Washington Trollers Association

P.O. Box 2185
Westport, WA 98595

Phone/Fax 360-648-2414
Email: dsaul@centurytel.net

January 11, 2006

Dear Representative Dicks:

Members of the Washington Trollers Association (WTA) attended the fall hearing in Tacoma, Washington discussing the relationship between Harvest and ESA Salmon Recovery. WTA came away from the "Hearing" with a concern that "perceptions" and unverified science were driving decisions on dealing with the goal of recovering ESA salmon stocks. Following is a white paper prepared by Mr. Joel Kawahara who is a member of the WTA Board, has studied the effect of harvest on Chinook salmon survival along the West Coast. Mr. Kawahara indicates the importance of using reviewed science and not perceptions, indicates the importance of considering economic sharing to help recovery, and indicates the fallacy of assuming no harvest means recovery. This paper concludes by giving three case studies that show how habitat destruction, water flow, and water temperature effect salmon survival more than harvest. We welcome you to request one of the Scientific Committees to review and report on our concerns. This will help you and the public become better educated on the subject.

We know and appreciate that you have been a long time supporter of salmon recovery. We are asking that you let the science and economic fairness prevail in making your decisions related to salmon harvest and ESA Salmon Recovery.

Sincerely,

Debbie Saul
Executive Director - WTA

Preface

The Washington Trollers Association (WTA) represents about 150 holders of Washington State Commercial Troll Salmon permits and an additional number of Oregon State Commercial Troll permit holders who sometimes fish off the Washington Coast. WTA encourages the congressional inquiry into harvest practices in the Pacific Salmon fisheries. We feel that commercial fishing is a component of the economy that has suffered serious neglect for decades and welcome our Congressmen familiarizing themselves with our business.

The Washington Trollers Association (WTA) is committed to harvesting salmon for the consumers of Washington State. Recent studies indicate wild salmon are one of the most healthful foods available. Demand for salmon is rising as more and more consumers become aware of the health benefits of consuming salmon. WTA feels there is a bright economic future for salmon harvesters.

We believe that it is important for all parties in the discussion of salmon recovery in our region to understand the "Hs" (Hydro, Habitat, Hatcheries & Harvest). WTA recognizes that harvest may be the hardest part of the "H" formula to understand, as there are so many issues to get your head around. WTA feels that understanding why harvest can continue while recovery work proceeds in the river basins of our region is not subjective, but a verifiable result of salmon biology. We present case reviews that highlight the difficulty of relying solely on harvest restrictions to achieve recovery of systems with damaged salmon habitat.

ESA and Fishing

From a standpoint of economic justice, WTA feels that a job catching, processing, or delivering salmon and other seafood is just as important as agriculture, aerospace or any other job. Salmon jobs put needed money into coastal communities with little or no other economic prospects. The point commonly made about the cost of salmon recovery to agricultural communities primarily on the east side or industrial businesses on the west is that jobs will be lost. Fishing jobs have been lost by the thousands since the construction of the Federal Columbia River Power System (FCRPS) began and as development of the Puget Sound region has taken place. WTA sees the role of our Congressional Representatives to help keep and create jobs in ALL of our communities - not to chose which communities will thrive or wither.

We address the question of "why are we harvesting these salmon when they are on the endangered species list" from an economic standpoint. As you know, the Endangered Species Act (ESA) was written with enough flexibility to both protect listed species, and also allow economic activity that does not jeopardize the existence of the listed species in the opinion of the Unites States Fish and Wildlife Service (USFWS) or National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries). Furthermore, the philosophical cornerstone of the Endangered Species Act (ESA) is to protect the listed species and the habitats they depend on. Thus, Seattle Public Utilities can not draw water

from the Cedar River without regard for Threatened Cedar River Chinook, and must maintain minimum flows in all months of the year. Conversely, irrigation, barge traffic, and hydropower generation were ruled to not jeopardize the existence of Snake River Spring/Summer Chinook in the 2004 Biological Opinion (BO) produced by NOAA Fisheries and thus those activities are allowed to continue with few restrictions.

As you already know, the 14th amendment of the US Constitution guarantees equal protection under the law, including the ESA. Whatever activity "takes" or proposes to "take" a listed species is evaluated with a biological opinion and given a section 7 or section 10 permit based on the outcome of the biological opinion. Economic activity such as fishing or hydropower generation are evaluated blindly and permitted to go on when they do not jeopardize the listed species. It does not matter to the law that the "take" of listed Chinook is a fish caught and sold by a commercial fisherman or a take that results from harmful in-river habitat like excessive water temperature in reservoirs on the Columbia River. Thus, it is proper and legal for NOAA Fisheries to issue a biological opinion for salmon fisheries when they are managed in such a way as to not jeopardize listed salmon.

Spawning Escapement

WTA welcomes the inquiry into salmon harvest, and by implication spawning escapement. The central question of the hearings on salmon harvest is "Will recovery be sped up if less fish are caught and more wild salmon go to spawn?" At the Tacoma Washington hearing we heard a clear "no" from both NOAA Fisheries and Washington Department of Fish and Wildlife (WDFW) officials. We also heard from non-fishing and development interests that harvest rates on Nooksack River Spring Chinook and other Chinook runs were too high and were constraining recovery. Because of this disagreement, congress may feel it is caught in the middle of an unresolvable technical fight.

WTA believes strongly that in order to move forward with salmon recovery, the science must be robust and be agreed to by ALL sides of the debate. We have wasted many years of debate on spill vs. transport, hatchery vs. wild, etc. We suggest to Representatives Baird, Dicks and Walden that they gather the science behind salmon management, including escapement goals, and resolve their doubts with the science. There are several review panels, including the Independent Science Advisory Board, the Recovery Science Review Panel, the National Research Council, to do this kind of work. Without this step, policy will drive science, a reliably disastrous course.

Proportional Pain

Salmon recovery is a painful, though fruitful process. One of the issues salmon harvesters have is that pain is not proportional to damage across the Hs. In 1994, the non-Indian salmon season in Washington's ocean harvest areas was closed. (PFMC PRESEASON REPORT II March 1994). To our knowledge there have been no total interruptions in power generation from any dams in the Northwest, nor any "zero water years" for irrigators. Taking a

longer perspective, Chinook harvest from Washington Ocean areas has declined as much as 90% since 1975. It will be near impossible to secure agreement for further cuts from ocean fisheries to promote recovery until it is demonstrated that other causes of salmon decline are shown to have reduced their Adult Equivalent Mortality by proportional amounts.

Our vision of the results of the review of harvest policy is that a pie chart of the damage to salmon by H sector could be constructed and agreed upon by all parties and sovereigns in the salmon recovery world. We would then be able to judge where the greatest losses to salmon are occurring and base our policy priorities where our greatest problems lay. It would be equally important to have the proportions of economic value lost or gained in the H sectors so as to judge if one sector is "paying" more than another.

Case Studies

WTA presents evidence that supports our view that harvest levels are reasonable and are not impeding recovery. Our first case is the Hoko River where the Chinook are harvested at a low rate of 36%. Second is the Columbia River Summer Chinook that exhibited a very strong set of runs in 2001 and 2002 yet disappointed in 2004 and 2005 by returning weaker than expected runs. Our third example is the success of the Sacramento Winter Run Chinook that has been brought back from near extinction to a predicted 15,000 escapement in 2005. California used harvest controls and valiant habitat restoration to achieve success in a highly populated watershed. We use the Sacramento River as an example because the great success in restoring Chinook runs shows it can be done where there is the political will, something we regret to say has been lacking in the Northwest.

Case Study 1: Hoko River Fall Chinook

The Hoko River is situated in far Northwest Washington State on the Straits of Juan de Fuca about 20 miles east of Cape Flattery. The Makah tribe of Washington State shares management of the Hoko with the Washington Department of Fish and Wildlife. Tribal biologists describe the Hoko watershed as highly impaired; 96% of the watershed has been clearcut in the last century, currently 60% is clearcut. The Hoko suffers frequent floods in the rainy season and drought and high water temperatures in the dry season. (pers. comm. Hap Leon & Caroline Peterschmidt, Makah Fisheries, 2005)

Based on Pacific Salmon Commission documents, (Pacific Salmon Commission Joint Chinook Technical Committee Report Annual Exploitation Rate Analysis and Model Calibration, Report TCChinook(04)-4), average annual escapement rates have been 63.5%, **See Table G-37**. Escapement has averaged 911 Chinook (1986 - 2003), with an escapement goal of 850 Chinook, (Catch and escapement of Chinook Salmon under the Pacific Salmon Commission Jurisdiction, 2004, TCChinook (05)-2).

Table G.37. Percent distribution of Hoko Fall Fingerling chinook reported catch among fisheries and escapement.

Catch Year	Alaska Troll	Alaska Net	Alaska Sport	North Troll	Central Troll	N/CBC Net	N/CBC Sport	WCVI Troll	GeoSt Tr&Sp	Other Fisheries: Canada Net	Canada Sport	U.S. Troll	U.S. Net	U.S. Sport	Escapement
1989	4.8%	0.8%	0.0%	7.6%	0.4%	6.0%	0.0%	10.8%	1.6%	15.3%	0.0%	0.8%	0.8%	21.7%	29.3%
1990	15.8%	1.9%	0.5%	8.0%	0.7%	2.4%	0.0%	17.0%	0.8%	1.9%	0.0%	0.5%	1.0%	14.4%	35.1%
1991	15.2%	0.0%	0.0%	5.0%	1.1%	0.3%	0.6%	6.9%	0.4%	0.6%	0.5%	0.2%	1.0%	8.2%	59.8%
1992	7.7%	1.7%	1.2%	4.4%	1.2%	1.4%	0.7%	9.8%	0.5%	0.0%	2.1%	0.0%	0.2%	2.4%	66.6%
1993	6.6%	0.0%	2.0%	6.6%	0.0%	3.3%	0.0%	14.9%	0.3%	2.0%	0.0%	0.0%	0.3%	4.6%	59.4%
1994	13.6%	2.1%	2.4%	14.8%	0.6%	1.5%	0.0%	11.4%	2.1%	1.5%	2.1%	0.0%	0.0%	0.0%	47.9%
1995	12.6%	0.0%	4.1%	6.2%	0.0%	0.3%	0.4%	2.9%	0.8%	0.1%	0.0%	0.0%	0.0%	0.7%	71.9%
1996	10.6%	0.0%	3.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	85.2%
1997	13.9%	0.0%	0.0%	1.7%	0.2%	0.0%	0.6%	0.9%	0.0%	0.0%	0.6%	0.0%	0.0%	0.5%	81.7%
1998	9.0%	0.0%	0.4%	5.9%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.3%	0.0%	0.0%	0.0%	84.1%
1999	6.6%	0.0%	0.7%	4.3%	0.0%	0.0%	0.6%	0.0%	0.3%	0.0%	1.4%	0.0%	0.1%	0.0%	86.0%
2000	4.4%	0.2%	1.8%	0.0%	0.0%	0.0%	0.0%	0.2%	1.2%	0.0%	0.0%	0.6%	0.0%	0.0%	91.7%
2001	6.0%	0.0%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	0.0%	0.0%	0.0%	0.0%	0.4%	90.3%
2002	17.1%	0.0%	0.9%	3.7%	0.3%	0.0%	4.6%	1.5%	1.9%	0.0%	0.0%	0.0%	0.0%	1.0%	69.0%
(89-02)	10.3%	0.5%	1.4%	4.9%	0.3%	1.1%	0.5%	5.5%	0.8%	1.5%	0.5%	0.2%	0.3%	3.9%	68.4%
(89-02)	10.3%	0.5%	1.4%	4.9%	0.3%	1.1%	0.5%	5.5%	0.8%	1.5%	0.5%	0.2%	0.3%	3.9%	68.4%

Table G.38. Percent distribution of Hoko Fall Fingerling chinook total fishing mortalities among fisheries and escapement.

Catch Year	Alaska Troll	Alaska Net	Alaska Sport	North Troll	Central Troll	N/CBC Net	N/CBC Sport	WCVI Troll	GeoSt Tr&Sp	Other Fisheries: Canada Net	Canada Sport	U.S. Troll	U.S. Net	U.S. Sport	Escapement
1989	11.7%	3.1%	0.3%	8.5%	1.1%	4.8%	0.0%	13.7%	1.7%	11.4%	0.0%	0.6%	0.6%	21.7%	20.8%
1990	18.3%	4.8%	0.6%	8.4%	0.9%	2.0%	0.0%	16.9%	0.7%	1.6%	0.0%	0.6%	0.9%	14.1%	30.1%
1991	18.6%	0.0%	0.1%	5.2%	1.1%	0.3%	0.5%	7.0%	0.4%	0.6%	0.4%	0.2%	1.0%	8.8%	55.7%
1992	8.6%	4.9%	1.6%	5.5%	1.1%	1.4%	0.6%	10.3%	0.6%	0.0%	2.1%	0.0%	0.2%	2.7%	60.4%
1993	12.0%	1.1%	2.3%	7.7%	0.0%	2.9%	0.0%	14.9%	0.6%	1.7%	0.0%	0.0%	0.3%	4.9%	51.6%
1994	20.4%	4.8%	2.8%	13.5%	0.5%	1.3%	0.0%	10.7%	2.0%	1.5%	1.8%	0.0%	0.0%	0.0%	40.6%
1995	16.2%	0.0%	4.7%	7.8%	0.0%	0.4%	0.5%	3.7%	0.8%	0.1%	0.0%	0.0%	0.0%	1.0%	64.8%
1996	13.8%	0.0%	4.4%	0.7%	0.0%	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	79.3%
1997	16.3%	0.0%	0.0%	1.9%	0.2%	0.0%	0.7%	1.1%	0.0%	0.1%	0.5%	0.0%	0.0%	0.4%	78.8%
1998	10.0%	0.0%	0.3%	6.4%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.3%	0.0%	0.0%	0.0%	82.8%
1999	8.0%	0.0%	0.7%	4.6%	0.0%	0.0%	0.7%	0.0%	0.3%	0.0%	1.5%	0.0%	0.1%	0.0%	84.2%
2000	5.9%	0.2%	2.9%	0.0%	0.0%	0.0%	0.0%	0.2%	1.3%	0.0%	0.0%	0.8%	0.0%	0.0%	88.7%
2001	8.9%	0.0%	2.6%	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%	0.0%	0.0%	0.0%	0.0%	0.6%	86.1%
2002	18.6%	0.0%	0.8%	3.9%	0.3%	0.0%	5.6%	1.4%	2.4%	0.0%	0.0%	0.0%	0.0%	1.1%	65.8%
(89-02)	13.4%	1.4%	1.7%	5.3%	0.4%	0.9%	0.6%	5.8%	0.9%	1.2%	0.5%	0.2%	0.2%	3.9%	63.5%
(89-02)	13.4%	1.4%	1.7%	5.3%	0.4%	0.9%	0.6%	5.8%	0.9%	1.2%	0.5%	0.2%	0.2%	3.9%	63.5%

The Hoko River Fall Chinook are not subject to any directed fisheries and are caught sparingly in US and Canadian fisheries.

The Hoko River Fall Chinook demonstrate that high escapements do not necessarily lead to increasing run size. Limiting factors other than harvest, in this case water quality, overwhelm the ability of the run to grow.

Case Study 2: Columbia River Summer Chinook

Columbia River Summer Chinook are harvested in Recreational and Commercial ocean fisheries from Southeast Alaska to the Northern Oregon Coast but primarily harvested in the mainstem Columbia River by Recreational and Net Fisheries. This stock returns to spawning areas in tributaries to the upper Columbia River including the Wenatchee, Methow, and Okanogan Rivers. Total exploitation rates on this Columbia River Summer Chinook stock run as high as 70% in 1997. **See Figure 17.** (TCChinook(04)-4)

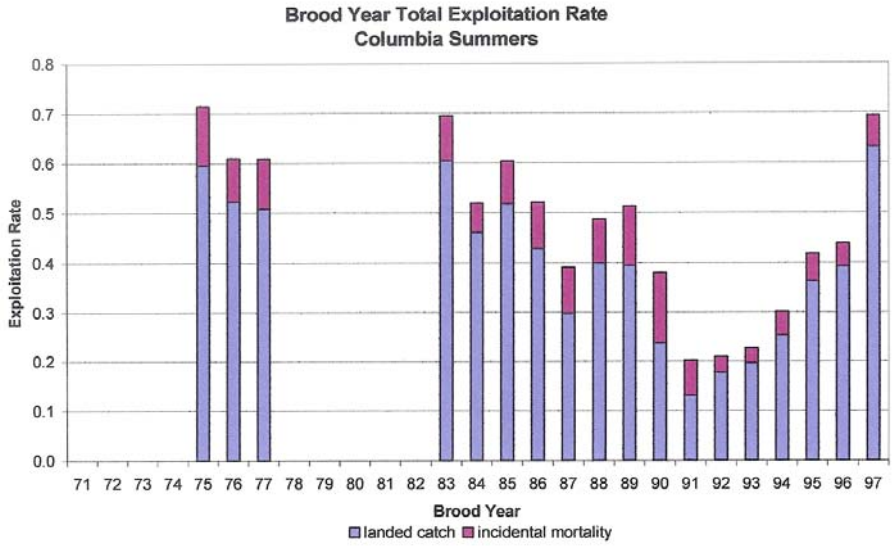


Figure F.17. Columbia Summers (Columbia River Summer) total exploitation rate by brood year.

This stock has been returning at or below the Maximum Sustainable Yield (MSY) escapement goal of 17,857 between 1979 and 1998. Escapement rose to 53,170 in 2001, peaked in 2002 at 96,326, and began falling in 2003 to 83,004. **See Table B-14** (PFMC 2005 REVIEW) and **Figure: Upper-Columbia Summer Natural Spawners** (CTC 05-2 and 04-4).

TABLE B-14. Estimates of inriver run size, catch, and escapement in numbers of Columbia River adult summer chinook destined for areas above Bonneville Dam.[a/]

Year or Average	Inriver Run Size	Lower River Catch[a/]		Bonneville Dam Count	Mainstem Treaty Indian Catch		Zone 6 Escapement[b/]	U. Columbia River Escapement[d/]
		Commercial	Sport		Commercial	Ceremonial/ Subsistence		
1976-1980	22,566	81	0	22,485	1,084	0	21,401	18,161
1981-1985	17,092	55	0	17,037	958	0	16,079	12,202
1986-1990	21,668	71	7	21,590	838	64	20,689	15,785
1991	14,569	9	3	14,557	0	171	14,386	14,815
1992	9,796	35	12	9,749	0	46	9,703	8,523
1993	14,781	81	15	14,686	0	328	14,358	16,377
1994	14,977	23	27	14,927	0	171	14,756	14,859
1995	12,615	0	18	12,597	0	417	12,180	12,162
1996	12,333	15	27	12,291	0	374	11,917	10,995
1997	18,277	6	19	18,252	0	270	17,982	13,107
1998	16,332	1	27	16,304	0	335	15,969	13,387
1999	22,347	1	41	22,305	16	395	21,894	20,898
2000	23,169	0	25	23,144	0	209	22,935	22,306
2001	54,935	1	64	54,870	150	542	54,178	53,170
2002	92,820	8	1,503	91,309	1,451	568	89,290	96,326
2003	83,120	235	2,007	81,077	3,587	710	76,780	83,004
2004[e/]	65,446	488	1,240	63,970	8,004	390	55,576	67,060
GOAL	20,000							

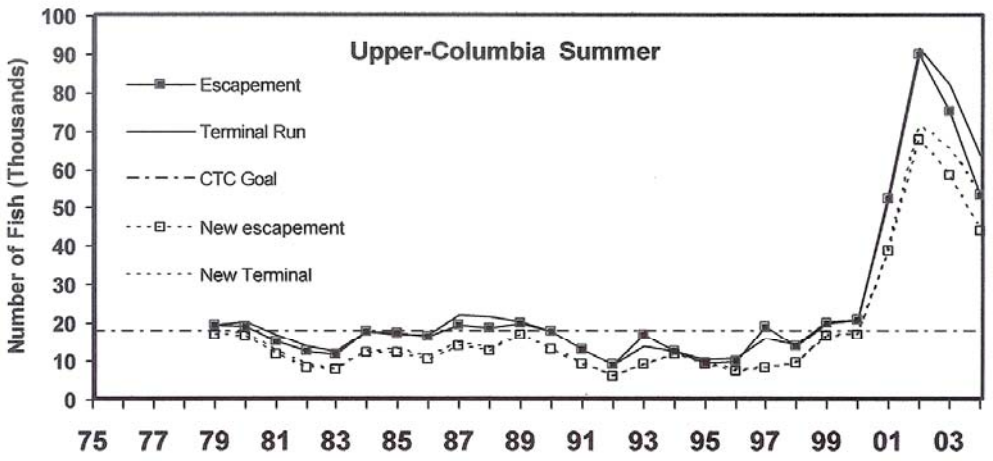
a/ Includes estimated miscellaneous fishery-related impacts from test fisheries, commercial shad fisheries, and terminal area commercial gillnet fisheries beginning in 1979. Includes catch and release mortality in selective fisheries beginning in 2002.

b/ Bonneville Dam count minus Zone 6 mainstem commercial and ceremonial/subsistence treaty Indian harvest.

c/ Count at uppermost Snake River Dam (Little Goose in 1971-1974 and Lower Granite plus Tucannon wild escapement after 1974).

d/ Priest Rapids Dam count.

e/ Preliminary.



Escapement Methodology: Estimates of naturally spawning upper-Columbia summer Chinook escapement past Bonneville Dam are based on the dam count, Zone 6 harvests, and the reconstructed proportion of upper Columbia River naturally spawning fish. The escapement indicator stock is Columbia Upriver Summers, which was previously comprised of both upper-Columbia summer Chinook and Snake River summer Chinook. The previous run timing dates for the Bonneville Dam count were June 1 through July 31, but these dates have been changed to June 16 through July 31, to remove the Snake River spring/summer component. The graph above shows both the previous and new data for comparison. Production is primarily from natural spawning in the Wenatchee, Methow, and Okanogan Rivers. The interim goal was developed using the Chinook model, which only includes upper-Columbia Chinook. The escapement goal is now consistent with the run timing in excluding the Snake River component, but it was based on the data including June 1-June 16.

Escapement Goal Basis: The CTC (1999) has developed an interim biologically based MSY escapement goal of 17,857 upper-Columbia summer Chinook past Bonneville Dam based on PSC Chinook model data. The methods used to reconstruct the escapements for developing the goal are different than the current methods used to estimate upper-Columbia escapements, graphed above. Also, the historical time series of escapement estimates in the TAC run reconstruction have changed. The current management goal of upper-Columbia summer Chinook is 29,000 at the mouth of the Columbia River and 20,000 spawners.

Agency Comments: Productivity is limited primarily by loss of downstream migrants and habitat degradation related to timber harvests, lack of screens on water diversions, high water temperatures, low flows, and sediment-laden irrigation water returns (CBFWA 1990). The 2002 total run was one of the largest since 1975. Water run-off levels in 1996, 1997 and 1998 were higher than average, resulting in good spill and in-river conditions. Ocean survival has improved vastly in the last few years, and is apparent for the 1997 and 1998 brood yearling migrants. Most harvest impacts still occur in ocean fisheries, and escapements have exceeded 96% of the terminal run since 1988. Since 2002, there were selective directed sport fisheries on hatchery summer Chinook, after almost 20 years of no directed sport fisheries

The high returns of Columbia River Summer Chinook in 2001, 2002 and 2003 of 53,170, 96,326 and 83,004 respectively, came from brood year escapements in 1996, 1997 and 1998 of 10,995, 13,107 and 13,387 respectively. The 1996, 1997 and 1998 escapement of Columbia River Summer Chinook were all well below the 17,857 interim biologically based MSY escapement goal put forth by the Chinook Technical Committee of the Pacific Salmon Commission in 1999, currently Chaired by NOAA Fisheries.

Although the MSY escapement goal was not met in 1996, 1997 and 1998 they produced the largest runs of the last 30 years in 2001, 2002 and 2003. Knowing why gives important clues to guide recovery of Columbia Basin Chinook Salmon stocks.

The Upriver Columbia River Summers appear to have been in the right place at the right time in the spring of 1996. Average daily flow over Bonneville increased from 1995 until 1997 and fell for the next 4 years to near the long term average by year 2000. (Columbia River Status Report, 2000, ODFW, WDFW). Interestingly enough, water temperatures also rose in the same time period. **See Figures 9 and 10.** Simultaneously, Ocean conditions changed for the better after 1996 on the Pacific Coast, and almost all stocks, Coho and Chinook in both Oregon and Washington showed strong population gains in the period 1997 to 2000. Because there is no way to totally separate the effects of the two changes for salmon, it is not possible to attribute a fixed percent of the improvement in run strength to ocean conditions or improved in-river flow.

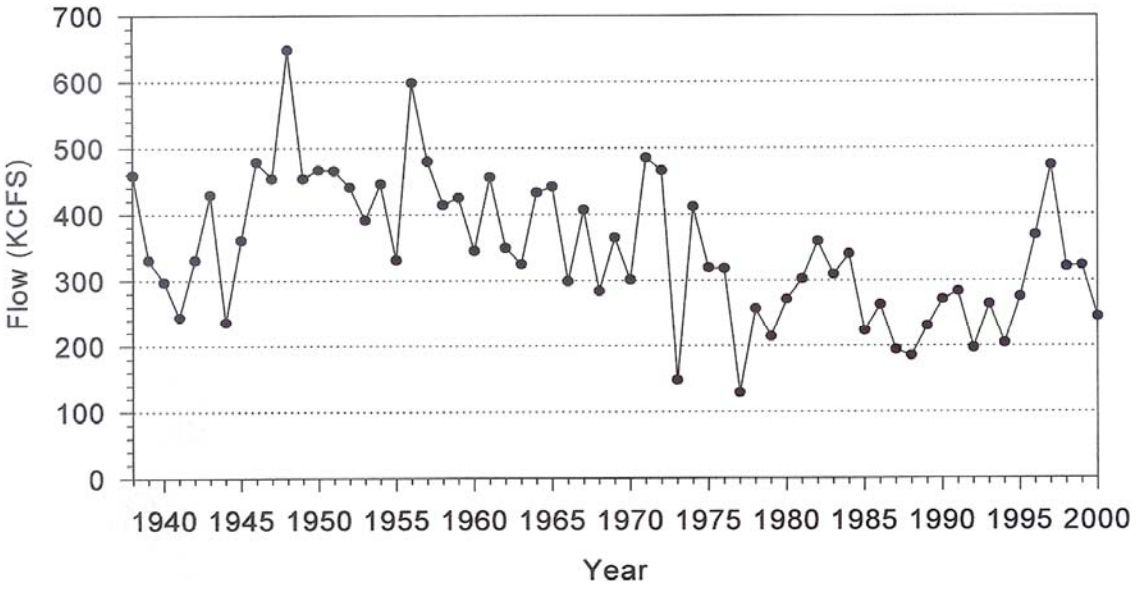


Figure 9. Average Daily Flow at Bonneville Dam, May-June 1938-2000.

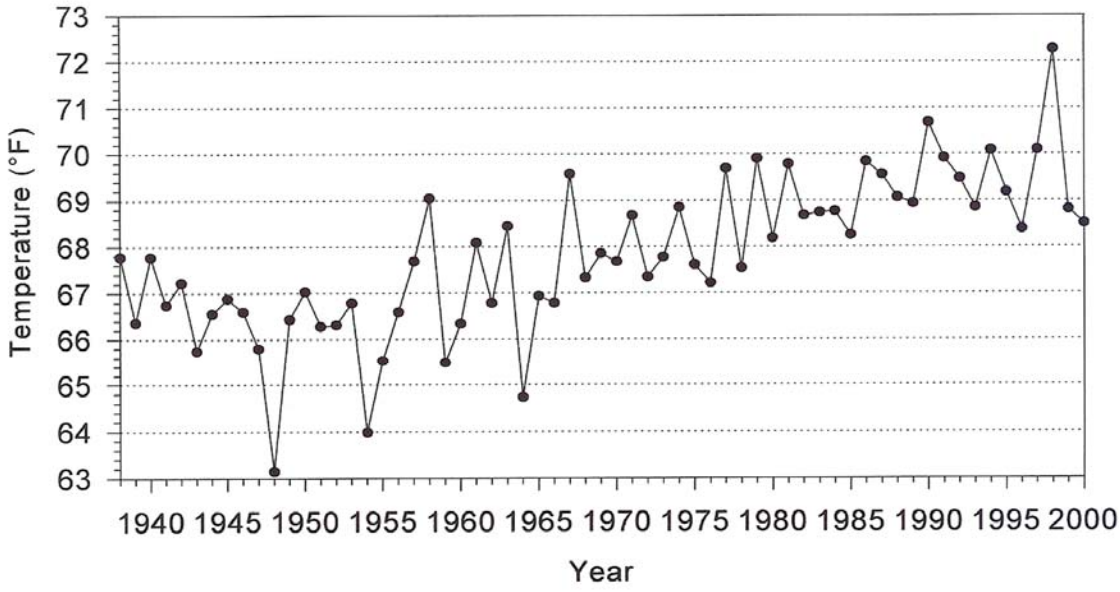


Figure 10. Average Daily Water Temperature at Bonneville Dam, August-September 1938-2000.

In order to duplicate the burst in run size, one would not expect that any of the ingredients could be left out. Thus, higher flows on the order of the run off of 1995 to 1997, even if at a higher temperature, plus favorable ocean conditions seem to be important to increasing runs. Unfortunately, neither BPA nor NOAA Fisheries control ocean conditions, so we can only wait and hope those improve. But, while we wait, Bonneville Power Administration (BPA) and NOAA Fisheries do control flow in the Columbia Basin and those entities should do what is responsible and legally required and increase flow in order to try to aid the recovery of listed species.

It must not be glossed over that the Upper Columbia River Summer Chinook were under escaped yet went on to produce near record runs. There is much to be said about meeting escapements, and it is WTA's policy that we agree that they should be met with fisheries reductions when necessary. However, without good in-river conditions, adequate escapement is a one-sided contribution from the harvest segment that is not matched by those responsible for in-river habitat and flow. This case study of Upper Columbia River Summer Chinook shows how important in-river conditions are. Even with escapement below the interim MSY goals, developed by NOAA Fisheries and the Chinook Technical Committee of the Pacific Salmon Commission, very large returns have occurred when Ocean Conditions and Increased Flow are provided the Salmon.

Case Study number 3: Sacramento Winter Run Chinook

Sacramento Winter Run Chinook enter the Sacramento River in the months December to March and spawn in late summer. They historically spawned in the McCloud and Pit Rivers, tributaries to the Sacramento originating in the High Sierras. Winter Run Chinook were adapted to spawn in very cold rivers fed from snowmelt off Mount Shasta. Winter Run Chinook were cut off from their natural spawning areas by the construction of the Shasta dam in 1944. The population survived by spawning in cold water below Shasta dam with a run of 118,000 in 1969. (NMFS, Biological Opinion for Fisheries Management Plan, Pacific Fisheries Management Council, March 8, 1996)

By 1991, the population had fallen to a run of 211 **(that is not a typo, two hundred and eleven)**. **See Table B-3** (PFMC 2005 REVIEW) High water temperatures in drought years and aggressive water withdrawals were blamed for the population drop. The Winter Run was listed as threatened under the ESA in 1989 by National Marine Fisheries Service and reclassified to endangered in 1994.

TABLE B-3. Sacramento River late-fall, winter, and spring chinook salmon spawning escapement estimates in numbers of fish.

	Upper Sacramento River									Grand Totals	
	Late Fall[a/b/]		Winter[a/b/]		Spring						
					Tributary[c/]	Sacramento River[a/d/]		Feather River[d/e/]			
Year or Average	Adults	Jacks	Adults	Jacks	Adults and Jacks[f/]	Adults	Jacks	Adults	Jacks	Adults	Jacks
1971-1975	18,193	1,087	22,863	9,063	5,194	5,098	1,718	366	-	51,714	11,650
1976-1980	9,662	1,798	13,499	2,640	1,201	8,335	2,571	375	-	33,073	7,009
1981-1985	8,102	1,746	5,027	921	1,061	9,798	4,241	1,446	133	25,434	7,040
1986-1990	10,047	1,761	1,369	390	1,658	8,795	1,930	2,884	406	24,753	4,487
1991	7,404	859	192	19	798	607	218	4,148	155	13,149	1,251
1992	9,665	727	1,160	80	1,176	320	51	1,323	174	13,644	1,032
1993	1,093	174	250	137	1,007	275	116	3,943	729	6,568	1,156
1994	751	138	62	124	1,684	509	353	2,785	856	5,791	1,471
1995	307 g/	16 g/	1,267	30	9,398	341	85	5,003	411	16,315	543
1996	1,003 g/	382 g/	708	629	2,322	314	64	5,571	810	9,918	1,886
1997	4,166 g/	412 g/	528	352	1,303	36	90	2,970	683	9,003	1,537
1998	40,185 h/	5,055 h/	2,079	923	23,609	624	491	6,240	506	72,738	6,974
1999	24,475 h/	3,986 h/	822	2,466	6,104	142	117	3,530	201	35,073	6,770
2000	11,060 h/	3,507 h/	563	789	5,504	94	38	3,390	267	20,611	4,601
2001	23,956 h/	998 h/	1,696	3,827	21,430 i/	981	j/	4,052	83	52,115	4,908
2002	39,700 h/	401 h/	7,614	1,555	20,498 i/	430	53	3,982	207	72,224	2,216
2003	9,295 h/	190 h/	6,172	3,585	21,798 i/	l/	l/	8,273	389	45,538	4,164
2004 k/	8,570 h/	238 h/	7,192	1,516	12,546 i/	763	326	3,630	572	32,701	2,652

a/ Estimated number of jacks and adults based on sampling at Red Bluff Diversion Dam (unpublished CDFG data). Beginning in 1987 for late-fall and winter and 1994 for fall, estimates have been based on historical run patterns and partial counts at Red Bluff Diversion Dam, due to the raising of the dam gates during the last part of fall and late-fall runs and first part of the winter run.

b/ Variable numbers of late-fall and winter run are trapped at Keswick Dam and spawned at Coleman or Livingston Stone Hatcheries.

c/ Natural spawning spring run which are isolated from fall run. Primarily Mill, Deer, and Butte Creeks.

d/ Includes fish having characteristics of fall run hybrids. Spawning is not isolated from fall run.

e/ Primarily fish spawned at Feather River Hatchery.

f/ No data available for age composition of tributary spring run.

g/ Primarily number of fish spawned at Coleman hatchery. No data are available for natural spawners, as gates were raised during the time coinciding with late-fall run.

h/ Data from carcass counts of natural spawners and fish spawned at Coleman hatchery.

i/ Includes Butte Creek spring run estimates.

j/ Jack proportion could not be determined.

k/ Preliminary.

l/ Estimates from mainstem Sacramento River not available.

Elements of the plan to recover the Sacramento Winter Run Chinook included: Shasta Dam cold water retrofit to provide cold water year round, modification of operation of Red Bluff Diversion Dam to allow safe passage of salmon most of the year, irrigation canals are screened, reduction of toxins from old mines by installing water treatment plants, and monitoring of the operation of the irrigation pumps on the lower Sacramento/San Jaoquin River delta to minimize sucking out down-stream migrants into the irrigation water system.

Harvest on the Sacramento Winter Runs of Chinook was not direct, but incidental harvest was reduced by 50% from the preceding years resulting in an increase in spawners of 19% to 35%. This required seasons for Recreational fishing to be truncated to reduce incidental catch in the spring months (February and March), as the Winter Run migrated towards the Golden Gate, and an increase in the size limit for Commercial fisheries from July to September (PFMC SALSAFE-04, NMFS, BIOP, March 8, 1996).

The results of the recovery efforts are stunning. In 2000, 5,500 Winter Run Chinook returned and in 2005 there is a predicted run of 15,000 or better (California Department of Fish and Game, November, 2005). In addition to the improvements in the Winter Run, the commercially valuable Fall Chinook escapement has jumped as high as 750,000 salmon. **See Figure II-1.**

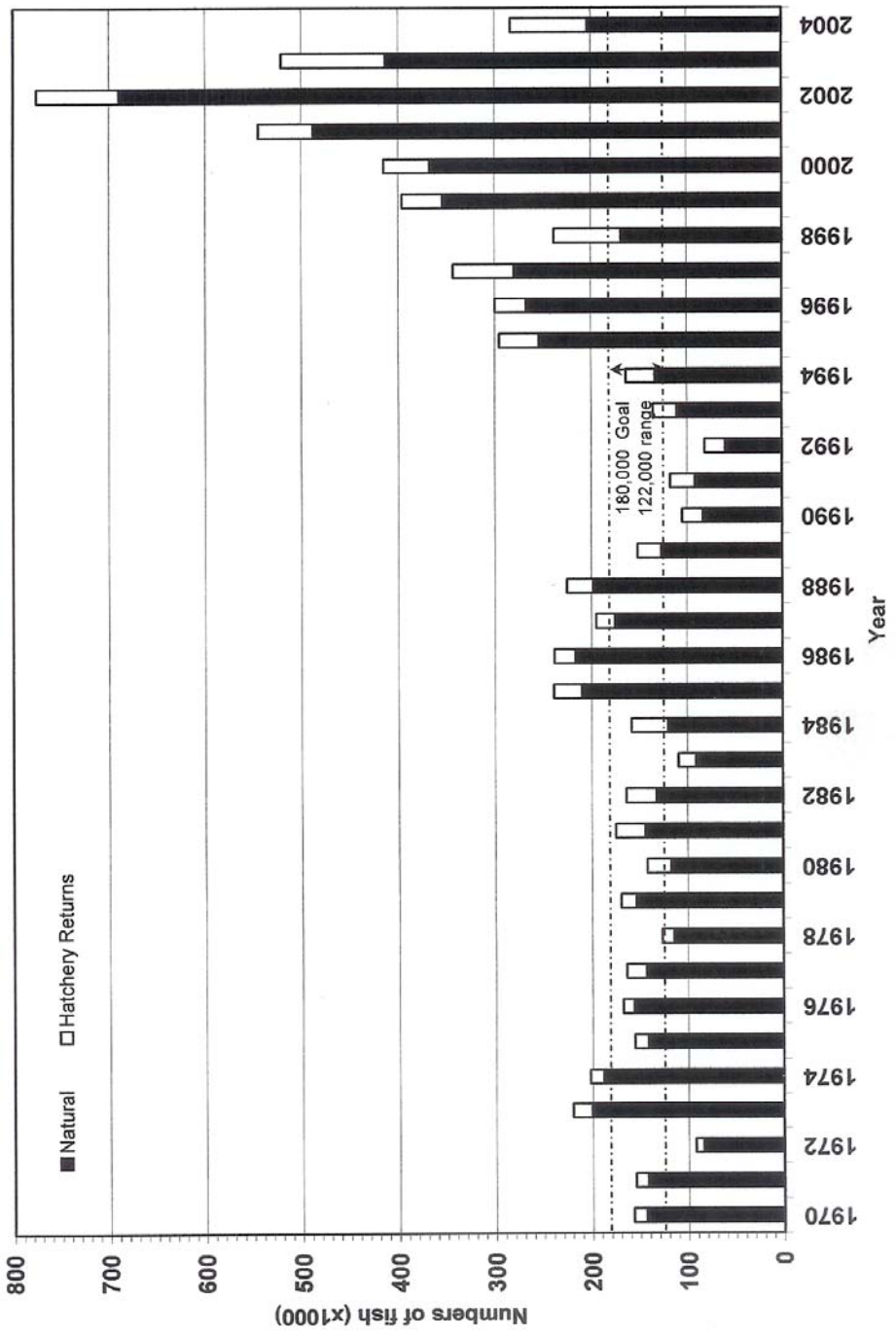


Figure II-1. Sacramento River adult fall chinook spawning escapements, 1970-2004.

Conclusion

The Washington Trollers Association has presented our concerns regarding the review of harvest's role in recovery of listed salmonids in Washington State. Our primary concern is that "majority scientific opinion", the usual way of converting science into action, is being overshadowed by minority scientific opinions. This just stymies action and does not lead to greater scientific understanding of recovery. We are equally concerned that economic justice is being ignored when the committee ignores the welfare of the Coastal Communities. We feel strongly that proportional responsibility needs to be the guiding principle when altering recovery policy. Finally, we feel threatened by the "need to do something" syndrome that accompanies the hearings. Will the Congressmen feel a need to do something just because they have held hearings? We sincerely hope this is not the case, and that the Congressmen will act only if there are clear findings and scientific evidence that point toward corrective action of existing harvest policy.