M E M O R A N D U M

TO: Council, AP and SSC Members

FROM: Jim H. Branson
Executive Director

DATE: January 7, 1986

SUBJECT: Salmon FMP

ACTION REQUIRED

(a) Review action by Board of Fish; concur (action required).
(b) Status of US/Canada Salmon Commission (information only).
(c) Establish schedule for FMP rewrite.

BACKGROUND

(a) Review action by Board of Fish.

The Board of Fish met in Petersburg in early December to address management of the 1986 Southeast Alaska troll fishery. None of the actions taken by the Board require FMP amendment, although the Council should consider concurrence with the Board's actions. A summary of Board recommendations follows:

1. Season to open June 20 and go until troll portion fully taken (191,000 chinooks).
2. Coho and legal size chinook salmon with adipose fin missing must be retained with heads on (this is what FMP currently requires).

Agenda Item D-1(a)(1) provides additional information on the Board's decisions.

Items D-1(a)(2) and D-1 (Supplemental) are staff reports on status of stocks and fisheries.

(b) Status of US/Canada Salmon Commission.

Don Collinsworth will provide an oral summary of US/Canada Salmon Commission activities and status.

(c) Establish schedule for FMP rewrite.

Last year the Council decided to postpone action on updating or rewriting the salmon FMP until the US/Canada Salmon Commission's authorities and operating procedures are more clearly defined and understood. The Alaska Region of NMFS has offered to spearhead the rewrite and has drafted a series of schedules corresponding to alternative approaches to the rewrite [D-1(c)(1)]. The alternatives include (1) no FMP, (2) minor amendment, (3) delegation to the State, and (4) a comprehensive rewrite. The first thing you would need to do is determine which approach most clearly defines the role you wish to play in management of the Alaska salmon resources. These alternatives could go out for public review, making the initial decision at the March meeting. The schedules would then be moved back one meeting and implementation would be expected around May 1987. Public review is not strictly necessary for this first step and it's difficult to envision exactly how much help it would be to your decisionmaking.

BILL SHEFFIELD, GOVERNOR

DEPARTMENT OF FISH AND GAME

P.O. BOX 3-2000
JUNEAU, ALASKA 99802-2000
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DIVISION OF COMMERCIAL FISHERIES

ACTION	ROUTE TO	INITIAL
	Exec. Dir.	
	Deputy Dir.	
	Admin. Off.	
	Exec. Sec.	
	Staff Asst. 1	
	Staff Asst. 2	
	Staff Asst. 3	
	Economist	
	Sec./Bkkr.	
	Sec./Typist	

December 19, 1985

Mr. Jim Glock
North Pacific Fisheries Management Council
P. O. Box 1030136
Anchorage, AK 99510

Dear Jim:

The following is a brief summary of the Board of Fisheries' actions on the Southeastern Alaska and Yakutat Areas' salmon troll fishery that affect the Exclusive Economic Zone.

- The summer salmon troll season is set to open on June 20. It is the intent of the board that the chinook troll fishery progress with no closures until the quota is taken. Current estimates are that should occur about July 26. The board did instruct the department to close locations of high chinook availability to ensure that the season lasts to approximately July 26. Those locations are primarily, if not totally, in state waters, so no joint action with the National Marine Fisheries Service is anticipated for any such closures.

- The board adopted the department's proposal (#225) that clarified the criteria for the 10-day, in-season coho salmon closure. The closure will take place (1) if not enough coho salmon are reaching inside waters to provide for spawning requirements given normal or restricted inside fisheries, or (2) that the proportional share of coho harvest by the troll fishery is larger than that for the inside gillnet and recreational fisheries compared to average 1971 to 1980 levels.

- The regulations for landing of coho and chinook were also changed. The new regulations will require that only those coho and legal size chinook salmon with adipose fin clips have to be landed with the heads on. The previous requirement covered all types of fin clips. The requirements for retention and submission of adipose fin clipped undersize chinook has been deleted. Therefore, no troller may retain any undersize chinook.

There were some actions taken that may be of general interest to the council and I will convey them to you when things are not so rushed. Also, I will send you a draft of the regulations when they have been typed.

Please let me know if the Council would like a presentation on the board's actions and if so, what type of presentation they would like.

Sincerely,

Bob Clasby
Chief, Fisheries Coordination Section

cc: Avin Anderson
Fred Gaffney

WASHINGTON DEPARTMENT of FISHERIES

HARVEST MANAGEMENT DIVISION
January 8, 1986

Washington Ocean Fishery Status - 1985

The anticipated catch or fishery impact on chinook and coho off the Washington coast (Cape Falcon to the Canada-U.S. border) during 1985 summer (May-September) season was 98,500 chinook and 418,000 coho. These totals were to be allocated amongst fisheries or gears according to the following schedule:

	chinook	coho
non-treaty troll	50,900	141,700
non-treaty troll	37,100	201,300
treaty troll	10,500	75,000 .

The non-treaty troll chinook-only fishery in May harvested 27,000 of the 27,000 chinook quota for that fishery. The all- species non-treaty troll fishery, operating in the area from Leadbetter Pt. north to Cape Alava began July 15 and was closed after four days due to coho catch quota excess. The total coho catch in this fishery was 136,300 compared to the quota of 78,500 fish. Chinook catch totaled 11,300, falling short of the 16,100 chinook quota. Non-treaty troll fishermen harvested approximately 3,900 chinook during the August pink salmon directed fishery off the northern Washington coast. A one-day all-species troll fishery, August 21 in the Columbia River mouth area, resulted in a harvest of 1,000 chinook and 32,500 coho compared to quotas of 2,700 chinook and 10,000 coho.

The recreational salmon fishery was regulated by chinook and coho catch quotas applied to three areas of the Washington coast. Recreational salmon fishing was allowed five days per week (closed Friday and Saturday). All areas remained opened to salmon fishing from June 30 through the Labor Day weekend though exact closing dates varied somewhat. Catches for Washington and Oregon fishermen north of Cape Falcon totaled 209,900 coho and 31,700 chinook.

The treaty Indian troll fishery harvested 11,500 chinook (May through September only) and 85,500 coho.

Columbia River Catch and Escapement Summary

Very preliminary estimates of catch, escapement and total return to the Columbia River of major chinook stocks is detailed below:

Stock	Catch			Escapement	Total Run	
	Non-treaty		Treaty			
	GN	Sport				
Upriver Bright	42,100	2-5,000	62,900	90,000	200,000	
Bonneville Hatchery	100	400	8,600	5,400	34,000	Pool
Lower R. Hatchery	12,000	NA	0	NA	98,000	
Lower R.	2,800	NA	0	NA	11,000	Wild

A preliminary estimate of coho escapement to the Columbia River is 360,000 (combined early and late stocks) including approximately 190,000 gillnet catch.

Tentative Schedule of Events for Amending the High-Seas Salmon FMP.

December 1985

Region prepares a work plan if RD determines it necessary.

Notice of Scoping Meeting for 12-16 JAN 85 publ in FR.

Notice of Intent to Prepare an EIS publ in FR.

Council Meeting 12-16 JAN 86 Sitka
Council considers alternative approaches for amending FMP, receives public testimony, and assigns tasks to the Salmon Team.

Alternative Approaches for Amending the FMP

(a) No FMP - The Council might decide that the Pacific Salmon Treaty has removed the need for an FMP and the fishery could be regulated adequately under Alaska's fishery regulations.

(b) Minor Amendments - The Council might decide that the present FMP controls the fishery well and that it needs only updating and slight modifications.

(c) Delegate to Alaska - The Council might decide that it needs to have a salmon FMP in place, but that it would delegate the authority for managing the fishery to the State of Alaska, as it is doing for the king crab fishery.

(d) Major Amendments - The Council might decide that it wants to have its own plan for managing the salmon fisheries in the FCZ under Federal regulations and that the present FMP needs substantial revisions, including as much frameworking as the Council and its salmon team can develop and get approved.

(e) Other Possibilities - To be described by the Council.

Documents Needed and the Timing for Each under Alternatives a - d.

Document	No FMP	Minor Amd	Delegate	Major Amd
1st Drafts				
FMP Amendment	15MAR86	15MAR86	15APR86	15MAY86
FONSI	15MAR86	15MAR86	NA	NA
EA	NA	NA	15APR86	NA
SEIS	NA	NA	NA	15MAY86
RIR	15MAR86	15MAR86	15APR86	15MAY86
PROPOSED REGS	15MAR86	15MAR86	15APR86	15MAY86
End Public Comments	15APR86	15APR86	15MAY86	15JUN86

[MAYBE HAVE REVIEW of 2nd Draft & options at 4-6 MAY COUNCIL MTG.]

Document	No FMP	Minor Amd	Delegate	Major Amd
2nd Drafts				
FMP Amendment	15MAY86	15MAY86	15JUN86	15JUL86
FONSI	15MAY86	15MAY86	15JUN86	15JUL86
EA	NA	NA	15JUN86	NA
SEIS	NA	NA	NA	15JUL86
RIR	15MAY86	15MAY86	15JUN86	15JUL86
PROPOSED REGS	15MAY86	15MAY86	15JUN86	15JUL86
End Public Comments	15JUN86	15JUN86	15JUL86	15AUG86
Final Drafts				
FMP Amendment	15JUL86	15JUL86	15AUG86	15SEP86
FONSI	15JUL86	15JUL86	15AUG86	15SEP86
EA	NA	NA	15AUG86	NA
SEIS	NA	NA	NA	15SEP86
RIR	15JUL86	15JUL86	15AUG86	15SEP86
PROPOSED REGS	15JUL86	15JUL86	15AUG86	15SEP86
NPFMC Decision	26SEP86	26SEP86	26SEP86	26SEP86
Submit to Secretary	13OCT86	13OCT86	13OCT86	13OCT86
Notice Availabil Pub	16OCT86	16OCT86	16OCT86	16OCT86
Proposed Rule Publ	10NOV86	10NOV86	10NOV86	10NOV86
End Public Comment	29DEC86	29DEC86	29DEC86	29DEC86
RD Decides	05JAN87	05JAN87	05JAN87	05JAN87
Final Rule Published	02FEB87	02FEB87	02FEB87	02FEB87
Final Rule Effective	04MAR87	04MAR87	04MAR87	04MAR87
Governor Accepts	NA	NA	(?)	NA
State Regs Effective	NA	NA	(?)	NA

This schedule assumes (1) Council will meet only in JAN, MAR, MAY, SEP, and DEC during 1986, and (2) that three drafts are necessary. It is possible that only one or two drafts of simple amendments might be all that's necessary; if so, then alternatives (a) and (b) might be ready for Council decision in MAY 86.

NMFS:AMAndersen:F/AKR1:12DEC85:ama (AMA MISC/SAS Amendments)

REPORT TO THE BOARD OF FISHERIES

1985 SOUTHEAST ALASKA SALMON TROLL FISHERY

November 1985

By:

Region I Staff

Southeast Region
Division of Commercial Fisheries
Alaska Department of Fish and Game
Juneau, Alaska

ABSTRACT

Based on preliminary catch reports, the 1985 Southeast Alaska troll fishery harvested an estimated 216,000 chinook, 1.6 million coho, 968,000 pinks, 52,000 chums and 8,000 sockeye salmon. The 1985 harvest of 216,000 chinook salmon was the lowest since 1962 when 174,000 chinook were taken. The 1.6 million coho harvest was the second largest on record for the troll fishery. Pink and chum salmon catches during the 1985 season were also substantially above average. Participation in the 1985 season was similar to 1984 with approximately 936 hand troll vessels and 878 power troll vessels landing salmon.

The 1985 troll chinook fishery was managed in accord with the U.S./Canada Salmon Treaty which specified a total all-gear commercial and recreational chinook base catch ceiling of 263,000 (excluding harvest of new hatchery production). The troll fishery catch was limited to 216,000 chinook of which 23,000 occurred during the winter fishery and 193,000 during the summer fishery. To limit the catch, the summer troll fishery was restricted to approximately 34 chinook fishing days, the shortest season since the beginning of the fishery and 11 days less that the 1984 season of 45 days.

As the recent pattern of strong coho returns continued in 1985, the troll fishery experienced it's second best coho catch on record. The 10-day troll closure was implemented again during the 1985 season to meet Board of Fisheries coho catch allocation objectives between outside and inside fisheries.

Natural chinook escapements to Southeast Alaska and transboundary index systems were mixed in 1985 compared to 1984 with escapements increasing in 5 index systems and decreasing in 6. In the transboundary rivers, escapements increased in the Taku and Stikine and decreased in the Alsek. Escapements to the Behm Canal systems continued to be strong in 1985. Escapements during 1981-85, the first five years of the rebuilding program, averaged 70 percent of respective index system goals.

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INTRODUCTION

The commercial troll fishery in Southeast Alaska occurs in waters under both state and Federal jurisdictions, east of the longitude of Cape Suckling (Figure 1). All other waters of Alaska, including the Fisheries Conservation Zone (FCZ) west of Cape Suckling are closed to commercial trolling.

The commercial troll fishery harvests primarily chinook and coho salmon stocks. Other species of salmon harvested by trollers are normally considered incidental to the taking of the two primary target species although targeting and landing of pink salmon has increased in recent years. The troll fishery normally harvests about 90% of the chinook salmon and 50-75% of the coho salmon taken in Southeast Alaska commercial fisheries.

Based on preliminary catch reports, the 1985 season chinook salmon troll catch was approximately 216,000 fish calculated from October 1, 1984 through September 30, 1985. The troll harvest of coho salmon was 1.6 million fish. Catches of other species by troll gear in 1985 included approximately 968,000 pinks, 52,000 chums, and 7,700 sockeye salmon. Comparative annual salmon catches by the troll fishery since 1970 are shown in Table 1.

In 1985 approximately 8 percent (18,000 fish) of the chinook catch and 4 percent (69,000 fish) of the coho catch by the troll fishery was reported taken in that portion of the

Federal Fishery Conservation Zone (FCZ) lying beyond three miles seaward of the surfline (as defined by state commercial fishing regulations).

Salmon Stocks

Native chinook and coho salmon stocks occur throughout Southeast Alaska. Chinook salmon stocks spawn primarily in the large mainland rivers and their tributaries, the most important of which are the Alsek, Taku, Stikine, and the Behm Canal rivers. In total, 34 rivers in Southeast Alaska are known to produce runs of chinook salmon. The three major systems, the Alsek, Taku and Stikine rivers, are also "transboundary" rivers, originating in Canada and flowing to the seas through Southeast Alaska. Shared ownership and coordinated management of the transboundary stocks are addressed in the U.S./Canada Salmon Treaty.

Southeast Alaska chinook stocks are nearly all "spring type" entering spawning streams during spring and early summer months. After emergence the following spring, the majority of fry remain in freshwater rearing areas for one year, migrating seaward the next spring. For most Southeast Alaska origin chinook, ocean residency may last 2, 3 or 4 years. Several age classes of mature spawners and immature chinook salmon are harvested by trollers during the fishing season.

Current information indicates that the majority of chinook salmon harvested in the Southeast Alaska troll fishery are produced from spawning streams and hatcheries in Canada and the Pacific Northwest. This information is based on scale

pattern analysis, coded wire tagging studies and general productivity considerations.

Chinook salmon catches in Southeast Alaska are depressed from historical production levels (Figure 2). Annual commercial catches during the past ten years have averaged about 300,000 fish. These harvests are considerably lower than levels produced between 1920 and 1950 when catches averaged 540,000 fish. The decline in harvest has been the result of several factors including (1) depressed natural chinook stocks both in Southeast Alaska and coastwide due to overfishing, (2) loss of freshwater spawning and rearing habitat, particularly in the Pacific Northwest where construction of dams on the Columbia River has drastically reduced salmon production and (3) in more recent years, regulatory restriction of harvest designed to rebuild natural spawning stocks. Since 1981, the commercial harvest of chinook has been managed by maintaining the catch at guideline harvest levels established by the Board of Fisheries and the North Pacific Fisheries Management Council; commercial catches during the period have averaged 274,000. Catch reductions have been implemented both as part of a 15-year rebuilding program for Southeast Alaska chinook stocks and as part of coastwide conservation actions taken for depressed non-Alaskan chinook stocks which contribute to the Southeast Alaska fisheries.

To date Southeast Alaska hatchery chinook production has been relatively small, contributing from 3,000 to 10,000 fish per year to commercial fisheries. However, production by both State, and private hatcheries is expected to increase substantially during the next several years reaching nearly 50,000 harvestable fish by 1987.

Coho salmon occur in most of the 2,000 streams in Southeast Alaska which host anadromous fish and spawn during the fall and early winter months. Coho harvested by trollers are primarily of Alaskan origin, are mostly of a single age class (4 year fish), and are caught in the year of spawning.

Commercial coho salmon catches have increased substantially since 1982 averaging about 2 million fish for the last three years compared to about 1 million during the 1970's. This is thought to be primarily the result of the unusually mild winters experienced in recent years. However, the average catches of about one million prior to 1982 were considerably lower than some historical periods such as the 1930's when annual harvests averaged about 1.6 million fish (Figure 3). (The highest decade average catch of 2 million during the 1940's was followed by a drastic decline in catches for the next two decades suggesting that overfishing had occurred and that the highest level of catches was probably not sustainable.) Prior to 1980 there was considerable concern that overharvesting of coho was occurring and as a result more conservative management was implemented beginning in 1980. While the larger returns since 1982 may have temporarily alleviated any overharvesting which was occurring - at least for most stocks - there is still concern that with existing fishing patterns, overharvest problems may recur when coho runs return to more normal or below average levels of abundance.

As with chinook, hatchery production of coho salmon in Southeast Alaska has been relatively small to date, however production by State and private hatcheries is projected to reach nearly 650,000 by 1987. Substantial contributions to the troll fishery would be expected from this production.

Fishing Effort

The Alaska Commercial Fisheries Entry Commission currently issues 940 permanent power troll permits and 2,150 hand troll permits. In 1985, preliminary estimates indicate that 878 power troll gear units and 936 hand troll gear units were actually fished. Hand troll gear permit holders accounted for about 16% of the 1985 chinook troll catch and also 16% of the coho troll catch.

The number of power troll permits fished annually since 1975 has remained relatively constant, ranging between 736 and 878 permits. However, the number of hand troll permits fished annually has fluctuated substantially and has declined significantly in recent years. (The hand troll fishery was not placed under limited entry until 1980. From approximately 1,000 in 1975, the number of hand troll permits actively fished increased to a high of 2,549 in 1978 and then declined to less than 900 in 1984 and 1985, although approximately 2,150 permits have been issued. The large number of hand troll permits fished during the late 1970's was thought to be partly the result of persons participating in the fishery to allow them to qualify for permits when the hand troll fishery was eventually placed under limited entry.

Current Fishery Management Problems

In recent years several changes have occurred in the troll fishery that have affected management decisions and consequently the conduct of the fishery. As mentioned above, chinook production from Southeast Alaska river systems has been depressed since the 1950's. In spite of restriction of

terminal area net fisheries, recreational fisheries bag limits, and inside troll fishery restrictions through the late 1970's, escapements did not improve substantially. Beginning in 1981 the Board of Fisheries adopted a fifteen year rebuilding program for Southeast Alaska's chinook salmon stocks. This has resulted in spring closures of the troll fishery when the availability of mature Alaska spawning fish is high. These closures were complimented by accompanying reductions in the overall level of harvest through use of catch ceilings so that savings made early in the season would not be merely offset by harvest of immature fish later in the season. Since 1981, the entire troll fishery has been closed from April 15 through May 14 with additional spring closures being implemented since 1982 in selected terminal migration corridors to provide extra protection as required for certain local stocks. As a result of these restrictions, escapements to rivers in Southeast Alaska have generally improved.

Second, escapements for many non-Alaskan chinook systems that contribute to the Southeast Alaska troll fisheries are also currently below optimum levels. The exact contribution of these depressed natural stocks to the Alaska troll fishery is not known but it is significant. In cooperation with coastwide management of these stocks and under terms of the U.S./Canada Salmon Treaty, the Board of Fisheries again directed the Commercial Fisheries staff to manage the troll fishery to achieve reduced chinook harvest levels in 1985. The base target harvest ceiling for all commercial and recreational fisheries was 263,000 chinook, excluding harvest of new Alaska hatchery production.

Third, increased troll fishing effort in outer coastal and offshore fishing areas is increasing the mixed stock nature of the coho salmon fishery. This has resulted in more of the

harvest occurring early in the season before run strength can be fully assessed and effective in-season management measures implemented. Additionally, the Board has recognized that the increase in landings from the coastal and offshore fishing areas is reducing the allocation of coho salmon to inside user groups. To address this problem, the Board has provided for implementation of a 10-day regionwide troll closure, if necessary, to meet conservation and catch distribution objectives. A regionwide 10-day closure has been implemented for the troll fishery each year since 1980.

1985 CHINOOK SALMON FISHERY

Preliminary figures indicate that trollers took 216,000 chinook, (winter plus summer), net gear took approximately 35,000 chinook and recreational fisheries took an estimated 23,000 chinook during the 1985 season for a total catch of 274,000. This compares to the all-gear target harvest of 268,000 consisting of a base catch ceiling of 263,000 plus a 5,000 fish allowance for new Alaska hatchery production.

Comparative troll and total all gear chinook salmon commercial and recreational catches since 1978 are shown graphically in Figure 4 and in tabular form for 1965-85 in Table 2. The 1985 troll catch of 216,000 chinook was about 8% or 20,000 fish less than the 1984 catch of 236,000. Compared to the 1971-80 average troll catch of 300,000, the 1985 catch was reduced by about 28% or 84,000 fish. Since 1960, catches were smaller in only two years; the 1961 catch was 205,000 while the 1962 catch was 174,000.

Troll Fishery Winter Season

The 1985 winter season extended from October 1, 1984 through April 15, 1985. Beginning and ending dates were the same as for the 1981 through 1984 seasons. As in previous years, fishing during the 1984/85 winter season was restricted to those areas of Southeast Alaska lying inside (east of) the surfline, portions of District 16 north of Cape Spencer, and the waters of Yakutat Bay. All outer coastal areas including the FCZ west of the surfline were closed during the winter fishery.

As shown in Table 3, approximately 23,000 chinook salmon were harvested by the troll fishery during the 1984/85 winter season. The 1984/85 winter season catch decreased from the 1983/84 winter catch of 33,000 by about 30 percent or 10,000 fish as a result of decreased effort during the second portion of winter season from January 1, 1984 through April 15, 1985. This decrease in effort was due to adverse weather conditions. Overall, catch per landing during the 1984/85 winter season was similar to that of the previous winter. For comparison, troll fishery winter season chinook salmon catches since 1970 are shown in Figure 5. As seen in Figure 5, winter catches during the past several years have been significantly above those of prior years when catches were normally less than 10,000 fish.

Troll Fishery Summer Season

The pre-season management plan for the 1985 troll fishing season included a summer season troll target harvest of 198,000 chinook salmon. This target was determined by subtracting a winter catch of 23,000, a pre-season estimated net

fisheries catch of 20,000, and a recreational fishery preseason projection of 22,000 from the established all-gear base catch ceiling of 263,000 chinook salmon. (These preseason projections did not include projected catches of new Alaska hatchery production which were to be estimated inseason from coded wire tag returns.) The opening date of the summer season was delayed until June 3 to minimize conflicts with the previously scheduled halibut fishery and to allow the troll fishery to target on Alaska hatchery chinook. Special experimental troll fisheries were allowed near Petersburg and Ketchikan during the June 3-12 period to provide trollers an opportunity to target on mature chinook returning to Alaska hatcheries.

The Southeast Alaska summer troll fishery opened on June 3 and continued for 10 days through June 12 (Table 4). Average harvest rates of chinook during previous seasons indicated that the 10-day catch would be approximately 50,000 chinook; preliminary catch data indicates that 66,000 fish were taken. With the target harvest for the summer season at 198,000 chinook, this left 132,000 chinook for the main summer fishery beginning July 1.

Trolling reopened on July 1 and continued for 22 days through July 22 when catch projections indicated that target catch levels were being reached. Trolling was closed beginning July 23 to the retention of chinooks only and the troll fishery continued for coho and other species. Fishermen were required to offload any chinook that were aboard their boats before continuing to fish for other species. Trolling then remained closed to the taking of chinook through August 24 with the period August 15-24 being closed to all species for coho management purposes.

From July 23 when the troll fishery was closed to chinook fishing through mid-August, chinook catches in all fisheries were tabulated from fish tickets and catch projections updated. Based on this inseason analysis, it was determined that approximately 15,000 chinook remained to be harvested from the established catch ceiling. Accordingly, the troll fishery was opened to chinook fishing for 39 hours beginning August 25 when the troll fishery reopened after the 10-day all-species closure. During the 39-hour period, an estimated 13,000 chinook were harvested in the troll fishery which was then closed to chinook fishing from 3:00 p.m. August 26 through the end of the summer season on September 30.

The 1985 Southeast Alaska summer troll chinook season consisted of approximately 34 fishing days and was 11 days shorter than the 45-day season in 1984 (Figure 6 and Table 5). This represents nearly an 80% reduction in fishing time since 1979 and prior years when 169 days were fished from April 15 through September 30. These reductions, begun in 1980, are part of the 15-year rebuilding program for depressed Southeast Alaska natural chinook stocks as well as part of a coordinated coastwide effort to rebuild depressed chinook stocks under terms of the U.S./Canada Salmon Treaty.

1985 Natural Chinook Salmon Escapements

In 1981 an accelerated stock rebuilding program was initiated with the objective of rebuilding natural chinook salmon escapements in Southeast Alaska and transboundary rivers to management goals within 15 years or approximately 3 cycles. To achieve this, protective regulations implemented in intermediate and terminal troll, net and recreational fisheries since the mid-1970s were continued and, in addition, more

restrictive regulations were implemented for the regionwide troll fishery. Based on the results of the first five years of the rebuilding program, it appears that the 15-year schedule will be met for most stocks and that management goals for a number of stocks will be achieved earlier.

Table 6 summarizes preliminary 1985 index escapements to the 11 index systems used for monitoring natural chinook escapements. Comparative escapements for 1981-84 and average escapements for 1975-80 are also shown in Table 6. (Index escapements shown in Table 6 have not been expanded for aerial survey counting rates or for tributaries not surveyed.)

Overall, 1985 chinook escapements to index systems in Southeast Alaska and the transboundary rivers were mixed compared to 1984. Escapements in 1985 increased over 1984 levels in 5 index systems and decreased in 6 systems (Figure 7). There was no apparent pattern to changes in 1985 escapements compared to 1984, and differences were probably due to normal year to year variations in factors affecting production and subsequent escapements. The estimated 1985 total chinook escapement of 37 thousand (expanded for survey counting rates, unsurveyed tributaries and unsurveyed systems as shown in Table 7), is similar to the 1984 total escapement of 36 thousand. Chinook escapements in each of these years probably benefited from regulations delaying the openings of the summer troll fishery from the normal May 15 date to June 5 in 1984 and June 3 in 1985 due to potential conflicts with late May halibut seasons.

Largest percentage increases in 1985 escapements over 1984 levels occurred in the Taku (+72%) and Blossom (+40%) rivers.

The largest decreases occurred in the Chilkat (-69%), King Salmon (-41%) and Unuk (-37%)rivers. Escapements remained relatively unchanged in the Alsek, Situk, Chickamin and Keta rivers. In the transboundary rivers, escapements in 1985 increased over 1984 levels in the Taku (+72%) and Stikine (+23%) and decreased slightly in the Alsek (-14%).

Combined escapements to the four Behm Canal index systems (the Unuk, Chickamin, Blossom and Keta) continued the pattern of strong returns experienced since 1983 with 1985 escapements averaging 96 percent of the respective management goals. Total escapement to the four systems was 86 percent of the total escapement goal.

As indicated above, the objective of the current stock rebuilding program is to achieve management spawning goals within a maximum of 15-years or approximately 3 cycles from the beginning of the program in 1981. The 1985 season represents the end of the first cycle or five year period of the rebuilding program.

Total chinook escapements during 1981-85 averaged 39,000 fish. This represents an increase of 56 percent or 14,000 fish over the average of 25,000 fish during the prior 6-year period 1975-80 for which comparable escapement data is available. For individual index systems, average 1981-85 escapements increased in 9 of the 11 index systems, but decreased in two, the Alsek (-6%) and Situk (-37%). The strongest and most uniform improvements have occurred in the Behm Canal systems. Since 1982 when an additional one month closure was imposed in portions of District 1 because of the later spawning migration of the Behm Canal stocks, estimated escapements to the four index systems have increased by 145 percent over

1975-80 levels with good improvement in each of the four years.

The current total escapement management goal for all systems is approximately 64,000 chinook salmon (Table 8). Total escapements during 1981-85 averaged 39,000 fish or about 60 percent of the total escapement goal compared to the average 1975-80 escapement of 25,000 or about 40 percent of the goal. Annual total escapements during this period have ranged from 25,000 or 39 percent of the goal in 1983 to 52,000 or 81 percent of the goal in 1981 (Figure 8).

Based on the results of the first five years of the rebuilding program, it appears that escapement goals will generally be met for most systems during the third cycle. However, as expected, rebuilding rates have not been uniform between years or individual systems. Average 1981-85 escapements expressed as a percent of management goals have ranged from 36 to 126 percent for the 11 index systems (Figure 9). While goals are actually expected to be met during the second cycle for some of the systems with strongest returns such as the Behm Canal systems and the King Salmon river, systems currently showing the least improvement may require additional protective regulations to ensure rebuilding by the third cycle. In this regard it might be noted that reduced chinook salmon catches required under the new U.S./Canada Salmon Treaty are expected to have further beneficial impacts on the Southeast Alaska stock rebuilding program.

Given the diversity of these runs and the nature of mixed stock fisheries through which they pass, substantial variations in annual escapements and system recovery rates are expected to continue.

1985 COHO SALMON FISHERY

1985 Coho Fisheries

The troll coho salmon season normally occurs from June 15 through September 20 although the major portion of the catch generally occurs from mid-July through early September. Troll coho catches generally peak near mid-August while catches in inside gillnet fisheries peak approximately one month later near mid-September; migrations into spawning streams peak about mid-October (Figure 10). Southeast Alaska coho salmon fisheries are managed on assessed in-season run strength and are regulated to achieve conservation objectives and Board of Fisheries established allocation policies. The coho fishery is not managed under harvest guidelines as is the chinook fishery.

Existing Board regulations specify a 10-day closure during the coho season, if necessary, to move more coho into inshore and terminal areas. The primary purpose of this closure is to allow coho to segregate into more distinct stock units to facilitate run strength assessment, ensure adequate escapements and to better maintain the historical allocation balance to inside fisheries. A trend in recent years for more of the troll effort to be expended in outer coastal areas has resulted in more of the harvest being taken by outside fisheries with a resulting decrease in harvest opportunities by inside fisheries. The 10-day closure has been implemented each year since 1980.

The 1985 coho salmon returns to Southeast Alaska continued the pattern of strong returns experienced during the last

several seasons. The 1985 troll fishery coho salmon harvest of 1.6 million, which represents about 64 of the commercial harvest, ranks 1985 as the second best troll catch on record following 1951 when 2 million coho were harvested (Figure 1). The 1985 troll catch was more than double the 1971-80 average of 654,000.

Opening of the 1985 coho troll season was delayed until July 1 because of chinook management considerations. Normally less than 5% of the season troll coho catch occurs prior to July 1. The fishery was open for coho July 1 through September 20 except for one 10-day closed period.

Following the chinook closure on July 22, trollers targeted almost exclusively on coho salmon harvesting approximately 1.2 million coho. Troll fishing for non-chinook species was not stopped at the time of the chinook closure on July 22, but fishermen were required to offload any chinook aboard before continuing to fish for coho.

A 10-day region wide troll closure was implemented August 15-24 for coho management. The closure was implemented in 1985 primarily to address the Board established catch allocation objective of maintaining a more historical coho catch allocation between the outside troll fishery and inside troll, net and recreational fisheries. Data available in early August when the closure was announced indicated that the troll catch to that date was approximately 200 percent above the 1971-80 average to the same date. At the same time the catch in inside drift gillnet fisheries, used as the primary indicator of coho abundance in inside fisheries, was about 100 percent above the same 1971-80 base period catch. Catch rates in the

Juneau area sport fishery had fallen below average 1971-80 levels during late July and early August.

1985 Coho Salmon Escapements

Comparative counts from throughout the region indicate that escapement strength in 1985 was mixed among systems and geographical areas. Overall, escapement in northern Southeast was above average to excellent while escapement in southern Southeast was poorer aned less consistent. Counts on southern systems were mixed, ranging from considerably below average to well above average.

SPECIAL PROBLEMS

Hook and Release of Chinook Salmon from July 22 through September 20

Following the closure of trolling for chinook salmon on July 22, fishermen were allowed to continue fishing for other species. Chinook that were hooked were required to be returned to the water.

To reduce the incidence of chinook hook and release during this period, the Department closed four areas along the outer coast, one area in Icy Straits, and an offshore area commonly known as the Fairweather Grounds. (Description of areas given in Table 9). These areas had previously been identified as areas of probable high chinook abundance. Fishermen were also encouraged to avoid fishing in areas where chinook

abundance was found to be high and to utilize gear and techniques most selective for coho salmon.

The Department also conducted an observer program using Department employees and volunteer fishermen as observers to document the incidence of chinook hook and release. A report on this study will be presented at the December Board of Fisheries meeting.

Incidence of Scarred Chinook and Coho Salmon

For the past several years the Department has observed that a small percentage of chinook and coho salmon caught by troll gear bore external scars of various types. The scars usually consist of scrapes or wounds with pronounced scale loss, laceration of the skin, or deep cuts penetrating into the muscle tissue.

The attention given to these scars by the Department arises from two concerns:

1. If the scarred salmon observed represents a small portion of salmon escaping other fisheries, the actual interception of salmon by trawl, gillnet, and other gear outside southeast Alaska could be much greater than previously reported.

2. Salmon landed with any scars to the body of the fish reduce its value by as much as 50%. These scarred salmon can not be sold to markets demanding premium

quality troll caught salmon and therefore the fisherman is paid less for those fish. The loss in revenue to the Alaska fishing industry is significant.

In 1985, sampling of approximately 1,900 chinook and 2,600 coho indicated that approximately 1.54% of chinook and 1.59% of coho bore scars. The types of scars thought to be caused by previous encounters with fishing gear accounted for .03% and 0.6% for chinook and coho respectively. These levels were similar to previous years.

FIGURES AND TABLES

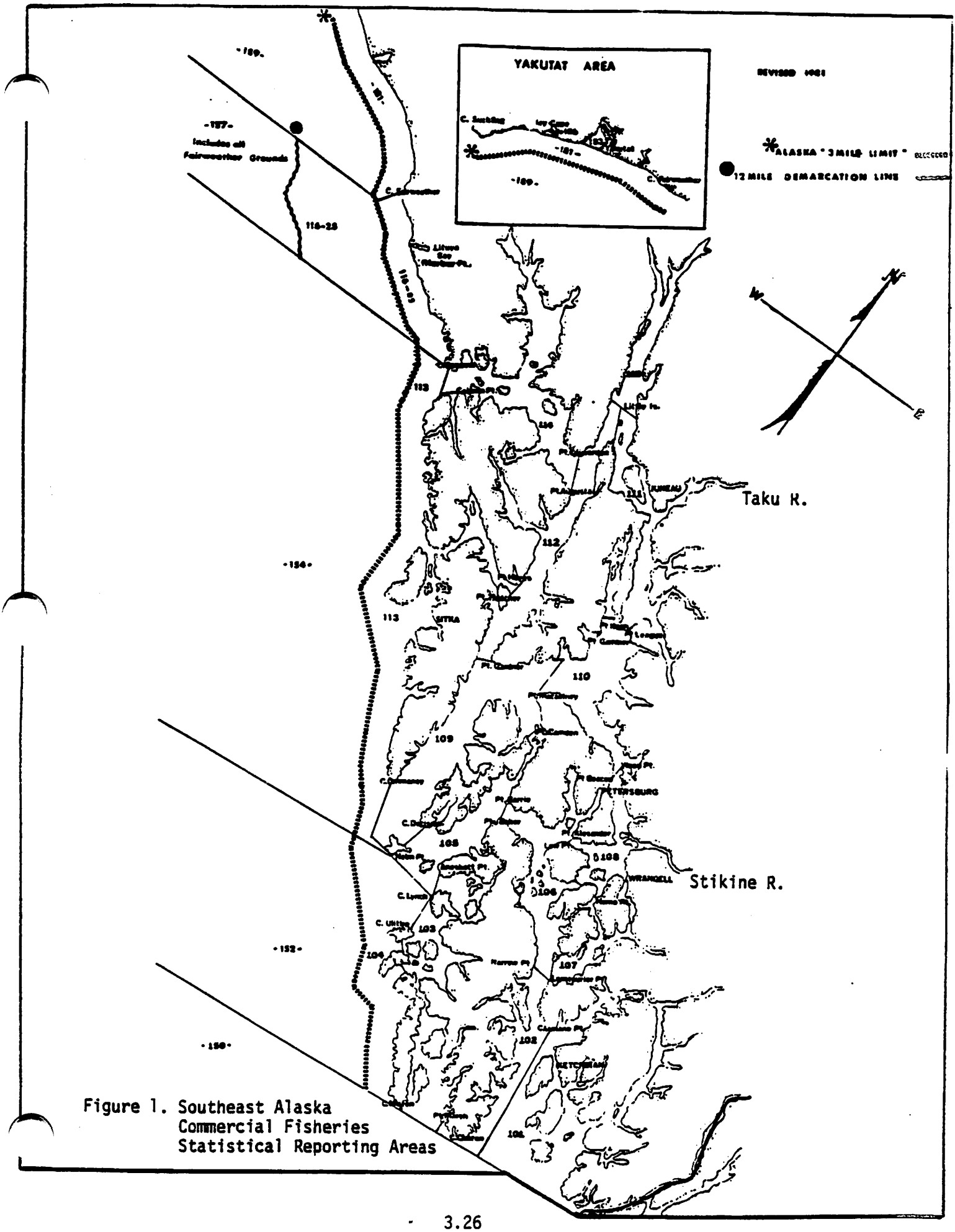

Figure 1. Southeast Alaska Commercial Fisheries Statistical Reporting Areas

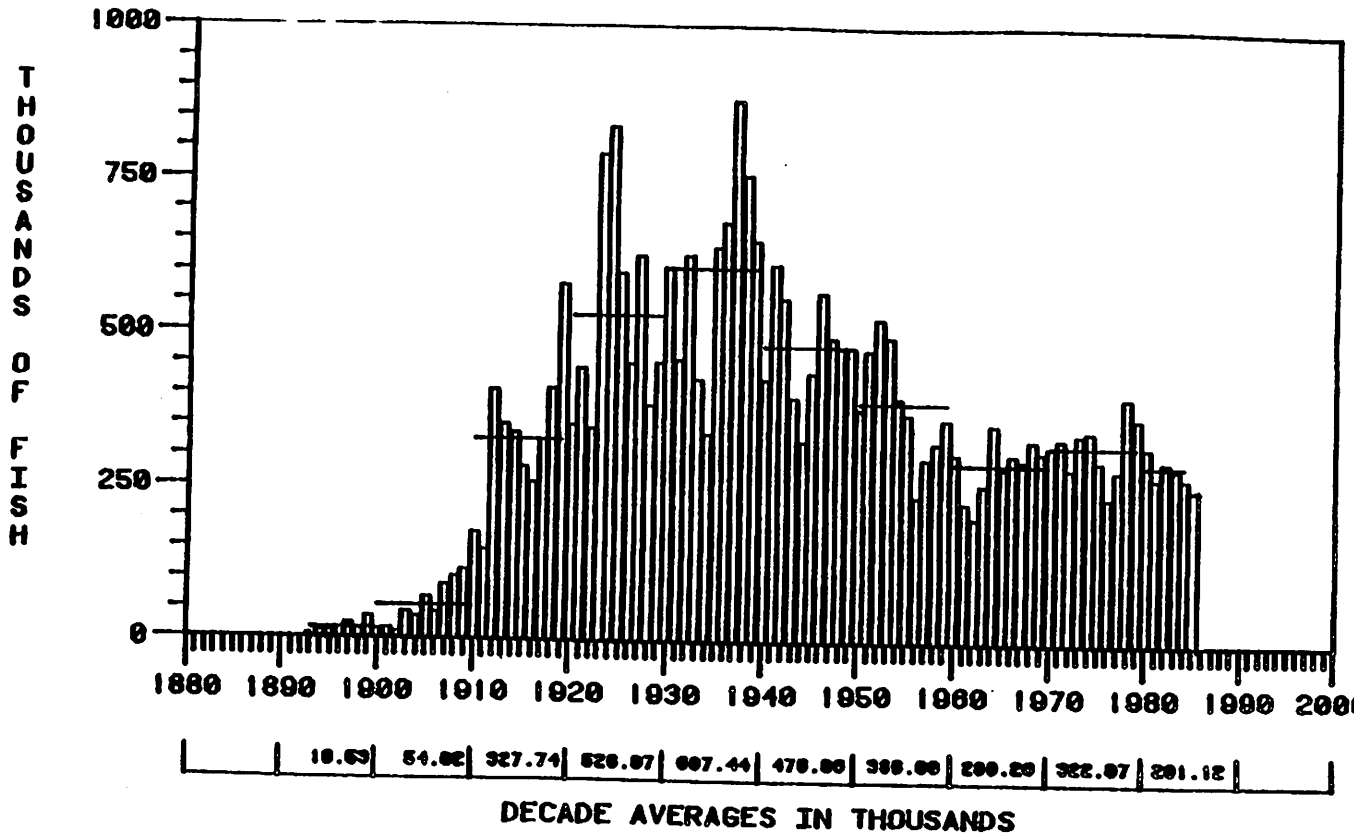

FIGURE 2. SOUTHEAST ALASKA REGION HISTORICAL COMMERCIAL CHINOOK SALMON CATCHES BY ALL GEAR, 1893 TO PRESENT.

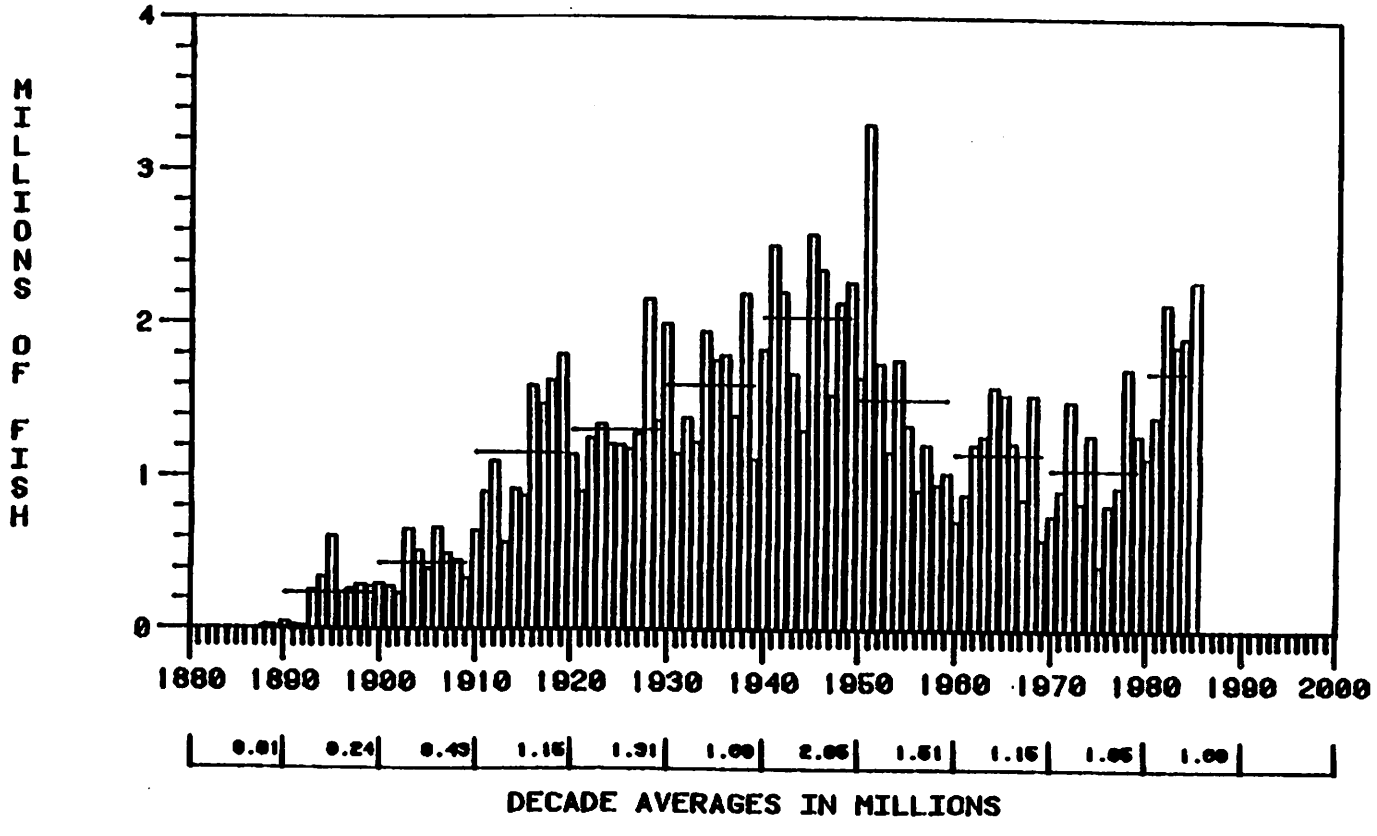

FIGURE 3. SOUTHEAST ALASKA REGION HISTORICAL COMMERCIAL COHO SALMON CATCHES BY ALL GEAR, 1888 TO PRESENT.

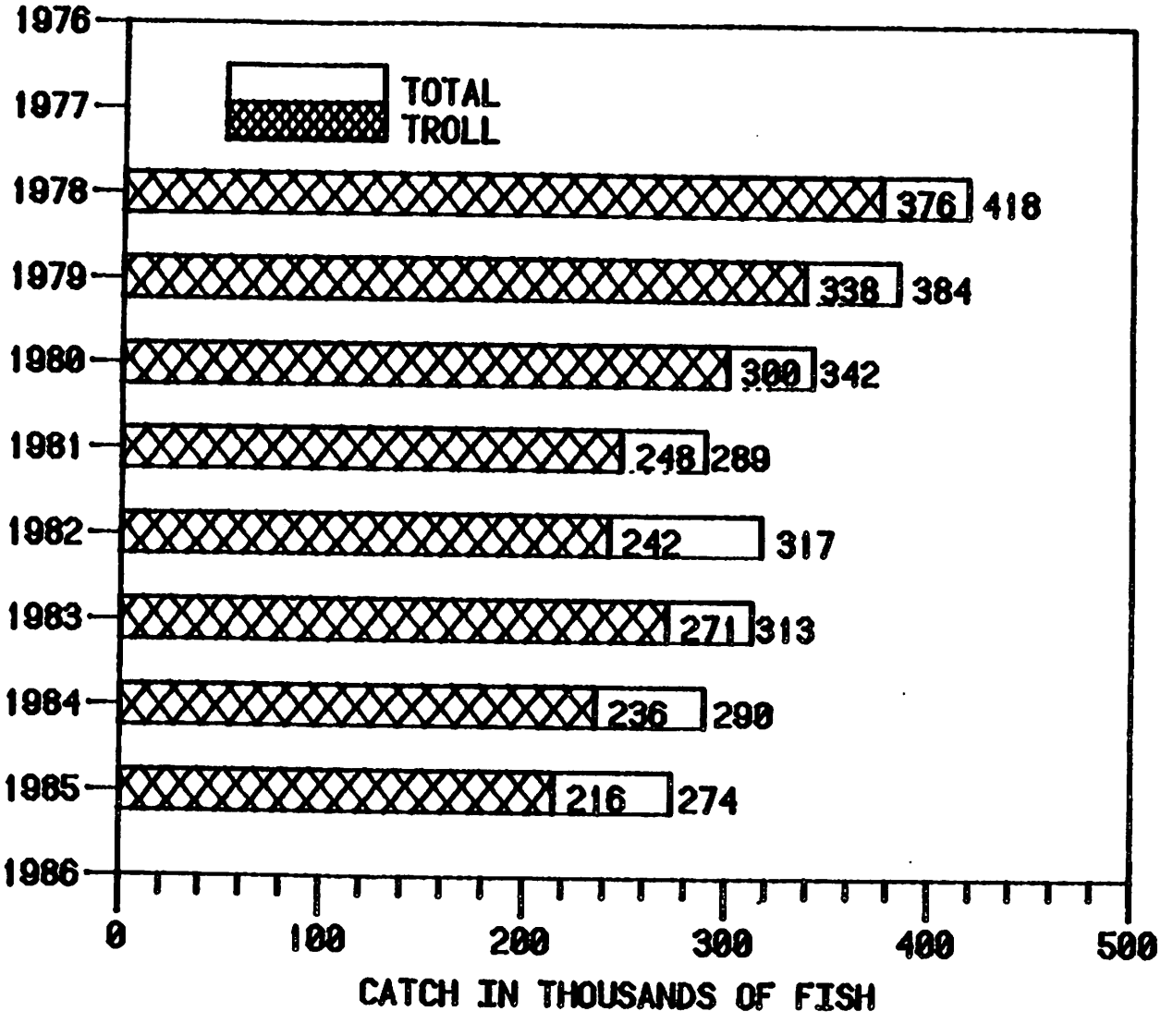

FIGURE 4. TOTAL SOUTHEAST ALASKA REGION CHINOOK SALMON CATCHES BY ALL GEAR AND BY TROLL GEAR, 1978-85. (ADF&G 11/11/85; M099)

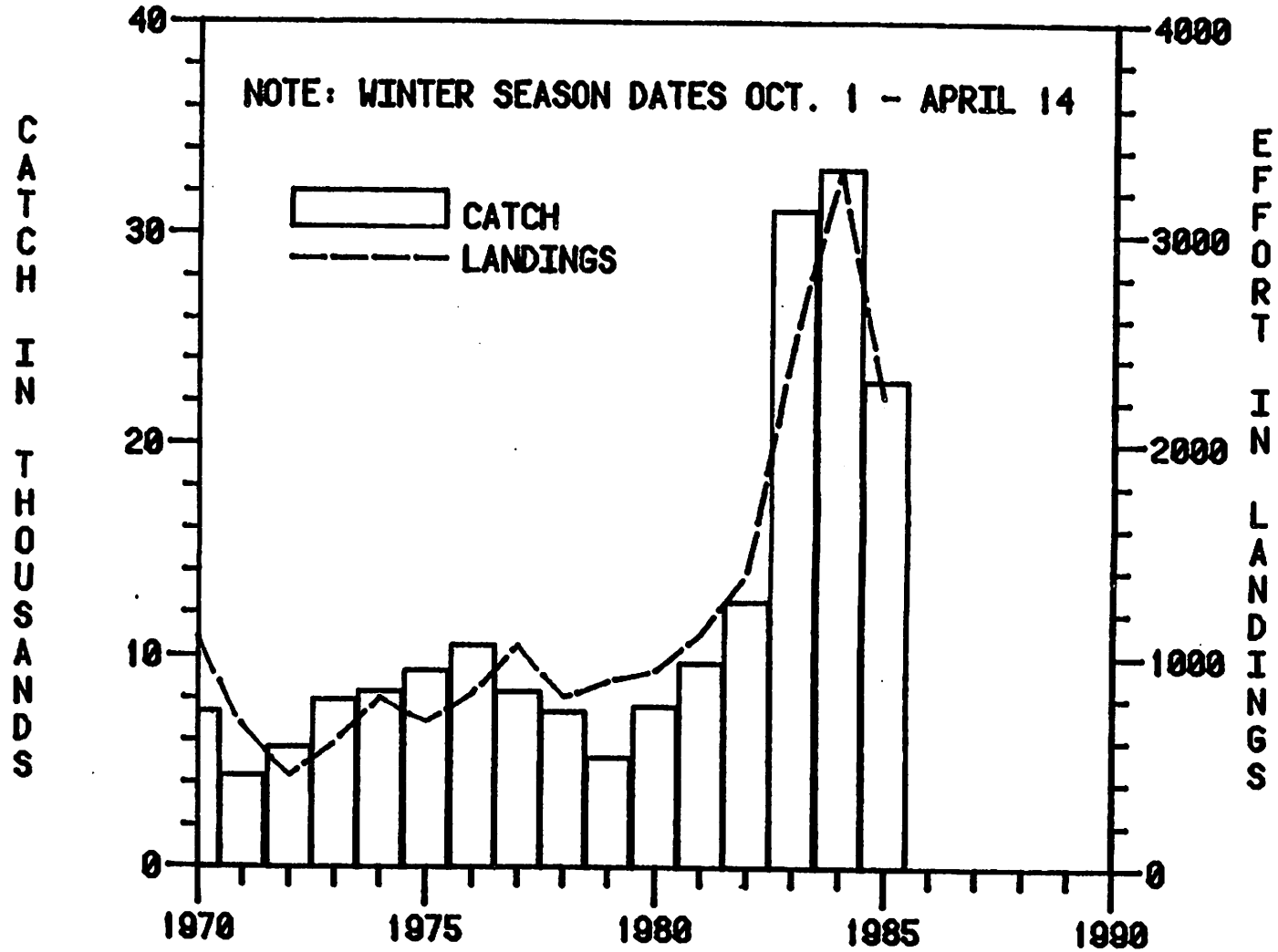

FIGURE 5 . ANNUAL SOUTHEAST ALASKA REGION WINTER TROLL FISHERY CHINOOK SALMON CATCHES AND EFFORT, 1970-85. (ADF&G 10/85; MS65)

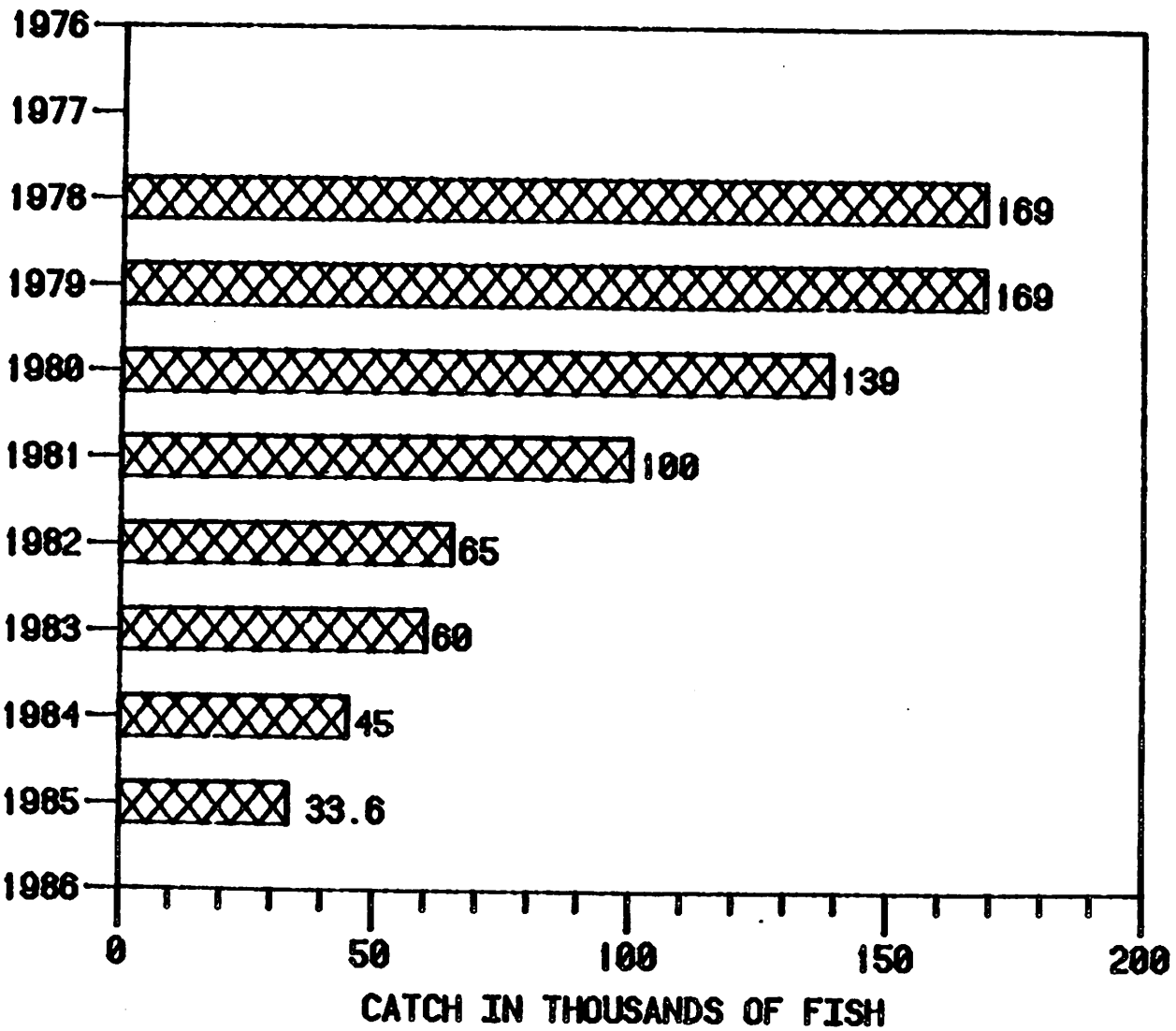

FIGURE 6 . NUMBER OF DAYS SOUTHEAST ALASKA TROLL FISHERY OPEN TO CHINOOK SALMON FISHING DURING THE SUMMER SEASON APRIL 15 THROUGH SEPTEMBER 30, 1978 TO PRESE (ADF&G 11/85: M126)

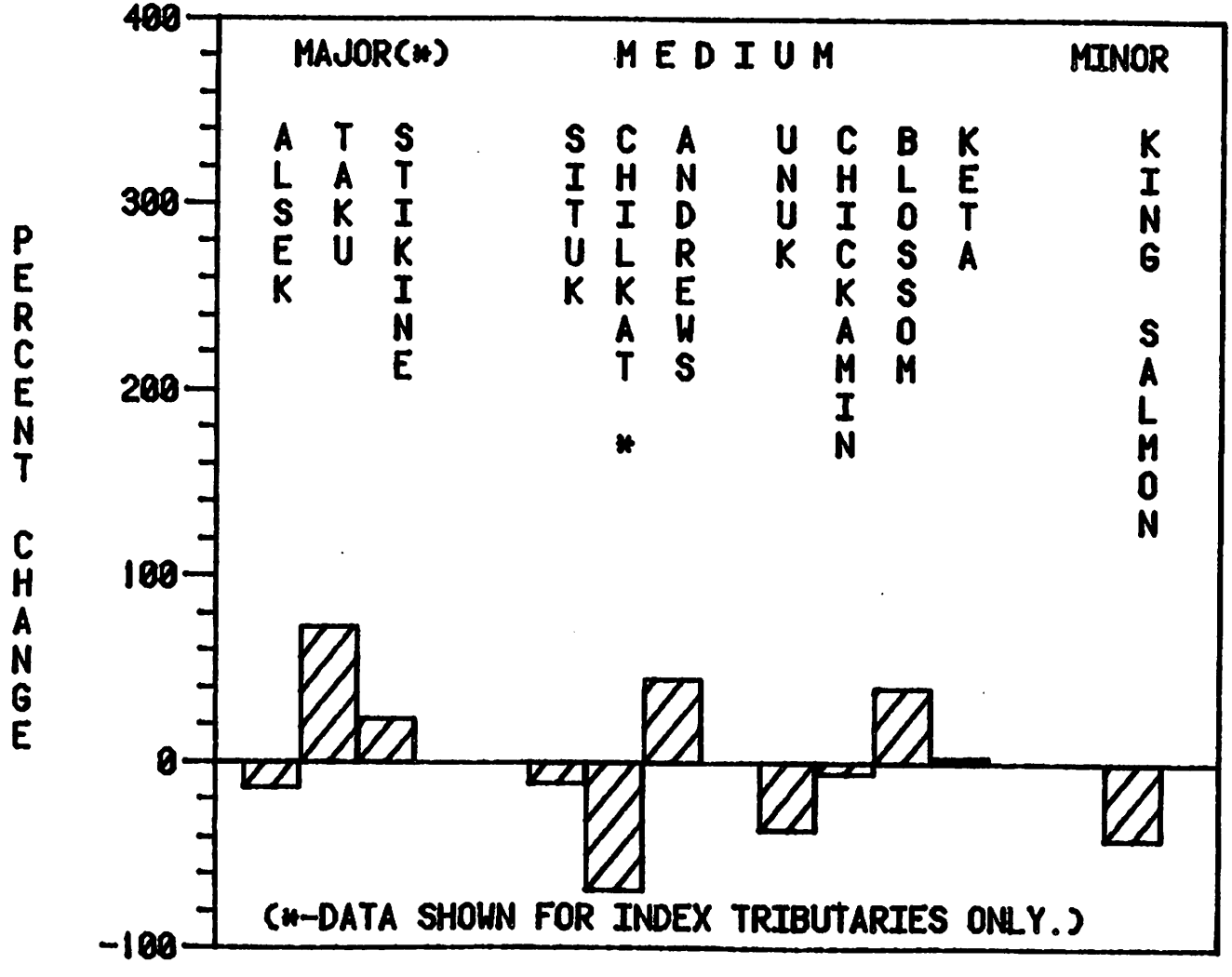

FIGURE 7. PERCENT CHANGES IN 1985 CHINOOK SALMON ESCAPEMENTS COMPARED TO 1984 FOR SOUTHEAST ALASKA AND TRANSBOUNDARY RIVERS INDEX SPAWNING SYSTEMS. (ADF&G 10/85; M123)

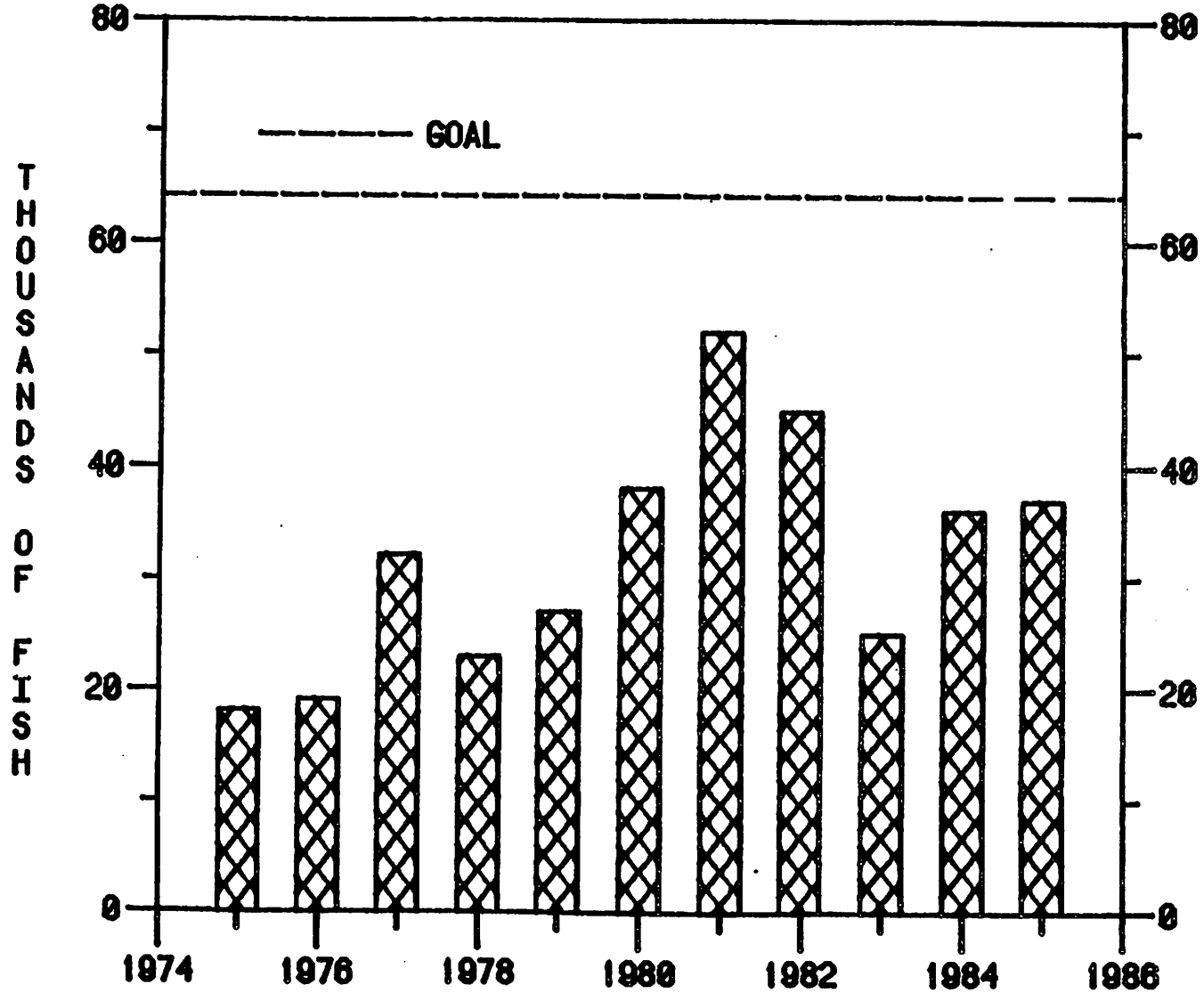

FIGURE 8. ESTIMATED TOTAL CHINOOK SALMON ESCAPEMENTS TO SOUTHEAST ASKA AND TRANSBOUNDARY SPAWNING SYSTEM 1975-85. (ADF&G 10/85; M125)

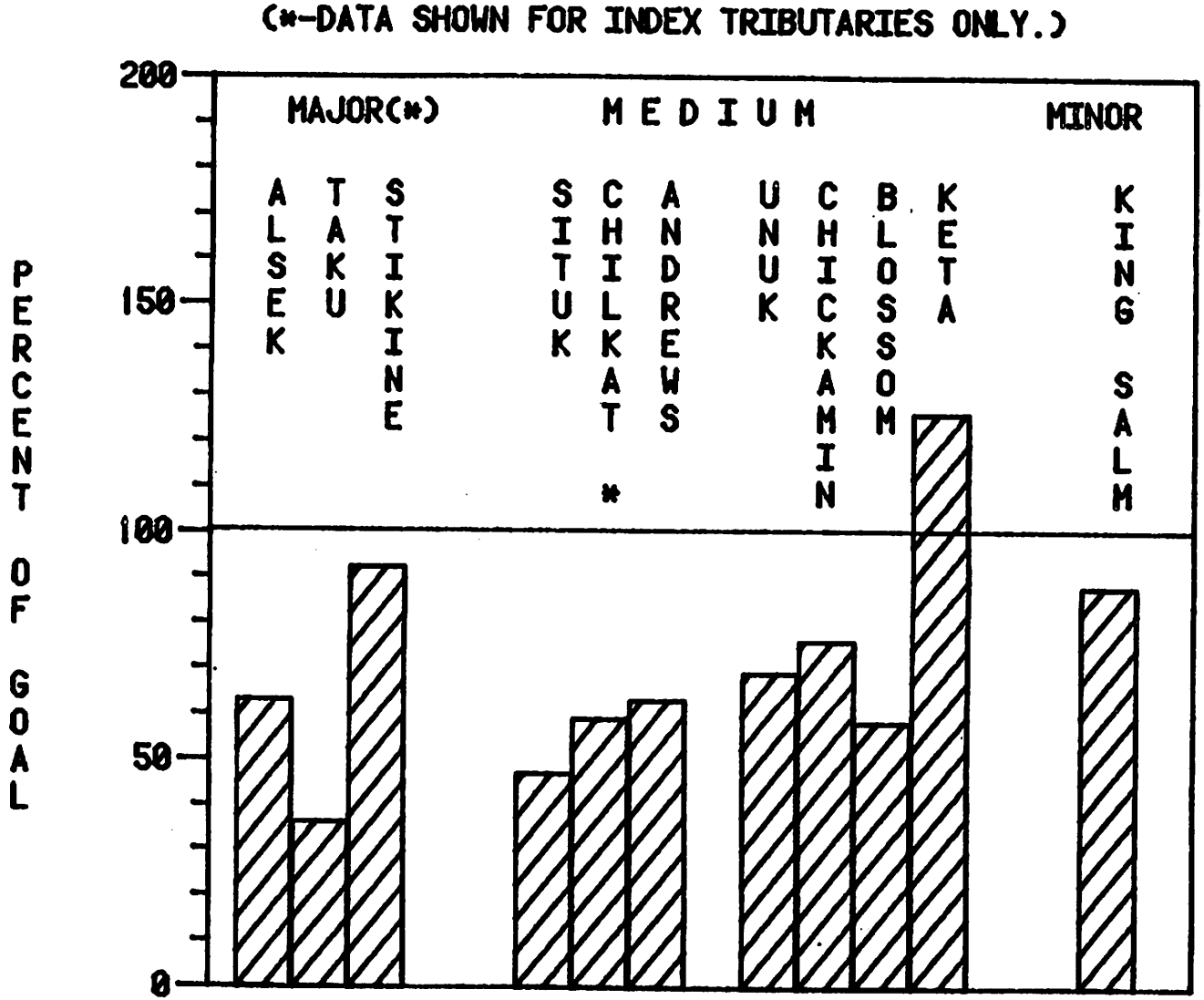

FIGURE 9. PERCENT OF MANAGEMENT SPAWNING GOALS REPRESENTED BY AVERAGE 1981-85 CHINOOK SALMON ESCAPEMENTS TO SOUTHEAST ALASKA AND TRANSBOUNDARY INDEX SPAWNING SYSTEMS. (ADF&G 10/85; M124)

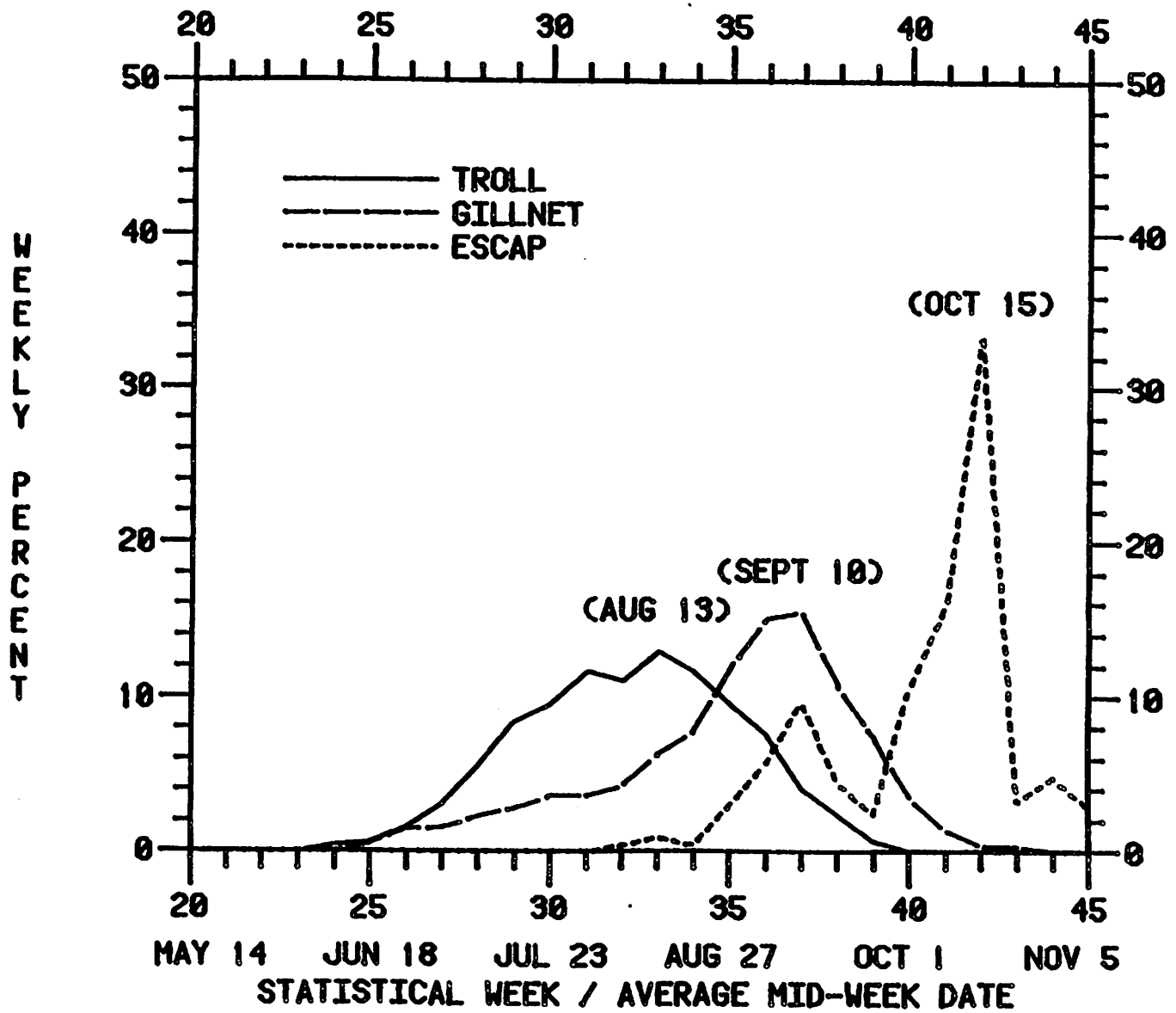

FIGURE 10. AVERAGE TIMING DISTRIBUTION OF COHO SALMON IN THE SOUTHEAST ALASKA TROLL AND DRIFT GILLNET FISHERIES (1969-82 AVERAGES) AND AT SELECTED WEIR SITES (19[illegible]). (ADF&G 7/20/83)

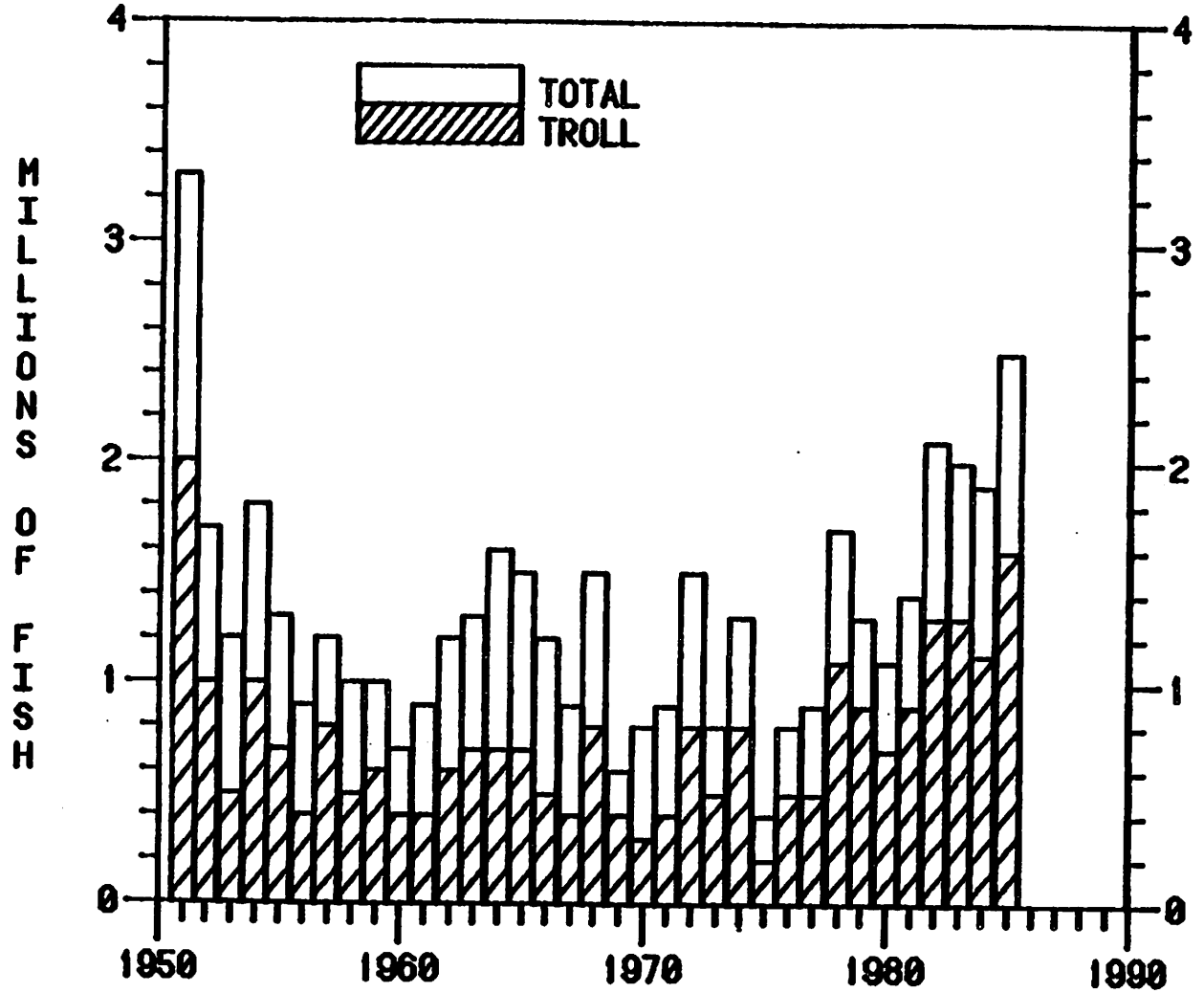

FIGURE 11. SOUTHEAST ALASKA REGION ANNUAL COMMERCIAL COHO SALMON CATCHES BY THE TROLL FISHERY AND ALL COMMERCIAL FISHERIES 1951 TO PRESENT. (ADF&G 11/85; M029)

Table 1a. Southeast Alaska region annual commercial salmon catches in numbers by species, 1970 to present (ADF&G 11/13/85).

Fishery 05 Troll

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1970	304,602	477	267,647	70,072	3,235	646,033
1971	311,439	929	391,282	104,557	7,602	815,809
1972	242,290	1,060	791,964	166,777	11,634	1,213,725
1973	307,807	1,222	540,125	134,586	10,460	994,200
1974	322,101	2,603	845,109	263,083	13,818	1,446,714
1975	287,342	1,098	214,170	76,882	2,784	582,276
1976	231,280	1,266	524,762	193,786	4,251	955,345
1977	271,777	5,701	506,927	281,286	11,617	1,077,308
1978	375,433	2,804	1,100,902	617,633	26,193	2,122,965
1979	338,319	7,018	918,845	629,144	24,661	1,917,987
1980	301,597	2,866	707,360	267,589	12,201	1,291,613
1981	252,193	7,470	862,177	577,256	8,964	1,708,060
1982	249,873	2,339	1,321,546	503,425	5,699	2,082,882
1983	272,803	8,012	1,279,518	498,503	20,548	2,079,384
1984	235,643	9,620	1,132,992	572,781	28,082	1,979,118
Average 1970 to 1984	286,967	3,632	760,355	330,491	12,783	1,394,228
1985 PRELIM	216,000[1]	7,713	1,588,658	968,184	52,213	2,832,763

[1] Chinook catch reported by chinook accounting year October 1 through September 30.

Table 1b. Southeast Alaska region annual commercial salmon catches in numbers by species, 1970 to present (ADF&G 11/13/85).

Fishery 31 Power Troll

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1970	304,602	477	267,647	70,072	3,235	646,033
1971	311,439	929	391,282	104,557	7,602	815,809
1972	242,290	1,060	791,964	166,777	11,634	1,213,725
1973	307,807	1,222	540,125	134,586	10,460	994,200
1974	322,101	2,603	845,109	263,083	13,818	1,446,714
1975	259,347	1,002	173,248	48,029	2,243	483,869
1976	204,986	750	436,029	149,732	2,190	793,687
1977	238,601	3,961	351,114	164,510	7,474	765,660
1978	321,050	1,649	721,975	374,164	16,620	1,435,458
1979	279,400	4,570	674,030	347,433	16,735	1,322,168
1980	249,934	1,683	526,956	155,831	7,670	942,074
1981	217,124	5,296	680,586	403,761	6,384	1,313,151
1982	211,715	1,835	1,060,001	371,931	4,514	1,649,996
1983	234,506	6,436	1,043,339	361,809	17,771	1,663,861
1984	200,955	7,638	954,488	421,308	23,189	1,607,578
Average 1970 to 1984	260,390	2,741	630,526	235,839	10,103	1,139,599
1985 PRELIM	182,000[1]	6,024	1,329,922	712,065	42,636	2,272,647

[1] Chinook catch reported by chinook accounting year October 1 through September 30.

Table 1c. Southeast Alaska region annual commercial salmon catches in numbers by species, 1970 to present (ADF&G 11/13/85).

Fishery 30 Hand Troll

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1970	0	0	0	0	0	0
1971	0	0	0	0	0	0
1972	0	0	0	0	0	0
1973	0	0	0	0	0	0
1974	0	0	0	0	0	0
1975	27,995	96	40,922	28,853	541	98,407
1976	26,294	516	88,733	44,054	2,061	161,658
1977	33,176	1,740	155,813	116,776	4,143	311,648
1978	54,383	1,155	378,927	243,469	9,573	687,507
1979	58,919	2,448	244,815	281,711	7,926	595,819
1980	51,663	1,183	180,404	111,758	4,531	349,539
1981	35,069	2,174	181,591	173,495	2,580	394,909
1982	38,158	504	261,545	131,494	1,185	432,886
1983	38,297	1,576	236,179	136,694	2,777	415,523
1984	34,688	1,982	178,504	151,473	4,893	371,540
Average 1970 to 1984	26,576	892	129,829	94,652	2,681	254,629
1985 PRELIM	34,000[1]	1,689	258,736	256,119	9,577	560,121

[1] Chinook catch reported by chinook accounting year October 1 through September 30.

Table 2 . Annual Southeast Alaska commercial and recreational chinook salmon catches, 1965 - 85. (ADF&G 11/85)

	Numbers of Fish in Thousands				
	— Commercial Fisheries —			Recreational	
Year	Troll 1/	Net	Subtotal	Fisheries 2/	Total
1965	259	28	287	(13)	(300)
1966	282	26	308	(13)	(321)
1967	275	26	301	(13)	(314)
1968	304	28	332	(14)	(346)
1969	290	24	314	(14)	(328)
1965-69 Ave.	282	26	308	13	322
1970	305	18	323	(14)	(337)
1971	334	22	356	(15)	(371)
1972	242	45	287	(15)	(302)
1973	308	36	344	(16)	(360)
1974	322	25	347	(17)	(364)
1971-74 Ave.	302	29	331	15	347
1975	287	14	301	(17)	(318)
1976	231	11	242	(17)	(259)
1977	272	13	285	17	302
1978	376	25	401	17	418
1979	338	29	367	17	384
1975-79 Ave.	301	18	319	17	336
1980	300	22	322	20	342
1981	248	20	268	21	289
1982	242	49	291	26	317
1983	271	20	291	22	313
1980-83 Ave.	265	28	293	22	315
PRELIMINARY					
1984	236	32	268	(22) 3/	(290)
1985	216	35	251 4/	(23)	(274)

1/ Troll catches prior to 1980 based on calendar year. Catches beginning in 1980 based on Oct. 1 - Sept. 30 counting year.

2/ Estimates of recreational catches beginning 1977 based on mail surveys. Estimates for 1965-76 based on 1977-80 average catch per capita data.

3/ 1980-83 Average catch; 1984 data not available.

4/ Does not include harvest of approx. 2,100 chinook in private non-profit terminal cost recovery areas.

Table 3 . Southeast Alaska winter troll fishery landings and chinook salmon catches, and comparision with total season troll catches, 1970-85. (ADF&G 11/85)

Year	Winter Fishery			Total Season Troll Catch
	No. of Landings	No. of Fish	Percent of Total Season	
1970	1,085	7,400	2.4	305,000
1971	668	4,300	1.3	334,000
1972	434	5,700	2.4	242,000
1973	593	7,900	2.6	308,000
1974	804	8,300	2.6	322,000
1975	691	9,300	3.2	287,000
1976	825	10,500	4.5	231,000
1977	1,054	8,300	3.1	272,000
1978	807	7,400	2.0	376,000
1979	878	5,200	1.5	338,000
Average 1970-79	675	7,400	2.6	301,000
1980	927	7,600	2.5	300,000
1981	1,104	9,700	3.9	248,000
1982	1,385	12,600	5.2	242,000
1983	2,455	31,100	11.5	270,000
PRELIMINARY				
1984	3,300	33,000	14.0	236,000
1985	(2,200)	(23,000)	10.6	(216,000)

Note: Winter season dates are Oct. 1 through April 14; winter catches shown are for this period. The Oct. 1 through Sept. 30 catch accounting year is used beginning in 1981.

Table 4 . Preliminary 1985 Southeast Alaska troll fishery chinook and coho salmon catches by period. (Revised ADF&G: 11/20/85)

Period (No. of days)	Catches in Thousands of Fish	
	—Chinook—	—— Coho ——
Winter Season (Oct. 1, 1984 - April 14, 1985)	23	
Summer Season (April 15 - Sept. 30, 1985)		
Apr 15 - Jun 2 (49)	- Closed all species -	
Jun 3 - 12 (10)	66	
Jun 13 - 30 (18)	- Closed all species -	
Jul 1 - 22 (22)	114	335
Jul 23 - Aug 14 (23)	-Closed-	502
Aug 15 - 24 (10)	- Closed all species -	
Aug 25 - 26 (1.6) 1/	13	2/
Aug 26-Sept. 20 (25.4) 1/	-Closed-	752
Sept. 21 - 30 (10)	- Closed all species -	
Summer Season Subtotals	193	1,589
1985 Season Totals	216	1,589

Note: Estimated troll catches of other species include the following: 968,000 pinks, 52,000 chum, 8,000 sockeye.

1/ 39-Hour all species period 12:01 A.M. Aug. 25 to 3:00 P.M. Aug. 26.
2/ Coho catch during this period included in following period.

Table 5. Number of days Southeast Alaska troll fishery open to chinook salmon fishing during the summer season April 15 through September 30, 1978-85. (ADF&G 11/85)

Year	Open Days 1/	Closed Days	Open Periods (No. of Days)		Closed Periods (No. of Days)
1978	169	0	Apr 15-Sept 30	(169)	None
1979	169	0	Apr 15-Sept 30	(169)	None
1980	139	30	Apr 15-Jul 14	(92)	July 15-24 (9)
			Jul 25-Sept 9	(47)	Sept 10-30 (21)
1981	100	69	May 15-Jun 25	(42)	Apr 15-May 14 (30); Jun 26-Jul 4 (9);
			Jul 5-Aug 9	(36)	Aug 10-19 (10); Sept 4-12 (9);
			Sept 13-19	(7)	
1982	65	104	May 15-Jun 6	(23)	Apr 15-May 14 (30); Jun 7-16 (10);
			Jun 17-Jul 28	(42)	Jul 29-Sept 30 (64)
1983	60	109	May 15-Jun 8	(25)	Apr 15-May 14 (30); Jun 9-30 (22);
			Jul 1-Aug 4	(35)	Aug 5-Sept 30 (57)
1984	45	124	Jun 5-30	(26)	Apr 15-Jun 5 (51); Jul 1-10 (10);
			Jul 11-29	(19)	Jul 30-Sept 30 (63)
1985	33.6	135.4	Jun 3-12	(10)	Apr 15-Jun 2 (49); Jun 13-30 (18);
			Jul 1-22	(22)	Jul 23-Aug 24 (33); Aug 26-Sept 20 (25.4)
			Aug 25-26	(1.6) 2/	

1/ Number of days major portion of Southeast Alaska open to chinook salmon fishing. Selected area closures for all species occurred in some years during the open periods indicated above.

2/ During the 39-hour period 12:01 A.M. Aug. 25 to 3:00 P.M. Aug. 26 the troll fishery was open to all species.

Table 6. Preliminary 1985 chinook salmon index escapements to Southeast Alaska and transboundary rivers index systems and comparative 1975-85 data. (ADF&G: Revised 10/85)

System/Tribut.	Type of Count	Index Escapements (Unexpanded) Ave. 1/ 1975-80	1981	1982	1983	1984	1985	Ave. 1981-85	Percent change 1985 versus Ave. '75-80	1984	Index Escap. Goals	Percent Goal 1985	Ave. '81-85
Major (Transboundary) Systems (3 total) 3/													
Alsek/Kluckshu	(W) 2/	2,888	2,113	2,360	2,520	1,660	1,425	2,016	- 51%	- 14%	3,200	45%	63%
Taku/Nakina	(A)	2,813	5,110	2,533	968	1,887	2,647				9,000		
Nahlin	(A)	777	2,940	1,250	390	951	2,236				2,500		
Taku Subtotal		3,590	8,050	3,783	1,358	2,838	4,883	4,182	+ 36%	+ 72%	11,500	42%	36%
Stikine/L. Tahltan	(A)	972	3,334	2,830	594	1,294	1,598	1,930	+ 64%	+ 23%	2,100	76%	92%
Medium Systems (9 total) 3/													
Situk	(W)	1,292	643	434	592	1,726	1,521	983	+ 18%	- 12%	2,100	72%	47%
Chilkat/Big Boulder	(A)	25	187	56	121	229	70	133	+180%	- 69%	225	31%	59%
Andrews Creek	(W)	371	511	635	366	355	510 4/	475	+ 37%	+ 44%	750	68%	63%
Behm Canal Systems													
Unuk	(A)	802	731	1,351	1,106	1,837	1,164	1,238	+ 45%	- 37%	1,800	65%	69%
Chickamin	(A)	216	380	504	556	1,014	957	682	+343%	- 6%	900	106%	76%
Blossum	(A)	103	159	345	589	508	709	462	+588%	+ 40%	800	89%	58%
Keta	(A)	254	329	754	822	610	624	628	+146%	+ 2%	500	125%	126%
Behm Canal Subtot.		1,375	1,599	1,954	3,073	3,969	3,454	3,010	+151%	- 13%	4,000	86%	75%
Minor Systems (22 total) 3/													
King Salmon R.	(A)	76	101	259	208	198	117	177	+ 54%	- 41%	200	59%	88%

(Cont.)

TABLE 6. PRELIMINARY 1985 CHINOOK SALMON INDEX ESCAPEMENTS TO SOUTHEAST ALASKA AND TRANSBOUNDARY RIVERS INDEX SYSTEMS AND COMPARATIVE 1975-84 DATA. (ADF&G REVISED 10/23/85)

1/ When data is not available for all years 1975-80, averages calculated for available years.

2/ Type of count codes: (A) Aerial survey, helicopter peak spawning count (primary method).
(F) Foot survey count.
(W) Weir total count.

3/ System size categories: Potential run size: major - greater than 10,000
medium - 1,500 to 10,000
minor - less than 1,500

4/ Foot survey count of 319 large spawners in 1985 expanded to an estimated total of 510 large spawners using a foot survey counting rate of 62.5%. This was done to make the 1985 estimate comparable with prior years weir counts.

Notes: (1) Thirty-four systems in Southeast Alaska, including the transboundary rivers, are classified as natural chinook salmon systems. Due to poor surveying conditions in many systems only those included in the table have been surveyed in a consistent manner in most years since 1975 to provide a relative measure or index of chinook salmon escapements.
(2) Index escapements shown have not been expanded for aerial survey counting rates or for tributaries not surveyed.
(3) Only large, non-jack spawners are enumerated in aerial surveys; no adjustment is made for jack spawners. Weir counts on Andrews Creek and the Situk River have been adjusted to include only large spawners.
(4) Counts include only spawning fish; spawners removed for egg takes not included.

Data Sources: (1) Kissner, Paul D., Jr. 1984. A Study of Chinook Salmon in Southeast Alaska. Alaska Dept. Fish and Game. Federal Aid Report, 1983-84. Project AFS-41, Study AFS-41-11.

(2) Alaska Department of Fish and Game unpublished management records, personal communications P. Kissner and D. Ingledue.

(3) Canadian Department of Fisheries and Oceans unpublished management records. 1985 Alsek, Taku and Stikine data provided by by S. Johnson, personal communicatic

Table 7 . Estimated total 1985 chinook salmon escapements to Southeast Alaska and transboundary river systems. (Revised ADF&G: 10/85.)

System / Index Tributaries	Index Systems: 1985 Escap. Index		Survey Expans. Factor	Tribut. Expans. Factor	Est. Total Escap.	Categ. Expans. Factor	Est. Total Escap.
Major Category (Transboundary) Systems (3 total)							
Alsek/Kluckshu	1425	(W)	1	1/.64	2227		
Taku/Nakina, Nahlin	4883	(A)	1/.75	1/.60	10851		
Stikine/Little Tahltan	1598	(A)	1/.625	1/.25	10227		
Major Subtotals	7906				23305	1	23305
Medium Category Systems (9 total)							
Situk	1521	(W)	1	1	1521		
Chilkat/Big Boulder	70	(A)	1/.80	1/.14	625		
Andrews Creek	319	(F)	1/.625	1	510		
Behm Canal Systems							
Unuk	1164	(A)	1/.625	1	1862		
Chickamin	957	(A)	1/.625	1	1531		
Blossum	709	(A)	1/.625	1	1134		
Keta	624	(A)	1/.625	1	998		
Subtotals	3454				5526		
Medium Subtotals	5364				8183	9/7	10521
Minor Category Systems (22 total)							
King Salmon R.	117	(A)	1/.80	1	146		
Minor Subtotals	117				146	22/1	3218
All Systems Totals	13387				31634		37043

Notes: (1) (W) = weir count; (A) = aerial survey estimates; (F) = foot survey estimates.
(2) Total escapement estimates = (index escapements) x (expansion factors).

Table 8. Projected total management escapement goals for natural chinook salmon systems in Southeast Alaska and transboundary rivers. (Revised ADF&G: 10/85)

System / Index Tributaries	Index Systems: Index Escap. Goal	Survey Expans. Factor	Tribut. Expans. Factor	Total Escap. Goal	Categ. Expans. Factor	Total Escap. Goal
		Major Transboundary Systems (3 total)				
Alsek/Kluckshu	3200 (W)	1	1/.64	5000		
Taku/Nakina, Nahlin	11500 (A)	1/.75	1/.60	25556		
Stikine/Little Tahltan	2100 (A)	1/.625	1/.25	13440		
Major Subtotals	16800			43996	1	43996
		Medium Systems (9 total)				
Situk	2100 (W)	1	1	2100		
Chilkat/Big Boulder	225 (A)	1/.80	1/.14	2009		
Andrews Creek	750 (W)	1	1	750		
Behm Canal Systems						
Unuk	1800 (A)	1/.625	1	2880		
Chickamin	900 (A)	1/.625	1	1440		
Blossum	800 (A)	1/.625	1	1280		
Keta	500 (A)	1/.625	1	800		
Subtotals	4000			6400		
Medium Subtotals	7075			11259	9/7	14476
		Minor Systems (22 total)				
King Salmon R.	200 (A)	1/.80	1	250		
Minor Subtotals	200			250	22/1	5500
All Systems Totals	24075			55504		63971

Notes: (1) (W)= weir count; (A)= aerial survey estimate
(2) Total escapement goals = (index escapements) x (expansion factors).

Table 9. Descriptions of Southeast Alaska areas closed to trolling for all species during the 1985 summer season after July 22 to reduce incidental hook and release of chinook during chinook only closures.

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1. Waters off the west coast of Baranof Island between the latitude of Point Lauder and the latitude of Redfish Cape to a distance of one mile off the shore.

2. Waters off the Kruzof Island shore from Shoals Point west to Cape Edgecumbe and from Cape Edgecumbe north to Cape Georgiana to a distance of one mile off the shore.

3. Waters off the west coast of Yakobi Island between the latitude of Yakobi Rock and the latitude of Cape Cross to a distance of one mile from the main Yakobi Island Shore.

4. The waters of Palma Bay, Dixon Harbor, Torch Bay, Murk Bay and Graves Harbor will be closed east of a line beginning at the mouth of Kaknau Creek located approximately one mile northeast of Icy Point at 58°23'53" north latitude, 137°04'27" west longitude to Astrolabe Point to a point on the south shore of Dixon Harbor at 58°20' north latitude, 136°51'10" west longitude to Venisa Point to the westernmost tip of Polka Point.

5. The outer banks of the Fairweather Grounds bounded by the following lines:

   Loran C line 7960-Y-29800 on the north
   Loran C line 7960-Y-29150 on the south
   Loran C line 7960-X-14660 on the inshore side
   Loran C line 7960-X-14400 on the seaward side

6. That portion of section 14-B in Icy Strait north of the latitude of Noon Point on Pleasant Island and east of 135°40'west longitude. This closes the Icy Passage - Excursion Point area.