	50%	
				Chum: (Harvest Index)			2%	5%	

	Chinook										Upriver Steelhead					Coho				Chum				
	Total	BPH	URB	LRH	LRW	BUB	PUB	LRB	SAB	Snake R Wild Num.	%	Total	Skam. Total	Upriver A Index Hatch.	Upriver B Index Wild Hatch.	Wild	Total	Un-marked	Up-river		OR Early	Wild		
Ocean Catch/Mortality	35,690	20,020	3,250	9,990	1,300	430	620	60				-					392,825	15,225	39,299	6.2%	6.2%			
Columbia River Run	292,270	61,870	132,690	30,490	18,460	17,730	25,240	2,400	3,400	7,800	8.26%	255,780	12,250	167,180	49,170	28,160	8,980	1,071,181	169,940	197,487			2,400	
<b>Non-Indian (Total)</b>	<b>41,170</b>	<b>6,560</b>	<b>14,610</b>	<b>6,140</b>	<b>3,360</b>	<b>4,850</b>	<b>3,030</b>	<b>610</b>	<b>2,320</b>	<b>627.16</b>	<b>8.26%</b>	<b>24,293</b>	<b>1,143</b>	<b>18,834</b>	<b>621</b>	<b>3,542</b>	<b>160</b>	<b>612,102</b>	<b>36,730</b>	<b>53,675</b>	<b>14.3%</b>	<b>11.3%</b>	<b>38</b>	
Early August Stgr/Salm	3,700	1,580	320	500	80	380	560	50	230	19.28	0.24%	43	0	25	8	4	1				0.0%	0.0%	0	
Select Areas	2,450	220	70	630	0	30	10	0	1,490	4.11	0.05%	5	0	3	1	1	0	42,600	5,689	0	0.5%	0.2%	3	
Buoy 10 Sport	7,910	2,510	2,240	1,530	150	390	630	50	410	128.33	1.69%	58	0	0	0	57	2	151,345	5,760	17,363	2.5%	1.5%	0	
Lower River Sport	7,410	530	3,620	1,180	210	940	710	130	90	207.40	2.75%	6,130	293	4,799	154	854	28	3,000	57	261	0.0%	0.0%	0	
2S Mid - Late August	7,890	1,600	2,700	720	0	1,550	910	210	0	154.51	2.03%	150	0	0	0	113	37	100	22	24	0.0%	0.0%	0	
Sept. chin, 2S, 8 <sup>th</sup> min	0	0	0	0	0	0	0	0	0	0.00	0.00%	0	0	0	0	0	0	0	0	0			0	
Mid September Coho	0	0	0	0	0	0	0	0	0	0.00	0.00%	0	0	0	0	0	0	0	0	0			0	
Late September Coho	3,470	90	1,140	500	450	1,030	40	140	60	65.21	0.86%	75	0	46	6	19	6	100,000	12,974	16,536	3.7%	1.8%	0	
October Coho	930	20	290	120	110	240	10	30	20	16.15	0.21%	19	0	11	2	14	5	160,000	10,999	18,132	1.2%	1.6%	35	
Late Fall sturgeon	0	0	0	0	0	0	0	0	0	0.00	0.00%	0	0	0	0	0	0							0
Tributary Sport	3,320	0	0	960	2,360	0	0	0	0	-	-	-	-	-	-	-	-	53,894	0	0	0.1%	0.1%	0	
Lower River Subtotal	36,780	6,550	10,370	6,140	3,360	4,560	2,870	610	2,320	592.98	7.82%	6,483	293	4,884	171	1,062	80	519,842	35,500	52,315	8.14%	5.10%	38	
Sport (Bonn.Hwy 395 Br.)	830	0	580	0	0	90	160	0	0	33.18	0.44%	17,800	850	13,950	450	2,480	80	1,280	230	1,280			0	
<b>Treaty Indian (Total)</b>	<b>78,460</b>	<b>38,570</b>	<b>30,570</b>	-	-	<b>3,820</b>	<b>5,490</b>	-	-	<b>1,751.04</b>	<b>23.04%</b>	<b>17,430</b>	<b>0</b>	<b>10,450</b>	<b>3,280</b>	<b>2,440</b>	<b>1,260</b>						<b>0</b>	
<b>Dam Counts</b>																								
(Bonneville Trap)		0																						
Bonneville Dam Passage	204,850	54,090	122,320	-	-	6,080	22,360	-	-	7,006.0		249,300	12,000	152,300	49,000	27,100	8,900	147,313	86,725	147,313			100	
McNary Dam	66,940	-	66,940	-	-	-	-	-	-	-														
Lower Granite Dam	-	-	-	-	-	-	-	-	-	2,578														
<b>Escapement</b>																								
Hatchery	-	9,860	-	15,980	-	7,028	3,547	-	-	-														
(WA only)	-	-	-	11,780	-	-	-	-	-	-														
Natural (WA)	-	-	-	-	13,150	-	-	-	-	-														
Natural (OR)	-	-	-	-	1,830	-	-	-	-	-														
<b>Surplus</b>																								
(WA only)		2,860	23,340	1,700	7,490	1,280	1,550	-	-	500														

## **Treaty Indian Commercial Fisheries**

In recent years treaty Indian fisheries have typically occurred from late August through late September. Fishery restrictions may include mesh size restrictions to better target fall chinook or area restrictions if necessary to reduce impacts on specific stocks. Sturgeon sales are generally not allowed during fall fisheries because catch guidelines have been achieved in one or more pool. Fishery typically consists of 3 to 5 day weekly fishery periods that often occur later in the week to support sale of fish to the general public. The Columbia River treaty tribes may propose initial commercial fishing periods for the 2001 fall season at the August 17 Compact hearing.

## **Miscellaneous Regulations**

Miscellaneous regulations including dam sanctuaries, river mouth closures, gear requirements, sturgeon rules, etc., are typically adopted annually at the January Compact hearing. At the January 25, 2001 Compact hearing the Joint Staff presented information regarding the use of monofilament gill nets in Columbia River commercial fisheries, including Select Area fisheries. The Compact was unable to come to a decision on the monofilament issue at the January Compact but did agree to continue discussions on this issue. Discussions continued throughout the spring management timeframe and the states of Oregon and Washington have reached consensus to allow the use of monofilament gill nets in all Columbia River fisheries, including Select Areas. In a letter dated June 1, 2001 ODFW and WDFW announced their intention to allow the use of monofilament gillnet gear in non-Indian commercial fisheries including Youngs Bay. No decision will be forthcoming at the August 17, 2001 Compact hearing but is expected that the use of monofilament gill nets will be allowed in all Columbia River commercial fishing, including Select Areas, sometime during the fall of 2001. The date for the rule to take affect has not yet been decided but it is expected to occur after mid-September when target coho fisheries are initiated. The official adoption of this rule will occur at a future Compact hearing.

Washington Department of Fish and Wildlife  
Oregon Dept of Fish and Wildlife  
August 2, 2001