

RC20

1993/94 BOARD OF FISHERIES BRIEFING DOCUMENT

Title: Chinook Salmon Troll Fishery Management
Troll Task Force Recommendations

Proposal Nos.: 249-268, 270-277, 320, 321

Pages: 157-176, 198, 199

Proposed by: Refer to individual proposals listed above for authors.

**Commercial Fisheries
Division Author:** Dave Gaudet, Troll Management Biologist, Juneau

*Submitted
John Murray*

Title: Chinook Salmon Troll Fishery Management

Proposal Nos.: 249-268, 270-277, 320,321

Page: 157-176, 198, 199

This briefing document discusses proposals for the commercial troll chinook salmon management plan. Proposals covered are; 249 through 268, 270 through 277, and 320 and 321 (30 proposals).

Introduction

At the March 1992 board meeting held in Juneau, the board established a Task Force composed of trollers that were to design a management plan that would:

- ensure a summer troll chinook salmon season of at least 10 days, preferably 20 days;
- minimize the incidental mortalities of chinook salmon to the greatest extent possible;
- maximize the value of the troll product; and;
- recognize the historic composition of the fisheries.

The Task Force finished a plan and submitted it as proposal 249. We evaluate this plan with respect to the directives from the Board and with the department's ability to manage the fishing to achieve plan objectives. The remaining proposals address options or additions for management of the troll chinook fishery. We evaluate these proposals with respect to the Task Force plan.

Proposal 249, the Task Force Plan

Synopsis

Of the 4 objectives given the Task Force, we are able to address how the plan accomplishes only the first two. We conclude, that based on data from 1985 to 1993, that the plan will meet the goal of a summer season of at least 10 days and although we are not able to say that the plan minimizes the incidental mortalities of chinook salmon, it does reduce it. In reference to the last 2 objectives, we note only that the plan appears to recognize the historic composition of the fisheries by maintaining a winter fishery, some spring hatchery fisheries and a summer fishery that essentially occurs in traditional areas and is managed by traditional methods. We are not able to evaluate the effect of this plan on maximizing the value of the troll product.

The basis of the Task Force plan was to ensure that there would be minimum number of chinook salmon available for harvest in the general summer fishery. The plan accomplishes this by capping the winter troll catch and eliminating the June Hatchery Access fishery. In addition, the plan reduces the number of Chinook-Non-Retention (CNR) days by; 1) limiting the harvest during the first open period to 70% of the total number available, and 2) by leaving the areas of high abundance closed when the chinook fishery reopens. It is not possible to say that the number of incidental mortalities have been minimized, however, the number of incidental mortalities are reduced by; 1) allowing the greatest number of fish into the summer fishery and thus reducing the number of Chinook Non-Retention (CNR) days, and 2) by slowing the catch rate (leaving the areas of high abundance closed). Judgement regarding achievement of

Title: Chinook Salmon Troll Fishery Management

Proposal Nos.: 249-268, 270-277, 320,321

Page: 157-176, 198, 199

"minimizing" rests with the board. The department believes that current management methods can be adopted and/or modified to provide for the plan. In addition, the department does not expect to incur any additional costs if it is implemented.

In many respects the plan is allocative, with implications for access to species other than chinook salmon and the department is neutral with respect to these portions of the plan. However, the department supports the concept of the plan as a step forward in controlling some of the problems facing the troll fishery, particularly those of shortened chinook retention periods in the summer and the resultant incidental mortality. Also from the department's point of view, the plan allows stability from year to year with which to develop comprehensive management methods and plans for the fishery. This is also a positive step.

Implementation

The following table lays out the progression of the harvest of the troll allocation of treaty chinook salmon as in proposal 249 based on a troll allocation of 201,690 (this number is based on a Treaty Limit of 263,000 and existing board regulations).

Table 1. Implementation of the Task Force plan with a ceiling of 201,690 Treaty Fish.

Fishery	Number of Fish	Number of Treaty Fish	Number of Treaty Fish Remaining	Approximate Number of Days of Fishing
		201,690	201,690	NA
Winter	45,000 (13% Alaska Hatchery)	39,150	162,540	NA
Hatchery Access	0	0	162,540	NA
Experimental	10,000	10,000	152,540	NA
Initial Summer (70% of Remainder)	111,000 (4% Alaska Hatchery)	106,800	45,740	7 (Based on 1988 to 1993 catch curve)
Late Summer (remainder of quota)	48,950 (7% Alaska Hatchery)	45,740	0	10

The proposal caps the winter fishery at 45,000 total fish (includes Alaska hatchery fish). Based on an average of 13% Alaska hatchery composition, this would mean a catch of approximately 39,150 Treaty fish (including a portion of risk adjustment and pre treaty catch). Under the current Pacific Salmon Treaty (PST) quota of 263,000 and board allocation, the troll fleet receives 201,690 fish. Subtracting the 39,150

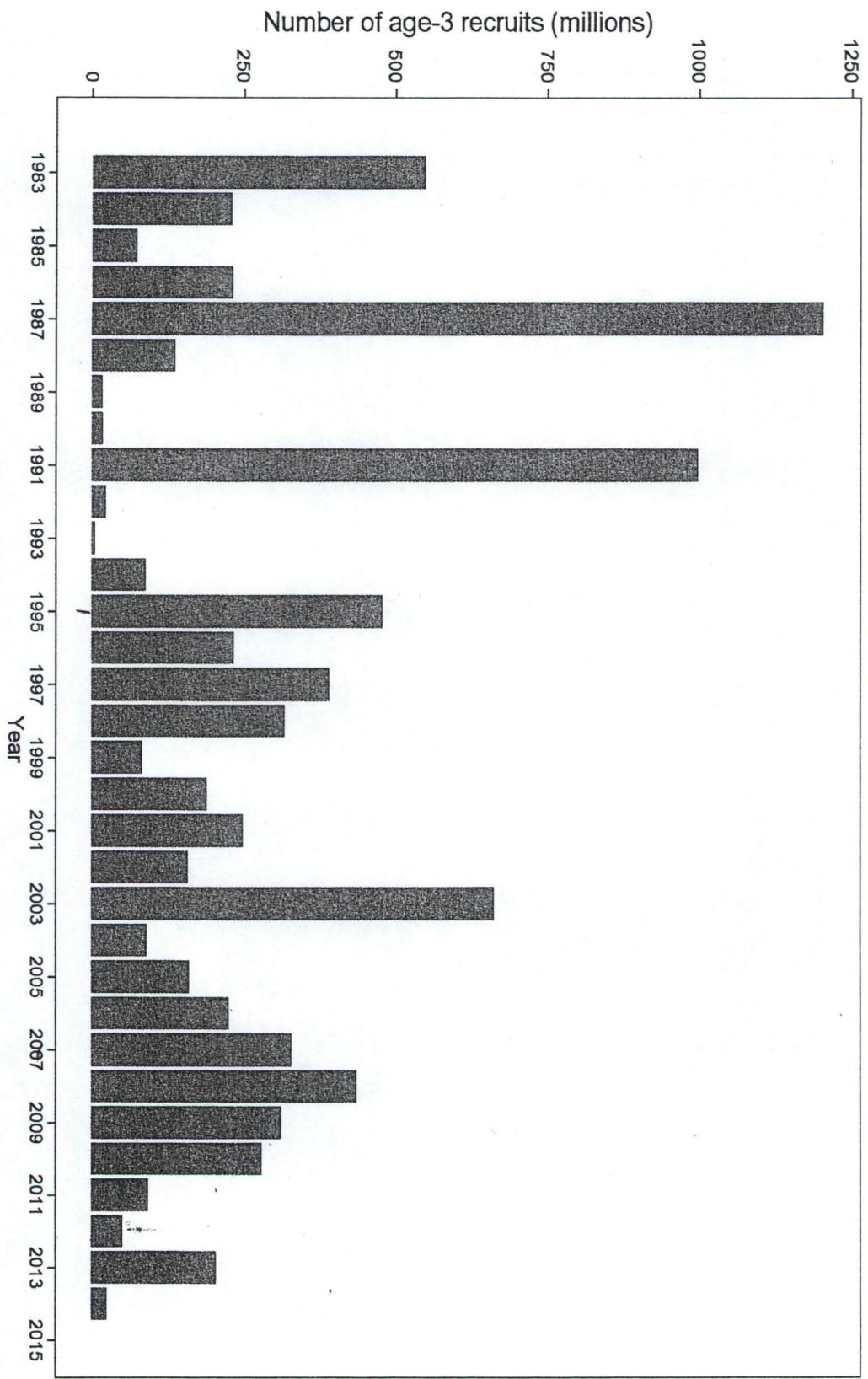
Title: Chinook Salmon Troll Fishery Management

Proposal Nos.: 249-268, 270-277, 320,321

Page: 157-176, 198, 199

would leave approximately 162,540 for the remaining fisheries. The hatchery access fishery has been deleted in this plan and though no cap for experimental fisheries is specified, in 1993, approximately 10,000 were taken in this fishery. This would leave 152,540 Treaty fish available for harvest in the general summer fishery. The Task Force plan would further take 70% of the number beginning July 1 and the remainder following any closure for coho in August (if there is no closure, it will begin no later than August 20 following a 2 day closure). On average, this portion of the summer troll fishery can be expected to have a 4% Alaska hatchery composition. This would make 111,000 available for harvest in the first part. Based on the 1985-93 average catch per day (the Task Force and 1988-1992 data), this could be expected to provide for a 6 to 7 day fishery. The second part of the fishery, for the remaining 30%, would begin following any closure for coho salmon. Limited data indicates that the Alaska hatchery percentage is higher in August and September, perhaps as much as 7%. Using this, approximately 48,950 fish would be available following the closure in late August. There is no way to calculate the number of days that this would take to harvest based on the 1985-93 data, since 1) no significant fisheries have occurred in this time period since 1979 and 2) the proposal calls for leaving areas of high abundance closed. However, catch rates would be lower, perhaps in the 1,500 to 5,000 per day rate. In 1993, the catch rate was 5,000 per day between August 21 and 25 and 2,000 per day between September 12 and 20 (areas of high abundance were open). At this rate, the fishery could last a minimum of 9.8 days. As an average, under this plan, the fishery can be expected to last approximately 17 days.

Sitka Sound herring – number of age-3 recruits, 1983-2014 -



Sitka Sound herring fishery summary data, 1980-2015.

Year	Quota (tons)	Sac Roe Harvest (tons)	Other Harvest (tons)	Total Harvest (tons)	Forecast Biomass	Forecast Harvest Rate	Percent of Quota Harvested	Spawn / Deposition Estimate	2014 ASA		ASA Total Return	% Total Return Harvested	N Miles Spawn
									Estimate	Escapement			
1980	4,000	4,445	0	4,445	39,500	10.0%	111%	35,000	41,282	45,727	10%	63.0	
1981	3,000	3,506	0	3,506	27,000	10.0%	117%	30,000	43,230	46,736	8%	60.0	
1982	3,000	4,363	8	4,363	30,000	10.0%	145%	29,500	28,504	32,867	13%	40.8	
1983	5,500	5,416	0	5,416	32,850	16.8%	98%	23,500	33,687	39,103	14%	68.0	
1984	5,000	5,830	0	5,830	30,550	16.1%	117%	38,500	40,829	46,659	12%	65.0	
1985	7,700	7,475	0	7,475	38,500	20.0%	97%	31,000	33,453	40,928	18%	60.5	
1986	5,029	5,443	0	5,443	30,950	16.3%	108%	25,000	27,163	32,606	17%	51.6	
1987	3,600	4,216	0	4,216	24,750	14.6%	117%	46,000	45,536	49,752	8%	86.0	
1988	9,200	9,390	17	9,390	46,050	20.0%	102%	58,500	55,523	64,913	14%	104.0	
1989	11,700	11,831	66	11,831	58,500	20.0%	101%	27,000	23,231	27,035	26%	65.5	
1990	4,150	3,804	0	3,804	27,200	15.3%	92%	23,000	30,964	32,802	6%	44.5	
1991	3,200	1,838	65	1,838	22,750	14.1%	57%	23,500	30,964	32,802	10%	72.5	
1992	3,356	5,368	67	5,368	23,450	14.3%	160%	43,351	46,877	52,245	10%	55.3	
1993	9,700	10,186	110	10,186	48,500	20.0%	105%	37,150	26,286	36,472	28%	41.0	
1994	4,432	4,758	129	4,758	28,450	15.6%	107%	14,941	17,788	22,546	21%	58.1	
1995	2,609	2,908	70	2,908	19,700	13.2%	111%	34,990	28,549	31,457	9%	37.3	
1996	8,144	8,144	105	8,144	42,265	19.7%	100%	40,827	31,619	39,763	20%	45.6	
1997	10,900	11,147	107	11,147	54,500	20.0%	102%	28,611	36,712	47,859	23%	64.5	
1998	6,900	6,638	129	6,638	39,200	17.7%	96%	34,942	43,639	50,277	13%	41.0	
1999	8,476	9,217	145	9,217	43,600	19.4%	109%	44,554	50,450	59,667	15%	59.5	
2000	5,120	4,630	48	4,630	33,365	15.3%	90%	57,988	54,171	58,801	8%	54.5	
2001	10,597	11,974	84	11,974	52,985	20.0%	113%	58,756	53,353	65,327	18%	61.0	
2002	11,042	9,788	120	9,788	55,209	20.0%	89%	40,366	57,177	66,965	15%	42.6	
2003	6,969	7,051	25	7,051	39,319	17.7%	101%	55,789	71,132	78,183	9%	47.1	
2004	10,618	10,490	125	10,490	53,088	20.0%	99%	69,907	87,799	98,289	11%	79.8	
2005	11,192	11,366	154	11,366	55,962	20.0%	102%	101,305	84,669	96,036	12%	39.5	
2006	10,412	9,967	103	9,967	52,059	20.0%	96%	66,111	77,782	87,749	11%	57.4	
2007	11,904	11,571	183	11,571	59,519	20.0%	97%	84,501	80,648	92,219	13%	50.2	
2008	14,723	14,386	174	14,386	87,715	16.8%	98%	247,088	89,782	104,168	14%	55.3	
2009	14,508	14,776	120	14,776	72,251	20.0%	102%	110,946	102,982	117,758	13%	65.6	
2010	18,293	17,624	104	17,624	91,467	20.0%	96%	126,230	96,552	114,176	15%	87.7	
2011	19,490	19,419	120	19,419	97,449	20.0%	100%	161,904	87,317	106,736	18%	78.3	
2012	28,829	13,231	77	13,231	144,143	20.0%	46%	62,518	63,542	76,773	17%	55.9	
2013	11,549	5,688	97	5,688	76,988	20.0%	49%	103,267	67,458	73,146	8%	61.3	
2014	16,333	16,957	121	16,957	81,663	20.0%	104%	48,561	51,333	68,290	25%	50.0	
2015	8,727				44,237	19.7%							
Average	9,176	8,710	76	8,710	50,327	17.5%	102%	57,977	52,296	60,848	14.4%	59	
10-yr average	15,723	13,499	125	13,499	81,922	19.7%	89%	111,243	80,206	93,705	14.6%	60	

(LING COD)

Salmon Troll Lingcod Quota Remaining at End of Season (rnd lb)

	CSEO	EYKT	NSEO	SSEOC
2014	13,085	12,043	1,076	2,354
2013	12,523	10,627	-202	327
2012	6,311	2,831	-1,829	-99
2011	12,836	6,655	-359	-704
2010	12,379	9,529	784	754

Prop 140-141

Directed Lingcod Quota Remaining at End of Season (rnd lb)

	CSEO	EYKT	NSEO	SSEOC
2014	42,443	-3,912	10,507	50,100
2013	11,630	7,506	218	45,287
2012	5,127	25,144	-2,479	47,322
2011	506	-10,929	1629	confidential
2010	31,063	8,552	991	35,911