

DRAFT

REPORT OF THE CHINOOK TECHNICAL COMMITTEE

TO

THE PACIFIC SALMON COMMISSION'S

SOUTHERN AND NORTHERN PANELS

January 21, 1986

## EXECUTIVE SUMMARY

This report was prepared by the Joint Chinook Technical Committee to summarize the performance of 1985 fisheries, 1985 spawning escapements, preliminary expectations for 1986 stock abundance and some comments concerning current management issues.

### 1985 FISHERY PERFORMANCE

Summary 1985 chinook catch statistics for troll, net and sport fisheries by area are presented in Table 1. The total 1985 chinook catch in all areas north of Cape Falcon, Oregon was 439,000 (19%) lower than the 1984 level. Stock specific impacts are not available.

### Fisheries Under Pacific Salmon Treaty Catch Ceilings

Actual catches are compared with harvest ceilings for fisheries and management areas specified in the Pacific Salmon Treaty in the table below:

AREA AND FISHERY	(THOUSAND FISH)		DIFFERENCE	
	CEILING	CATCH	#'s	%
Southeast Alaska (T,N,S)a/	263	276	13	+5
	269 b/	276	7	+3
North/Central B.C. (T,N,S)	263	277	14	+5
West Coast Vancouver Is (T)	360	359	<1	<1
Georgia Strait (T,S)	275	292	17	+6

a/ T=Troll; N=Net; S=Sport

b/ Adjusted for hatchery add-on of 6,000.

### Other Fisheries

#### British Columbia

Southern Net: The incidental catch of chinook in Johnstone Strait net fisheries increased in 1985 in spite of reduced effort. The Juan de Fuca and Area 29-Fraser catch exceeded recent catch levels. The Barkley Sound (Area 23) net fishery was minor in 1985, limited to a one day test fishery directed at chinook.

Native Food Fisheries: The aggregate catch of chinook salmon in native food fisheries in British Columbia was 41,012 (excluding minor catches in Johnstone Strait-Georgia Strait and part of West Coast Vancouver Island).

Other Sport: Tidal sport catches for Johnstone Strait and the West Coast of Vancouver Island other than Barkley Sound are not available. Non-tidal sport data are not currently available, and are not included in

B.C. sport totals.

Washington/Oregon:

Ocean Fisheries North of Cape Falcon: Far northerly migrating chinook stocks are taken incidently to harvests directed at Columbia River tule and Puget Sound stocks. In 1985, ocean troll and sport fisheries in the area north of Cape Falcon were managed under quotas established in response to concerns for the Spring Creek Tule Hatchery stock.

Ocean Fisheries South of Cape Falcon: Ocean fisheries in the area between Cape Falcon and Cape Blanco were designed to increase harvest opportunity on healthy northern migrating stocks. Troll fisheries from Cape Blanco to Point Delgada were closed to protect depressed Southern Oregon/Northern California stocks.

Puget Sound: Sport and net fisheries in Puget Sound continued to be restricted due to concerns for critically depressed spring chinook stocks. With several exceptions, Puget Sound summer/fall chinook are generally healthy and support inside sport and net fisheries.

Washington Coast: Washington coastal stocks on the Quillayute, Hoh, and Queets Rivers are managed on the basis of escapement floors and terminal exploitation rates. With the exception of the Quillayute spring/summer run, these coastal stocks are not of immediate conservation concern. Fisheries on this stock were primarily limited to incidental harvests taken during a fishery directed at summer steelhead. No directed commercial fisheries were conducted on Grays Harbor fall chinook. Grays Harbor spring chinook remain a problem; the only terminal harvest of this stock was a small quantity taken by river sport fisheries and by Indian fisheries on the Chehalis Reservation.

Columbia River: Columbia River chinook fisheries were conducted on several races and stocks. There was no directed commercial fishery on upriver spring chinook in 1985. There was a ceremonial and subsistence fishery for upriver spring chinook at a level equal to recent years. The improved adult count of spring chinook at Bonneville Dam was transferred into a 285% increase over 1984 escapement into the Snake River basin (as measured at Ice Harbor Dam). The incidental harvest of summer chinook was minimal and escapement remained at recent year levels. Columbia River commercial fall fisheries increased somewhat reflecting an improved upriver bright fall chinook run, however, harvests of tule stocks were restricted due to concerns

over escapements to Spring Creek Hatchery.

## SPAWNING ESCAPEMENTS

Estimates for 1982-1985 spawning escapements for chinook stocks of relevance to the Pacific Salmon Treaty are summarized in Table 2. Part A of Table 2 contains escapements for stocks of immediate conservation concern. Part B contains escapements for stocks which are not of immediate conservation concern.

Southeast Alaska: Chinook salmon escapements in 1985 to Southeast Alaska and Canadian portions of Transboundary River systems showed improvements in 5 of 11 index systems. The 1985 escapement to all systems was 48% above the pre-rebuilding 1975-1980 level. Of the three transboundary rivers, the Taku and Stikine showed improved escapements while the Alsek decreased relative to 1984 levels. Behm Canal index systems continued to show a strong recovery while index tributaries of the Chilkat and King Salmon Rivers showed significant declines relative to 1984. Overall, the 15 year rebuilding program established by Alaska in 1981 appears to be on schedule.

British Columbia: Escapements of British Columbia chinook stocks in 1985 increased by an average of 29% over 1984. While most stocks appear to be rebuilding, a number of major stocks are not responding to current management action (late timing middle Fraser stocks, Georgia Strait and West Coast Vancouver Island hatchery and natural fall chinook). A similar pattern of differential rebuilding was noted in the 1984 chinook technical report and appears to be related to run timing and the distribution of fishing effort.

Puget Sound: Puget Sound natural chinook stock escapements were similar to those during the years 1981-1984. Stocks that were previously depressed continued to return at 50-60% of their escapement goals and stocks that were not previously depressed met their escapement goals. There were no major changes in escapement although preliminary estimates indicate that Skagit springs were higher than expected and that Green River summer/falls were lower than expected.

Washington Coast: Washington coastal stocks continued to return at recent year levels. Preliminary data indicate that escapement goals were achieved for all stocks except Grays Harbor spring and Quillayute Spring/Summer stocks. Based on preliminary data, it appears that the Grays Harbor fall chinook run returned at levels substantially above those of the early 1980's and achieved the escapement goal for the second straight year.

Columbia River: Columbia River stocks also show a mixed response to rebuilding efforts. Escapement needs for spring chinook were met for both lower river hatchery stocks

(Willamette and Cowlitz). The Bonneville Dam count of 83,100 upriver spring adults was a significant increase over the record low count of 46,800 in 1984, but still below the escapement goal of 120,000. The 1985 run was more than 50% hatchery fish, but natural escapement also increased in the Snake River Basin. The 1985 return of 24,800 summer adult chinooks over Bonneville Dam was the largest since 1980, slightly above the 1984 run of 22,400. The run was, however, far below the escapement goal of 85,000. The upriver fall bright escapement of 94,600 was the largest since 1960 and exceeded the spawning escapement goal at McNary Dam by approximately 135%. The egg take goal for the Spring Creek Hatchery stock (tule fall chinook) was not met for the first time in ten years. The 1985 adult return to Spring Creek hatchery was 5,397 (compared to a goal of 8,200 and a ten year average of 15,814). The Lower River Hatchery stock (tule fall chinook) met their egg take goal with the exception of a 20% shortfall at Bonneville Hatchery. The Bonneville Hatchery tule adult return was 8,739 (compared to a ten year average of 19,758).

Oregon Coast: Escapement of Oregon coastal north-migrating chinook stocks (mostly fall run natural fish) are expected to be well above record 1984 returns. Preliminary analysis of index streams indicates 130 spawning adults per index mile compared to 94 adults per mile in 1984; and increase of 38%.

#### PRELIMINARY EXPECTATIONS FOR 1986

Preliminary qualitative forecasts for 1986 are presented below. For most stocks, quantitative forecasts are not made; for a small number of stocks, quantitative forecasts are scheduled to become available this spring. These preliminary forecasts may change within the next two months, but general comments concerning stock status are not expected to change drastically.

STOCK -----	Preliminary 1986 Expectations -----
Southeast Alaska Transboundary	Generally above recent year levels Generally above recent year levels
British Columbia	Returns in 1986 will largely result from escapements previous to the rebuilding program. Abundance of fall chinooks from the Straits of Georgia and the West Coast of Vancouver Island are expected to be reduced. Production from some hatcheries will be increasing, but will not contribute significantly to abundances in mixed-stock fisheries of concern. Total run strength of B.C. chinooks will likely not be perceptively different from 1984 and 1985 levels.
Puget Sound	Spring stocks very poor. Summer/Fall average, except for very poor run expectations for Green/Duwamish
Washington Coastal	Generally at recent year average levels. Grays Harbor spring and Quillayute spring/summer stocks continued to be depressed.
Columbia River	Upriver brights, very good. Upper Columbia Springs, improved, but still poor. Upriver summers, very poor. Spring Creek, very poor. Bonneville Hatchery, very poor.
Oregon	Generally healthy.

Alaska: Limited information exists to forecast chinook salmon run strength to Southeast Alaska and Transboundary river systems. Brood year escapements to index areas and returns to date do suggest, however, that abundance in 1986 will continue the trend of improvements seen since 1980.

British Columbia: Returns to later timing middle Fraser stocks and Georgia Straight fall chinook are not expected to increase and may continue to decline unless additional management actions are taken. Jack returns to Robertson Creek in 1985 continued a declining trend which began in 1981 and appear to be extremely depressed. This suggests that the 1983 brood year survival will be well below average. Robertson Creek chinook have contributed heavily in the past to northern B.C. and Southeast Alaskan troll fisheries and there is concern that a failure of the Robertson Creek stock will increase harvest rates on other

stocks contributing to Southeast Alaskan and Northern British Columbia fisheries.

Puget Sound: Spring chinook stocks are expected to remain depressed. Most natural stocks of summer-fall chinook salmon originating from Puget Sound are expected to return at levels similar to 1981-84 averages. Stocks which returned to Puget Sound in sufficient numbers to meet escapement goals in recent years are expected to do so in 1986 as well. Stocks that have been depressed are expected to continue returning to Puget Sound at 50-60% of their escapement goals. The major exception to the general continuation of stock status in Puget Sound is the Green/Duwamish River, where a very small run is expected. Returns in 1986 will come primarily from the 1982 brood escapement which was about 1,800 fish, or 32% of the escapement goal and the lowest in the last ten years.

Washington Coast: Washington coastal forecasts for 1986 returns are not yet available. However, preliminary indications are for returns similar to levels experienced in recent years. Grays Harbor spring and Quillayute Spring/Summer stocks are expected to return at below escapement goal levels.

Columbia River: The expectations for 1986 chinook returns to the Columbia River are mixed. Lower river spring chinook returns are projected to be at or slightly below average but at a level sufficient to meet escapement goals. Upriver spring stocks, although still depressed, are expected to show continued improvement from the record low return in 1984. Summer chinook returns are expected to continue at the depressed levels of recent years. The various fall chinook stock expectations are for a wide range of returns in comparison to their respective twenty year averages. The Lower River Hatchery tule stock is expected to return at 130,000 adults (slightly below average), however, Bonneville Hatchery, a major producer of this stock group, is expected to be very depressed. The Spring Creek Hatchery tule stock is expected to return at about 20,000 adults, only 20% of the average. Because tules produced at the Bonneville and Spring Creek facilities contribute heavily to ocean fisheries off Washington and the West Coast Vancouver Island, failure of these stocks while maintaining the current harvest ceiling will increase harvest rates of comingled stocks found in these areas. Upriver bright fall chinook are expected to return at about 300,000 (175% above the recent twenty year average).

Northern Oregon: Expectations for far-northerly migrating Oregon Coastal Chinook are for stock abundance similar to the healthy levels observed in recent years. Both 1984 and 1985 adult escapements were at record levels.

## ISSUES

### 1. HAVE WE STOPPED THE DECLINE OF NATURALLY SPAWNING CHINOOK STOCKS ?

1985 appears to have been a year of positive spawning escapement response similar to our 1984 experience. Escapements for many spring and early summer stocks increased in 1985. We suspect environmental impacts may have contributed to the improvements, but we have not been able to analyze this impact. As a cautionary note about the positive 1985 escapements the Chinook Technical Committee wishes to emphasize that a period of evaluation is necessary to reach conclusions regarding progress towards the rebuilding goals.

Escapements did not improve for all wild stocks. Two wild stocks continued to decline (i.e. Georgia Strait and middle Fraser River stocks). Additional problems were identified for several important stocks (Robertson Creek hatchery, Columbia River "tule" hatchery, and one wild fall stock from Puget Sound (Green River)).

Spring chinook stocks are receiving preferential benefits from continued early season closures in both ocean fisheries and in many net fisheries. We have not had the opportunity to evaluate these effects of differential harvest impacts on the variety of stocks of concern. The coded wire tagging data necessary to evaluate contribution and distribution of stocks for 1985 is not yet available. At this time the Chinook Technical Committee does not have a specific recommendation for addressing preferential impacts in 1986.

Natural stock escapements to Georgia Strait chinook systems continued to decline. Further restrictions for this stocks' benefit will likely be needed in 1986. In addition, immediate tagging of US stocks suspected of contributing substantially to this fishery is needed to assess complex stock interactions.

### 2. IS THERE A POSSIBILITY THAT THE 15% CLAUSE COULD BE INVOKED IN 1986?

There is a possibility that the Committee could recommend this clause be invoked in 1986 in view of 1985 observed declines in some stocks. The wild stocks needing additional protection are the Georgia Strait and West Coast Vancouver Island fall stocks and the Green River (in Puget Sound) summer/fall stock, and possibly the middle Fraser River stocks. The major impact on stock abundance is the large decline of major hatchery stocks from Robertson Creek on the west coast of Vancouver Island and from Spring Cr. and Bonneville Hatcheries in the Columbia River.



Robertson Creek and west coast of Vancouver Island stocks contribute to southeast Alaska and northern B. C. fisheries. Columbia River Tules comprise a large proportion of the catch off the coast of Washington and Vancouver Island. The Committee is currently assessing the necessity to recommend lower ceilings in these areas to maintain harvest rates on all wild stocks consistent with the rebuilding schedules and to meet individual stock needs.

### 3. NEW SOURCES OF FISHERY INDUCED MORTALITIES IN 1985

The incidence of chinook non-retention fisheries increased substantially during 1985. Days of non-retention in Canadian and S.E. Alaskan troll fisheries increased from 43 in 1984 to 96 this year. Additionally, some non-retention occurred in the S.E. Alaskan seine fishery. Number of chinooks caught and released were monitored during each non-retention period except for a five day period late in the west coast Vancouver Island troll fishery. Mortalities caused by non-retention fisheries undoubtedly increased. The Committee has yet to agree on a numerical estimate of mortalities attributed to this year's non-retention fisheries. The Alaskan Department of Fish and Game presented an estimated number of mortalities based on observed severity of fishing-induced wounds. The mortality rate applied was, however, lower than previously applied by other agencies to "shaker" impact analyses. The Alaskan data indicated that the severity of hooking wounds is less in larger fish and merits continued technical discussion and study.

In the S.E. Alaska troll fishery, mortalities of chinook hooked and released were monitored with on-board observers during two chinook only closures, July 23 - August 14 (22 days) and August 27 - September 20 (25 days). Preliminary ADF&G estimates of total numbers of hooked and released chinook 28 inches and larger (legal size during open fishery) ranged from 72,000 to 118,000. ADF&G estimates of mortalities range from 5,600 to 15,500 (8-13% mortality rate). Mortalities of chinook caught and released in the purse seine fishery were also monitored during the non-retention period from August 12 through early September. Preliminary ADF&G estimates of total numbers of chinook larger than 5 pounds caught and released range from 5,700 to 18,400. ADF&G estimates of corresponding mortalities range from 1,600 to 8,600 (28-47% mortality rate).

Chinook non-retention fisheries in Canada included 44 days in the Straits of Georgia troll fishery and 5 days (Sept. 26-30) in the west coast Vancouver Island troll fishery. An estimated 23,400 legal-sized chinooks were hooked and released during this period in the Straits of Georgia. This estimate was based on observer and log-book data. An estimated 3,000 Chinook were caught and released in the late season west coast troll fishery. This estimate is based on effort data from in-season monitoring and logbook data on chinook catch rates in the previous two weeks. The Canadian estimate of mortalities were made assuming a 30% mortality rate applied to the number of legal-sized chinooks

hooked and released. The mortality estimate is 7,920 legal-sized chinooks in 1985.

The Committee is concerned about the expected increased incidence of non-retention fisheries. Critical impact assessment of this new source of fishing-induced non-catch mortality, requires that all aspects of fishery-induced mortalities be incorporated. Programs to evaluate other impacts on the chinook rebuilding, including the possible savings of juvenile fish through management actions, are planned by various agencies.

#### 4. HATCHERY ADD-ON CONSIDERATIONS

Increasing production originating from some hatcheries of Canada and the U.S. has created requests to harvest portions of this production in the mixed stock areas in addition to base harvest ceilings. Paragraph 2 of the Chinook Annex allows for such an increase based on demonstrated contributions from each region's "new" enhancement, provided that the rebuilding schedule is not extended beyond 1998. In 1985 the Alaska troll fishery was managed with the intent of harvesting an anticipated add-on of 6,000 chinooks.

The interpretation of this paragraph gives rise to technical issues of evaluation as well as to policy issues which have technical implications. These issues are as follows:

##### 1. Technical Evaluation Questions:

A. Demonstration of Contribution

B. Demonstration of the effect on the rebuilding schedule.

The Committee agreed that ADF&G demonstrated the capability to estimate contributions in 1985. The Committee acknowledged that the small size of the 1985 Alaskan add-on did not materially impact the rebuilding program. However, the Committee cannot guarantee that add-ons of "new" hatchery production will not impact the rebuilding program in the future. Of particular concern is the potentially large magnitude of add-ons in future years.

The ADF&G add-on evaluation did not present data on the status of other, co-mingled stocks. If these are depressed relative to the base years, the additional effort associated with the harvest of "add-ons" could increase the harvest rate on rebuilding stocks and affect the rebuilding schedule. At present, analytical tools are not available to conduct this evaluation.

Allowing new hatchery production add-on provides fisherman with benefits from investments in new enhancement projects and encourages such investments. If add-on is not allowed, additional benefits to stock rebuilding beyond those resulting from Treaty imposed base catch ceilings can result.

##### 2. Policy issues which also have Technical implications.

A. Definition of "new" enhancement. The definition

adopted could have substantial effects on the rebuilding schedule.

- B. Determinations of conditions under which the Commission will consider redirecting hatchery production to assist in rebuilding of wild stocks.
  
- C. Guidance on the need to adjust estimates of hatchery contributions for uncertainty and the necessary level of risk the Commission wishes to take that the rebuilding program will be adversely impacted.

Table 1. Preliminary 1985 chinook salmon catches from stocks contributing to U.S./Canada Salmon Treaty Areas, compared with 1983 and 1984 catches. (Numbers of fish in 1000s.)

January 17, 1986

Fishery	Troll			Net			Sport			Total 5/		
	1983	1984	1985	1983	1984	1985	1983	1984	1985	1983	1984	1985
S.E. Alaska 1/	271	236	217	20	32	36	22	22	23	313	290	276
British Columbia 2a/												
North Coast	163	180	191	17	31	40	20	20	9 2b/	200	231	240
Central	91	74	25	13	5	12	-	-	-	104	79	37
Vancouver Island	385	460	359	38	44	12	N/A	44	18 2c/	423	548	389
Georgia St.	105	88	52	18	20	30	198	369	235 2d/	321	477	317
Johnstone St.	15	9	5	28	18	38	10	10	10	53	37	53
Juan de Fuca St.	0.2	0.3	0.4	0.3	6	17	-	-	- 2d/	1	6	17
Sub-totals 5/	759	811	632	114	124	149	228	443	272	1,102	1,378	1,053
Puget Sound	-	-	-	195	246	250 3a/	190	175	N/A 3b/	385	421	250
Wa./Or. Ocean												
Wa. Non-treaty	49	10	38	-	-	-	48	7	28	97	17	66
Wa. Treaty 4/	25	19	17	-	-	-	-	-	-	25	19	17
Or. (N. of Falcon)	5	2	5	-	-	-	3	0	4	8	2	9
Or. (S. of Falcon)	71	60	207	-	-	-	21	17	52	92	77	259
Sub-totals 5/	150	91	267	-	-	-	72	24	84	222	115	351
Columbia R.	-	-	-	58	128	146 3c/	-	-	-	58	128	146
Grand Totals 5/	1,180	1,138	1,116	387	530	581	512	664	379	2,080	2,332	2,076

1/Southeast Alaska troll chinook catches shown for Oct. 1-Sept. 30 catch counting year.

2a/British Columbia net catches include only fish over 5 lbs. round weight.

b/Sport catches are for tidal waters only, catch updates will be provided by Feb. 1986 for 1983 and 1984.

c/Estimates of tidal sport catch from Barclay Sound (Area 23 only).

d/Georgia Strait sport catches include Juan de Fuca Strait sport.

3a/Puget Sound net catches include Puget Sound and Washington coastal, treaty and non-treaty catches.

b/Puget Sound sport catches include Puget Sound marine but not freshwater sport catches.

c/Columbia R. net catches include Oregon, Wash., and treaty catches, but not treaty ceremonial catches.

4/Treaty troll catch for period of May 1-Sept. 30, in ocean areas 1-4B.

5/All totals may include rounding errors.

Table 2. Summary of stock status for North migrating chinook stocks of interest to Canada/US negotiations (numbers of fish in 1000s) 1/17/86

A. Stocks of Immediate Conservation Concern

Stock unit	Escapement goal	Escapement				Major ocean fishery management opportunities
		1985	1984	1983	1982	
S.E. Alaska (Total) (Includes Transb.)	64.0	37.0	36.1	25.4	45.4	S.E. Alaska, NBC
British Columbia /c						
North Coast - Natural	46.9	53.8	38.1	14.8	19.1	NBC, S.E. Alaska
- Key Str	25.4	9.5	12.7	10.7	5.5	
Central Coast - Natural	20.1	14.2	11.3	8.7	9.2	NBC, S.E. Alaska
- Key Str	18.5	10.0	9.3	8.6	8.0	
Georgia St. - Natural	45.0	13.0	18.5	22.6	24.1	Georgia Strait, CBC, NBC
- Key Str	19.4	16.7	9.7	5.4	6.0	
W. Cst. Vanc. I - Natural	14.6	6.3	6.1	4.2	9.1	NBC, CBC, S.E. Alaska
- Key Str	65.0	69.0	75.0	11.0	8.5	
Fraser / Lower - Natural	1.7	0.4	0.5	1.0	1.3	WCUI, Georgia Strait
- Key Str	175.0	145.0	87.5	6.0	22.0	
Fraser / Mid - Natural	14.9	10.8	11.3	12.8	8.1	NBC, CBC, S.E. Alaska
- Key Str	--	--	--	--	--	
Fraser / Upper - Natural	13.9	21.3	12.8	10.8	7.2	NBC, CBC, S.E. Alaska
- Key Str	9.8	8.0	4.9	4.3	1.4	
Fraser/Thompson - Natural	31.4	25.3	20.4	13.5	16.9	NBC, CBC, S.E. Alaska
- Key Str	14.3	10.8	7.1	6.4	3.3	
B. C. Sub-total - Natural	188.5	145.1	119.0	88.4	95.0	
- Key Str	327.4	269.0	206.2	52.4	54.7	
- Enhanced	N.A.	N.A.	N.A.	N.A.	N.A.	/d
Transb. Rivers /e	72.5	21.9	21.5	14.0	37.0	S.E. Alaska
Washington						
Grays Harbor Fall	14.6	b	21.0	4.5	5.6	S.E. Alaska, NBC
Grays Harbor Sp.-Su.	1.4	b	1.0	0.8	0.6	S.E. Alaska, NBC
Quillayute-Summer	1.5	0.6	0.6	1.4	1.2	S.E. Alaska, NBC
Strait Juan de Fuca	2.4	1.5	1.5	1.5	1.5	S.E. Alaska, NBC
Hookah Springs	2.0	1.0	f	f	0.5	S.E. Alaska, NBC
Skagit Springs	3.0	3.3	0.8	0.8	1.1	WCUI, NBC, S.E. Alaska
Stillaguamish Su-f	2.0	1.3	0.4	0.4	0.8	WCUI, NBC, S.E. Alaska
Puyallup Sum-Fall	3.3	f	1.3	1.2	0.8	WCUI, NBC, S.E. Alaska
Green Summer-Fall	5.8	f	3.4	3.7	1.8	WCUI, NBC, S.E. Alaska
Columbia River						
Upriver Springs	120.0	83.1	46.8	54.9	70.0	WCUI, NBC, S.E. Alaska
Upriver Summer	85.0	24.8	22.4	18.0	20.1	WCUI, NBC, S.E. Alaska
LRH (Bonneville Hat.)	/1	8.7	5.2	12.8	21.1	WCUI, WA, OR
BPH (Spring Cr. Hat.)	8.2	5.4	8.7	9.3	26.7	WCUI, WA, OR

Table 2. Summary of stock status for North migrating chinook stocks of interest to Canada/US negotiations (numbers of fish in 1000s) 1/17/86

B. Stocks not of Immediate Conservation Concern

Stock unit	Escapement goal	Escapement				Major ocean fishery management opportunities	
		1985	1984	1983	1982		
Oregon Coastal Fall-Sp /h	i	j	j	j	j	WCVI, NBC, S.E. Alaska, WA	
Washington							
Snohomish Su-Fa	5.3	b	3.8	4.5	4.4	WCVI, NBC, S.E. Alaska	
Skagit Summer-Fall	14.9	b	13.2	9.1	10.4	WCVI, NBC, S.E. Alaska	
Lake Washington, Su-Fa	5.2	b	6.1	4.8	5.0	WCVI, NBC, S.E. Alaska	
Quillayute Fall	/g	3.0	5.5	9.1	2.9	7.1	WCVI, NBC, S.E. Alaska
Hoh Fall	/g	1.2	2.2	1.6	2.5	4.5	WCVI, NBC, S.E. Alaska
Queets Fall	/g	2.5	3.9	3.9	2.6	4.1	WCVI, NBC, S.E. Alaska
Hoh Spring-Summer	/g	0.9	1.1	1.5	1.8	1.6	S.E. Alaska, NBC
Queets Sp.-Su.	/g	0.7	0.9	1.0	1.0	0.8	S.E. Alaska, NBC
Columbia River							
Willamette Springs	30-35	38.6	50.4	30.6	46.2	WCVI, NBC, S.E. Alaska	
Cowlitz Springs	k	7.3	18.4	21.9	23.8	WCVI, WA, OR	
LRH (except Bonneville Hat.)	k	k	j	j	j	WCVI, CBC, WA, OR	
Upriver Fall Brights	40.0	94.6	61.0	48.7	31.1	WCVI, NBC, S.E. Alaska	

- a/ All 1985 Escapement figures are preliminary. Better information should be ready in late-February, 1986
- b/ Preliminary escapement estimates are not available.
- c/ British Columbia escapement goals are given in two categories: 1) "Natural" which are visually estimated escapements by field staff, and 2) "Key Stream" escapements which are intensively surveyed streams for the purpose of evaluation of the rebuilding of chinook stocks (see CDFD Agency Report / 1984 and 1985 data only).
- d/ "Enhanced" sub-total includes natural stream returns to systems with significant enhancement but which are not "Key Streams". These values are excluded from all other B. C. sub-totals.
- e/ Includes transboundary rivers also included in Southeast Alaska.
- f/ Below goal.
- g/ Escapement floor; terminal fishery managed for fixed exploitation rate provided escapement exceeds floor.
- h/ Represents north migrating Oregon coastal stocks (Elk River to Nehalem R.)
- i/ Not established. Total Oregon coastal natural chinook escapement goal is 150-200,000.
- j/ Expected to meet escapement goals.
- k/ Escapement goal not established.
- l/ Escapement goal is in terms of egg take instead of adult return. Egg take goal is 17.4 million.