Washington Department of Fish and Wildlife **Point No Point Treaty Council**

To: Susan Bishop, Keith Schultz

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Date: September 9, 2004

Subject: 2003 progress report on Hood Canal summer chum salmon

This memorandum report is intended to provide information on management activities pertaining to stock assessment and harvest of Hood Canal summer chum for the year 2003. This interim report is relatively brief, providing information currently available. A more detailed and complete presentation, including artificial production and addressing 2004, will be made available as part of the 5 year review report to be distributed in 2005.

Stock Assessment

Escapement: Spawning ground surveys were conducted throughout the summer chum return period to estimate the abundance of summer chum spawners for all known stocks in the Hood Canal and Strait of Juan de Fuca summer chum regions during 2003. Results of the surveys are summarized in Table 1 and regional escapement estimates for the period 1974 through 2004 are described in Table 2 and Figure 1.

The escapements of summer chum in 2003 were remarkable in a number of ways. First, a total of 42,655 summer chum escaped to the region's streams (including fish collected for hatchery broodstock); 35,696 spawners to Hood Canal streams, and 6,959 spawners to Strait of Juan de Fuca streams (Table 2). The 2003 escapements were the highest recorded during the period that total spawner numbers have been estimated (1974-2003); including the pre-decline years. The results across the ESU have been enhanced by the strong returns to the various supplementation programs; however, in 2003 the numbers of natural origin recruits (NOR) far out-numbered hatchery origin recruits (Table 3). Of the 42,655 total summer chum escaping, 31,623 (74.1%) were NORs, and ***there were more natural origin spawners than the highest pre-decline escapement*** (29,209 spawners in 1976). The improved escapements to ESU streams, combined with the high percentage of NORs, suggest a substantial reduction of the extinction risk for this ESU.

Table 1. Estimates of summer chum salmon spawner escapement and returns to Hood Canal and Strait of Juan de Fuca streams, 2003.

Stream	Spawner escapement	Hatchery Broodstock	Return to stream	Comments
Big Beef Cr.	824	72	896	Trap + dead downstream of trap
Anderson Cr.	0	0	0	None observed during WDFW surveys
Dewatto R.	9	0	9	Peak count on 10/2/03
Tahuya R.	0	0	0	None observed during WDFW surveys
Union R.	11,780	136	11,916	Trap
Lilliwaup R.	194	159	353	AUC adjusted for broodstock
Hamma Hamma R.	796	58	854	AUC adjusted for broodstock
Duckabush R.	1,869	0	1,869	AUC
Dosewallips R.	7,066	0	7,066	AUC
Big Quilcene R.	11,745	98	11,843	AUC
Little Quilcene R.	890	0	890	AUC
Chimacum Cr.	558	0	558	AUC
Snow Cr.	304	0	304	Trap + redds downstream of trap
Salmon Cr.	5,521	130	5,651	Trap + redds downstream of trap
JCL Cr.	369	77	446	Trap + redds ds of trap; not including 12 pre-esc. loss
Dungeness R.	0	0	0	pers. comm., R. Cooper, WDFW
Hood Canal total	**35,173**	**523**	**35,696**	
St. Juan de Fuca total	**6,752**	**207**	**6,959**	
HC/SJ Fuca total	**41,925**	**730**	**42,655**	

Table 2. Escapement (including hatchery broodstock))for Hood Canal and the Strait of Juan de Fuca summer chum salmon stocks, 1974-2003.

Return year	Hood Canal escapement	St. of Juan de Fuca escapement	HC/SJF combined
1974	12,281	1,768	14,049
1975	18,248	1,448	19,696
1976	27,715	1,494	29,209
1977	10,711	1,644	12,355
1978	19,710	3,080	22,790
1979	6,554	761	7,315
1980	3,777	5,109	8,886
1981	2,374	884	3,258
1982	2,623	2,751	5,374
1983	899	1,139	2,038
1984	1,414	1,579	2,993
1985	1,109	232	1,341
1986	2,552	1,087	3,639
1987	757	1,991	2,748
1988	2,967	3,690	6,657
1989	598	388	986
1990	429	341	770
1991	747	309	1,056
1992	2,377	1,070	3,447
1993	756	573	1,329
1994	2,429	178	2,607
1995	9,462	839	10,300
1996	20,490	1,084	21,574
1997	8,972	962	9,934
1998	4,001	1,269	5,270
1999	4,114	573	4,687
2000	8,649	983	9,612
2001	12,044	3,955	15,999
2002	11,454	6,955	18,409
2003	35,696	6,959	42,655

Figure 1. Hood Canal and Strait of Juan de Fuca summer chum salmon escapements, 1974-2003.

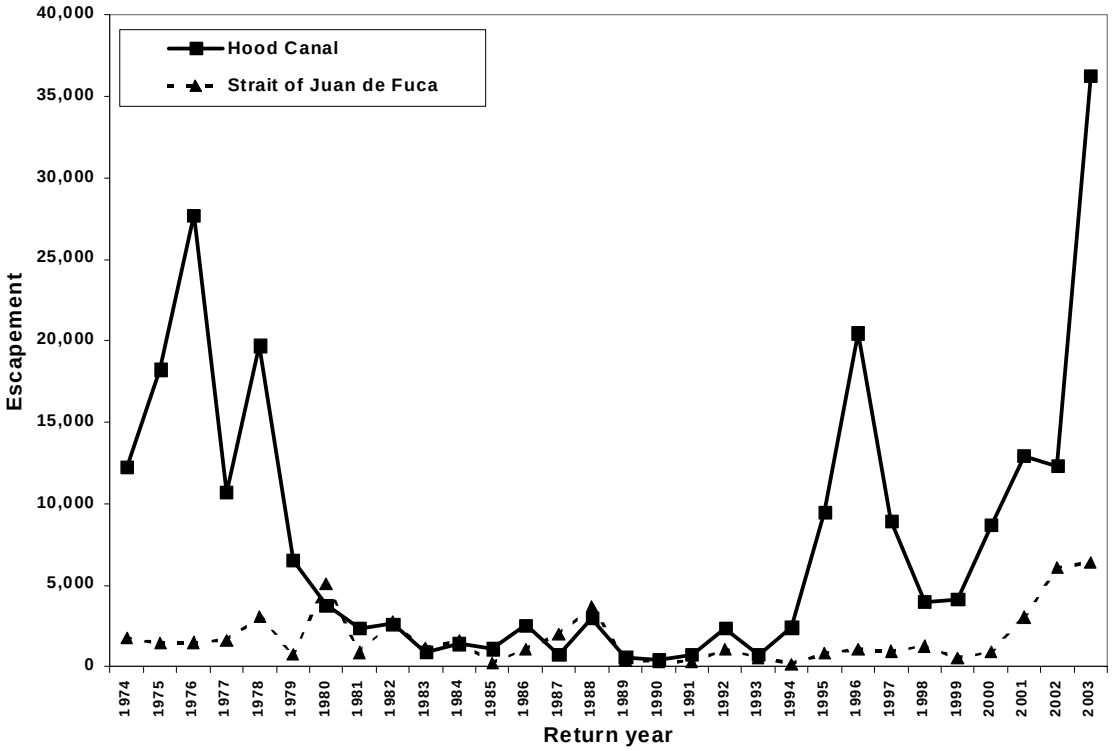

Table 3. Estimated natural origin, supplementation origin, and total escapement (including hatchery broodstock) of summer chum to Hood Canal and Strait of Juan de Fuca streams, 2003. *Natural/supplementation origin estimates are preliminary.*

Stream	Estimated natural origin escapement	Estimated supplementation origin escapement	Total escapement
Big Beef Cr.	0	896	896
Anderson Cr.	0	0	0
Dewatto R.	0	9	9
Tahuya R.	0	0	0
Union R.	7,923	3,993	11,916
Lilliwaup R.	27	326	353
Hamma Hamma R.	536	318	854
Duckabush R.	1,600	269	1,869
Dosewallips R.	6,510	556	7,066
Big Quilcene R.	9,960	1,883	11,843
Little Quilcene R.	780	110	890
Chimacum Cr.	232	326	558
Snow Cr.	203	101	304
Salmon Cr.	3,784	1,867	5,651
JCL Cr.	68	378	446
Dungeness R.	0	0	0
Hood Canal total	**27,336**	**8,360**	**35,696**
Strait of Juan de Fuca total	**4,287**	**2,672**	**6,959**
HC/SJ Fuca total	**31,623**	**11,032**	**42,655**

Runsize: To determine the total numbers of salmon returning to specific production areas, fish that are harvested in mixed stock and terminal fisheries must be allocated to the streams from which they originated. This allocation is done through a post-season process called "run reconstruction," which splits the harvests in each catch area into the numbers of fish that likely were contributed by the individual stocks or management unit thought to be transiting the area. All estimated harvests for each stock or management unit are added to the escapement for that grouping to derive the estimated total return or runsize for each year. A discussion of the run reconstruction methodology can be found in the SCSCI Appendix Report 1.3. Runsize estimates for 2003 along with updated runsize estimates for 2001 and 2002 are provided in an appendix to this report. Table 4 summarizes the estimates of runsizes with escapements by region for 2003 and Table 5 shows regional total runsizes from 1974 through 2003.

Table 4. Regional summer chum runsizes for 2003.

Hood Canal Region Escapement Terminal runsize	35,696 36,021
Hood Canal total runsize	36,260
Strait of Juan de Fuca Region Escapement Terminal runsize	6,959 6,959

Strait of Juan de Fuca total runsize	7,005

Table 5. Total runsizes for Hood Canal and the Strait of Juan de Fuca summer chum salmon stocks (1974-2003).

Return year	Hood Canal runsize	Strait of Juan de Fuca runsize	HC/SJF combined
1974	14,222	1,985	16,207
1975	29,113	1,747	30,860
1976	74,220	1,673	75,893
1977	16,688	1,810	18,498
1978	25,344	3,240	28,584
1979	9,513	900	10,413
1980	13,026	5,574	18,600
1981	5,875	1,139	7,014
1982	8,331	3,540	11,871
1983	3,545	1,217	4,762
1984	3,372	1,707	5,079
1985	4,424	411	4,835
1986	7,832	1,217	9,049
1987	3,971	2,181	6,152
1988	5,680	4,129	9,809
1989	4,473	795	5,268
1990	1,564	528	2,092
1991	2,199	424	2,623
1992	3,376	1,394	4,770
1993	871	643	1,514
1994	2,959	214	3,173
1995	9,984	882	10,866
1996	21,056	1,106	22,162
1997	9,373	985	10,358
1998	4,274	1,316	5,590
1999	4,527	577	5,104
2000	9,506	987	10,493
2001	13,375	3,982	17,357
2002	13,170	6,981	20,151
2003	36,260	7,005	43,265

Genetic Stock Identification: During 2003, the Co-managers continued GSI allozyme and/or DNA collections of summer chum spawners throughout the region. Table 6 describes the number of GSI samples collected in 2003 as well as the number of samples for otoliths and scales. The sampling locations and collection methods are also shown in the table. Processing and analysis of the 2003 GSI samples is not yet complete, but the results will be provided in the upcoming 5 year review report.

[NDL1]

Table 6. Genetic, otolith, and scale collections made from adult summer chum salmon in Puget Sound fisheries and eastern Strait of Juan de Fuca and Hood Canal streams, 2003.

		GSI	Sample size				
Stream	**WRIA**	**code**	**Allozyme**	**DNA**	**Otolith**	**Scales**	**Collection method**
Catch Area 7/7A	--	--	203[1]	203[1]	203[1]	203[1]	Reef net
Dungeness River	18.0018	--	0	0	0	0	Spawner survey
Jimmycomelately[2]	17.0825	03FB	0	97	199	189	Trap, foot survey
Salmon Cr.[2]	17.0245	03FC	0	130	361	361	Trap, foot survey
Snow Cr.	17.0219	03FD	0	0	72	77	Foot survey
Chimacum Cr.[2]	17.0203	--	0	0	122	126	Foot survey
Thorndyke Cr.	17.0170	--	0	0	0	0	Foot survey
Little Quilcene R.	17.0076	03FE	0	0	86	139	Foot survey
Big Quilcene R.[2]	17.0012	--				396	Seine (Quilcene Bay)
Dosewallips R.	16.0442	03FF	0	171	238	493	Foot survey
Duckabush R.	16.0351	03FG	0	80	170	309	Foot survey
Fulton Cr.	16.0332	--	0	0	0	0	Foot survey
Hamma Hamma R.[2]	16.0251	03FH	0	107	164	223	Seine, foot survey
Lilliwaup R.[2]	16.0230	03FI	0	141	244	247	Trap, foot survey
Little Lilliwaup	16.0228	--	0	0	0	0	Foot survey
Union R.[2]	15.0503	03FJ	0	177	405	476	Trap, foot survey
Stavis Cr.	15.0404	--	0	0	0	0	Foot survey
Dewatto R.	15.0420	03FL	0	0	2	3	Foot survey
Big Beef Cr.[2]	15.0389	03FM	0	72	163	222	Trap, foot survey
Little Anderson	15.0377	--	0	0	0	0	Foot survey
Totals			**203**	**1,178**	**2,429**	**3,464**	

[1] Allozyme results indicate 13.9% (+/- 7.3%) of chum sampled in Area 7/7A reef net fishery were from Hood Canal summer chum ESU.

[2] Stream has supplementation or reintroduction program.

Biological Data (Age, Size and Sex): The scale collections made from summer chum salmon in eastern Strait of Juan de Fuca and Hood Canal streams during 2003 are shown in Table 6. Age composition determined from the 2003 scale collections are presented in Table 7. Information is also available on the size (fork length) and sex ratio for each stock, but these data have not yet been summarized. A summary will be provided in the 5 year review report.

Table 7. Age composition for summer chum salmon sampled from eastern Strait of Juan de Fuca and Hood Canal streams, 2003.

Stream	WRIA	Number sampled	Age 2		Age 3		Age 4		Age 5		Total
			No.	%	No.	%	No.	%	No.	%	No. aged
Dungeness River	18.0018	0									0
Jimmycomelately*	17.0825	189	10	5.3%	116	61.4%	63	33.3%	0	0.0%	189
Salmon Cr.*	17.0245	361	2	0.6%	259	72.3%	94	26.3%	3	0.8%	358
Snow Cr.	17.0219	77	0	0.0%	57	74.0%	20	26.0%	0	0.0%	77
Chimacum Cr.*	17.0203	126	2	1.6%	68	55.3%	52	42.3%	1	0.8%	123
Thorndyke Cr.	17.0170	0									0
Little Quilcene	17.0076	139	1	0.7%	87	63.0%	50	36.2%	0	0.0%	139
Big Quilcene R.*	17.0012	396	0	0.0%	282	71.2%	112	28.3%	2	0.5%	396
Dosewallips R.	16.0442	493	4	0.8%	356	74.5%	117	24.5%	1	0.2%	478
Duckabush R.	16.0351	309	0	0.0%	208	68.4%	96	31.6%	0	0.0%	304
Fulton Cr.	16.0332	0									0
Hamma Hamma R.*	16.0251	223	2	1.0%	91	43.5%	115	55.0%	1	0.5%	209
Lilliwaup R.*	16.0230	247	7	2.9%	179	74.6%	54	22.5%	0	0.0%	240
Litl. Lilliwaup	16.0228	0									0
Union R.*	15.0503	476	1	0.2%	416	94.3%	23	5.2%	1	0.2%	441
Stavis Cr.	15.0404	0									0
Dewatto R.	15.0420	3	0	0.0%	1	100.0%	0	0.0%	0	0.0%	1
Big Beef Cr.*	15.0389	222	4	1.8%	189	87.1%	24	11.1%	0	0.0%	217
Little Anderson	15.0377	0									0

* Stream has supplementation or reintroduction program.

Mark Recovery: Summer chum fry from all supplementation and reintroduction programs are differentially marked to allow supplemented fish to be distinguished from natural-origin fish when sampled as adults in fisheries, at broodstock traps, and on the spawning grounds. For the supplementation program on Big Quilcene River, all fry have been adipose-fin-clipped beginning with brood year 1997. The summer chum released from all other supplementation programs, have their otoliths thermally mass-marked at the embryo stage. Examination of otoliths recovered from spawned adults or checking adults for presence/absence of adipose fins provides a method to separate the number of supplementation (hatchery) fish from the number of naturally spawning fish and assists in determining the contribution of the supplementation program to the summer chum population. In addition, adipose-fin-clipping and otolith-marking makes it possible to determine the level of straying of supplementation program-origin fish to other drainages.

Marked summer chum adults produced in the supplementation or reintroduction programs began returning to streams mostly during 2000, 2001, and 2002; the exceptions are Salmon Creek which had marked adults returning beginning in 1996, Union River which had marked adults returning beginning in 2003, and Tahuya River which will not have program returns until 2006 (Table 8).

Table 8. Brood years that summer chum salmon supplementation or reintroduction programs and mass marking of fry releases (otolith marking or adipose clipping) were initiated and terminated in Hood Canal and eastern Strait of Juan de Fuca streams; and the first year marked adults from the programs are/were expected to return.

Supplementation/reintroduction program	Brood year program initiated	Brood year mass marking initiated	First year marked adults to return[1]	Brood year program terminated
Salmon Creek	1992	1993	1996	2003
Big Quilcene River[2]	1992	1997	2000	2003
Lilliwaup Creek[3]	1998	1997	2000	
Chimacum Creek	1996	1999	2002	2003
Big Beef Creek	1996	1998	2001	
Hamma Hamma Creek	1997	1997	2000	
Jimmycomelately Creek	1999	1999	2002	
Union River	2000	2000	2003	
Tahuya River	2003	2003	2006	

[1] First year of returning age 3 fish is shown. Most adults return at ages 3 and 4, with perhaps a few at ages 2 and 5.
[2] Adipose clip.
[3] Attempts to initiate supplementation efforts at Lilliwaup began in 1992, but broodstock collection efforts were largely unsuccessful until the 1998 brood, when a functional trap was first installed on the creek.

The numbers of summer chum salmon sampled for otoliths during 2003 in eastern Strait of Juan de Fuca and Hood Canal streams are shown in Table 6. In addition, all fish sampled for scales (except possibly those sampled in Catch Area 7/7A) were also sampled for adipose-clips. An initial compilation and preliminary analysis of the marking data was completed to provide estimates of natural and supplementation origin spawners by stream (Table 3). An update of that analysis and additional analyses of straying will be completed in time for inclusion in the 5 year review report.

Harvest Management

The year 2003 was the fourth year in which the Base Conservation Regime (BCR), described in the SCSCI, was implemented and the results again can be described as very good. Tables 9 and 10 provide a final overview for the year 2002 and a preliminary overview for 2003, of the preseason estimates which triggered the various management responses, as well as the post-season estimates of results. As indicated, the information for 2003 is preliminary and subject to revision, once commercial catch data are verified and recreational catch data are included. Tables 11 and 12 show the estimated annual harvest of summer chum salmon, by management unit and fishery. Table 13 provides an overview of exploitation rates, relative to the BCR targets, for 2001 through 2003. Since the 2002 information presented here has not appreciably changed from the preliminary 2002 information previously reported, and does not affect the previously reported conclusions (WDFW and PNPTT 2003), the following discussion addresses only the year 2003.

Table 9. Post-season assessment of forecasts, recruitment, and escapement by summer chum salmon harvest management unit in the year 2002.

Management Category	Sequim	Discovery	Chimacum	Quilcene	Mainstem Hood Canal	SE Hood Canal
Preseason Recruit Forecast	112	1,356	333	5,230	1,941	675
Postseason Recruit Estimate [1]	42	6,072	867	6,050	6,220	890
Forecast Error	166.7%	-77.7%	-61.6%	-13.6%	-68.8%	-24.2%
Expected Escapements [2]	38	5,538	791	4,013	5,542	778
Est. Escapement	42	6,049	864	4,487	6,095	872
BCR Escapement Target Exceedance	9.6%	9.2%	9.3%	11.8%	10.0%	12.1%
Estimated Exploitation Rate [1]	0.0%	0.4%	0.3%	25.8%	2.0%	2.0%

1 Post season recruit estimates are preliminary and will be revised upwards when recreational harvest estimates are added. Estimates are rounded to nearest 1/10th of 1%.

2 Expected escapements are generally those that would result from application of BCR expected exploitation rates. In the case of Quilcene, it was assumed that up to 50% of the entry after mid-September could have been considered "harvestable".

Table 10. Post-season assessment of forecasts, recruitment, and escapement by summer chum salmon harvest management unit in the year 2003.

Management Category	Sequim	Discovery	Chimacum	Quilcene	Mainstem Hood Canal	SE Hood Canal
Preseason Recruit Forecast	92	2,573	467	5,974	3,320	834
Postseason Recruit Estimate [1]	449	5,994	562	13,035	11,124	11,999
Forecast Error	-79.5%	-57.1%	-16.9%	-54.2%	-70.2%	-93.0%
Expected Escapements [2]	409	5,467	513	5,759	9,911	10,487
Est. Escapement	446	5,955	558	12,733	11,047	11,916
BCR Escapement Target Exceedance	8.9%	8.9%	8.9%	121.1%	11.5%	13.6%
Estimated Exploitation Rate [1]	0.7%	0.7%	0.7%	2.3%	0.7%	0.7%

[1] Post season recruit estimates are preliminary and will be revised upwards when recreational harvest estimates are added. Estimates are rounded to nearest 1/10th of 1%.

[2] Expected escapements are generally those that would result from application of BCR expected exploitation rates. In the case of Quilcene, it was assumed that up to 50% of the entry after mid-September could have been considered "harvestable".

Table 11. Summer chum salmon harvest, in 2002, by management unit and fishery.

Fishery	Sequim	Discovery	Chimacum	Quilcene	Mainstem Hood Canal	SE Hood Canal
Canada	0	12	1	12	13	2
U.S. Mixed	0	11	2	11	11	2
Terminal	0	0	0	98	101	14
Extreme Terminal	0	0	0	1,442	0	0

Table 12. Summer chum salmon harvest, in 2003, by management unit and fishery. [1]

Fishery	Sequim	Discovery	Chimacum	Quilcene	Mainstem Hood Canal	SE Hood Canal
Canada	0	4	1	10	8	9
U.S. Mixed	3	35	3	76	65	70
Terminal	0	0	0	5	4	4
Extreme Terminal	0	0	0	211	0	0

[1] Post season harvest estimates are preliminary and will be revised upwards when recreational harvest estimates are added.

Table 13. Post season assessment of exploitation rates for 2001 through 2003, relative to BCR target levels.

Management Unit	Exploitation Rates			
	BCR Target	2001 Est.	2002 Est.	2003 Est. [1]
Sequim	8.8%	0.8%	0.0%	0.7%
Discovery	8.8%	0.7%	0.4%	0.7%
Chimacum	na	na	0.3%	0.7%
Quilcene	15.2%	16.1%	25.8%	2.3%
Mainstem HC	10.9%	1.7%	2.0%	0.7%
Southeast HC	12.6%	1.6%	2.0%	0.7%

[1] Based on preliminary harvest data; recreational catch not included. Rates rounded to nearest 1/10th of 1%

Preseason Estimates and Planning: The 2003 preseason forecasts indicated that only the Sequim management unit (MU) abundance would fall short of its critical threshold. The preseason forecasts are presented in the Hood Canal and Strait of Juan de Fuca Framework Management Plan and Salmon Runs' Status reports (PNPTC and WDFW 2003; PNPTC, WDFW and Makah Tribe 2003). Within the Mainstem Hood Canal MU, only the Duckabush stock's 2002 escapement fell below its minimum escapement flag (2002 escapement of 530 compared to minimum escapement flag of 700).

Preseason planning by the co-managers, in the PFMC/NOF process, focused on harvest management provisions for U.S. fisheries which were generally adopted in conformity with those found in Tables 3.29 - 3.34 of the SCSCI. Following co-manager consultation and review of fishery proposals, no additional measures were identified to address units predicted to be below the critical threshold. Provisions not implemented in 2003 included the release of chum salmon in the 2001 Area 4 nontreaty troll fisheries and release of chum salmon from treaty Indian seines in Areas 7 and 7A. However, there appears to be no indication, given presently available data that any significant numbers of summer chum salmon were caught in these fisheries. A detailed description of the adopted measures for terminal areas can be found in the aforementioned co-managers' 2003 Management Framework Plan and Salmon Runs' Status reports, one for each of the two Puget Sound regions concerned: Strait of Juan de Fuca and Hood Canal. For pre-terminal fishery plans and agreements, a summary can be found in the summary fishing agreement for treaty and nontreaty fisheries in the Ocean, North of Cape Falcon, and in Puget Sound (WDFW and Western Washington Treaty Tribes 2003).

Inseason and Post-season Estimates and Management Actions: Estimated exploitation rates for Canadian fisheries were well below the level of BCR. In U.S. mixed stock areas the exploitation was also well below the BCR level. Finally, in terminal areas, exploitation rates were also well below the BCR levels except for the Quilcene MU; however, as with other management units, the expected escapements for the Quilcene MU were exceeded in 2003 (Tables 11, 12, and 13).

In 2003, post-season estimates of recruitment were higher than the pre-season forecasts for all MUs, (Table 10). Forecasts were exceeded by anywhere from 17% (Chimacum MU) to 93% (SE Hood Canal MU). The higher than predicted abundance resulted in the critical threshold being exceeded for all MUs. However, within the Mainstem Hood Canal MU, Hamma Hamma escapement was at 82% of its "flag" threshold. The 2003 post- season abundance estimates are preliminary and will become higher when recreational harvest estimates become available and are added to the total.

During the 2003 season, no changes were made from the initially adopted plans. Using provisions of the BCR, an inseason projection of escapement to the Quilcene MU was made. The projections indicated that escapement would be significantly above the thresholds provided in the SCSCI for fishery modification. Coho fishery regulations were somewhat relaxed, permitting the continued use of gillnets by the Treaty Indian fishery. However, gillnet effort was very low. Summer chum mortality in Area 12A was mostly incidental to beach seine

fisheries, where the high abundance and incidence of summer chum may have contributed to higher mortality. Provisions were also made for coho harvest in the Quilcene River, immediately below the hatchery.

With the exception of the Quilcene MU, where separate management provisions apply, escapement rates varied between the MUs, ranging from 97.7% to 99.3% (incomplete results). In the Quilcene MU, the escapement rates in 2002 (updated) and 2003 were 74.2% and 97.7% respectively. Therefore, fisheries in 2003 did not exacerbate conditions for any of the units whose abundance was below the critical threshold.

Information Sources: Harvest contributions were estimated using the same methods as those used during the preparation of the SCSCI. No additional information became available for use in this task.

Harvest information was based on a number of sources. For Canadian fisheries, catches were reported by PSC (Jim Cave - PSC, Leroy HopWo - CDFO; personal communication to Nick Lampsakis). For pre-terminal and terminal US fisheries, the co-managers relied on fish ticket data. For US recreational fisheries, the co-managers relied on the WDFW catch record card expanded information for the completion of annual runsize reconstructions. For 2003, this information will be used to update estimates, when it becomes available.

Monitoring: In addition to catch record data, pre-terminal and terminal area commercial catches were sampled at buying stations, as part of a CWT recovery program, and any chum salmon were recorded. In recreational fisheries, sampling was used primarily in Areas 5, 6, 12, 12A, 12B and 12C to estimate encounters.

No summer chum biological data were collected in fisheries, primarily because of the scarcity of catch and the difficulties involved in setting up biological sampling programs for very small numbers of fish.

Compliance and Enforcement: All parties adopted regulations in accordance with the preseason plan and SCSCI. Compliance by the parties was as specified in the SCSCI and in the implementation of enforcement no significant violations were indicated.

In the Strait of Juan de Fuca and Hood Canal terminal and extreme terminal areas where summer chum salmon are likely to be present in significant quantities, additional fishery patrol efforts were directed by the treaty Tribes and WDFW. More specifically, areas covered during the months of August and September, included Dungeness Bay, Sequim Bay, Discovery Bay, Quilcene Bay and River, Area 12C and numerous rivers where summer chum salmon would be present.

Tribal patrol officers placed particular emphasis on contacting tribal fishers, to inform them of the need to release all live chum salmon. An effort was also made to inspect catches, where

available, during nearshore fishing operations. To monitor the fisheries and protect summer chum returning to spawn, WDFW enforcement personnel conducted emphasis patrols on the coho-directed sport fishery in the Big Quilcene River and routinely patrolled Hood Canal marine waters during the 2003 season. The overall assessment was that the fisheries were orderly, the area closure on the lower Big Quilcene River (downstream of Rodgers Street) to protect summer chum worked well, and compliance improved as citations were issued.

References

Point No Point Treaty Council (PNPTC) and Washington Department of Fish and Wildlife (WDFW). 2003. 2003 Management Framework Plan and Salmon Runs' Status for the Hood Canal Region. Management Report, PNPTC and WDFW. October, 2003. 48 p

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Appendix

Run Reconstruction Tables, 2001 - 2003

2001	Harvest		12	0	0	59	1,036	62	62	0	0	0		10	18	36	65

				********** Run Abundance by Location **********														
Mgmt Unit	**Prod. Unit**	Escapement	Broodstock	82G/J	12D	12C	82F	12A	12B	12	9A	Discov.	Seqm.	Term.	Area 10	Area 9	US Conv.	CDN Ar.20
Skokomish	Skokomish	3		15		15			15	15	15			* 15	15	15	15	15
12D	Tahuya	0			0	0			0	0	0			1,505	1,506	1,508	1,511	1,516
	Union	1,426	65		1,491	1,491			1,498	1,505	1,505							
12A	L. Quilcene	199						231	232	233	233			7,538	7,544	7,551	7,567	7,595
	B. Quilcene	5,868	306				6,233	7,237	7,271	7,305	7,305							
12-12B-12C	Big Beef	826	68						898	902	902			4,216	4,219	4,224	4,232	4,248
	Anderson	0							0	0	0							
	Dosewallips	990							995	999	999							
	Duckabush	942							946	951	951							
	HammaHamma	1,173	54						1,233	1,238	1,238							
	Lilliwaup	32	60			92			92	93	93							
	Dewatto	32				32			32	32	32							
Chimacum	Chimacum	903												903		904	906	909
Discovery	Snow	154										154		2,792		2,795	2,801	2,811
	Salmon	2,484	154									2,638						
Sequim	Jimmycomelately	192	68										260	260		260	261	262
Totals		15,224	775	15	1,491	1,630	6,233	7,468	13,213	13,274	13,274	2,792	260	17,229	13,284	17,257	17,292	17,357
	Hd Canal Portion	11,491	553											13,274	13,284	13,297	13,325	13,375
	E. Strait Portion	3,733	222											3,955		3,959	3,967	3,982

2002	**Harvest**		10	0	0	5	1,437	0	214	0	0	0		0	5	30	41		

************ Run Abundance by Location ************

Mgmt Unit	**Prod. Unit**	Escapement	Broodstock	82G/J	12D	12C	82F	12A	12B	12	9A	Discov.	Seqm.		Term.	Area 10	Area 9	US Conv.	CDN Ar.20
Skokomish	Skokomish	0		10		10			10	10	10			*	10	10	10	10	10
12D	Tahuya	0			0	0			0	0	0				886	886	887	888	890
	Union	807	65		872	872			872	886	886								
12A	L. Quilcene	470						620	620	631	631				6,027	6,027	6,029	6,038	6,050
	B. Quilcene	3,662	355				4,022	5,309	5,309	5,397	5,397								
12-12B-12C	Big Beef	677	65						742	754	754				6,196	6,196	6,198	6,207	6,220
	Anderson	0							0	0	0								
	Dosewallips	1,627							1,627	1,654	1,654								
	Duckabush	530							530	539	539								
	HammaHamma	2,260	68						2,328	2,367	2,367								
	Lilliwaup	775	83			858			858	872	872								
	Dewatto	10				10			10	10	10								
Chimacum	Chimacum	864													864		864	866	867
Discovery	Snow	532										532			6,049		6,051	6,060	6,072
	Salmon	5,389	128									5,517							
Sequim	Jimmycomelately	6	36										42		42		42	42	42
Totals		17,609	800	10	872	1,750	4,022	5,929	12,906	13,120	13,120	6,049	42		20,075	13,120	20,080	20,110	20,151
	Hd Canal Portion	10,818	636												13,120	13,120	13,123	13,143	13,170
	E. Strait Portion	6,791	164												6,955		6,957	6,967	6,981

2003	**Harvest**		101	0	0	0	211	0	0	13	0	0			0	0	253	33

************ Run Abundance by Location ************

Mgmt Unit	**Prod. Unit**	Escapement	Broodstock	82G/J	12D	12C	82F	12A	12B	12	9A	Discv.	Seqm.		Term.	Area 10	Area 9	US Conv.	CDN Ar.20
Skokomish	Skokomish	0		101		101			101	101	101			*	101	101	101	102	102
12D	Tahuya	0			0	0			0	0	0				11,920	11,920	11,920	11,990	11,999
	Union	11,780	136		11,916	11,916			11,916	11,916	11,920								
12A	L. Quilcene	890						905	905	905	905				12,949	12,949	12,949	13,025	13,035
	B. Quilcene	11,745	98				11,843	12,039	12,039	12,039	12,044								
12-12B-12C	Big Beef	824	72						896	896	896				11,051	11,051	11,051	11,116	11,124
	Anderson	0							0	0	0								
	Dosewallips	7,066							7,066	7,066	7,069								
	Duckabush	1,869							1,869	1,869	1,870								
	HammaHamma	796	58						854	854	854								
	Lilliwaup	194	159			353			353	353	353								
	Dewatto	9				9			9	9	9								
Chimacum	Chimacum	558													558		558	561	562
Discovery	Snow	304										304			5,955		5,955	5,990	5,994
	Salmon	5,521	130									5,651							
Sequim	Jimmycomelately	369	77										446		446		446	449	449
Totals		41,925	730	101	11,916	12,379	11,843	12,944	36,008	36,008	36,021	5,955	446		42,980	36,021	42,980	43,233	43,265
	Hd Canal Portion	35,173	523												36,021	36,021	36,021	36,233	36,260
	E. Strait Portion	6,752	207												6,959		6,959	7,000	7,005

[NDL1]I know this makes the table look bigger and indicates lots of effort, but I just don’t see the point in listing systems where no sample of any sort was collected and where no summer chum run exists.