

M E M O R A N D U M

TO: Council, SSC and AP Members

FROM: Jim H. Branson
Executive Director

DATE: January 26, 1984

SUBJECT: Salmon FMP

ACTION REQUIRED

- (1) *Determine need for FMP amendment.*
- (2) *Develop preferred alternative for 1984 management.*
- (3) *Establish 1984 chinook harvest guideline.*

BACKGROUND

The Board has received proposals for seasons, harvest guideline, and areas for chinook fishing. All harvest guideline proposals request an increase in the allowable catch. Season proposals request a similar approach. The proposals are included here as item D-1(a). These will be discussed jointly with the Board after agency reports and public testimony.

At the time this was written no agreement with the Canadians had yet been reached on the salmon interception treaty. A great deal of technical and non-technical work has been done for those discussions, much of which can be reviewed at the NPFMC, ADF&G, or NMFS offices. Council family was sent the Chinook Technical Committee Report prior to this meeting. This committee is made up of state, federal, Canadian, and tribal fishery managers and scientists. The report is the most current and comprehensive compilation of chinook catch, escapement, and distribution information available, and covers all major chinook stocks from Southeast Alaska to the central Oregon coast. An industry response to the report is included here as item D-1(b).

The report to the Board of Fisheries - 1983 Southeast Alaska Troll Fishery by ADF&G Region 1 staff is included as item D-1(c). This is the same report found in the Board's briefing books. Additional reports will be presented at the joint meeting.

Specific discussion items and reports pertaining to chinook management are listed in the Board of Fisheries/Council draft Special Agenda.

Report of the N.P.F.M.C. Salmonid Gear-Mark Workgroup

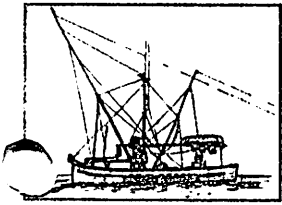
February 1, 1984

1. Improvement of information base from domestic North American fisheries.
 - a. Request that the Alaska Department of Fish and Game:
 - 1) provide the Council and Board of Fisheries with a written report on 1983 fishing gear mark sampling, as an update upon the 1982 report (dated October 20, 1982);
 - 2) continue gear mark sampling through the 1984 season, at least at 1983 levels of sampling;
 - 3) develop a study for assessing the recency of individual marks and injuries.
 - b. Invite participation in Workgroup deliberations by Canada for exchange of information and plans, and particularly to examine U.S. and Canadian domestic fisheries as potential sources of gear marks on salmon.
 - c. Expand and improve photographic and other records of gear-marking of salmon through the following:
 - 1) secure additional photographic documentation of troll marking of salmonids ("spinners" wrapping up in wires, etc.);
 - 2) secure photographic documentation of trawl marking of salmonids (from observers, etc);
 - 3) secure photographic documentation of gill-net marking of salmonids;
 - 4) establish a central library of photographic documentation from all sources as a resource for all agencies and entities.
 - d. Support for and active participation in Entanglement Workshop scheduled for late 1984 (Jim Branson on the Steering Committee).
2. Improvement of information base from foreign net fisheries.
 - a. Continue to request, via INPFC, updated Japanese data on high seas squid fishery catch and effort, etc.
 - b. Initiate mechanisms to obtain parallel high seas squid fishery data from Taiwan and Korea via:
 - 1) informal discussions at the 1984 Entanglement Workshop;
 - 2) consideration of inclusion in considerations for foreign fishing privileges (GIFAs, permits, etc.).

3. Fishing gear-related activities and projects.

- a. Endorse and support the lost gear studies proposed by NMFS for Southeast Alaska beaches in 1984.
- b. Seek establishment of a regional staff position/function to serve as expert on identification of lost gear -- country of origin, approximate age, etc.
- c. Establish regional clearinghouse [ideally related to (b) above] for reports/collection of samples, etc., of lost fishing gear.
- d. Explore feasibility and procedures for required marking of fishing gear to identify country and vessel of origin (via INPFC scientists' meetings, Entanglement Workshop, etc.).

WOJECK
3:15 W



Alaska
Trollers
Association

ATA PROPOSAL FOR THE 1984
CHINOOK TROLL FISHERY

The Summer troll season will be from April 15 to Sept. 20. In 1984, there will be a one-month closure, from April 15 thru May 14, to achieve the objectives of Alaska's 3-cycle chinook rebuilding program which was implemented in 1981. In 1984 only, consideration will be given to possible adjustments in chinook openings to accomodate processor conflicts associated with the conduct of the halibut fishery. These include problems related to processing the halibut and salmon catch, as well as providing ice, off-loading facilities, and other support for both fleets. After full discussion and review of the above-mentioned factors, a date, no later than June 5th, shall be set for the opening of the Alaska Summer chinook season. Chinook fishing will commence on that date, and continue until such a time as a catch, equivalent to that of 1983, is achieved. At that time, chinook fishing will be closed, and a species specific fishery will commence and continue until Sept. 20. This season is essentially a status-quo with the 1983 season.

1984 CHINOOK SALMON MANAGEMENT IN THE
SOUTHEAST ALASKA TROLL FISHERY

Report to:

North Pacific Fishery Management Council
and
Alaska Board of Fisheries

Salmon Harvest Management Division
Washington Department of Fisheries
Olympia, Washington 98504

January 27, 1984

Chinook conservation problems north of Vancouver Island have been well documented by the U.S./Canada Chinook Technical Committee (1983). The Committee's report and those which have preceded it (NPFMC, 1982; Joint Technical Staffs, 1981; Washington Department of Fisheries, 1982a, 1982b, 1982c, and 1980) have conclusively documented the over-fished status of the majority of chinook stocks contributing to fisheries north of Vancouver Island (Table 1). For U.S. stocks in this fishing area, analytical attention has been focused on naturally spawning upper Columbia River fall chinook (known locally as "Brights") as an indicator stock. Analysis by the joint Chinook Technical Committee (1983) indicated that reducing overall harvest rates by 15 percentage points would rebuild this stock to achieve the ocean escapement goal of 97,500^{1/} in one cycle (assuming no greater than 10% reduction in stock size).

In this report we have evaluated a variety of management options which address this ocean escapement goal using the Washington Department of Fisheries/ National Bureau of Standards Fishery Regulation Analysis Model (i.e., the model). This modeling approach is the same as has been used in previous seasons to examine alternative management strategies for chinook fisheries managed by the State of Alaska, North Pacific Fishery Management Council, and joint management under the auspices of a U.S./Canada Agreement.

Upriver Brights are predominantly harvested by ocean troll fisheries in Southeast Alaska and northern British Columbia (Figure 1). This stock has been managed in a "conservation status" in recent years as declining run sizes to the river have prevented attainment of the spawning escapement objective. Discrepancies in accounting of the natural spawning component of upper Columbia River brights between Bonneville Dam and McNary Dam were documented

^{1/} This goal was developed by the Washington Department of Fisheries to achieve the spawning escapement objective while accommodating in-river management needs for incidental harvest in mixed-stock fisheries and inter-dam losses.

for 1977-1981 (Pattillo and McIsaac, 1982). Adult chinook of this stock counted past Bonneville Dam are destined to spawn principally in the area upriver from McNary Dam. The unexplained loss of this stock averaged less than 10% of the Bonneville Dam count for 1977-1979, abruptly increasing in 1980 and 1981 to 37% and 46%, respectively (Table 2). Adult radio tracking methods were employed in monitoring adult passage conditions in 1982. Study results corroborated independent loss assessments and established the existence of high loss rate again in 1982 at 42% of Bonneville Dam count. In 1983, unexplained loss is estimated to be 14%, or a level similar to the 1977-1979 period.

The upper Columbia River fall chinook natural spawning escapement goal is 40,000 adults passing McNary Dam, and this goal was not attained during 1973-1982 despite increasingly restrictive in-river management. This restrictive terminal management was in response to low returns to the river, treaty Indian allocations and, more recently, unexplained inter-dam losses. Upriver bright ocean escapements declined drastically through the late 1970s reaching a low of 65,500 adults in 1981 (Table 3). Spawning escapements also declined during the same period to a low 21,100 in 1981. In 1982, ocean escapement increased to 76,200, and a preliminary estimate for 1983 is 82,700. The spawning escapement goal was achieved for the 1983 run, reaching 48,700 adults at McNary Dam. Achievement of the goal in 1983 resulted primarily from reduced inter-dam losses. McNary Dam count of adults in 1983 increased by 57% from 1982, which is reflective of improved inter-dam survivals between Bonneville and McNary dams (changed from 51% in 1982 to 82% in 1983). At the same time, ocean escapement of adults increased by only 9% between 1982 and 1983.

Ocean fishery management recommendations, based on the conservation needs of Brights, were made in 1981 and 1982. A framework did not exist in these years for coordinated action between the U.S. and Canada; therefore, ocean fishery harvest management recommendations were oriented toward catch reductions in Southeast Alaska. Joint U.S./Canada management actions were contemplated for 1983 and are possible for 1984 as part of a comprehensive, coastwide chinook conservation program. If an agreement between the U.S. and Canada is not reached, however, the conservation needs of Brights and all other conservation status stocks harvested by the Southeast Alaska troll fishery are not obviated. Without an agreement, these conservation needs can be viewed as a unilateral, U.S. burden.

With joint U.S./Canada and unilateral U.S. management as the two possible alternatives for 1984, we have analyzed a number of management options for upper Columbia River Brights (Table 4; Figure 2). We conclude that achievement of the goal for upriver Bright ocean escapement is possible with both unilateral and joint management action. With joint U.S./Canada management, the extent of Southeast Alaska reductions would be less than with unilateral management (Figure 2).

LITERATURE CITED

- Chinook Technical Committee. 1983. Report of the U.S./Canada Chinook Technical Committee. Mimeo Report. Canada Department of Fisheries and Oceans. November 28, 1983.
- Joint Technical Staffs. 1981. Generalized chinook stock management concerns; results of a joint technical staff meeting on 1981 chinook salmon resource status from Oregon to Southeast Alaska. Mimeo Report. Washington Department of Fisheries. December 22, 1981.
- Pattillo, P. and D. McIsaac. 1982. Unexplained loss of adult fall chinook in the Columbia River between Bonneville and McNary dams, 1977-1981. Washington Department of Fisheries Progress Report No. 162.
- Washington Department of Fisheries. 1982a. Review of the Canadian proposal for lowering chinook harvest rates presented at the November 22-24, 1982, U.S./Canada negotiations on salmon interceptions. Washington Department of Fisheries. Mimeo Report. November 28, 1982.
- Washington Department of Fisheries. 1982b. Briefing notes for the U.S. Delegation to the U.S./Canada negotiations on salmon interceptions. Washington Department of Fisheries. Mimeo Report. November 8, 1982.
- Washington Department of Fisheries. 1982c. Chinook salmon in the Southeast Alaska troll fishery. Review of stock composition and stock status information and evaluation of management plans and needs for 1982. Washington Department of Fisheries. Mimeo Report. March 19, 1982.
- Washington Department of Fisheries. 1980. Analysis of Alaska troll fishery management needs and opportunities for upper Columbia River "bright" fall chinook salmon. Washington Department of Fisheries. Mimeo Report. December 23, 1980.

Table 1. Summary of stock status and identified conservation needs of north-migrating natural chinook stocks of concern. From the Report of the U.S./Canada Chinook Technical Committee (1983).

| Stock unit | Escapement goal | 1982 escapement | 1983 escapement | Needed escapement increase | | Major ocean fishery management opportunities (not prioritized) |
|------------------------------|---------------------|---------------------|---------------------|----------------------------|-----|--|
| | | | | Numbers | % | |
| Southeast Alaska (Total) | 64,200 | 49,200 ^a | 41,700 ^b | 22,500 | 54 | S.E. Alaska, NBC |
| Yakutat | | | | | | |
| N. Southeast | | | | | | |
| S. Southeast | | | | | | |
| British Columbia | | | | | | |
| North Coast | 58,000 ^c | 23,500 | 31,000 | 29,000 | 94 | NBC, S.E. Alaska |
| Central Coast | 46,000 | 23,300 | 23,000 | 27,000 | 117 | NBC, S.E. Alaska |
| Georgia St. | 72,000 | 24,400 | 20,000 | 54,000 | 270 | Georgia Strait |
| West Coast Vancouver Is. | 36,000 | 21,000 | 14,000 | 22,000 | 157 | NBC, CBC, S.E. Alaska |
| Fraser | 118,000 | 65,800 | 55,000 | 69,000 | 125 | WCVI, NBC, S.E. Alaska |
| Total | 330,000 | 158,000 | 143,000 | 201,000 | 140 | S.E. Alaska |
| Transboundary ^d s | 72,500 | 36,000 | | | | |
| Washington | | | | | | |
| Grays Harbor Fall | 14,600 | 13,000 | 14,400 ^e | 200 | 0 | |
| Grays Harbor Sp.-Su. | 1,400 | 1,400 | f | | -- | |
| Quillayute Summer | g | 2,900 | 2,000 | | -- | |
| Quillayute Fall | | 7,900 | 4,200 | | -- | S.E. Alaska, NBC |
| Hoh Spring-Summer | | 1,970 | 2,300 | | -- | |
| Hoh Fall | | 3,400 | 4,500 | | -- | |
| Queets Sp.-Su. | | 1,341 | 1,300 | | -- | |
| Queets Fall | | 7,200 | 5,500 | | -- | |
| Strait Juan de Fuca | 2,650 | 1,500 | f | 1,150 | -- | |
| Nooksak Springs | 500 | 500 ^f | f | | -- | |
| Skagit Springs | 3,000 | 1,100 | 850 ^h | 2,150 | 253 | WCVI, NBC, S.E. Alaska |
| Columbia River | | | | | | |
| Upriver Springs | 120,000 | 66,800 | 52,500 | 67,500 | 129 | |
| Upriver Summer | 85,000 | 26,600 | 23,500 | 61,500 | 267 | NBC, S.E. Alaska, WCVI |
| Upriver Fall | 40,000 | 31,000 ^e | 49,000 ^e | | -- | NBC, S.E. Alaska, WCVI |

NBC = Northern British Columbia; CBC = Central British Columbia; WCVI = West Coast Vancouver Island

^aAverage 1981-82 escapements.

^bAverage 1981-83 escapements.

^cRevised from 1982 report, details in Canadian stock status report.

^dIncludes streams listed under Alaska section

^ePreliminary in-season estimate.

^fBelow goal.

^gCourt orders and the courts technical advisor have established a probing escapement policy.

^hPre-season forecast.

Table 2. Inter-dam account ledger for upper Columbia River Bright fall chinook, in thousands of adults, 1977-1983.

| Category | 1977 | 1978 | 1979 | 1980 | 1981 ^{1/} | 1982 ^{1/} | 1983 ^{1/} |
|---------------------------------|------|------|------|------|--------------------|--------------------|--------------------|
| Bonneville Dam count | 64.3 | 65.9 | 71.2 | 70.2 | 62.9 | 71.3 | 80.0 |
| Commercial landings | 23.5 | 24.5 | 27.1 | 9.3 | 6.8 | 3.8 | 13.9 |
| Deschutes River turnoff | 6.8 | 6.5 | 5.0 | 3.9 | 5.2 | 6.0 | 6.0 |
| Sport catch | 0.7 | 1.0 | 0.7 | 1.0 | 0.1 | 0.1 | 0.1 |
| Ceremonial catch | 0.6 | 0.4 | 0.0 | 0.2 | 0.5 | 0.5 | 0.5 |
| Escapement | 37.6 | 27.3 | 31.2 | 29.7 | 21.2 | 31.1 | 48.7 |
| Unaccountable difference | -4.9 | 6.2 | 7.2 | 26.1 | 29.1 | 29.8 | 10.8 |
| Percent of Bonneville Dam count | -8 | 9 | 10 | 37 | 46 | 42 | 14 |

^{1/} Preliminary.

Table 3. Estimates of in-river run size and escapement (numbers of fish) of adult upper Columbia River natural spawning fall chinook, 1971-75 average and 1976-1983.

| Year | Bonneville Dam | Lower river harvest | McNary count | Total in-river run |
|--------------------|----------------|---------------------|--------------|--------------------|
| 1971-75 avg. | 78,900 | 37,900 | 39,500 | 116,800 |
| 1976 | 80,800 | 26,400 | 28,800 | 107,200 |
| 1977 | 64,300 | 32,000 | 37,600 | 96,300 |
| 1978 | 65,900 | 16,900 | 27,300 | 82,800 |
| 1979 | 71,200 | 18,800 | 31,200 | 90,000 |
| 1980 | 70,800 | 5,100 | 29,700 | 75,900 |
| 1981 | 63,100 | 2,400 | 21,200 | 65,500 |
| 1982 ^{1/} | 71,300 | 4,900 | 31,100 | 76,200 |
| 1983 ^{1/} | 80,000 | 2,700 | 48,700 | 82,700 |

^{1/} Preliminary; subject to revision pending comprehensive analysis of stock composition with regard to harvest and dam count estimates. Bonneville Dam count of bright fall chinook adults is 86,000 and preliminary estimate of egg-bank program contribution (brights not necessarily destined for McNary Dam) is 6,000 adults. Lower river harvest estimate based on preliminary expansion of coded-wire tag recoveries representing upriver bright stock.

Table 4. Chinook model regulation runs for U.S./Canada and NPFMC, 1984. Upper Columbia River natural fall stock and summer stock and Robertson Creek fall stock at 1982 abundance levels.

| Model run No. | Southeast Alaska troll | Northern & Central B.C. troll/central B.C. | West Coast Vancouver Island troll | Other fisheries |
|---------------|--|---|---|--|
| 01 | 1982 season simulation using preliminary effort relative to base 1977-80 of CWT recovery base period. Reflects 1983 season structure (with coho only in August). | 1982 season simulation based on 1981 effort adjusted for 1982 season structure. | 1982 same as NBC/CBC | 1982 season simulation using preliminary 1982 data held constant for all runs. |
| 04 | Closed all but July and approximately 21 days in August (all species). | Closed all but entire months of July and August. | 1982 | 1982 |
| 05 | Closed all but entire months of July and August (all species) (August 1982 effort X 31/21). | July and August same as 04. | 1982 | 1982 |
| 06 | Open July and August (all species (same as 05)). | Open July and August (same as 04). | Closed all but July and August (1982 effort). | 1982 |
| 07 | Open entire month of July and 21 days in August as in 1982 (but all species). | July and August (same as 04). | July and August (same as 06). | 1982 |
| 08 | Entire months of July and August with 10% effort increase (all species) (05 X 1.10). | July and August with 10% effort increase (04 X 1.10). | July and August with 10% effort increase (06 X 1.10). | 1982 |
| 09 | July and 21 days in August with 10% effort increase (04 X 1.10) (all species). | (July and August) + 10% (04 X 1.10). | (July and August) + 10% (06 X 1.10). | 1982 |
| 10 | 05 with 20% effort increase. | 04 with 20% effort increase. | 06 with 20% effort increase. | 1982 |
| 11 | 04 with 20% effort increase. | 04 with 20% effort increase | 06 with 20% effort increase. | 1982 |
| 12 | Entire July and 21 days in August (all species). | Entire July and 21 days in August (1982 August X 21/31). | 1982 | 1982 |
| 13 | Entire July and 15 days August (1982 August X 15/21) (all species). | Entire July and 15 days in August (1982 August X 15/31). | 1982 | 1982 |
| 14 | 12 with 10% effort increase. | 12 with 10% effort increase. | 1982 | 1982 |
| 15 | 13 with 10% effort increase. | 13 with 10% effort increase. | 1982 | 1982 |

Table 4. (continued)

| Model run No. | Southeast Alaska troll | Northern & Central B.C. troll/Central B.C. | West Coast Vancouver Island troll | Other fisheries |
|---------------|--|--|-----------------------------------|-----------------|
| 16 | 12 with 20% effort increase. | 12 with 20% effort increase. | 1982 | 1982 |
| 17 | 13 with 20% effort increase. | 13 with 20% effort increase. | 1982 | 1982 |
| 18 | Entire troll fishery closed. | 1982 | 1982 | 1982 |
| 19 | July 15-August 31 (all species) (1982 July X 0.5 + 1982 August X 31/21). | 1982 | 1982 | 1982 |
| 20 | July 15-August 21 (1982 July X 0.5 + 1982 August). | 1982 | 1982 | 1982 |
| 21 | July 15-August 7 (all species) (1982 July X 0.5 + 1982 August X 0.33). | 1982 | 1982 | 1982 |
| 22 | August 1-21 (all species) (1982 August effort). | 1982 | 1982 | 1982 |
| 23 | Outside troll closed. Inside as in 1982 (83). | 1982 | 1982 | 1982 |

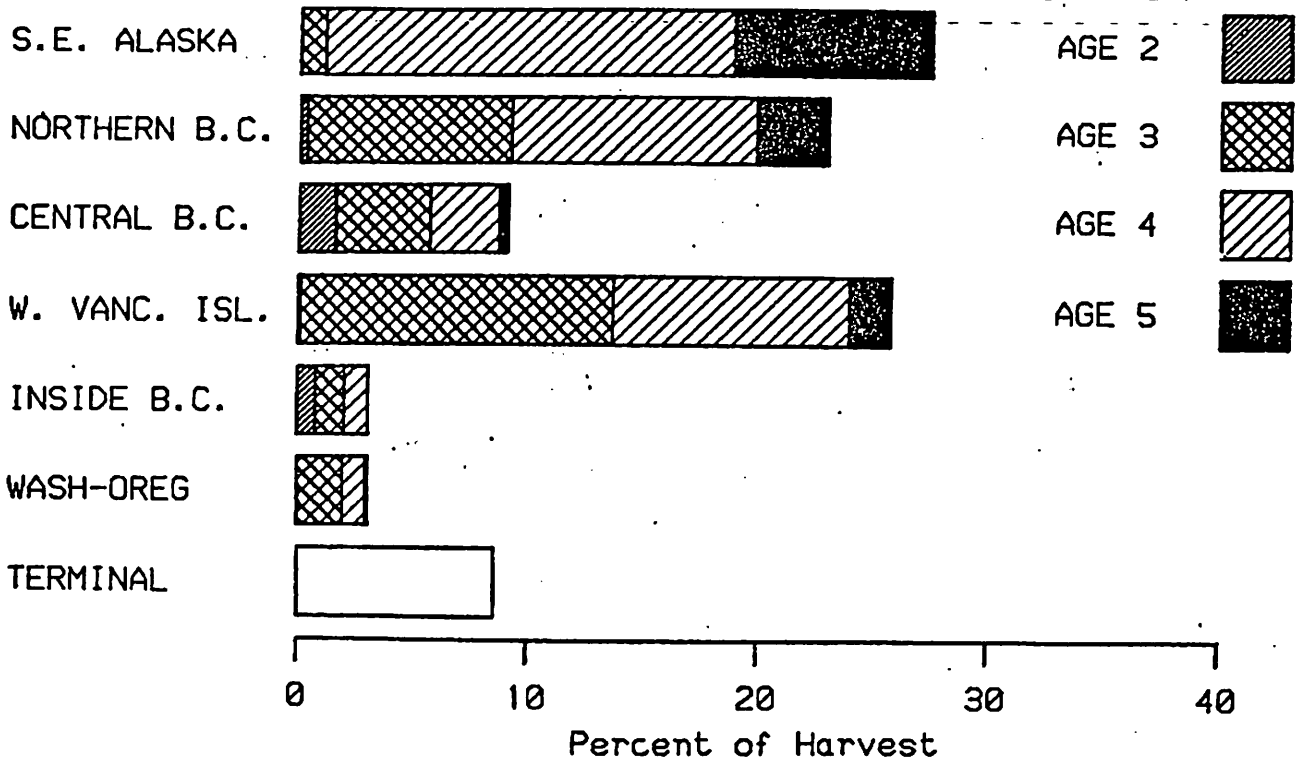
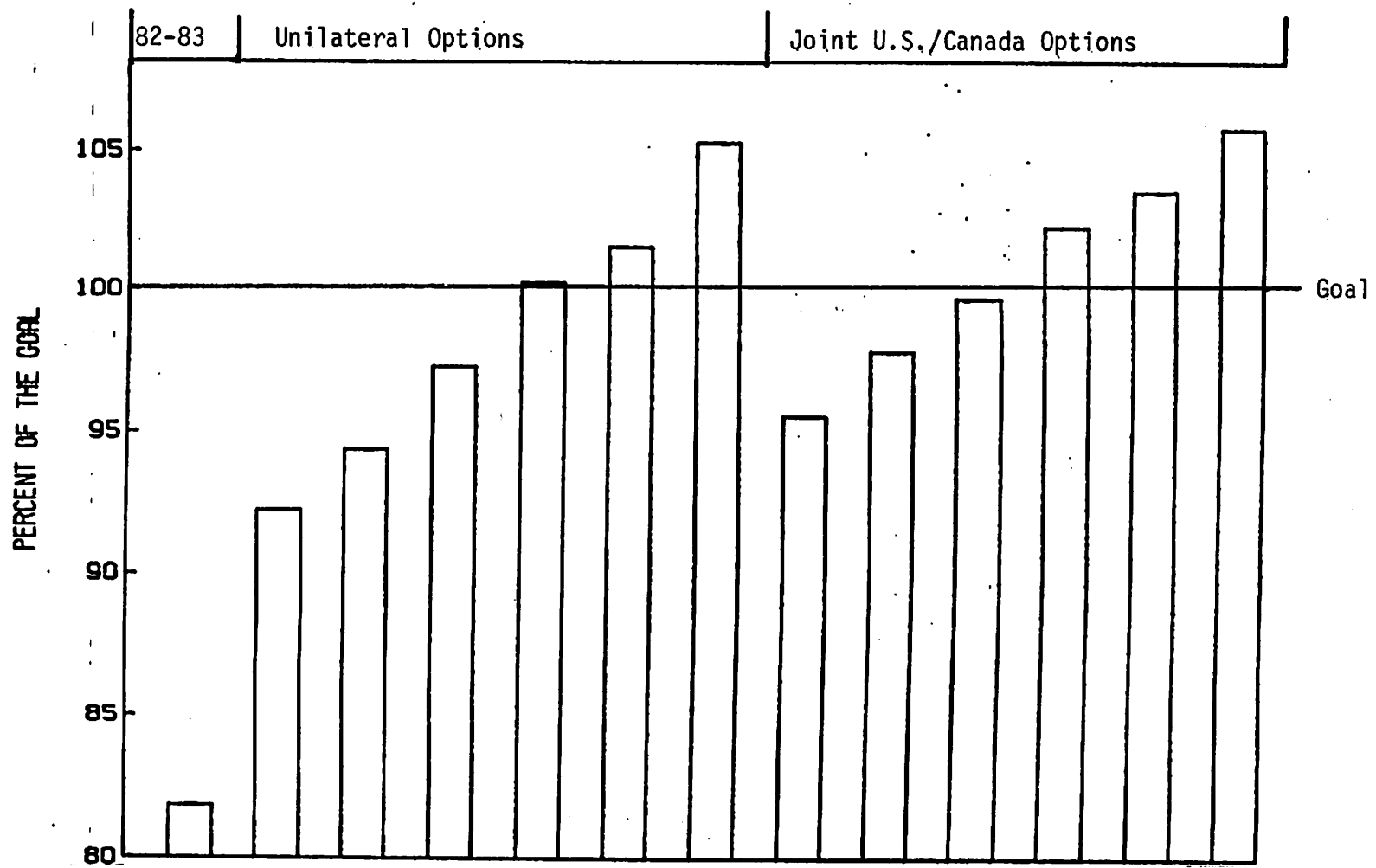


Figure 1. Harvest distribution of Columbia River "bright" fall chinook salmon as determined from coded wire tag recovery data available before 1982 updated to the 1982 regulatory regime using the Washington Department of Fisheries/National Bureau of Standards Catch Regulation Analysis Model



| | | | | | | | | | | | | | |
|--------------------|-------|-----------|-----------|----------|----------|-------|-------|----------|----------|----------|----------|----------|----------|
| Run I.D. Number | 01 | 19 | 20 | 21 | 22 | 23 | 18 | 5 | 4 | 12 | 13 | 6 | 7 |
| Alaska | 82-83 | 7/15-8/31 | 7/15-8/21 | 7/15-8/7 | 8/1-8/21 | * | ** | 7/1-8/31 | 7/1-8/21 | 7/1-8/21 | 7/1-8/15 | 7/1-8/31 | 7/1-8/21 |
| No. B.C. | 82-83 | 82-83 | 82-83 | 82-83 | 82-83 | 82-83 | 82-83 | 7/1-8/31 | 7/1-8/31 | 7/1-8/21 | 7/1-8/15 | 7/1-8/31 | 7/1-8/31 |
| West. Cst. Van. I. | 82-83 | 82-83 | 82-83 | 82-83 | 82-83 | 82-83 | 82-83 | 82-83 | 82-83 | 82-83 | 82-83 | 7/1-8/31 | 7/1-8/31 |
| *Outside Closed | | | | | | | | | | | | | |
| **Total Closed | | | | | | | | | | | | | |

OCEAN TROLL FISHERY MANAGEMENT OPTIONS

Figure 2. Results of WDF/NBS computer model analysis of various ocean troll fishery management options on upper Columbia River Bright fall chinook returns to the river. This analysis assumes restrictive management would not generate effort transfers into remaining open fishing areas and time periods. For run number 23 "outside" refers to ADF&G statistical areas 113, 116, 154, 157, 181-199, 505, 513, 104, 150, 152, 504 and 512 (Figure 3).

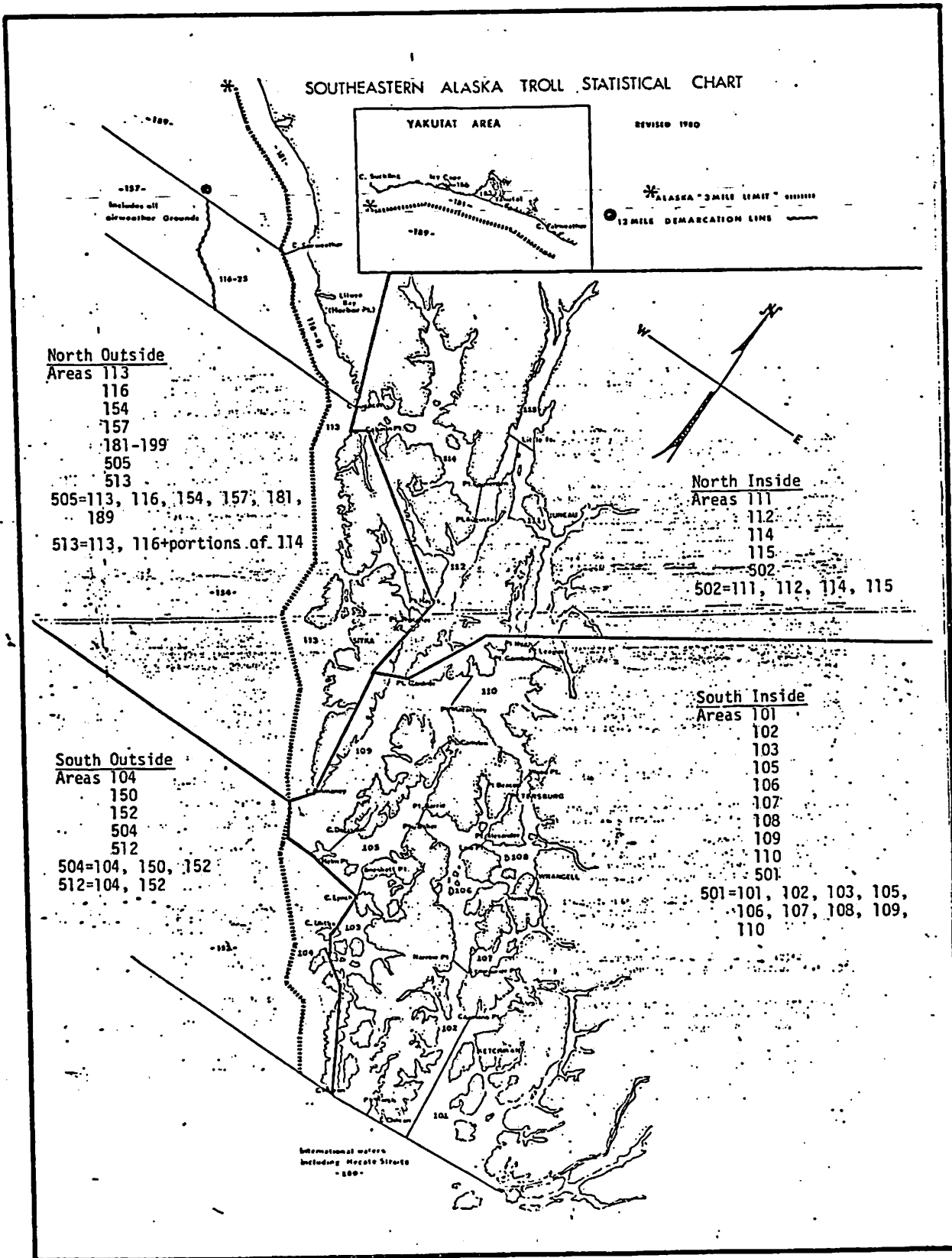


Figure 3. Alaska Department of Fish and Game troll salmon statistical catch areas and grouping of these areas into major catch areas.

SOUTHEASTERN ALASKA - YAKUTAT AREAS
TROLL SALMON

①

1. Chinook Salmon Harvest Limit. The current guideline harvest range is 243,000 to 272,000 with a management objective of 255,000 harvest by all gear types [5AAC 33.365 (b)(8)].
 - a. Repeal the current guideline harvest range and allow the fishery to occur throughout the season now provided by regulation (October 1 - April 14 and May 15 - September 20).
 - b. Allow a minimum harvest of 320,000 chinook salmon plus the estimated Alaskan hatchery production.
 - c. Allow a harvest of 300,000 to 325,000 chinook salmon plus the estimated Alaskan hatchery production.
2. Locations Open to Chinook Salmon Trolling.
 - a. Open all state waters to chinook salmon during the winter season October 1 - April 15.
 - b. Close that part of District 10 south of Cape Fanshaw Light and north and west of a line from Boulder Pt. to Bay Pt. from May 15 through May 31.

JUSTIFICATIONS:

1. a. This proposal would establish a chinook salmon season with a specific number of fishing days, replacing any harvest guideline. Guideline harvest ranges and quotas may be appropriate management mechanisms for stable and quantifiable stocks of fish such as pollack and cod, but they are inappropriate mechanisms for any species for salmon. The fluctuative nature of salmon stocks demands a flexible management strategy that provides even levels of fishing effort on varying stock sizes. An established season with a predetermined number of fishing days will provide catches that vary in relation to yearly abundance. Increased catches will occur in years of high abundance and correspondingly decreased catches will occur in years of low abundance.

Mechanisms for additional safeguards can be built in with pre-established seasonal limitations such as the thirty day closure from April 15 to May 15. The Department's emergency order authority would also be available should any drastic reduction of run size be observed.

Proposed by: Alaska Trollers Association (5)

- b. 320,000 fish represents an average of the catch the ten years prior to implementation of the OY system. Alaskan fishermen are unduly restricted by the current OY catch numbers.

Granted a harvest of 320,000 kings, Alaska's obligation to coast-wide conservation goals will still be intact; yet a clear stance or possible treaty harvest levels will not compromise the troll fleets economic viability.

Proposed by: Elfin Cove Advisory Committee (53)

- c. To restore an equitable balance between the major harvesters of chinook salmon of the Pacific coast. This harvest figure represents the historic average for troll gear for the last 40 years. The 30 day closure in April-May and the 10 day closure later in the season provides adequate protection for South-eastern and transient stocks.

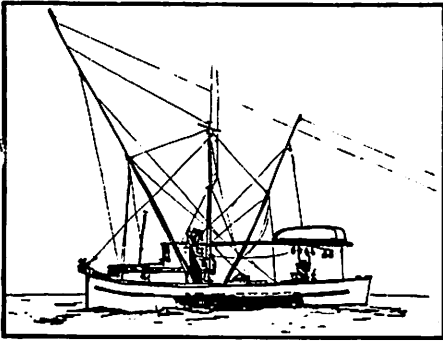
Proposed by: Petersburg Advisory Committee (73)

2. a. Spreading the troll effort. Easing of enforcement problems with cape lines and pt. to pt. fisheries.

Proposed by: Pelican Advisory Committee (8)

- b. The spawning chinook salmon escapement to the Little Tahltan tributary of the Stikine River in 1983 was the second smallest observed since 1975 and far below the level needed for stock rebuilding. Based on observed age and sex composition of spawning fish in 1983, the return of the six year fish which is a major contributor of large spawning females is expected to be weak again in 1984. The proposed closure is intended to provide additional protection for mature fish returning to spawn in the Stikine River in 1984.

Proposed by: The Alaska Department of Fish and Game



Alaska Trollers Association

REPRESENTING ALASKA POWER TROLLERS

205 North Franklin Street
Juneau, Alaska 99801
(907) 586-9400

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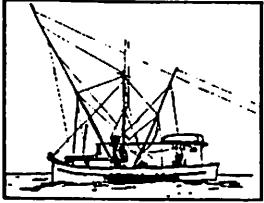
TO: NPFMC, SSC and AP members
 FROM: Alaska Trollers Association
 DATE: January 20, 1984
 SUBJ: U.S./Canada Chinook Technical Committee Report.

The following comments are a composite of fishermen and staff questions, criticisms and responses to the "U.S./Canada Chinook Technical Committee Report". We feel that the general tenor of this report is weighted toward the fishery policy aspirations of the southern user groups and in some instances does not appear to be professionally objective in the critical use of data or in conclusions drawn from it.

Two points should be noted:

1. We Alaskans believe that there are select chinook conservation problems, none of which will be solved by cutbacks in the Alaskan fishery. Further there exists a significant amount of stock threatening over-fishing on chinooks and cohos which occurs in Canada as a response to equity of Fraser River pinks and sockeye salmon taken in Washington. The State of Washington and the Columbia River Indian Tribes each year return to Alaska seeking more chinooks. Neither advocates the reduction of the US catch of pink and sockeye on the Fraser River. The Columbia River Indians do not wish inter-tribal fighting with the Puget Sound Indians who are allocated 50 percent of the US catch from the Fraser. The State of Washington, which produces only 1-2 percent of the pinks and sockeyes they catch, and is the largest interception fishery on the Coast, does not wish to loose the millions and millions of dollars which that fishery has brought to the State. If the State of Washington and the Tribes truly wanted more chinook, they should demand that a rational bargain with Canada on the Fraser River be struck.
2. As far as SE Alaskan harvest of Canadian stocks, it should be pointed out that when the upriver Columbia River stocks were lost due to dams, the Federal Government built mitigation hatcheries to replace these lost fish. This was a Federal replacement to American losses. Their loss caused the crash of Port Alexander. The stocks chosen to replace these upriver fish were not far north migrating stocks. The bulk of these "tule" stocks are taken on the West Coast Vancouver Island. That is, the Canadians received the benefit due Alaska on the mitigated loss. Therefore, Alaska suffered an equity loss to Canada.

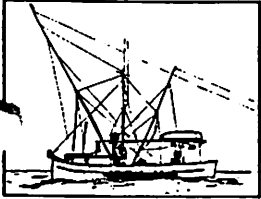
Enclosures:



Alaska
Trollers
Association

COMMENTS U.S./CANADA CHINOOK TECHNICAL COMMITTEE REPORT

1. p.ii, Executive Summary--The committee recommends that a season with a harvest ceiling be established on the basis of pre-season stock abundance forecast. We are uncertain how the committee expects to develop pre-season stock abundance forecasts for chinook. Hatchery jacks are not acceptable predictors for wild stocks. Even hatchery jack counts can yield erratic forecasts (e.g. WDF coho forecast for Puget Sound and coastal stocks in 1981 were just the opposite as predicted).
2. Page 1 states that the overall abundance of chinooks was substantially reduced. There are major problems with such a generalized statement deduced from the presented data. Referencing page 4, table 2, this table shows the relative abundance of chinook salmon in commercial catches in Alaska, B.C. and Washington. First, the stocks caught are a composite of hatchery and wild, yet the escapement includes only the depressed wild stocks. Second, the catch data does not include the substantial Canadian Indian subsistence and sport catches nor the Washington Indian river fishery outside of the Columbia, nor their sport fishery. Third, this has little to do with Alaska since many of the stocks which make up the catch and escapement figures do not occur in the Alaskan fishery and obscure stocks of concern that do. (e.g. Puget Sound and Georgia Strait stocks may have conservation problems but are not taken in Alaska).
3. Page 1 states that total coast-wide chinook harvest has declined drastically in 1983 and refers to page 5, table 3. Again, such sweeping generalities lack substance under closer scrutiny. The text combines all SE Alaska and BC except for the West Coast of Vancouver Island where a significant number of Columbia up-river summer and fall brites are caught, but includes Georgia Strait which has depleted stocks that are only harvested in North and Central B.C. If we more rationally include SE Alaska and North and Central B.C., which harvest similar stocks, the 1981-82 average equals 634,000. The 1983 catch equals 618,000. This is hardly a drastic decline one year to the next. It is only 2.5 percent. Furthermore, if you consider this table and table 1 on escapements for these years and these areas, a different picture from that which the Technical Committee Report is trying to convey, emerges. If we combine these two figures for SE Alaska and North and Central B.C., the catch and escapement figures are only 2.2 percent or 4,000 fish. Remember, North and Central B.C. would be expected to show a decrease since 23 percent of the greatly depressed Georgia Strait stocks are harvested there. Also excluded from this table was the substantial Canadian Indian subsistence river fishery. These two items are where the loss occurs. Note that the SE Alaska's catch increased with greatly reduced effort in 1983. This is just not consistent with the dire predictions contained in the joint chinook committee technical report. Throughout the report there is the unfortunate tendency to play down the relative strong escapements of stocks in SE (other than the expected decline on the Taku River due to the slide) and Northern and Central B.C. (see item 9 of this paper) as compared to the dramatic shortfalls occurring in Georgia Straits and many of the stocks listed on table 1 which suffer from over-harvest in Canada, but do not exist in SE Alaska. (We will discuss the Columbia River "Brites" later).
4. Page 6, the exploitation rate is mathematically related to fishing effort and represents the percentage of the total substock harvest in any year. It is not logical for the committee to assume SE Alaska's exploitation rate remains high when its total

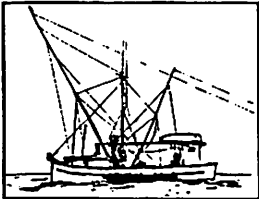


fishing effort was so significantly cut. Their own argument, page 11, third paragraph, refutes the implication on page 6 that Alaska has not decreased its exploitation rate.

5. The narrative in the Technical Report (page 6, section iii) fails to support the critical conclusion by Jim Glock in his 1/6/84 memorandum on this U.S./Canada Technical Report and the committee's summary that a 10 percent to 20 percent decline in those stocks harvested in SE Alaska can be expected in 1984. The report says the following declines can be expected: Columbia River Brites = 0 percent, SE Alaska = 0 percent, others = 10 percent. Some of these stocks which will exhibit a 10 percent decline are experiencing similar total run size for the last eight years, but losing escapement in terminal areas to combined commercial, sport and subsistence catch (see item 9 to follow). The only expected 20 percent decline is for the Georgia Straits stocks, which are not harvested outside B.C. The expected decline should be stated as 0 percent to 10 percent; not stressed as 10-20 percent.

6. Page 7, Indicator Stocks. First, the Technical Committee Report fails to include any SE stocks, even though the objective is the rebuilding of these stocks and their strength is reflected in the management of our fishery. We feel that stocks such as those in the Taku and Stikine Rivers may not be useful indicators, since those stocks are apparently not presently being harvested in any amount by Alaska due to management measures, and problems of political inriver harvest by Canadians to "historically claim" their presence. Second, we question the correctness of using Robertson Creek stock to represent the Fraser River stock. Page 7 indicates that Alaska harvests these fish as four and five-year-olds. This data must be derived from the Table 4 in the section of this report entitled "1983 Status of Chinook Stocks in British Columbia". This section indicates an Alaska troll catch of 20.2 percent age fours and 39.6 percent age fives for the Fraser. Remember, this is the upper Fraser stock which accounts for only 3/4 of the Fraser runs. Yet at the NPFMC March '82 meeting, a strong reference was made to the effect that Robertson Creek stocks represented the stocks on W. Vancouver Island. It can't represent both. Stocks from W. Vancouver Island (from Robertson Creek tags) are seen in our fishery as twos, threes, fours and fives, and in different composition than the Fraser stocks (Table 4). Page 51, Table 17, of the Canadian Technical Report of Fish and Aquatic Science #XXX, indicates a mean age of Robertson Creek stock (as one would expect for a hatchery stock) less than those of the Fraser. That is, the age composition of spawners is not the same. CWT fish on the whole are hatchery fish which are a larger size at time of release and released at a later than normal time period which affects marine survival, growth, maturity and extent of marine migrations. That is, they generally survive better, grow faster, mature at a younger age, and make less extensive marine migrations than normal natural production. Furthermore, Table 4 shows we harvest 32 percent of the Robertson Creek type stocks and 20 percent of the upper Fraser River stocks. If Robertson Creek equals Fraser River, how come the Canadian data on age composition and catch composition does not equal?

7. Page 7, "Cohort Analysis". The text states that "we assumed that exploitation rates and patterns have not changed since the brood years used in the indicator stocks". This assumption is not valid. The management regime in SE Alaska since 1980 has been such that there has been reduced time and effort on various stocks (pattern) and the exploitation rate has changed due to drastic cutbacks in effort (season length 169 days in 1978, reduced to 60 days in 1983). Therefore, the text and analysis on the following pages (8-11) are suspect. Furthermore, Canadian subsistence and inriver sport catches should be implemented into the equation.



8. Under section "(iii) Alternative Management Strategies", page 11, there have been discussions which included the idea that during the rebuilding period the SE Alaskan chinook season be restricted to a July 1st opening. If, in fact, it is the goal to rebuild all stocks in the fishery equally, then a July 1st opening would apply the total effort only on those stocks still available in the fishery after July 1st and not achieve the goal of equal rebuilding. A split season, short spring opening and later summer opening during this rebuilding phase is the only logical way to spread rebuilding effort.

9. Reference "1983 Status of Chinook Stocks in B.C.", page 1. We agree that while Alaska has made major steps to reduce exploitation rates (as evidenced by the rebuilding of Alaskan stocks which we can directly effect without further interception of the saved fish), B.C. rates have been too high since about 1967 when they started fishing their escapement. (Also see argument on Memorandum Page).

Page 2, "(i) Transboundary Rivers". The assumption that Alaska accounts for 95 percent of the exploitation rate on those chinooks is unreasonable. First, since 1981 the April-May closure plus other time and area closures have effectively excluded us off these fish. These transboundary fish are only harvested as spawners in SE Alaska. The Alaska net fishery has effectively been eliminated from these fish since 1978. Second, close scrutiny of the present Canadian inriver commercial, sport and subsistence fishery will illuminate who is the major harvester of these fish.

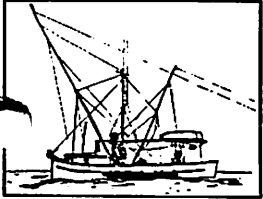
Page 3, "North and Central Coast". This document indicates that the major option to help these stocks would be reductions in the Alaskan troll fishery. We believe the data indicates Canada wishes this option to solve internal allocation problems. Our information on the Skeena/Nass systems are:

| | <u>1975</u> | <u>1982</u> |
|--------------------|-------------|-------------|
| Commercial catches | 27,154 | 21,709 |
| Subsistence | 3,806 | 13,355 |
| Sport | 1,461 | 2,741 |
| Total Run | 59,405 | 61,505 |
| Escapement | 26,984 | 23,700 |

and the Bella Coola:

| | <u>1975</u> | <u>1982</u> |
|--------------------|-------------|-------------|
| Commercial catches | 8,900 | 4,360 |
| Subsistence | 250 | 927 |
| Sport | 315 | 563 |
| Total Run | 12,965 | 14,850 |
| Escapement | 3,500 | 9,000 |

We believe this demonstrates a major factor, the troll fishery which has reduced its catch and effort is being blamed for internal reallocation. Remember, Canada has been harvesting their escapement since 1967.



A further example of the general bias we detect in this report can be found in Table 4 of this B.C. section of the report. This table lists the sport and commercial catch distribution of chinook stocks from various areas on the B.C. coast as an average for years 1977 thru 1982. First, as previously noted, the inriver subsistence catch should be included which will significantly alter the Alaskan troll percentages. Second, under Alaska's conservation mode, the time and area closures will have affected our percentages downward even further. A more rational approach would be one table for 1977 thru 1979 and a table for 1980, 1981, and 1982 under varying management strategies.

10. Washington Status Report, page 1 and 2. We find it amazing that the State of Washington, who touts the deplorable chinook stock condition, can only come up with stocks which are at or just below the spawning goal. For example, page 2 lists:

a. Grays Harbor fall chinook: goal 14,600, 1983 escapement 14,400 (nee 200 fish. Is this a major concern?).

b. Grays Harbor Spring: goal 1,400, 1982 escapement 1,400, 1983 is nebulously listed at "below goal" and nothing more.

c. North Washington Coast: No goals listed, tribal dispute with WDF seems to be the problem. This is an internal allocation problem. It appears their solution is to go to Alaska to find more fish.

d. Puget Sound: These stocks have only a miniscule harvest in Alaska; though they list Skagit River spring chinooks as Alaskan caught. Who actually catches this stock and to what extent? Table 2 points out that the Skagit summers and falls have a goal of 14,900. Yet the 1983 escapement was 21,000 to 25,000 or significantly above the goal. If the springs have a similar distribution to the summer/falls, then 63-69 percent of the harvest occurs in B.C., 23-37 percent occurs in Washington, plus some unknown portion in the Washington Indian net fishery. This leaves only a trace harvest to SE Alaska. Again, one comes to the unavoidable conclusion that if the State of Washington desires more chinooks, they should cut a rational bargain with Canada on the Fraser. Furthermore, the NPFMC should not allow itself to be manipulated in fish politics. One should also keep paramount in one's mind that only Alaska has developed a specific rebuilding plan for chinooks. A plan which significantly affects both local and non-local stocks through the timing of its management closures.

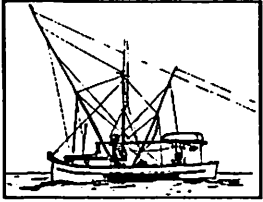
11. "Columbia River Chinook Stocks of Concern" items of interest and clarification:

Page 1--Upriver Springs, decline due to dams and habitat destruction. Page 2 not harvested in ocean fishing.

Page 2--Upriver Summers, though caught in ocean fishery, these are main stream spawners who have lost spawning beds to dams and suffered heavy habitat destruction. These stocks will never rebuild without new mitigated hatchery enhancement or destruction of the dams.

Page 4--Upriver Falls (Brites), goal of 40,000; 1983 escapement is 49,000. The figure on page 17 of the Executive Summary is a further example of the technique used to bias these results.

Page 5--Assume that the 1983 increase was largely due to improved adult inriver survival and inriver harvest restrictions. We believe it was also a result of a reduction in poaching due to last year's "sting" and a predictable increase after the



Alaska
Trollers
Association

Page 5

affect of the 1976-77 drought which killed as much as 85 percent of the down stream migrants. The effects of the drought would have lasted through 1982.

If the Joint Technical Committee Report is to be considered as the gospel according to which all future decisions about a treaty or management decisions by the Council are made, then we ask that you recognize that from our point of view this report contains many errors, omissions and distortions.

*Mel Seibel
+ Al Davis*

REPORT TO THE BOARD OF FISHERIES
1983 SOUTHEAST ALASKA SALMON TROLL FISHERY

By:

Region I Staff

Southeast Region
Alaska Department of Fish and Game
Commercial Fisheries Division
December 1983

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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 (see Figure 1). All other waters of Alaska including the Fisheries Conversation 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 over 90% of the chinook salmon and 50-75% of the coho salmon taken in the Southeast Alaska commercial fisheries.

Based on preliminary catch reports, the 1983 season chinook salmon troll catch was approximately 270,000 fish calculated from October 1, 1982 through September 30, 1983. The troll harvest of coho salmon was 1.26 million fish. Catches of other species by troll gear in 1983 included 497,000 pinks, 21,000 chums and 8,000 sock-eye salmon. Annual salmon catches by the troll fishery since 1970 are shown in Table 1. Approximately 7 percent of the chinook catch and 1% of the coho catch was reported taken in that portion of the Federal Fishery Conservation Zone (FCZ) lying beyond three miles 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, Unuk and Chickamin Rivers. Approximately 28 other 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 sea through Southeast Alaska. Shared ownership and coordinated management of the transboundary stocks are a topic of discussion at the ongoing U.S./Canada salmon negotiations.

The Southeast Alaska stocks are nearly all "spring type" in that they enter the spawning streams during the spring and early summer months. After emergence the following spring, the majority of the fry remain in freshwater rearing areas for a year, migrating seaward the next spring.

Current information indicates that the majority of chinook salmon currently harvested in the Alaska troll fishery are produced from

spawning streams and hatcheries in Canada and the Pacific northwest. Several age classes of mature spawners and immature chinook salmon are harvested by trollers during the fishing season.

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. Most of the coho harvested by trollers are of Alaskan origin, are mostly of a single age class, and are caught in the year of spawning.

Southeast Alaska chinook salmon stocks are depressed from historical production levels (Figure 2). Chinook salmon stocks are, additionally, depressed coastwide. Annual commercial catches in recent years by all southeast Alaska gear types have often exceeded 300,000 chinook. These harvests, though substantial, are considerably lower than levels produced between 1930 and 1950. Coho salmon catches have been increasing in recent years. Increased fishing efforts and unusually mild overwinter conditions are thought to be the primary factors causing improved catches, overall sustained production since 1951 is considerably lower than the level of the 1930 to 1951 periods (see Figure 2). Some stocks may be depressed and some loss of habitat may be occurring.

Fishing Effort

The Alaska Commercial Fisheries Limited Entry Commission currently issues 940 permanent power troll permits and 2,150 hand troll permits. In 1983, preliminary estimates indicate that 904 power troll gear units and 988 hand troll gear units were actually fished. Hand troll gear permit holders accounted for about 14% of the chinook troll catch and 21% of the coho troll catch.

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. First, chinook production from all Southeast Alaska river systems has been depressed since the 1950's. In spite of restriction of the 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 closures of the troll fishery at the start of the season, when the availability of mature Alaskan spawning run fish is high. This was complimented by accompanying reductions in the overall level of harvest so that savings made early in the season would not be made up out of immature fish harvested later in the season. In 1981, and again in 1982 and 1983, the entire troll fishery was closed from April 15 through May 14. In 1982 and 1983 additional closures at the start of the summer season were implemented in terminal migration corridors to

provide additional protection for certain local stocks. As a result of these efforts, escapements to rivers in Southeast Alaska have generally improved, although 1983 escapements to the Taku and Stikine rivers declined substantially from 1981-82 levels.

Second, escapements for many of the non-Alaskan chinook systems that contribute to the Southeast Alaska troll fisheries are also currently below optimum levels. The exact contribution that these depressed stocks make to the Alaskan troll fishery is not known but it is significant. Preliminary age composition analysis of 1982 fishery samples indicated that a minimum estimate of non-Alaska stock contribution was about 60 percent. In cooperation with coastwide management of these stocks the Board directed the Commercial Fisheries staff to manage the troll fishery to achieve reduced harvest levels in 1982 and 1983 pending resolution of the U.S./Canada salmon treaty. In making the decision for reduced seasonal harvests, the Board of Fisheries stated that they wanted to see the conservation actions of the Alaska fishery generally matched by the Canadian fisheries before they decided if any further reduction in the Alaskan fisheries was warranted. The Board also wanted to see some resolution to the interdam losses in the Columbia River as a major step toward solving the conservation problems in that river.

Third, increased 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 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.

Fourth, the divergence of State and Federal management that became apparent during the 1983 season is further complicating management of the troll fishery. Although it is difficult to document, as the current statistical areas don't correspond exactly to State and Federal jurisdictions, only a small portion of the annual salmon harvest or fishing efforts occur in the Fisheries Conservation Zone (FCZ). It is difficult for trollers to know which regulations apply in which area or where the limits of the two jurisdictions are.

CHINOOK SALMON FISHERY

Preliminary harvest information indicates a total commercial chinook salmon harvest by all gear types of approximately 290,000 fish. This includes a total season (winter and summer seasons) troll fishery harvest of approximately 270,000 chinook salmon. Comparative troll and total all gear chinook salmon commercial landing since 1980 are shown in Figure 4.

Troll Fishery Winter Season

The 1983 winter season extended from October 1, 1982 through April 14, 1983. Beginning and ending dates were the same as for the 1981 and 1982 seasons. Fishing during the 1982/83 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 2, approximately 30,000 chinook salmon were harvested by the troll fishery during the 1982/83 winter season with 12,400 (41%) being landed prior to January 1, 1983 and 17,600 (59%) after January 1. The 1982/83 winter season catch increased over the 1982/83 winter catch of 12,600 by about 17,400 or 138% as a result of increased effort during the winter period from October 1, 1982 through April 15, 1983. For comparison, troll fishery winter season chinook salmon catches since 1970 are shown in Figure 5.

Troll Fishery Summer Season

The pre-season management plan for the 1983 troll fishing season included a summer season troll target harvest of 205,500 chinook salmon. This target was determined by subtracting a winter catch of 30,000 and pre-season estimated net fisheries catch of 20,000 from the established target harvest of 255,500 chinook salmon. This pre-season strategy was later revised, due to a lack of the final resolution of the U.S./Canada Salmon Treaty to allow no more chinook fishing time than in 1982 (in fact, five days less were fished in 1983). Based on inseason catch projections the revised management strategy was expected to result in a total catch similar to the 1982 level.

The Southeast Alaska troll fishery began the summer season as scheduled on May 15. Following a 25-day fishing period, the fishery was closed for 22 days from June 9 through June 30. The primary purposes of the closure, which was designed in part to compliment a June closure of the Canadian troll fishery in northern British Columbia waters (north of Cape Caution), was to help increase coastwide spawning escapements of depressed natural chinook salmon stocks. The closure was also initiated to decrease the duration of any chinook only closures in the Southeast Alaska troll fishery in order to minimize hook and release mortalities of chinook salmon during the coho salmon directed fishing.

Following a 22-day closure, June 9-30, the fishery reopened on July 1 and continued for 35 days through August 4 when the fishery was again closed. As seen in Figure 6 and Table 3, five fewer open days were allowed in 1983 than the significantly restricted 1982 season and, 1983 was in fact the shortest chinook season on

record for the troll fishery since it began. On July 21 the National Marine Fisheries Service closed all trolling in the Fishery Conservation Zone in keeping with their goal of limiting the Southeastern Alaska chinook harvest to 255,000 fish.

As shown in Table 2, the current estimate of the troll summer season chinook catch to the closure beginning August 4 is approximately 240,000 fish. This includes an estimated 101,000 fish harvested during the 25-day period from May 15 through June 8 and an estimated 139,000 harvested during the 35-day period from July 1 through August 4.

Chinook Salmon Escapements To Southeast Alaska Systems

Natural chinook salmon escapements are monitored annually through escapement enumeration on nine of the 33 systems. It is estimated that the nine "index" systems, including the three major systems, five medium systems and one minor system account for approximately 80 percent of the total production. Escapements are enumerated by aerial survey on seven index systems and by weir on two systems. A procedure has been developed to estimate total escapements to each of the index systems by adjusting for aerial survey counting rates and percent contribution of surveyed tributaries of the large, major systems. Finally, average escapements to index systems in the medium and small categories are used to estimate total escapement to all systems in each of these categories. This then provides an estimate of total escapement to all systems.

Estimates of 1975-80 average index escapements and annual index escapements for 1981-83 are shown for the nine index systems in Table 4. Escapements to four of the nine index systems increased in 1983 compared to 1982, four declined and one remained unchanged (Figure 7). The most significant changes occurred on the Taku and Stikine rivers where 1983 escapements declined 64 and 79 percent respectively. Weak returns had been anticipated for the Taku in 1983 and 1984 as a result of landslides which occurred in 1978-79. Exact causes of the similar decline in the Stikine are not known; while parent year escapements were low they were similar in magnitude to those producing much larger returns in 1981 and 1982.

Excluding the Taku and Stikine systems, 1983 escapements increased over 1982 levels in four of the remaining index systems (Alsek, Situk, Blossom and Keta), decreased in two (Unuk and King Salmon) and remained unchanged in one (Chickamin). Combined escapements in these seven systems had a net decrease of about five percent from 1982. Changes observed between 1982 and 1983 in these seven systems are thought to represent normal year to year differences due to variations in a number of factors including brood year escapements, survival rates, differential harvest rates and escapements estimates.

As indicated above the objective of the stock rebuilding program began in 1981 is to achieve escapement goals in a maximum of three cycles or approximately fifteen years. Based on expected average production rates (return:spawner of 2.5:1 at the spawning grounds), interim goals of approximately 31,500 during the first cycle and 40,800 during the second cycle would be required to achieve the current management goal of 64,200.

Estimated total escapements in 1981, 1982 and 1983 were 51,100, 47,000 and 26,700 respectively or an average of 41,700 (Figure 8). The 1981-83 average escapement is approximately 60 percent above the average 1975-80 escapement of 26,200, and slightly above the second cycle interim goal of 40,800. While some improvement over 1983 is expected in 1984 returns to the Taku and Stikine rivers, escapements to these two systems are still expected to be below the levels observed in 1981 and 1982. The result of this will be to lower first cycle average escapement somewhat further.

As expected, the rebuilding rate has not been uniform with respect to time or between individual index systems. Estimated total escapements have ranged from 51,100 in 1981 to 26,700 in 1983. For the nine index systems, average 1981-83 escapements represent from 33 percent (Situk) to 127 percent (Keta) of current management escapements goals (Figure 9). Strong and fairly uniform improvements have occurred in the four Behm Canal systems since 1982 when an additional one-month closure (May 15 - June 14) was implemented in a portion of District 1 to protect the later migrating runs to these systems. Compared to average 1975-80 escapement levels, average 1981-83 escapements have increased in eight of the nine index systems; the Situk River near Yakutat has shown a decrease of about 54 percent (Figure 10).

Additional protective measures are being proposed for Taku and Stikine returns in 1984 to aid the recovery in these systems.

Given the diversity of these runs and the nature of the large mixed stock fisheries operating on them, substantial variations in annual escapements and recovery rates are expected to continue.

COHO SALMON FISHERY

The troll coho salmon season occurs from June 15 through September 20 although a major portion of the catch normally occurs from mid-July through early September. Outer coastal troll catches peak near mid-August. In 1983, the start of the coho season was delayed until July 1 to coincide with the second opening of the chinook season. Southeast Alaska coho salmon fisheries are not managed under a pre-season catch limit as used for the chinook salmon fisheries. Instead coho salmon run strength is assessed in-season and fisheries are regulated accordingly to achieve conservation objectives and Board established allocation policies.

Existing regulations specify a 10-day closure during the coho season 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 (Figure 11) and to maintain historical allocation balance to inside fisheries. (Figure 12).

Preliminary catch data indicates that approximately 830,000 coho salmon were harvested by the troll fishery from July 1 through the beginning of the 10-day closure on August 4. Data available from fisheries in the inside waters through July 25 indicated that a 10-day coho salmon closure was necessary. To facilitate orderly landing and processing of chinook and coho salmon, the 10-day coho season closure was moved forward from the August 15-24 closing dates announced in the 1983 Troll Fishery Management Plan.

Following reopening of the troll fishery on August 15 to all species except chinook salmon, an estimated 450,000 coho salmon were harvested through September 20 for a total troll season harvest of approximately 1.3 million coho salmon. Combined with an estimated harvest of 650,000 coho salmon by the net fisheries, the 1983 season yielded a total commercial harvest of approximately 1.9 million coho salmon by all gear types in Southeast Alaska. This represents the third largest coho salmon harvest since 1951 when 3.3 million coho were harvested; approximately 2.1 million fish were harvested in 1982 (Figure 13).

COHO SALMON ESCAPEMENT

As of this writing, only partial data on coho escapements are available. A report on coho escapements will be prepared for presentation at the time of the oral report to the Board of Fisheries in February.

SPECIAL PROBLEMS

Hook and Release of Chinook Salmon from August 15 through September 20.

Following a 10-day closure from August 5 through 14, the troll fishery was reopened for all species except chinook salmon. From August 15 through September 20 the troll fishery targeted primarily on coho salmon harvesting about 450,000 for an estimated total season catch of nearly 1.3 million. During that period trollers were required to release chinook salmon hooked incidentally while fishing for other species.

To help minimize the incidence of chinook hook and release during this period, the Alaska Department of Fish and Game closed four areas along the outer coast which had been identified as areas of

probable high chinook abundance. The Federal Fishery Conservation Zone (FCZ), consisting primarily of that area beyond three miles of the outer coast line, was closed to all fishing from July 21 to the end of the season except for four FCZ enclaves in Cross Sound, Sitka Sound, Lower Chatham Straits and Summer Straits which were reopened to all species except chinook beginning August 15 to facilitate the coho harvest in those areas. Fishermen were also encouraged by ADF&G and the Alaska Trollers Association (ATA) to avoid remaining in open areas where chinook abundance was high and to utilize gear and fishing techniques most selective to coho salmon. ATA provided fishermen with a leaflet handout indicating areas to avoid and fishing techniques to use.

Alaska Department of Fish and Game, in cooperation with ATA, conducted an observer program utilizing three ADF&G observers and approximately 10 fishermen observers to document incidental chinook hooking rates. Preliminary data from this program plus fishermen observations suggests that the rate of incidental hook and release of chinook salmon was much lower in 1983 than in 1982. This also tends to be substantiated by a much lower incidental chinook harvest by net fisheries in 1983. A report on this study will be presented at the February 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 caught by troll gear bore external scars of various types. In 1981 the Department began documentation of the incidence of these scars and the various types of scars observed. In 1982 the Department expanded the sampling effort to obtain a more detailed analysis of the incidence of these scars. A special report was prepared on these studies; results are summarized below.

During the 1982 season approximately 54,000 chinook and 165,000 coho salmon were randomly selected from Southeast Alaska troll fishery landings and examined for scars and marks. These samples represented 23 and 13 percent respectively of the summer troll chinook and coho salmon catches.

Scars and marks of the six categories established for this study were recorded for 2.03% of the chinook and 1.50% of the coho salmon sampled. Approximately 0.71 and 0.76 percent respectively of the chinook and coho salmon sampled were recorded with marks in Categories 1-3 considered representative of marks possibly inflicted by encounters with different types of fishing gear.

In 1983, sampling for external scars continued but at a reduced level due to other projects occupying available sampling time. Scars for all six categories were recorded for 1.9% of the chinook and 0.1% of the coho sampled. Approximately 0.73 and 0.07 percent

respectively of the chinook and coho sampled were recorded with marks in Categories 1-3.

The scope to the 1982 and 1983 study does not allow determination of the causes of the fishing gear type marks observed on salmon harvested in the Southeast Alaska troll fishery. Potential sources are thought to include domestic net fisheries in southeast and other areas northern British Columbia and foreign and/or domestic ocean fisheries operating in the Gulf of Alaska.

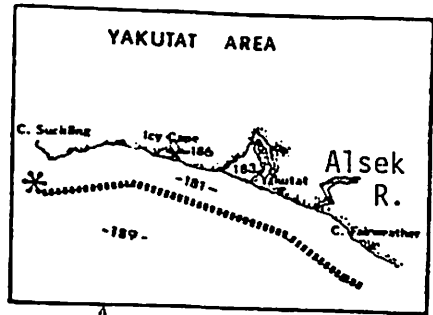
Sampling the Winter Troll Fishery for Incidence of Coded-Wire Tags

Sampling for coded wire tags is normally conducted primarily during the summer fishery, May 15-September 20, when the majority of the catch occurs. The Department expanded sampling of the winter fishery using permanent staff when available and seasonal employees as fishery effort increased during the spring of 1983.

Of the 17,600 chinook reported caught during the period January 1 to April 14, Department personnel sampled 6,075 or 35%. This sample rate was made possible through excellent cooperation from fishermen and processors who notified the Department when landings were made or when salmon were being airfreighted out of the region.

During the period January 1-April 14, 1983, 303 landings were sampled from which 198 adipose clipped salmon were recovered. These samples produced 170 readable tags. Expansion of tag recoveries to compute contribution estimates by tag code/agency is expected to be completed in March 1984.

The Department plans to continue sampling the winter troll fishery during 1983-84 season as budgetary limitations allow.



REVISED 1981

* ALASKA 3 MILE LI
 12 MILE DEMARCATION LINE

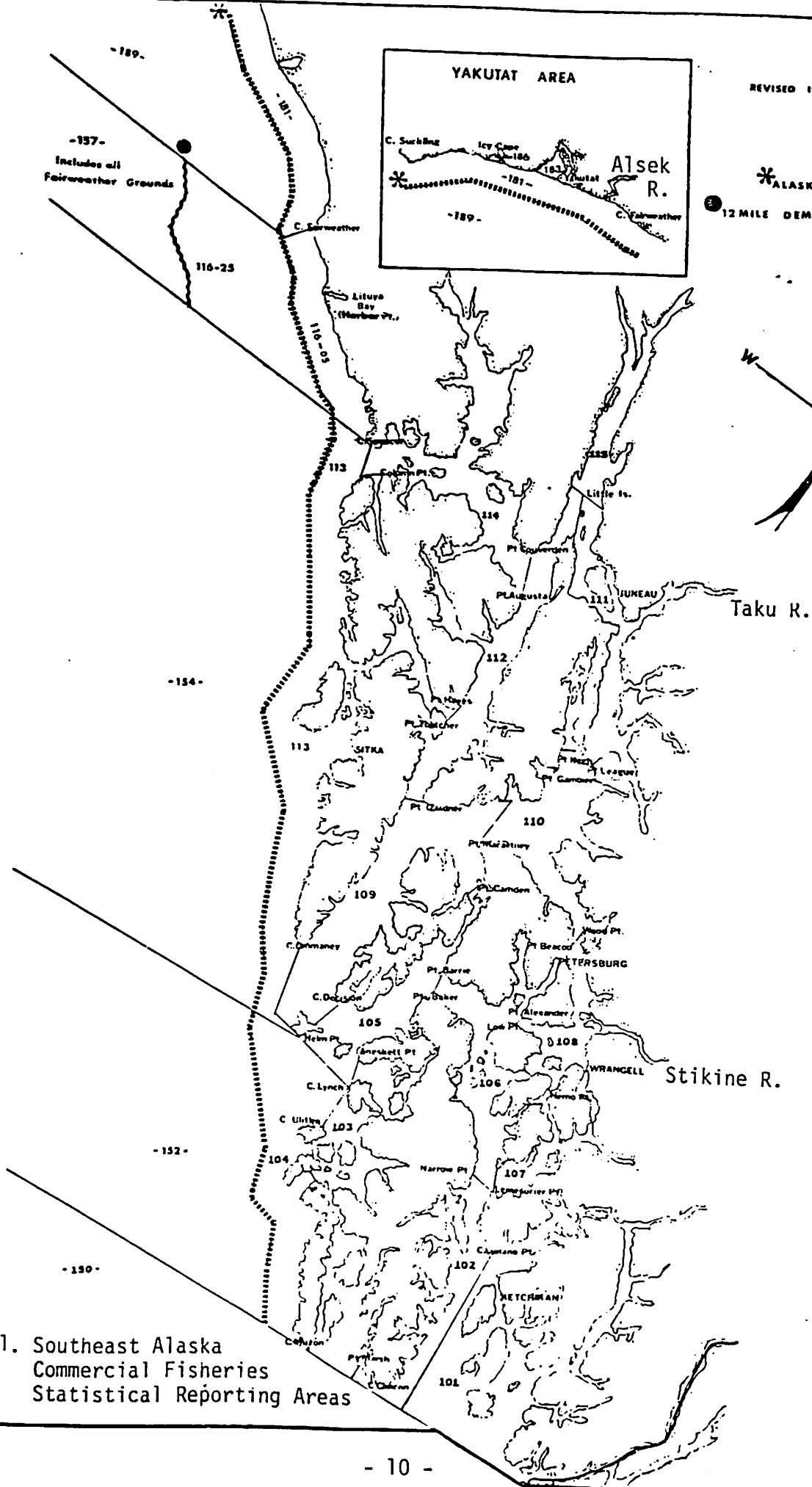
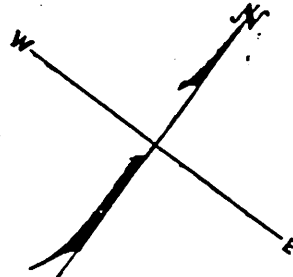


Figure 1. Southeast Alaska
 Commercial Fisheries
 Statistical Reporting Areas

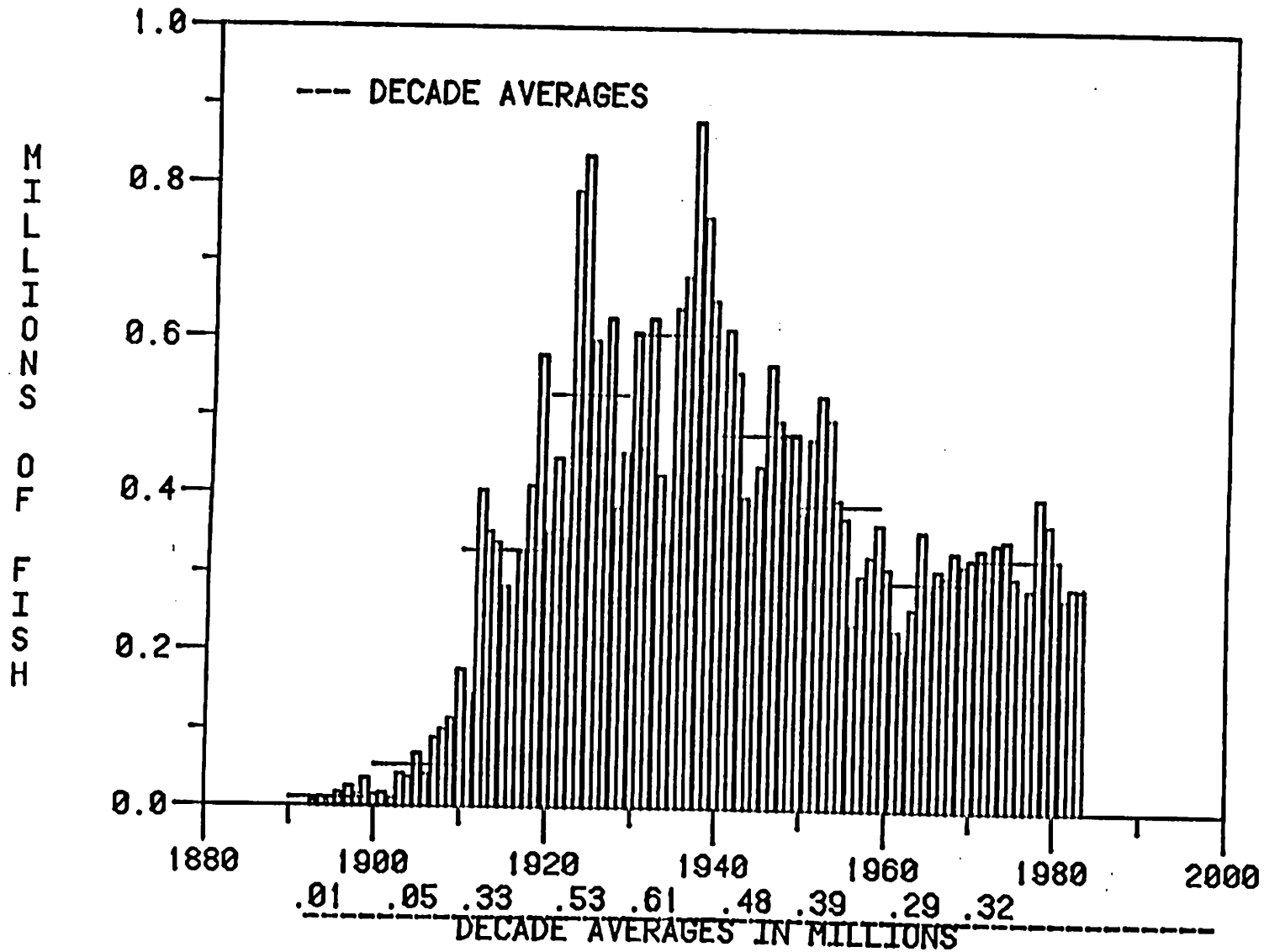


FIGURE 2. SOUTHEAST ALASKA REGION COMMERCIAL CHINOOK SALMON CATCHES

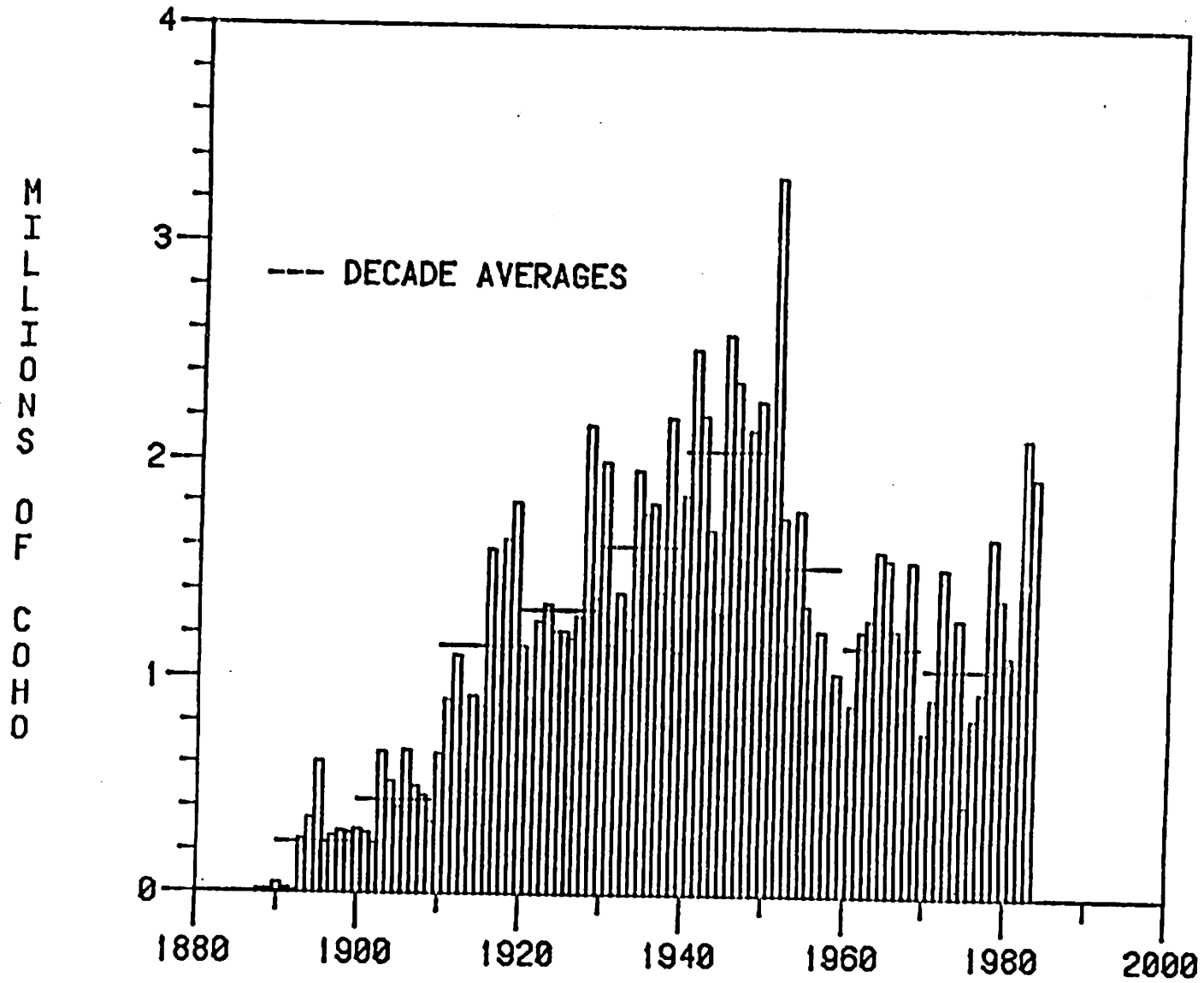


FIGURE 3 . SOUTHEAST ALASKA REGION COMMERCIAL COHO SALMON CATCHES

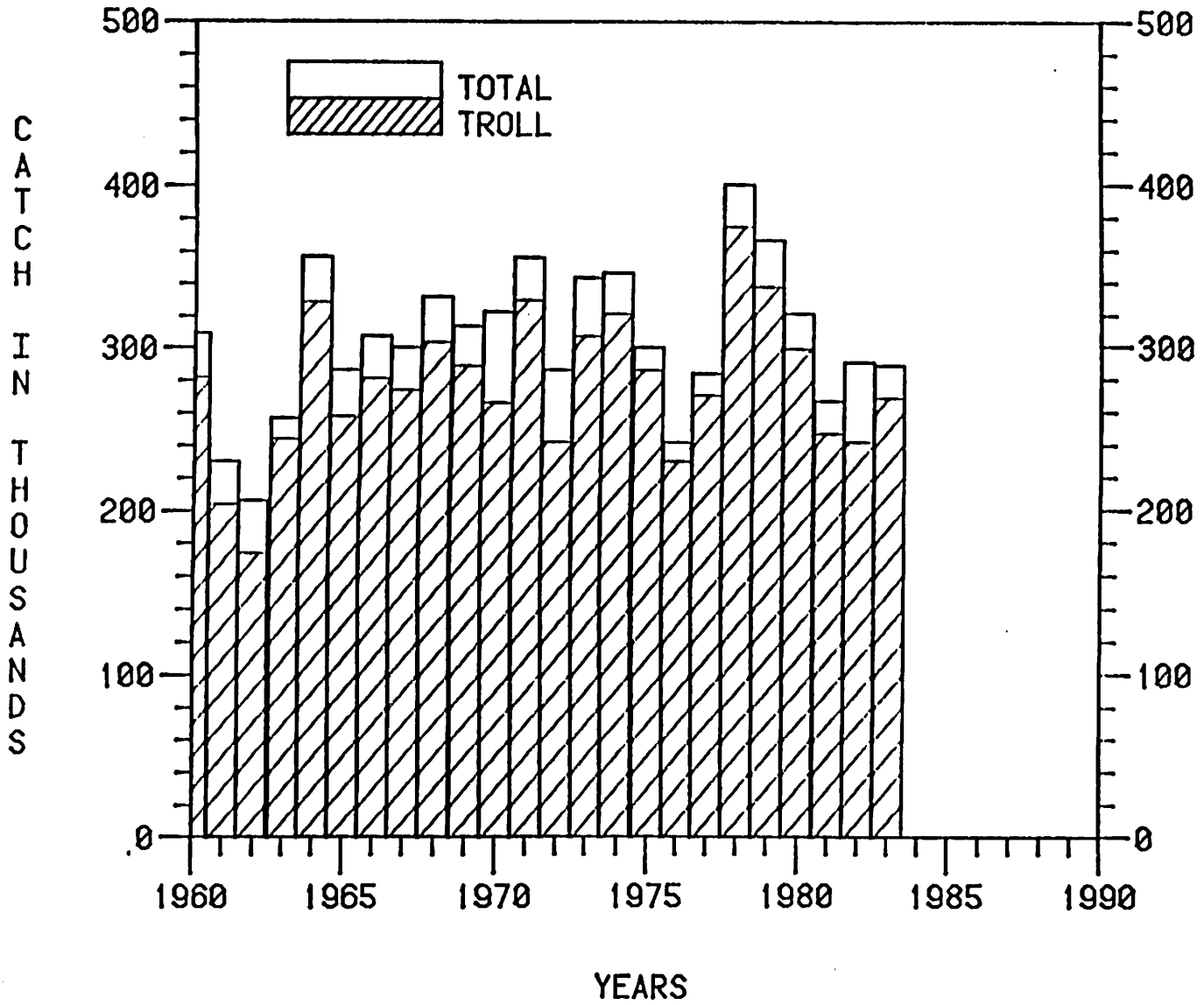


FIGURE 4. SOUTHEAST ALASKA REGION TOTAL CHINOOK SALMON CATCHES BY TROLL AND ALL COMMERCIAL FISHERIES, 1960-83. (ADF&G 9/83)

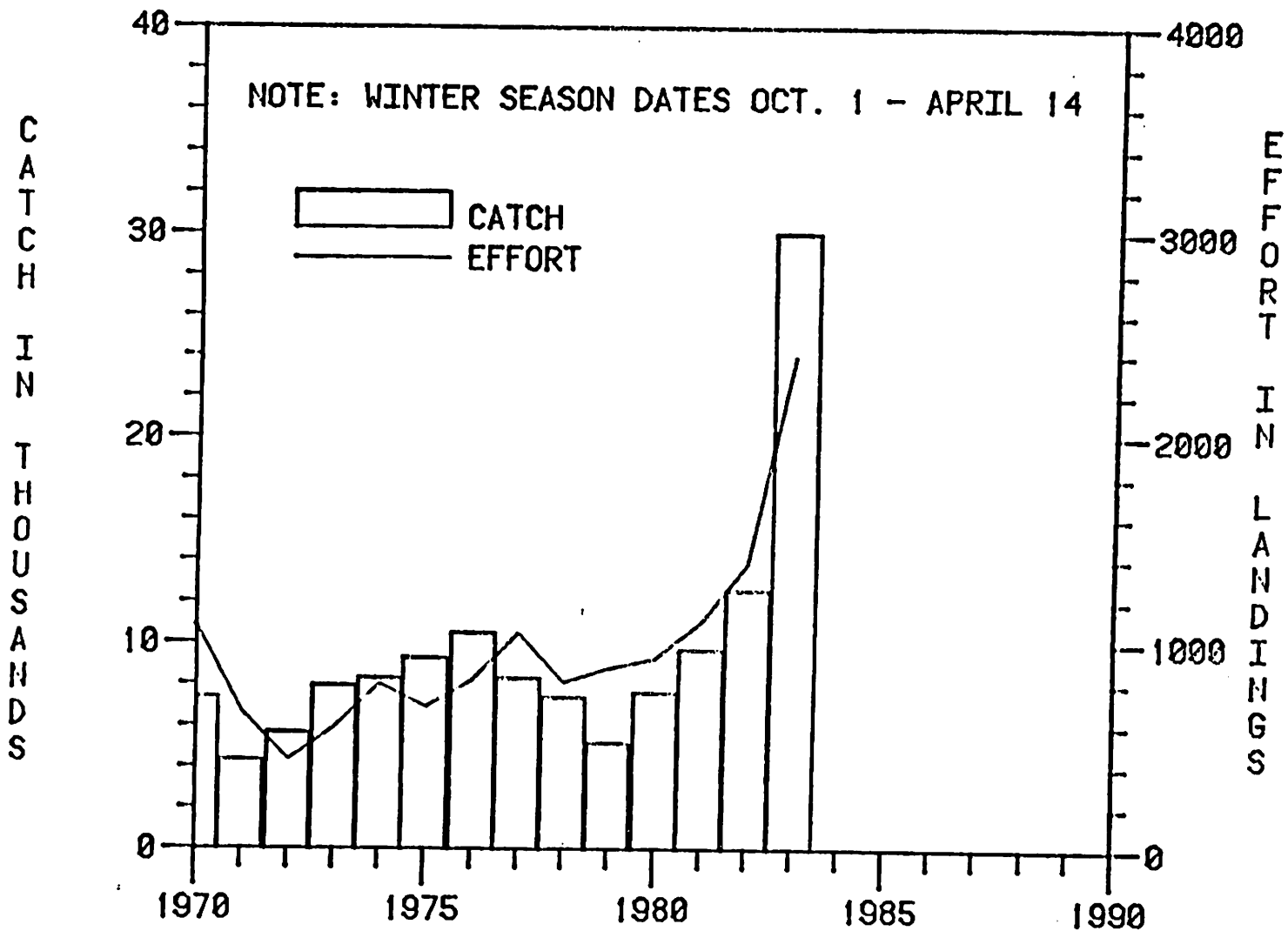


FIGURE 5 . SOUTHEAST ALASKA REGION WINTER TROLL FISHERY ANNUAL CHINOOK SALMON CATCHES AND EFFORT, 1970-83. (ADF&G 12/83)

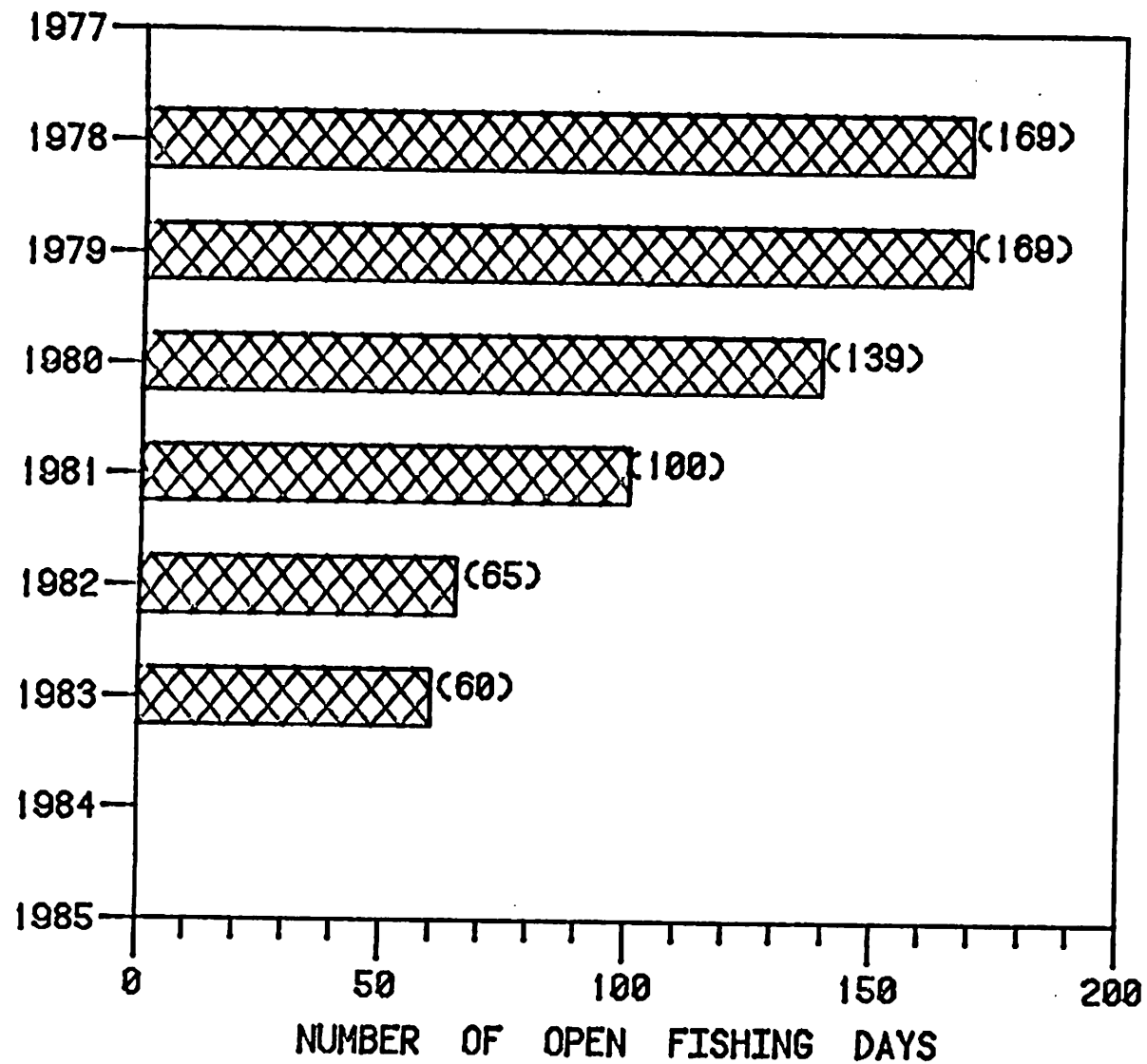


FIGURE 6 . NUMBER OF DAYS SOUTHEAST ALASKA TROLL FISHERY OPEN TO CHINOOK SALMON FISHING DURING THE SUMMER SEASON APRIL 15 THROUGH SEPTEMBER 30, 1978-83 (ADF&G 7/23/83)

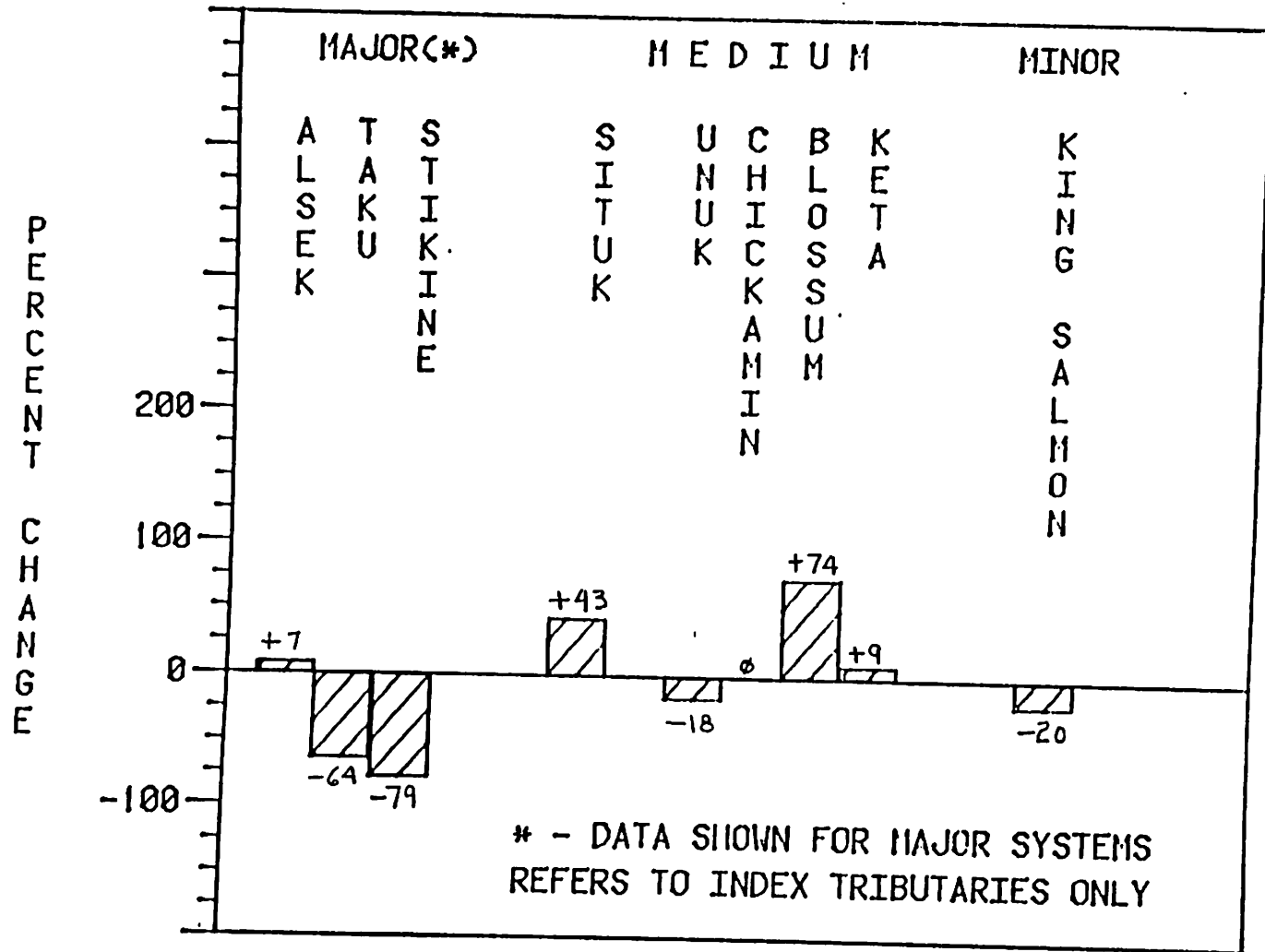


FIGURE 7 . PERCENT CHANGES IN 1983 CHINOOK SALMON ESCAPEMENTS COMPARED TO 1982 IN SOUTHEAST ALASKA INDEX SPAWNING SYSTEMS. (ADF&G 9/6/83)

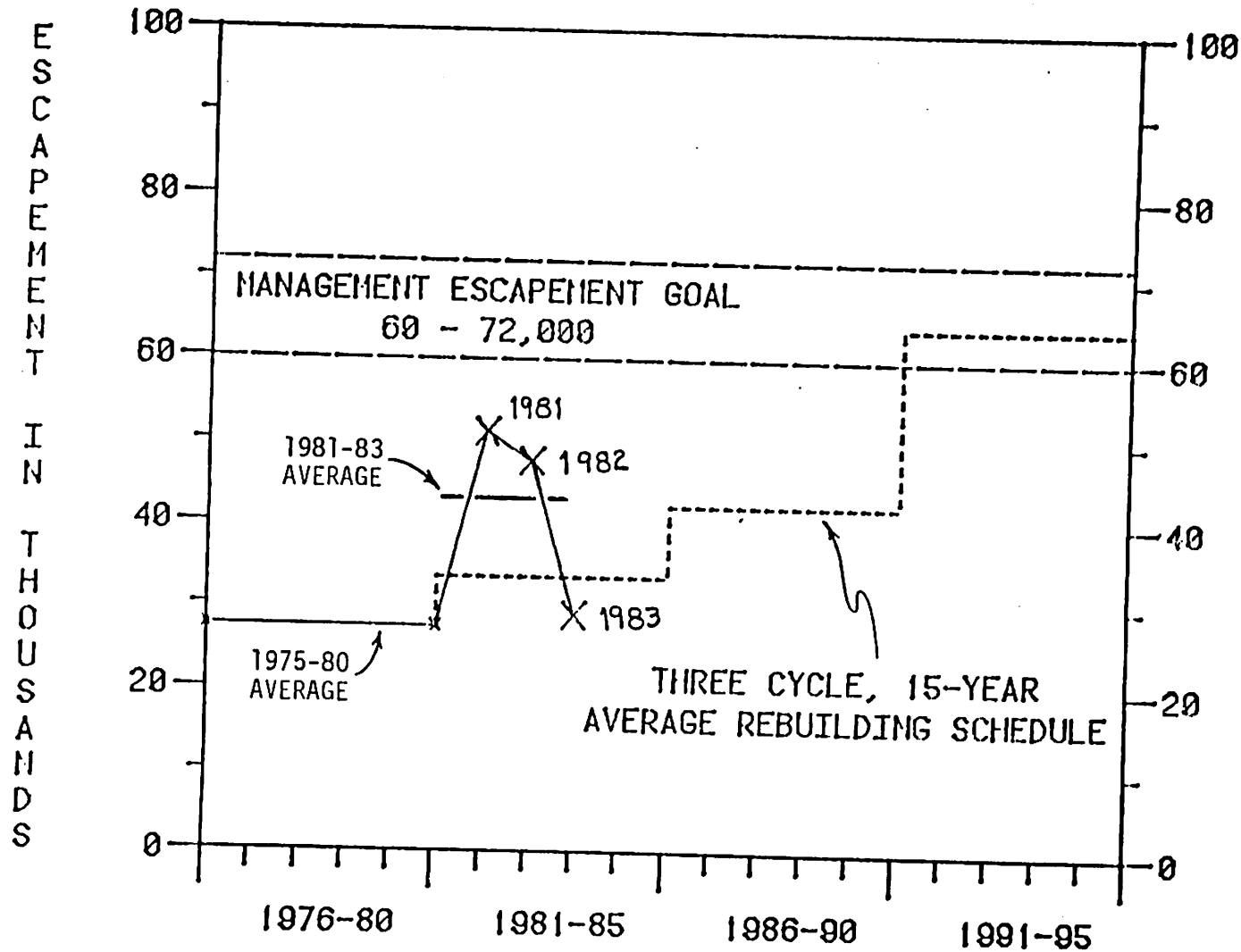


FIGURE 8 . CURRENT STATUS OF SOUTHEAST ALASKA NATURAL CHINOOK SALMON ESCAPEMENTS COMPARED TO 15-YEAR REBUILDING SCHEDULE. (ADF&G 9/6/83)

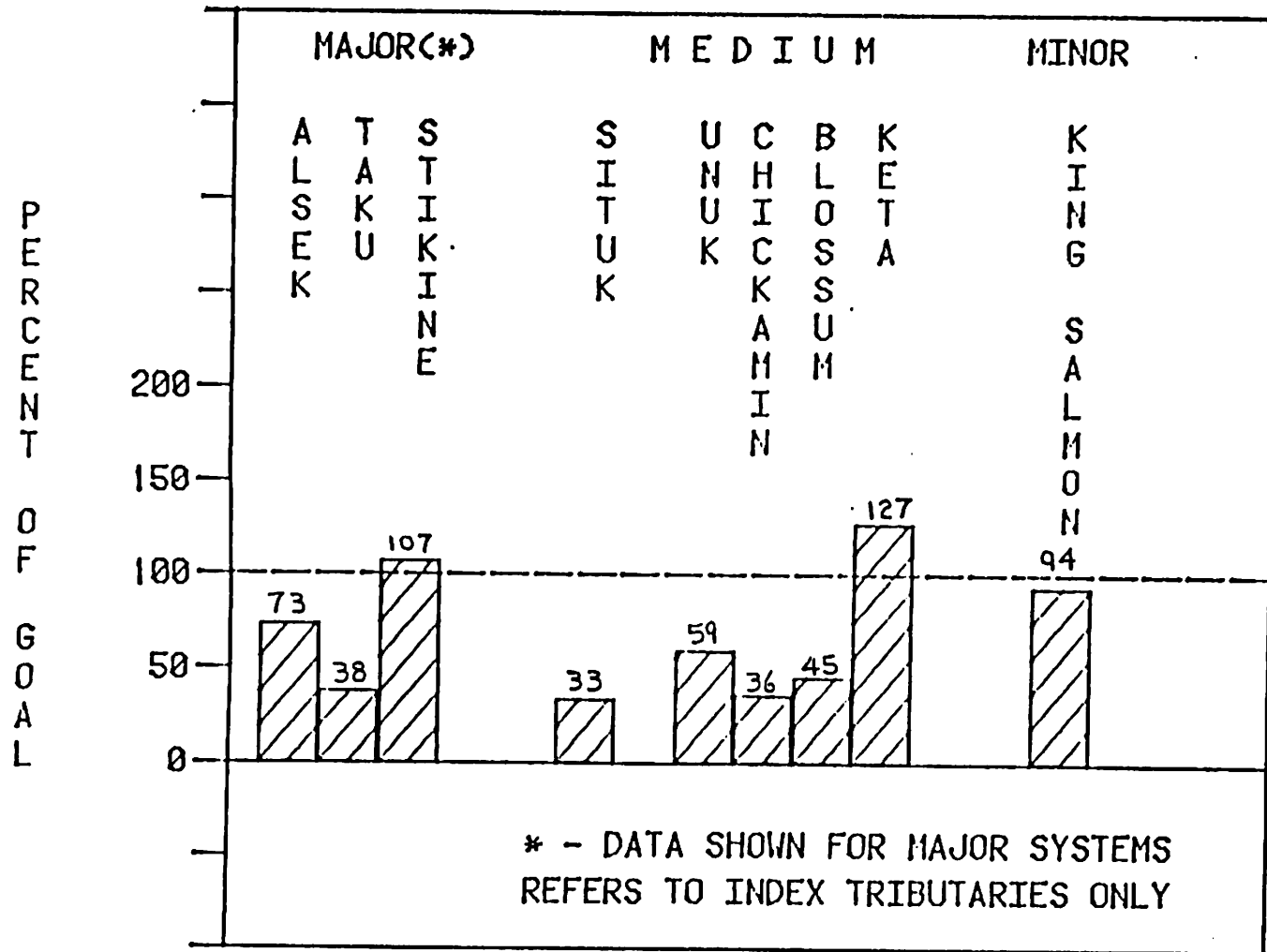


FIGURE 9 . PERCENT OF CURRENT MANAGEMENT SPAWNING GOALS REPRESENTED BY AVERAGE 1981-83 CHINOOK SALMON ESCAPEMENTS TO SELECTED INDEX SPAWNING SYSTEMS IN SOUTHEAST ALASKA. (CDF&G 9/6/83)

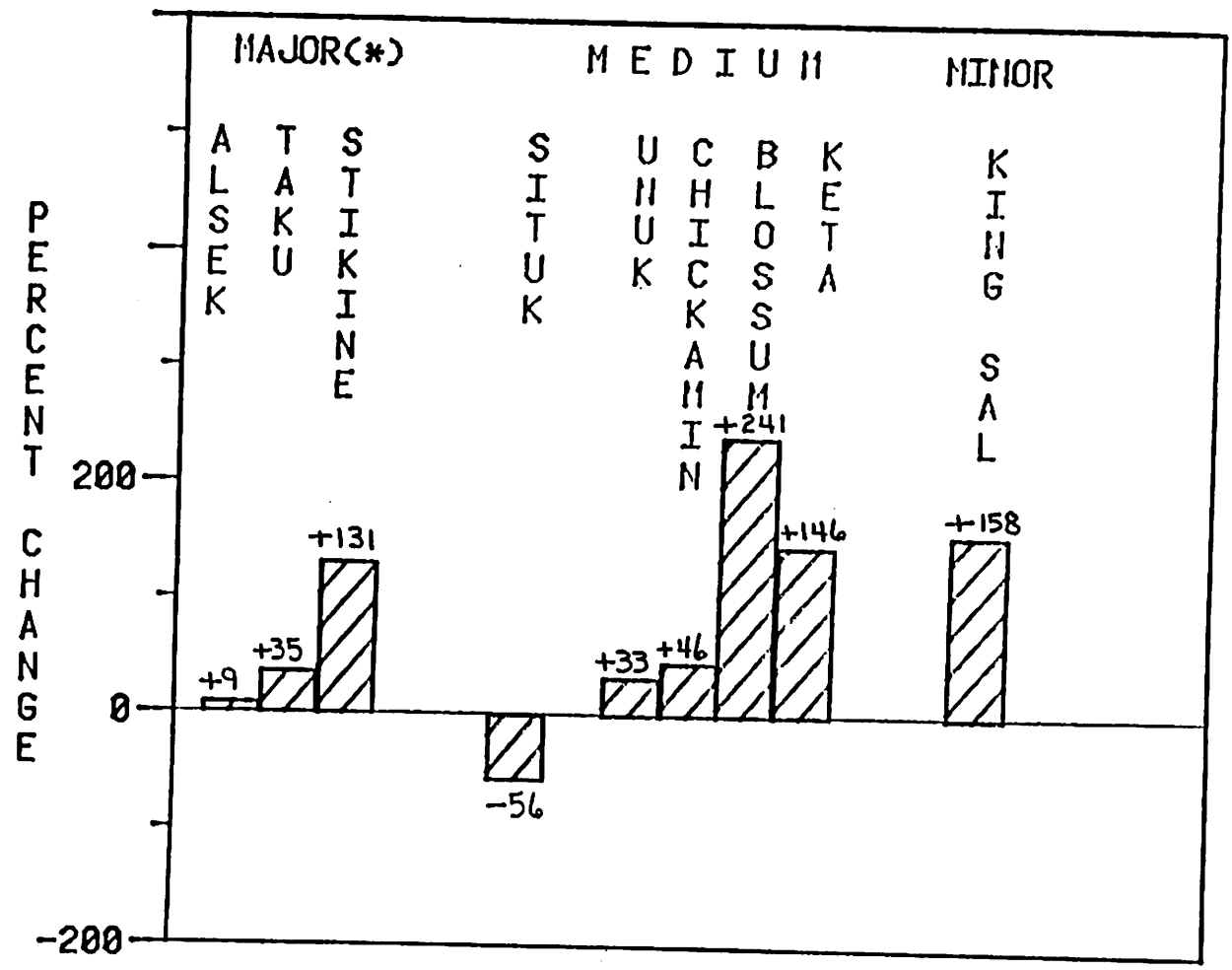


FIGURE 10. PERCENT CHANGES IN AVERAGE 1981-83 CHINOOK SALMON ESCAPEMENTS COMPARED TO AVERAGE 1975-80 LEVELS FOR SOUTHEAST ALASKA INDEX SYSTEMS. (ADF&G 11/83)

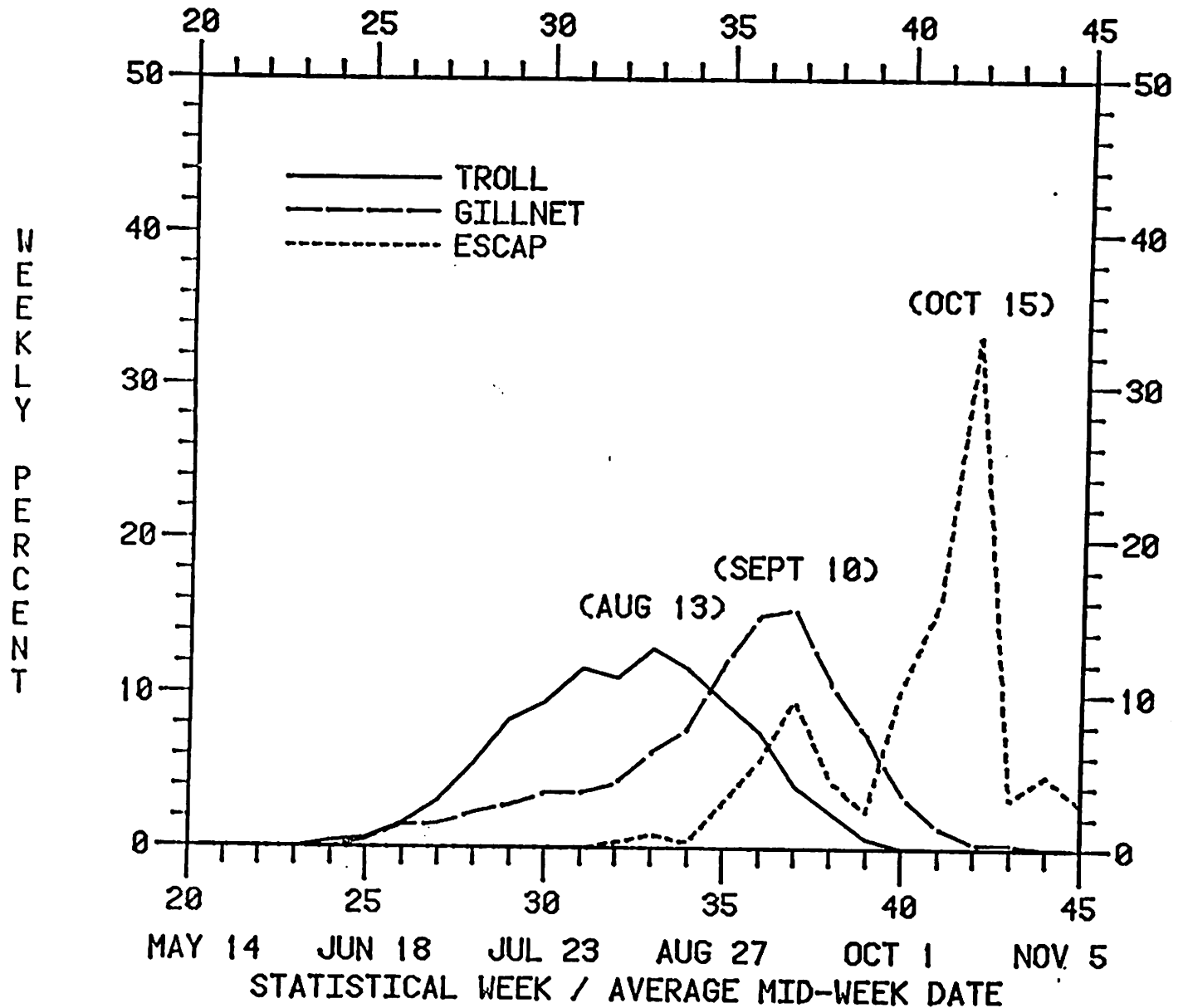


FIGURE 11. AVERAGE TIMING DISTRIBUTION OF COHO SALMON IN THE SOUTHEAST ALASKA TROLL AND DRIFT GILLNET FISHERIES (1969-82 AVERAGES) AND AT SELECTED WEIR SITES (1982). (ADF&G 7/20/83)

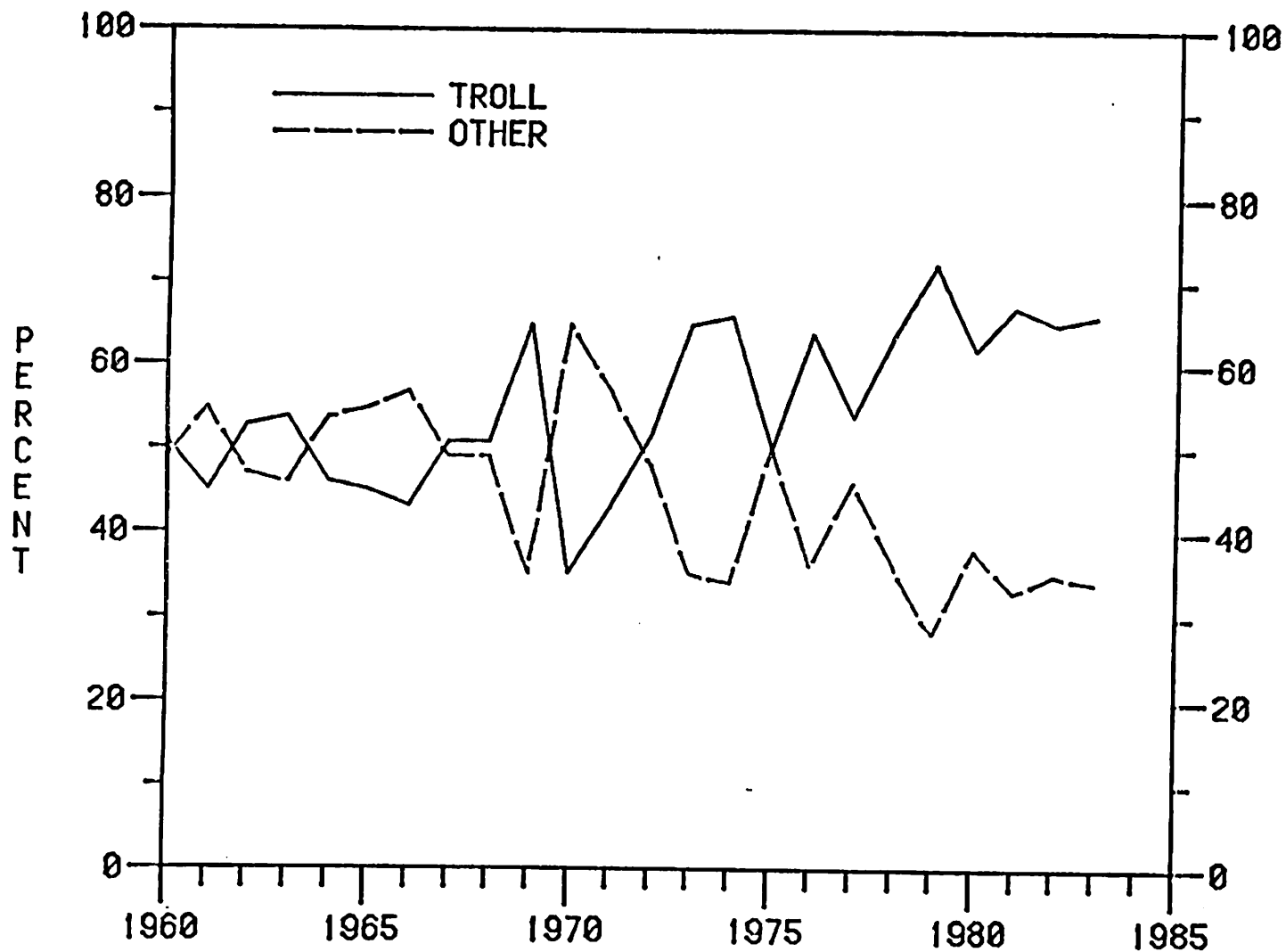


FIGURE 12 . PERCENT OF SOUTHEAST ALASKA REGION COMMERCIAL COHO SALMON CATCH TAKEN BY TROLL GEAR AND ALL OTHER GEAR, 1960-83. (ADF&G 12/83)

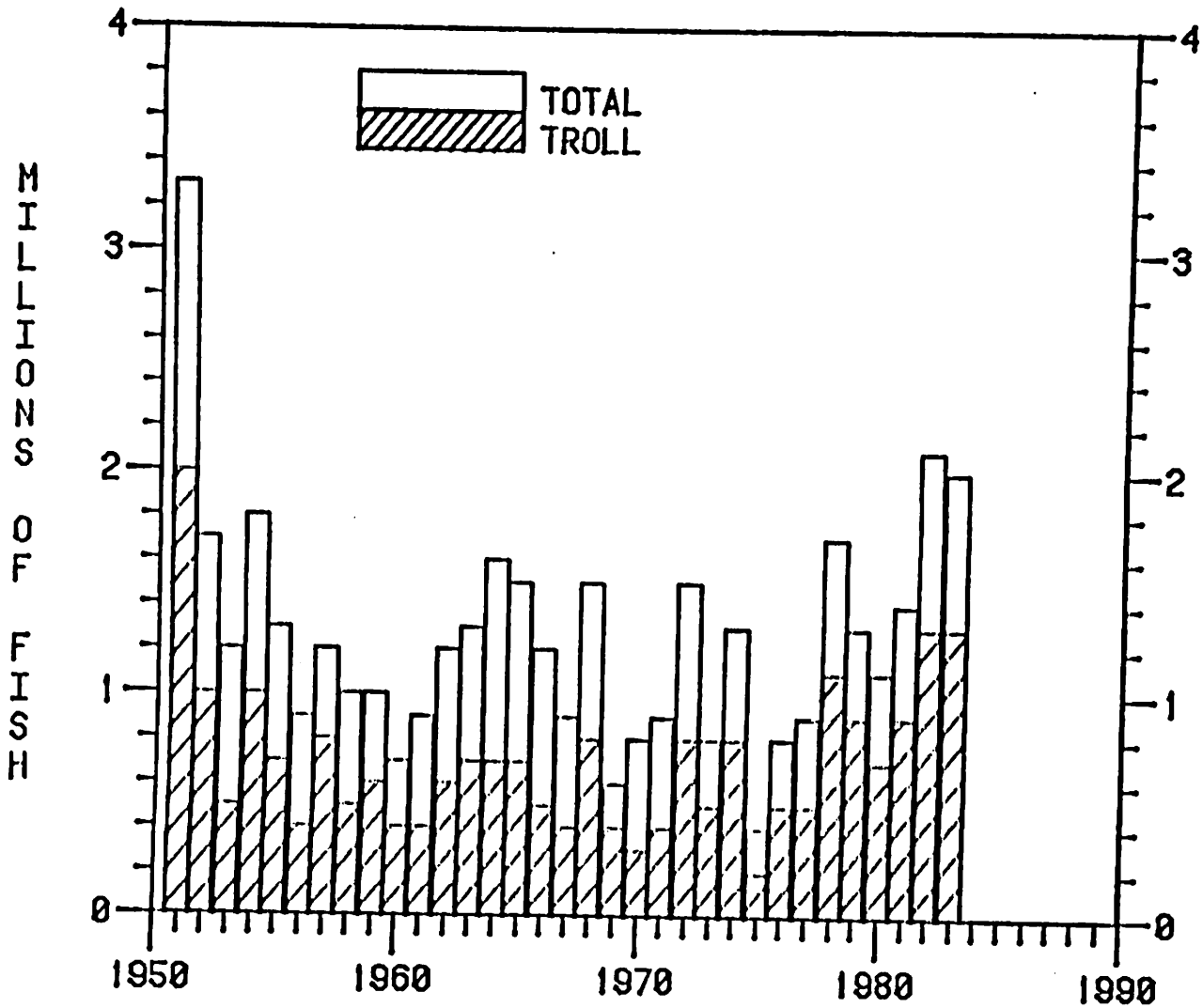


FIGURE 13 . SOUTHEAST ALASKA REGION ANNUAL COMMERCIAL COHO SALMON CATCHES BY THE TROLL FISHERY AND ALL COMMERCIAL FISHERIES 1951 - PRESENT. (F&G 9/83)

Table 1 . Southeast Alaska region annual commercial salmon catches in numbers by species, 1970 to present (ADF&G 11/14/83).

Fishery 05 Troll

| Year | Chinook ^{1/} | Sockeye | Coho | Pink | Chum | Total |
|-------------------------|-----------------------|---------|-----------|---------|--------|-----------|
| 1970 | 304,821 | 477 | 267,411 | 70,019 | 2,804 | 645,532 |
| 1971 | 311,420 | 929 | 391,241 | 104,548 | 7,599 | 815,737 |
| 1972 | 242,285 | 1,060 | 791,779 | 166,777 | 11,688 | 1,213,589 |
| 1973 | 307,715 | 1,222 | 540,127 | 134,582 | 10,445 | 994,091 |
| 1974 | 322,154 | 2,602 | 846,434 | 263,466 | 13,805 | 1,448,461 |
| 1975 | 287,348 | 1,103 | 214,254 | 77,207 | 2,825 | 582,737 |
| 1976 | 231,282 | 1,274 | 524,992 | 193,777 | 4,635 | 955,960 |
| 1977 | 271,777 | 5,701 | 506,927 | 281,286 | 11,617 | 1,077,308 |
| 1978 | 375,655 | 2,804 | 1,102,066 | 617,817 | 26,211 | 2,124,553 |
| 1979 | 339,139 | 7,019 | 919,484 | 629,354 | 24,716 | 1,919,712 |
| 1980 | 301,572 | 2,866 | 707,360 | 267,589 | 12,201 | 1,291,588 |
| 1981 | 252,984 | 7,470 | 862,803 | 579,475 | 9,046 | 1,711,778 |
| 1982 | 249,850 | 4,879 | 1,327,342 | 517,604 | 7,839 | 2,107,514 |
| Average 1970 to 1982 | 292,154 | 3,031 | 692,478 | 300,269 | 11,187 | 1,299,120 |
| 1983 PRELIM | 270,000 | 8,700 | 1,258,475 | 508,640 | 21,000 | 2,066,815 |

1/ Calendar year catches.

Table 2 . Preliminary Inseason 1983 Chinook and Coho Salmon Catches
by Southeast Alaska Fisheries (ADF&G Revised 9/17/83)

| | No. of Days | Est. Catches | |
|-------------------------------|----------------|----------------------|-----------|
| | | Chinook | Coho |
| TROLL FISHERY | | | |
| ----- | | | |
| Winter Fishery | | | |
| Oct. 1 - Dec. 31, 1982 | | 12,400 | |
| Jan. 1 - Apr. 14, 1983 | | 17,600 | |
| Winter Fishery Subtotal | | 30,000 | |
| Summer Fishery | | | |
| Apr. 15 - May 14 | 30 | -CLOSED ALL SPECIES- | |
| May 15 - Jun. 8 | 25 | 101,000 | |
| June 9 - 30 | 22 | -CLOSED ALL SPECIES- | |
| July 1 - Aug. 4 | 35 | 139,000 | 830,000 |
| Aug. 5 - 14 | 10 | -CLOSED ALL SPECIES- | |
| Aug. 15 - Sept. 20 | 37 | 1/ | 450,000 |
| Summer Fishery Subtotal | | 240,000 | 1,280,000 |
| ----- | | | |
| TROLL FISHERY SUBTOTAL | | 270,000 | 1,280,000 |
| ----- | | | |
| NET FISHERIES | | | |
| ----- | | | |
| Gillnet Fisheries | | 6,000 | 300,000 |
| Seine Fisheries | | 14,000 | 350,000 |
| NET FISHERIES SUBTOTAL | | 20,000 | 650,000 |
| ----- | | | |
| ALL GEAR TOTAL CATCH | | 290,000 | 1,930,000 |
| ===== | | | |

1/ Troll fishery closed to harvest of chinook salmon.

Table 3 . Number of days Southeast Alaska troll fishery open to chinook salmon fishing during the summer season April 15 through September 30, 1978-83 (ADF&G 7/23/83)

| Year | Number of Open Days 1/ | Number of Closed Days | Closed Periods (No. of Days) |
|------|------------------------|-----------------------|---|
| 1978 | 169 | 0 | None |
| 1979 | 169 | 0 | None |
| 1980 | 139 | 30 | July 15-24 (9); Sept. 10-30 (21) |
| 1981 | 100 | 69 | Apr. 15 - May 14 (30); June 26 - July 4 (9); Aug. 10-19 (10); Sept. 4-12 (9); Sept. 20-30 (11) |
| 1982 | 65 | 104 | Apr. 15 - May 14 (30); June 7-16 (10); July 29 - Sept. 30 (64) |
| 1983 | 60 | 109 | Apr. 15 - May 14 (30); June 9-30 (22); Aug. 5 - Sept. 30 (57) |

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.

TABLE 4. PRELIMINARY ESTIMATES OF CHINOOK SALMON INDEX ESCAPEMENTS TO NINE SOUTHEAST ALASKA INDEX SYSTEMS, 1975-83 (ADF&G 11/83)

| System - Tributary | Type of Estimate 1/ | Ave. 1975-80 | Index Escapements | | | Percent change in 1983 compared to Ave. 1975-80 | | Index Escap. Goals | Percent of Goal Ave. | |
|---------------------------------------|---------------------|--------------|-------------------|-------|-------|---|------|--------------------|----------------------|-----|
| | | | 1981 | 1982 | 1983 | 1982 | 1983 | | 1981-83 | |
| Major Systems (3 total) 2/ | | | | | | | | | | |
| Alsek - Kluckshu | (2) | 2,130 | 2,110 | 2,360 | 2,520 | + 18% | + 7% | 3,200 | 79% | 73% |
| Taku - Nakina | (1) | 2,810 | 5,100 | 2,530 | 970 | - 65 | -62 | 9,000 | 11 | 32 |
| Nahlin | (1) | 780 | 2,940 | 1,250 | 390 | - 50 | -69 | 2,500 | 16 | 61 |
| Taku Subtotal | | 3,590 | 8,040 | 3,780 | 1,360 | - 62 | -64 | 11,500 | 12 | 38 |
| Stikine - Little Tahltan | (1) | 970 | 3,330 | 2,830 | 590 | - 39 | -79 | 2,100 | 28 | 107 |
| Medium Systems Subtotals (8 total) 2/ | | | | | | | | | | |
| Situk | (2) | 1,490 | 810 | 510 | 730 | - 51 | +43 | 2,100 | 35 | 33 |
| Behm Canal Systems | | | | | | | | | | |
| Unuk | (1) | 800 | 730 | 1,350 | 1,110 | + 39 | -18 | 1,800 | 62 | 59 |
| Chickamin | (1) | 220 | 280 | 340 | 340 | + 55 | + 0 | 900 | 38 | 36 |
| Blossum | (1) | 100 | 160 | 340 | 590 | +490 | +74 | 800 | 61 | 45 |
| Keta | (1) | 250 | 330 | 750 | 820 | +228 | + 9 | 500 | 164 | 127 |
| Behm Canal Subtotals | | 1,370 | 1,500 | 2,780 | 2,860 | +109 | + 3 | 4,000 | 72 | 60 |
| Minor Systems (22 total) 2/ | | | | | | | | | | |
| King Salmon River | (1) | 80 | 100 | 260 | 210 | +160 | -20 | 200 | 104 | 94 |

(Cont.)

TABLE 4 . (CONT.) PRELIMINARY ESTIMATES OF CHINOOK SALMON INDEX ESCAPEMENTS TO NINE SOUTHEAST ALASKA INDEX SYSTEMS, 1975-83 (ADF&G 8/31/83)

1/ Type of estimate codes: (1) Helicopter peak spawning count (primary method).
(2) Weir total count.

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

Notes: (1) Thirty-three known chinook salmon producing systems exist in Southeast Alaska. However, due to poor surveying conditions in many systems only those included in the table have been surveyed in a consistent manner each year to provide a relative measure of index of total chinook salmon escapements to Southeast Alaska systems.

(2) Index escapements shown in the table have not been expanded for aerial survey counting rates or for tributaries not surveyed to estimate total spawning escapements.

Data Sources: 1975-81: Kissner, Paul D., Jr. 1982. A Study of Chinook Salmon in Southeast Alaska. Alaska Dept. Fish and Game. Completion Report 1981-82, Project AFS-41

1982-83: Alaska Department of Fish and Game unpublished management records. Canadian Department of Fisheries and Oceans unpublished management records. (Kluckshu weir counts provided by S. Johnson, CDFO.)

Dave
Cantillon ~~and Section~~
Wed 12:05

Projected common property fishery harvest of S.S.R.A.A. hatchery produced chinook salmon by gear type under current regulations.

| Facility | Gear | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 |
|--------------|-------|------|------|------|------|------|------|------|
| Neets Bay | GN | 0 | 0.1 | 0.2 | 0.4 | 1.2 | 1.6 | 1.6 |
| | PS | 0 | 0.1 | 0.2 | 0.4 | 1.2 | 1.6 | 1.6 |
| | Troll | 0 | 3.4 | 3.9 | 10.0 | 28.7 | 35.9 | 37.3 |
| | Total | 0 | 3.6 | 4.3 | 10.8 | 31.1 | 39.1 | 40.5 |
| Whitman Lake | GN | 0.2 | 0.1 | 0.1 | 0.1 | 0.3 | ? | ? |
| | PS | 0.2 | 0.1 | 0.1 | 0.1 | 0.3 | ? | ? |
| | Troll | 3.6 | 1.5 | 1.5 | 3.0 | 7.3 | ? | ? |
| | Total | 4.0 | 1.7 | 1.7 | 3.2 | 7.9 | ? | ? |
| Grand Total | | 4.0 | 5.3 | 6.0 | 14.0 | 39.0 | ? | ? |

US/CANADA SALMON TREATY ISSUES

Seattle Draft Treaty, 1983

Final Alaska Position, 1984
US Position (where applicable)*

Final Canadian Offer, 1984

Troll-Chinook

| | | | |
|----|--|--|--|
| 1. | 263,000 - Alaska 868,000 - Canada Northern, Central B.C. <u>and Georgia Straits</u> | 263,000 (1984) - Alaska * 250,000 (1985) - Alaska 263,000 (1984) - Northern and Central B.C. only 250,000 (1985) - No. & Cen. B.C. Up to 220,000 each side - 1986 | 260,000 (1984) - Alaska 250,000 (1985) - Alaska 260,000 (1984) - N. & Cen. BC 250,000 (1985) - N. & Cen. BC 170,000 to 220,000 each side - 1986 |
| 2. | Vancouver Island limit vague | 310,000 * | 310,000 |
| 3. | Escapement stability by 1984 through fishery restriction | Through 1985 * | Through 1985 |
| 4. | Commit to stock rebuild in 10 years | OK - Contingent on buyback * | 10 year rebuilding |
| 5. | Commit to enhance to re- place natural stocks in added harvest | Allow harvest of new enhance- ment * | Allow harvest of new enhancement |
| 6. | Exchange Regulatory Plans | OK * | OK |
| 7. | Future benefit from in- creased runs | Presumably accommodated vague * | Presumably accommodated vague |

- | | | |
|---|--|---|
| 8. | 60 day Alaska summer season * 70 day No. & Cen. B.C. season 15% ceiling in winter season | 60 day AK summer season 70 day No. & Cen. B.C. summer season 6% of harvest can be taken in September 15% ceiling in winter season |
| 9. Pass through provisions of savings to escapement general statement | Pass through provisions to * provide for escapement in face of in-river food fisheries in Canada and other non-lidded fisheries. | OK |
| 10. | No redirection to coho from West * Coast of Vancouver Island fishery | OK |
| 11. | Incidental mortality on legal * chinook shakers in conduct of other species troll fisheries to be counted towards ceiling | OK |
| 12. | Incidental harvest of under * 5 lb. chinook counted towards ceiling | Review of data and implement in 1985 |
| 13. | Buy-back program satisfactory * to State of Alaska to mitigate for reductions in chinook allo- cations to troll fisheries | |

Transboundary Rivers

General:

- | | | |
|---|--|---|
| 1. Cooperative enhancement provided for - vague | Enhancement as a basis for harvest sharing with allocation sliding scale up to 50:50 harvest sharing over time on selected species | Enhancement U.S. \$ on Canadian soil discouraged |
| 2. | Entitlement 50:50 | Entitlement 62.5 (Canada)/37.5 (US) - Agreed to leave unsettled |

Taku

- | | | |
|---------------------------------------|---|--|
| 1. | limits for 1983 only | |
| 2. Canada 3,000 sockeye 5,000 pink | 2 years 3,000 sockeye 10,000 pink | 2 years 10,000 sockeye 20,000 pink |

Stikine

- | | | |
|--|--------------------------|------------------------------|
| 1. US/Canada - 65/35 on sockeye; US opinion only | 2 years 65/35 sockeye | 2 years 65/35 sockeye |
| 2. Canada coho limit to be negotiated up to 35% of TAC | No coho | 65/35 coho of terminal catch |

Alsek

- | | | |
|---------------------------------------|----|----|
| 1. Conserve early sockeye sockeye run | OK | OK |
| 2. Conserve Chinook | OK | OK |

Boundary Area

- | | | |
|--|---|--|
| 1. Average 1983-1986 sockeye Tree Point - 130,000 Noyes Island - 160,000 Annual | No fixed ceiling; limit effort during sockeye fishery. Target pinks during pink fishery. | 130,000 - Tree Point 160,000 - Noyes Island Vague on what to do with overages. |
| 2. Canada pink 83-84 2,000,000 total, troll limits in Area 1 | Canada 2-4,000,000 pinks over 4 years. Troll not more than 800,000 total and 300,000 in one year. | 2,500,000 pinks, 2 years including 500,000 in troll fishery with no more than 300,000 in one year. |
| 3. Conserve Portland Canal chums | OK | OK |

Yukon

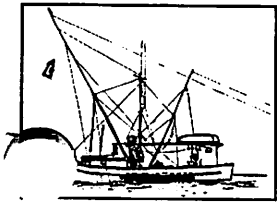
- | | | |
|---|----------------------------|---|
| 1. Promise to negotiate separately soon | OK | OK |
| 2. | Discuss conservation plans | Request discussion of 1984 management plans |

Fraser

- | | | |
|---|--|-------------------------------------|
| 1. 1984 - US entitled to 50% of TAC of Convention Area less 50,000 sockeyes or 1,750,000 fish | (Fraser River Position) * 1984 - 50% of allowable catch | 1984 - 50% of sockeye less 50,000 |
| 2. | 1985-7 - 30-33% of sockeye * and pinks | 1985-7 15-19% of sockeyes and pinks |

General Treaty

- | | | |
|---|--|---|
| 1. OK Equity definition unclear | Problems with equity including * transboundary rivers; national obligation to pay back; requiring fishery regimes to reflect payback. | Agreement to leave trans-boundary entitlement undecided |
| 2. Commission Structure US side - not part of treaty | Not discussed in delegation | |



Alaska
Trollers
Association

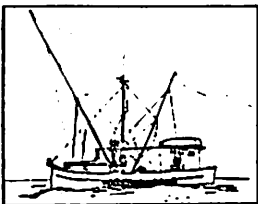
** Testimony Given To The Alaska Board of Fisheries and
The North Pacific Fishery Management Council by Earl
Krygier on 2/1/84

Foreign Fishing and Lost Nets

This is the third year the Alaska Trollers Association has returned to the Council requesting your aid in a serious problem; a problem which can be addressed by the Council. This year the United Fishermen of Alaska and the sportfishermen would also like to voice concerns on this issue, and we would ask the Board of Fish to petition the Council to seriously address this issue.

1. 2/3 of the directed high seas salmon drift gillnet fishery occurs in the Alaskan F.C.Z.
2. Estimated from the motherships fishery, the combined squid, landbase salmon, and mothership salmon fishery could lose up to 270 nautical miles of drift gill net a year. These nets continue to catch sea birds, marine mammals and salmon, possibly for years. They cause considerable damage to Alaska fishing vessels and gear.

As to Alaskan stocks, including depressed chinook stocks, new information has come to light. Two recent papers submitted to the INPFC deal with Alaskan Chinooks taken in foreign fisheries - (1) "Determination of Stock Origins of Chinook Salmon Incidentally Caught In Foreign Trawls In The Alaskan FCZ", by Kate Myers, November 1983 and (2) "Origins of Chinook Salmon In The Area Of The Japanese Mothership and Landbase Driftnet Salmon Fisheries in 1980", by Knudsen, Harris and Davis, October 1983. The paper by Myers identifies stocks through scale sample analysis. She indicates that the incidental catch of chinook by foreign groundfish fishery as high as those in 1979 and 1980 (100,000 Kings) may significantly impact U.S. commercial, subsistence and sport fisheries and escapement. Stating that the highest incidental foreign catch in the Alaska FCZ occurs in the Bering Sea in INPFC statistical areas 1 & 2, during the 1st, 3rd and 4th quarters of the year. Other areas where catch occurred were the Chirkof and Shumagin areas. Though the Western Alaska stocks were often the predominant regional stocks, significant estimates of Central Alaskan and SE Alaska/B.C. stocks showed predominance in some time-area strata. What is of interest is that the SE Alaska/B.C. stock complex is found in the Bering Sea and at times makes up a significant portion of the catch. Yes, those Taku and Stikine fish are worked over, but it seems it is the foreign fishery or the Canadian inriver catch which will limit its recovery. The second paper dealing with the Japanese mothership and landbased drift gillnet fishery also deals with stock composition of chinooks derived by scale pattern analysis. For age 1.2 (3-year-old), seven statistically significant estimates, ranging from 22.8% to 57.1%, were obtained for the SE Alaska/B.C. complex, and in two of these (E7050 and W8048), this stock-group predominated. Estimates North of 52°N averaged 4%, but were not statistically significant. Estimates South of 52°N averaged 27.3% and were mostly statistically significant. For age 1.3 (4-year-old), SE Alaska/B.C. stock complex fish were again the second most abundant North American stock-group in the study area. Ten of the fourteen stratum estimates were statistically significant, and for three-strata (time-area) this group predominated in the population.



Alaska
Trollers
Association

-2-

Enforcement of the fishery management plans under the Magnuson Fishery and Conservation Act (MFCMA) is currently delegated and carried out by the National Marine Fisheries Service and the U.S. Coast Guard. These enforcement programs include an observer program, search and seizure, fines levied, civil actions processed against foreign violators, and data collection to evaluate the effectiveness of these regulations. The Pele Amendment empowers trade sanctions against foreign nations that violate the effectiveness of an international conservation program. Therefore, the United States has leverage on the world trade market to assure conservation and management of the high seas fisheries.

There is evidence that these provisions are not enough. Reports indicate discrepancies exist between foreign catches logged and catches actually delivered at home ports. There have been arrests on the high seas of foreign vessels and actual examination has revealed discrepancies between logs and actual fish on board. Insufficient appropriations to these programs have resulted in inadequate patrol and observation. Observers have been removed from vessels for their own protection and the vessel cited for continued harrassment. Without stronger enforcement of FCMA foreign nations do not now and may not feel bound by this or other fisheries agreements in the future.

In conclusion, Alaska Trollers Association, United Fishermen of Alaska, and Sportfishermen feel that Alaska's fishery resources on the high seas and within our FCZ needs more protection. The foreign fleets operating on these stocks must be regulated and regulations must be enforced. We are therefore requesting that the NPFMC do everything in its power to assist us with the following restrictions:

- 1) Gillnets found by U.S. fishermen will be purchased from the finder at a fee of \$500.00/lb. for expenses incurred in collecting, transporting, and disposing of net. Ship captains operating on the high seas and within the U.S.F.C.Z. who use this type of gear will share the financial burden of these purchases.
- 2) All gillnets will be weighed and accounted for prior to the vessel leaving its home port and upon return. Floats should be marked with vessel and year. Vessels with netting unaccounted for will be fined \$500.00/lb. for the net missing. The fees will be given over to the U.S.N.M.F.S.
- 3) Vessels from which observers must be removed because of harrassment will be unable to fish inside the U.S. F.C.Z. for a period of 5 years. This restriction applies on 1st violation.
- 4) Vessels cited for under-logging catches will be unable to fish inside the U.S.F.C.Z. for a period of 5 years. This restriction applies on the 1st violation.
- 5) No foreign fishing for salmon will be allowed inside the F.C.Z. as of January, 1985.

*Pennoyer
U.S. Canada*

DRAFT

SUPPLEMENTAL INFORMATION INCLUDING
PRELIMINARY 1983 SEASON CATCH DATA ON FISHERIES
IN SOUTHEAST ALASKA AND NORTHERN BRITISH COLUMBIA
OF IMPORTANCE TO U.S./ CANADA SALMON NEGOTIATIONS

October 7, 1983

Prepared by

Division of Commercial Fisheries
ALASKA DEPARTMENT OF FISH AND GAME

Juneau, Alaska

- NOTE -

Information contained in this document has been selected from various management agency records and numerous reports used during past U.S./Canada salmon negotiations. While it represents some important basic background data, it should be emphasized that there is a substantial amount of additional detailed information and data relating to these fisheries.

Persons are cautioned that salmon catch and escapement data shown for most recent years, especially 1983, should be considered preliminary. Much of the 1983 data is based on initial inseason tabulation of fish tickets and includes some projections for periods for which fish tickets were not yet available. Revisions will occur as late arriving tickets are compiled and all data are edited for accuracy and completeness. However, the 1983 catch data reported here is believed to be sufficiently accurate to indicate general fishery performance.

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I. TRANSBOUNDARY RIVERS FISHERIES
(Stikine, Taku and Alsek Rivers)

TABLE 1. SOUTHEAST ALASKA PRINCE OF WALES (DIST. 6) DRIFT GILLNET SALMON CATCHES, 1970-83
(ADF&G 10/7/83)

| Year | Chinook | Coho | Sockeye | Pink | Chum | Total |
|--------------|---------|-------|---------|--------|-------|--------|
| 1970 | 785 | 35470 | 42778 | 104232 | 32231 | 215496 |
| 1971 | 1336 | 47936 | 53028 | 525632 | 38290 | 666222 |
| 1972 | 2561 | 92614 | 99390 | 89206 | 72108 | 355879 |
| 1973 | 1931 | 38447 | 71995 | 303621 | 87841 | 503835 |
| 1974 | 1924 | 45677 | 57423 | 104209 | 50370 | 259603 |
| 1975 | 2581 | 30886 | 32046 | 202691 | 23941 | 292145 |
| 1976 | 384 | 19126 | 15481 | 139439 | 6868 | 181298 |
| 1977 | 671 | 8401 | 67023 | 419107 | 13300 | 508502 |
| 1978 | 2682 | 55546 | 41565 | 224629 | 16484 | 340906 |
| 1979 | 2720 | 31454 | 66373 | 648212 | 35507 | 784266 |
| 1980 | 580 | 16580 | 107418 | 45560 | 26269 | 196407 |
| 1981 | 2037 | 21514 | 175588 | 419200 | 32850 | 651189 |
| 1982 | 1672 | 44965 | 193618 | 25550 | 18845 | 284650 |
| Prelim. 1983 | 498 | 60926 | 48603 | 203367 | 19820 | 333214 |

Footnotes: (1) Most recent years data should be considered preliminary.

TABLE 2. SOUTHEAST ALASKA STIKINE RIVER (DIST. 8) DRIFT GILLNET FISHERY SALMON CATCHES, 1970-83
(ADF&G 10/7/83)

| Year | Chinook | Coho | Sockeye | Pink | Chum | Total |
|--------------|---------|-------|---------|-------|-------|--------|
| 1970 | 3207 | 18403 | 15120 | 20523 | 12305 | 69558 |
| 1971 | 3555 | 14835 | 17709 | 21680 | 4648 | 62427 |
| 1972 | 9330 | 38520 | 51734 | 17153 | 17363 | 134100 |
| 1973 | 9253 | 5831 | 21373 | 6581 | 6674 | 49712 |
| 1974 | 8197 | 16021 | 2428 | 4188 | 2107 | 32941 |
| 1975 | 1534 | 0 | 0 | 0 | 1 | 1535 |
| 1976 | 1123 | 6056 | 18 | 722 | 124 | 8043 |
| 1977 | 1443 | 14405 | 48374 | 16253 | 4233 | 84708 |
| 1978 | 531 | 32650 | 56 | 1157 | 1001 | 35395 |
| 1979 | 91 | 234 | 2158 | 13478 | 1064 | 17025 |
| 1980 | 631 | 2946 | 14053 | 7224 | 6910 | 31764 |
| 1981 | 404 | 1406 | 8676 | 1440 | 3463 | 15389 |
| 1982 | 1014 | 20261 | 6553 | 16993 | 744 | 45565 |
| Prelim. 1983 | 46 | 14792 | 176 | 4156 | 660 | 19830 |

Footnotes: (1) Most recent years data should be considered preliminary.

TABLE 3 . CANADIAN COMMERCIAL AND FOOD FISHERIES SALMON CATCHES
IN THE STIKINE RIVER, 1975-83

| Year | Chinook | Sockeye | Coho | Pink | Chum | Total |
|----------------------------|---------------------|---------|---------------------|-------|-------|--------|
| 1975 | 1,024 | 2,252 | 50 | 0 | 0 | 3,326 |
| 1976 | 1,160 | 3,644 | 13 | 0 | 0 | 4,817 |
| 1977 | 162 | 6,310 | 32 | 0 | 0 | 6,504 |
| 1978 | 500 | 5,000 | 0 | 0 | 0 | 5,500 |
| 1979 ^{1/} | 1,625 | 13,534 | 10,720 | 1,994 | 424 | 28,297 |
| 1980 | 2,231 | 20,919 | 6,769 | 756 | 771 | 31,446 |
| 1981 | 1,322 | 26,786 | 2,566 | 3,831 | 1,114 | 35,619 |
| 1982 | 2,334 | 20,342 | 16,000 | 1,808 | 710 | 41,194 |
| Prelim. 1983 ^{2/} | | | | | | |
| | 1,733 ^{3/} | 20,519 | 5,264 ^{4/} | 1,112 | 295 | 28,923 |

Note: Catch data for most recent years should be considered preliminary

1/ Inception of major Canadian commercial fishery.

2/ Preliminary 1983 data through 9/23; fishery still in progress.

3/ Commercial catch of 882 chinook consisted of 507 large and 375 small fish. Food fishery chinook catch of 851 not broken down into large and small categories.

4/ Projections made for coho catches after 9/23 indicate a probable total season catch of 7-8000 fish.

TABLE 4 . SOUTHEAST ALASKA TAKU/SNETTISHAM (DIST. 11) DRIFT GILLNET SALMON CATCHES, 1970-83
(ADF&G 10/7/83)

| Year | Chinook | Coho | Sockeye | Pink | Chum | Total |
|--------------|---------|-------|---------|--------|--------|--------|
| 1970 | 3357 | 47472 | 50922 | 226618 | 110390 | 438759 |
| 1971 | 6874 | 41408 | 65052 | 31185 | 90174 | 234693 |
| 1972 | 10953 | 49779 | 80289 | 144336 | 147951 | 433308 |
| 1973 | 9799 | 35473 | 85317 | 57879 | 109245 | 297713 |
| 1974 | 2908 | 38667 | 38670 | 57731 | 86687 | 224663 |
| 1975 | 2182 | 1185 | 32513 | 9567 | 2678 | 48125 |
| 1976 | 1757 | 41729 | 61749 | 14962 | 81803 | 202000 |
| 1977 | 1068 | 54917 | 70097 | 88578 | 61102 | 275762 |
| 1978 | 1928 | 31957 | 55425 | 51387 | 36264 | 176961 |
| 1979 | 3708 | 16202 | 122815 | 152591 | 61229 | 356545 |
| 1980 | 2418 | 41514 | 123081 | 295552 | 192750 | 655315 |
| 1981 | 1689 | 26831 | 48103 | 252980 | 77610 | 407213 |
| 1982 | 2907 | 28825 | 79249 | 107814 | 36542 | 255337 |
| Prelim. 1983 | 886 1/ | 23848 | 30908 | 63731 | 15254 | 134627 |

Footnotes: (1) Most recent years data should be considered preliminary.

1/ Chinook catch taken incidental to the harvest of other species estimated to consist of 76 large spawners, 253 jack spawners and 557 feeders.

TABLE 5. CANADIAN COMMERCIAL SALMON CATCHES IN THE TAKU RIVER, 1978-83

| Year | Chinook | Sockeye | Coho | Pink | Chum | Steelhead | Total |
|--------------|-----------|---------|-------------|--------|--------|-----------|--------|
| 1978 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1979 | 97 | 13,578 | 6,006 | 13,661 | 15,474 | 254 | 49,070 |
| 1980 | 225 | 22,602 | 6,405 | 26,821 | 18,516 | 456 | 75,025 |
| 1981 | 154 | 10,922 | 3,612 | 10,621 | 5,495 | 94 | 30,898 |
| 1982 | 45 | 3,044 | 51 | 82 | 1 | 0 | 3,223 |
| Prelim. 1983 | 1/ 526 | 15,715 | 3/ 5,956 | 1,874 | 1,504 | - | 25,575 |

Note: Catch data for most recent years should be considered preliminary.

1/ Preliminary 1983 data through 9/10; fishery still in progress.

2/ 1983 Chinook catch includes 154 large and 372 small or jack salmon.

3/ Projections made for coho catches after 9/10 indicate a probable season catch of 12-15,000 fish.

TABLE 6. SOUTHEAST ALASKA ALSEK RIVER (DISTRICT 182-30) SET GILLNET FISHERY SALMON CATCHES, 1970-83
(ADF&G 10/7/83)

| Year | Chinook | Coho | Sockeye | Pink | Chum | Total |
|--------------|---------|-------|---------|------|------|-------|
| 1970 | 1128 | 2188 | 22654 | 6 | 26 | 26002 |
| 1971 | 1222 | 4730 | 25314 | 3 | 120 | 31389 |
| 1972 | 1827 | 7296 | 18746 | 37 | 280 | 28186 |
| 1973 | 1754 | 4395 | 26515 | 26 | 283 | 32973 |
| 1974 | 1162 | 6745 | 16747 | 13 | 106 | 24773 |
| 1975 | 1379 | 2230 | 13842 | 16 | 261 | 17728 |
| 1976 | 512 | 4883 | 19741 | 0 | 368 | 25504 |
| 1977 | 1402 | 11817 | 40780 | 689 | 483 | 55171 |
| 1978 | 2441 | 13913 | 50580 | 59 | 233 | 67226 |
| 1979 | 2525 | 6158 | 41449 | 142 | 263 | 50537 |
| 1980 | 1382 | 7866 | 25589 | 1945 | 1124 | 37906 |
| 1981 | 761 | 10614 | 24680 | 25 | 472 | 36552 |
| 1982 | 523 | 6351 | 28958 | 6 | 247 | 36085 |
| Prelim. 1983 | 74 | 5661 | 19131 | 6 | 297 | 25169 |

Footnotes: (1) Most recent years data should be considered preliminary.

Table 7. Canadian Salmon Catches in the Alsek River, 1976-83

| Year | Chinook | Sockeye | Coho | Total |
|--------------|--------------------------------|---------|------|--------|
| 1976 | 300 | 4,100 | 100 | 4,500 |
| 1977 | 400 | 12,200 | 200 | 12,800 |
| 1978 | 500 | 8,200 | 200 | 8,900 |
| 1979 | 300 | 4,000 | 100 | 4,400 |
| 1980 | 300 | 1,500 | 200 | 2,000 |
| 1981 | 300 | 2,600 | 100 | 3,000 |
| 1982 | 300 | 5,500 | 100 | 5,900 |
| Prelim. 1983 | ----- Data Not Available ----- | | | |

Notes: (1) Catch data for most recent years should be considered preliminary.

(2) Catches of pink and chum salmon are thought to be negligible.

II. NORTHERN BRITISH COLUMBIA AND SOUTHEAST ALASKA
DIXON ENTRANCE BOUNDARY AREA FISHERIES

Table 8. Southeast Alaska Noyes Island (Dist. 4) Seine
Fishery Salmon Catches, 1961-83. (ADF&G 10/7/83)

| Year | Chinook | Coho | Sockeye | Pink | Chum | Total |
|-----------------|---------|---------|---------|------------|---------|------------|
| 1961 | 1,990 | 30,557 | 52,038 | 436,846 | 80,293 | 601,724 |
| 1962 | 2,952 | 59,282 | 139,357 | 1,086,199 | 65,458 | 1,353,248 |
| 1963 | 1,935 | 73,461 | 138,368 | 2,065,497 | 99,566 | 2,378,827 |
| 1964 | 4,470 | 103,809 | 231,245 | 1,245,826 | 214,818 | 1,800,168 |
| 1965 | 6,530 | 124,684 | 231,420 | 763,911 | 45,723 | 1,172,268 |
| 1966 | 3,933 | 56,858 | 31,150 | 1,856,451 | 100,268 | 2,048,660 |
| 1967 | 6,497 | 56,485 | 362,605 | 324,020 | 36,028 | 785,635 |
| 1968 | 5,274 | 81,668 | 71,097 | 3,287,531 | 139,821 | 3,585,391 |
| 1969 | 2,378 | 12,448 | 56,180 | 473,949 | 15,657 | 560,612 |
| 1970 | 809 | 5,876 | 14,597 | 137,736 | 17,043 | 176,061 |
| 1971 | 1,151 | 28,217 | 11,588 | 672,759 | 53,817 | 767,532 |
| 1972 | 2,170 | 71,062 | 84,946 | 1,627,527 | 133,333 | 1,919,038 |
| 1973 | 2,531 | 21,673 | 115,416 | 806,261 | 57,507 | 1,003,388 |
| 1974 | 3,145 | 51,029 | 119,105 | 1,017,798 | 74,801 | 1,265,878 |
| 1975 | 1,124 | 7,797 | 27,163 | 71,410 | 7,646 | 115,140 |
| 1976 | 1,107 | 14,684 | 105,255 | 317,182 | 31,437 | 469,665 |
| 1977 | 4,211 | 23,523 | 209,455 | 917,529 | 48,703 | 1,203,421 |
| 1978 | 7,651 | 71,517 | 104,232 | 2,050,555 | 74,749 | 2,308,704 |
| 1979 | 7,302 | 102,596 | 316,730 | 941,319 | 88,562 | 1,456,509 |
| 1980 | 10,644 | 113,091 | 410,107 | 2,355,437 | 177,960 | 3,067,239 |
| 1981 | 6,048 | 130,887 | 290,571 | 3,745,077 | 68,832 | 4,241,415 |
| 1982 | 21,478 | 153,565 | 285,231 | 4,575,090 | 353,810 | 5,389,174 |
| Prelim. 1983 | 10,519 | 169,624 | 647,730 | 15,786,214 | 177,505 | 16,791,592 |

Footnotes: (1) Most recent years data should be considered preliminary.

Table 9. Southeast Alaska Tree Point/ Portland Canal (Dist. 1-A, 1-B) Gillnet Fishery
Salmon Catches, 1960-Present (ADF&G 10/7/83)

| Year | Chinook | Coho | Sockeye | Pink | Chum | Total |
|-----------------|---------|--------|---------|---------|---------|-----------|
| 1960 | 1,213 | 4,309 | 14,278 | 19,824 | 99,062 | 138,686 |
| 1961 | 917 | 4,219 | 36,159 | 95,959 | 37,174 | 174,428 |
| 1962 | 1,499 | 12,550 | 41,189 | 157,288 | 37,065 | 249,591 |
| 1963 | 508 | 3,110 | 22,037 | 93,650 | 41,642 | 160,947 |
| 1964 | 1,098 | 15,707 | 47,070 | 162,476 | 79,156 | 305,507 |
| 1965 | 1,709 | 10,675 | 53,566 | 60,772 | 21,753 | 147,845 |
| 1966 | 642 | 9,362 | 66,063 | 275,634 | 32,818 | 384,519 |
| 1967 | 2,186 | 3,111 | 74,071 | 82,312 | 29,017 | 190,697 |
| 1968 | 589 | 17,044 | 67,106 | 272,351 | 96,352 | 453,442 |
| 1969 | 676 | 3,159 | 89,801 | 87,690 | 20,602 | 201,928 |
| 1970 | 340 | 16,425 | 52,765 | 516,105 | 68,097 | 653,732 |
| 1971 | 772 | 5,169 | 115,032 | 66,988 | 31,238 | 219,199 |
| 1972 | 1,294 | 35,689 | 134,493 | 178,318 | 156,711 | 506,505 |
| 1973 | 1,007 | 18,454 | 159,764 | 269,741 | 109,976 | 558,942 |
| 1974 | 776 | 21,327 | 113,299 | 166,637 | 81,770 | 383,809 |
| 1975 | 1,961 | 12,155 | 25,352 | 123,753 | 30,341 | 193,562 |
| 1976 | 1,807 | 16,275 | 117,965 | 210,061 | 36,262 | 382,370 |
| 1977 | 1,182 | 12,173 | 192,728 | 769,841 | 84,321 | 1,060,245 |
| 1978 | 2,591 | 47,804 | 153,444 | 532,291 | 116,764 | 852,894 |
| 1979 | 3,663 | 6,444 | 89,298 | 73,421 | 60,896 | 233,722 |
| 1980 | 1,531 | 19,995 | 108,610 | 675,466 | 155,118 | 960,720 |
| 1981 | 1,284 | 15,348 | 104,607 | 416,920 | 35,778 | 573,937 |
| 1982 | 2,787 | 27,189 | 187,064 | 347,247 | 82,359 | 646,646 |
| Prelim. 1983 | 1,535 | 42,745 | 133,375 | 771,871 | 133,053 | 1,082,579 |

Footnotes: (1) Most recent years data should be considered preliminary.

Table 10. Pink Salmon Catches in Canadian Areas 3X, 3Y, 3Z-Delta and 5-1 for All Gear and Area 1 Troll Gear for 1971-83 (10/7/83)

(Numbers of Fish in Thousands)

| YEAR | ----- ALL GEAR CATCHES ----- | | | | TROLL | TOTAL |
|-----------------|---------------------------------|-----|----------|-----|-------|-------|
| | 3X | 3Y | 3Z-DELTA | 5-1 | 1 | |
| 1971 | 44 | 170 | 18 | 12 | 50 | 294 |
| 1972 | 90 | 502 | 107 | 222 | 125 | 1,046 |
| 1973 | 40 | 54 | 32 | 11 | 31 | 168 |
| 1974 | 32 | 46 | 9 | 40 | 45 | 172 |
| 1975 | 78 | 76 | 3 | 67 | 24 | 248 |
| 1976 | 54 | 85 | 6 | 25 | 1 | 171 |
| 1977 | 638 | 563 | 234 | 48 | 67 | 1,550 |
| 1978 | 615 | 935 | 290 | 35 | 57 | 1,932 |
| 1979 | 151 | 69 | 2 | 10 | 113 | 345 |
| 1980 | 54 | 441 | 72 | 145 | 722 | 1,434 |
| 1981 | 111 | 149 | 32 | (5) | 237 | 534 |
| 1982 | 303 | 462 | 249 | (5) | (100) | 1,119 |
| PRELIM. 1983 | All Area 3 Catch = 6,190,000 | | | NA | NA | |

Notes: (1) All 1982-83 data preliminary.
(2) 3Z-Delta catch equal to 25 percent of 3Z catch.

III. COASTWIDE CHINOOK SALMON FISHERIES

Table 11. Total Chinook Salmon Catches by all Gear Types in Washington, Oregon, British Columbia and Southeast Alaska, 1965 - Present (Revised 10/7/83)

(Numbers of Fish in Thousands)

| Year | --- Washington & Oregon --- | | | | B. C. | | SE Alaska | | Total |
|--------------|-----------------------------|--------|-----------------|----|-------|----|-----------|----|-------|
| | Wash. | Oregon | Subtotal No. | % | No. | % | No. | % | |
| 1965 | 558 | (167) | 725 | 35 | 1,042 | 50 | 300 | 15 | 2,067 |
| 1966 | 633 | 174 | 807 | 34 | 1,254 | 53 | 321 | 13 | 2,382 |
| 1967 | 630 | 191 | 821 | 35 | 1,208 | 52 | 314 | 13 | 2,343 |
| 1968 | 657 | 179 | 836 | 34 | 1,251 | 51 | 346 | 14 | 2,433 |
| 1969 | 717 | 246 | 963 | 39 | 1,190 | 48 | 328 | 13 | 2,481 |
| 1970 | 842 | 274 | 1,116 | 39 | 1,372 | 48 | 337 | 12 | 2,829 |
| 1971 | 878 | 181 | 1,059 | 34 | 1,726 | 55 | 371 | 12 | 3,156 |
| 1972 | 888 | 216 | 1,104 | 35 | 1,725 | 55 | 302 | 10 | 3,131 |
| 1973 | 1,089 | 458 | 1,547 | 44 | 1,648 | 46 | 360 | 10 | 3,555 |
| 1974 | 1,082 | 299 | 1,381 | 40 | 1,735 | 50 | 364 | 10 | 3,480 |
| 1975 | 1,277 | 338 | 1,615 | 43 | 1,792 | 48 | 318 | 9 | 3,725 |
| 1976 | 1,259 | 301 | 1,560 | 40 | 2,047 | 53 | 259 | 7 | 3,866 |
| 1977 | 1,058 | 446 | 1,504 | 41 | 1,879 | 51 | 302 | 8 | 3,685 |
| 1978 | 844 | 271 | 1,115 | 33 | 1,853 | 55 | 418 | 12 | 3,386 |
| 1979 | 820 | 313 | 1,133 | 34 | 1,770 | 54 | 384 | 12 | 3,287 |
| 1980 | 873 | 228 | 1,101 | 36 | 1,653 | 53 | 342 | 11 | 3,096 |
| 1981 | 722 | 189 | 911 | 35 | 1,442 | 55 | 285 | 10 | 2,638 |
| 1982 PRELIM. | 880 | 272 | 1,152 | 40 | 1,439 | 50 | 310 | 11 | 2,901 |
| 1983 PRELIM. | N.A. | N.A. | | | 903 | | 309 | | |

- Data Sources: (1) Jurisdictional reports in NPFMC Salmon Plan Development Team report 'North-Migrating Natural Chinook Salmon Stocks from Oregon to Southeast Alaska'.
- (2) PFMC Draft Proposed Plan for Managing the 1983 Salmon Fisheries off the Coasts of California, Oregon and Washington. Feb. 1983.
- (3) Preliminary 1982 catch reports by managing agencies. Revised 1982 B.C. catch data provided by K. Petrie 4/29/83.
- (4) Preliminary 1983 Canadian catch data provided by K. Petrie 10/5/83.

Table 12. Preliminary 1983 Chinook Salmon Catches by Southeast Alaska Commercial Fisheries
(ADF&G 10/7/83)

| | No. of 1983 Days | Estimated 1983 Catch | Comparative 1982 Catch | Change Number | Change Percent |
|-------------------------|---------------------|-------------------------|---------------------------|------------------|-------------------|
| <u>TROLL FISHERY</u> | | | | | |
| Winter Fishery | | | | | |
| Oct. 1 - Dec. 31, 1982 | | 12,400 | | | |
| Jan. 1 - Apr. 14, 1983 | | 17,600 | | | |
| Winter Fishery Subtotal | | 30,000 | 12,600 | +17,400 | +138% |
| Summer Fishery | | | | | |
| Apr. 15 - May 14 | 30 | -CLOSED ALL SPECIES- | | | |
| May 15 - Jun. 8 | 25 | 101,000 | | | |
| June 9 - 30 | 22 | -CLOSED ALL SPECIES- | | | |
| July 1 - Aug. 4 | 35 | 139,000 | | | |
| Aug. 5 - 14 | 10 | -CLOSED ALL SPECIES- | | | |
| Aug. 15 - Sept. 20 | 37 | 1/ | | | |
| Summer Fishery Subtotal | | 240,000 | 229,400 | +10,600 | + 5 |
| TROLL FISHERY SUBTOTAL | | 270,000 | 242,000 | +28,000 | + 12 |
| <u>NET FISHERIES</u> | | | | | |
| Gillnet Fisheries | | 6,000 | 18,000 | -12,000 | - 67 |
| Seine Fisheries | | 14,000 | 31,000 | -17,000 | - 55 |
| NET FISHERIES SUBTOTAL | | 20,000 | 49,000 | -29,000 | - 59 |
| ALL GEAR TOTAL CATCH | | 290,000 | 291,000 | - 1,000 | - |

1/ Troll fishery closed to harvest of chinook salmon.

Table 13. Southeast Alaska Commercial and Recreational Chinook Salmon Harvest, 1965 - Present. (ADF&G 9/12/83)

(Numbers of Fish in Thousands)

| Year | -- Commercial Fisheries -- | | | Recreational Fisheries 1/ | Total |
|--------------|----------------------------|------|----------|---------------------------|-------|
| | Troll | Net | Subtotal | | |
| 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 | 17 | 285 |
| 1982 | 242 | 49 | 291 | 19 | 310 |
| 1980-82 Ave. | 263 | 30 | 294 | 19 | 312 |
| 1983 2/ | (270) | (20) | (290) | (19) 3/ | 309 |

1/ Estimates of recreational catches for 1977-82 based on mail surveys. Estimates for 1965-76 based on 1977-80 average catch per capita of 0.332 fish applied to population estimates.

2/ Preliminary data.

3/ Projection equal to 1980-82 average catch.

TABLE 14. PRELIMINARY 1983 CANADIAN CHINOOK SALMON CATCHES OFF
BRITISH COLUMBIA (10/7/83)

| Areas (Old Stat. Areas) | (Numbers of fish in thousands) | | | |
|---|--------------------------------|---------------------------|---------------|-------------|
| | Estimated 1983 Catch | Comparative 1982 Catch | Change No. | Change % |
| ----- | | | | |
| TROLL FISHERIES | | | | |
| ----- | | | | |
| North Coast (1-5) | 141 | 196 | - 55 | -28% |
| Central Coast (6-11,30) | 76 | 64 | + 12 | +19 |
| Northern B.C. Subtotal | 217 | 260 | - 43 | -17 |
| Georgia Straits (12-20) | 69 | 192 | -123 | -64 |
| Northern B.C. and Georgia Straits Subtotal | 286 | 452 | -166 | -37 |
| North W. Coast Vanc. I.(21-24) | 78 | 107 | - 29 | -27 |
| South W. Coast Vanc. I.(25-27) | 213 | 440 | -227 | -52 |
| W. Coast Vanc. I. Subtotal | 291 | 547 | -256 | -47 |
| ===== | | | | |
| TROLL ALL AREAS SUBTOTAL | 577 | 999 | -422 | -42 |
| NET FISHERIES ALL AREAS | 126 | 247 | -121 | -49 |
| SPORT FISHERIES ALL AREAS | (200) | 193 | | |
| ===== | | | | |
| ALL GEAR TOTALS EXCLUDING W. COAST VANCOUVER IS. | 612 | 892 | -200 | -31 |
| ALL GEAR TOTALS ALL AREAS | 903 | 1,439 | -536 | -37 |
| ----- | | | | |

Data Source: K. Petrie, CDFO, 10/4/83.

Table 15. Comparative Chinook Salmon Catches by all British Columbia Fisheries and by all Fisheries except those on the west coast of Vancouver Island (Statistical Areas 20-27), 1965-83. (10/7/83)

Numbers of Fish in 1,000's

| YEAR | TOTAL COMMERCIAL AND RECREATIONAL CATCH | WEST COAST VANCOUVER IS. CATCH | DIFFERENCE = ALL B.C. FISHERIES EXCEPT W. COAST VANCOUVER |
|-----------------|---|--------------------------------|---|
| 1965 | 1,042 | 432 | 610 |
| 1966 | 1,254 | 550 | 704 |
| 1967 | 1,208 | 431 | 777 |
| 1968 | 1,251 | 454 | 797 |
| 1969 | 1,190 | 507 | 683 |
| 1965-69 Average | 1,189 | 475 | 714 |
| 1970 | 1,372 | 523 | 849 |
| 1971 | 1,726 | 750 | 976 |
| 1972 | 1,725 | 662 | 1,063 |
| 1973 | 1,648 | 727 | 921 |
| 1974 | 1,735 | 733 | 1,002 |
| 1970-74 Average | 1,641 | 679 | 962 |
| 1975 | 1,792 | 638 | 1,154 |
| 1976 | 2,047 | 776 | 1,271 |
| 1977 | 1,879 | 699 | 1,180 |
| 1978 | 1,853 | 648 | 1,205 |
| 1979 | 1,770 | 576 | 1,194 |
| 1975-79 Average | 1,868 | 667 | 1,201 |
| 1980 | 1,718 | 543 | 1,175 |
| 1981 | 1,561 | 500 | 1,061 |
| 1982 PRELIM. | 1,439 | 547 | 892 |
| 1983 PRELIM. | 903 | 291 | 612 |

Note: Preliminary 1983 data provided by K. Petrie , CDFO, 10/5/83.