

FIRST DRAFT FISHERY MANAGEMENT PLAN FOR  
THE COMMERCIAL TROLL FISHERIES OF ALASKA

Council staff and the drafting team have done extensive editing of this plan and an errata package reflecting that editing is contained in tab 6. We expect that we will have further recommendations from the Scientific and Statistical Committee and the Advisory Panel. Using all of this information, it should be possible to put together a second draft for printing and public review if the Council approves the concepts in this first draft.



State and Canadian coho do contribute to a small degree.

Recent tag recoveries of hatchery produced chinook have indicated a significant contribution to the Alaska troll fishery from Washington, Oregon, California and British Columbia stocks.

The North Pacific ocean salmon troll fishery is a mobile fishery which presently extends from the U.S.-Canada International Boundary (Dixon Entrance) to Cape Suckling in the Gulf of Alaska. Many of the vessels also participate in other fisheries, such as the longline fishery for halibut and bottomfish, the albacore tuna fishery and the crab fishery. Some vessels also participate in other types of salmon fisheries, i.e., purse seining and gill netting.

The mobility of ocean troll fishing fleets, mixtures of stocks, presence of several age-maturity classes, and the migratory nature of the various stocks involved make the management of the ocean salmon fishery extremely complex. These characteristics result in both the fishing fleet and the resource crossing interstate and international boundaries. The management of the salmon resource is further complicated by multiple gear utilization of many of the stocks.

### 3.2. History of Exploitation

#### 3.2.1. Domestic Fishery

3.2.1.1. Description of User Groups. The troll fishery is the only domestic salmon fishery that fishes in the offshore area. Net fishing of all types has been prohibited in this area since 1956 (Pacific Fisherman, Sept.

and Oct., 1956; April, 1957) and off the remainder of the Pacific coast (including Canada) since 1957 (Pacific Fisherman, May, 1957). Coho salmon stocks are harvested by the troll and net fisheries approximately in equal numbers. Recreational catches are relatively small but important in number of coho caught annually. Chinook stocks are harvested mostly by the troll fishery, with small numbers taken by gill nets, purse seines, and the recreational fishery. The pink salmon stocks are harvested by the same user groups, plus an insignificant stream-oriented subsistence fishery in Southeastern Alaska. The number of pink salmon taken by the troll fishery is small; the bulk is taken by net fisheries.

#### 3.2.1.2. General Description of Fishing Effort

The number of vessels participating in the Alaskan troll fishery has generally been increasing since the early 1900's. The clear and protected inshore waters of Southeastern Alaska were conducive to the catching of chinook and coho salmon. Sporadic attempts at trolling in areas farther north and west were not feasible due to the lack of sufficient stocks, murky water, or more efficient means of capture which prevented the troll fishery from proliferating in those areas. After the 1973 season the Board of Fish and Game made trolling gear illegal in all areas of the State except Southeastern and Yakutat (south of Cape Suckling).

The earlier trolling effort was conducted in inshore waters closer to the parent streams of the fish stocks. As stocks decreased, gear conflicts occurred, and the amount of effort increased, fishing effort gradually moved outward toward the coast and eventually to coastal and offshore areas.

### 3.3.2.2. Purpose of Measures

The 28-inch total length minimum size limit and the winter closure of offshore and coastal waters are intended to restrict the harvest of immature stocks of chinook salmon that have remaining growth potential. The offshore and coastal winter closure is basically of little or no consequence as weather conditions are more restrictive than the regulatory season. The coho season is unrestrictive because coho usually do not appear in the troll catch in substantial numbers prior to July 15 or after September 20. The four line limit for troll vessels is imposed only in Alaska waters. Elsewhere on the coast the line limit is six lines; in some jurisdictions there is no line limit. Many Alaska resident trollers have more than four lines on board their boats and will fish with all their lines when outside State jurisdiction. The line limit appears to be ineffective.

The purpose of limited entry as a management tool is to promote the conservation and sustained yield management of the fishery resource and the economic health and stability of commercial fishing. Without limited entry levels of participation in many fisheries have impaired or threatened to impair the economic welfare of the fisheries, the overall efficiency of the harvest, and the sustained yield management of the fishery resource. This is detrimental to the fishery resource, the commercial fishermen, and the general public.

### 3.3.3. Foreign (3.3.3.1., 3.3.3.2.)

The foreign salmon troll effort off the coast of Alaska has been Canadian in nature. This foreign fishery is regulated by a Reciprocal Fisheries Agreement (1977) and occurs outside the U.S. 12 N. mile territorial sea.

of boats and landings, and catch (in numbers and pounds) by species, statistical area, and week. In addition, effort in numbers of boats by statistical area is recorded by Department of Fish and Game personnel during overflights along the outside coast from Cape Muzon to Lituya Bay.

#### 4.4. Survey and Sampling Data

Prior to 1970 data necessary for management was lacking for the troll fishery and for stocks of salmon harvested by that fishery. From 1971 to 1974 a troll logbook program was conducted under the auspices of the Alaska Department of Fish and Game's Ocean Troll Fishery Project to determine catch by fishing location, hours fished per day, and numbers of undersized chinook caught by time and area. In 1976, the Alaska Trollers Association re-established a troll logbook program. In 1973, a port sampling program was initiated in three major ports of landing: Sitka, Pelican, and Craig. Information has been gathered concerning age class structure of the troll catch, stock contributions from hatcheries, migration routes of maturing salmon, and relative frequency of stock contributions under mark-sampling programs funded by the National Marine Fisheries Service's Columbia River Fisheries Program and the North Pacific Fisheries Management Council.

Attempts have been made to establish escapement trends for the major chinook and coho streams in Southeastern Alaska. Because of variable water conditions (tributary, etc.) as well as the inaccessibility of many of the rivers, some of the survey results are not comparable. However, surveys of river systems for which data are comparable clearly demonstrate the decline in Southeastern Alaska chinook stocks (Table AI-4). Because of the dynamic nature of the stocks in the troll fishery it is necessary that these programs be continued and refined in order to achieve effective management.

#### 4.5. Other

Because of the anadromous nature of chinook, coho and pink salmon stocks, it is essential that freshwater and estuarine habitat protection be given primary consideration in any plan designed to achieve sustained yield. The loss in potential production from the destruction of spawning environment through the construction of dams, industrial development, and poor logging practices cannot be completely offset by fishery restrictions or artificial production. The decline of the chinook catch in the Alaskan ocean troll fishery since the 1930's has been correlated to hydroelectric dam construction on the Columbia River; some upriver stocks in that system have been lost completely (Pacific Fisheries Management Council 1977). The decline in natural stocks together with a relatively stable troll fishery demonstrates an increased reliance on hatchery produced chinook salmon.

The loss of spawning and rearing habitat through poor logging practices and industrial pollution in Southeastern Alaska could jeopardize sustained yield from coho stocks. The thousands of streams that presently support coho populations will undoubtedly suffer adverse effects from continued misuse of the environment.

Further development of land use-oriented industries in the states of Washington and Oregon and in the Province of British Columbia may cause further reduction in the natural chinook stocks available to Alaskan fishermen.

hatcheries generally have been less successful than fall chinook hatcheries.

British Columbia fall chinook hatcheries, while not as old or as extensive as those in the Pacific Northwest states, are also contributing to some fisheries.

Southeastern Alaska chinook stocks (all "spring" type) are also at all-time low levels. Much of the information that can be identified with specific Alaskan stocks, such as the Alsek, Taku, Stikine, and Unuk rivers is associated with fisheries on mature adults at or near the river mouth. In each case the river mouth fisheries have been discontinued or are severely curtailed due to the low stock status.

Periodic spawning ground surveys have been made of some Southeastern Alaska chinook stocks by foot, fixed wing aircraft, helicopters, boat and stream weir. Escapement survey data indicates that current stock levels are greatly depressed compared to historic levels (Appendix Table AI-4). This conclusion is supported by a decline in catch-per-unit-effort in fisheries on certain local chinook salmon populations.

While some cause for the decline of chinook stocks in the Pacific Northwest can be attributed to loss of deterioration of spawning grounds and freshwater rearing areas such as mainstem and tributary dams, industrialization and urbanization of rivers, and extensive watershed logging, none of these factors has significantly influenced the decline of Southeastern Alaska chinook stocks. The declining status of these stocks must be ascribed to the manner in which the fisheries have been conducted.

A matter of coastwide concern from California to Southeastern Alaska



is the long-term downward shift in size and age of chinook stocks. Chinook populations have shifted towards younger mean ages at maturity and smaller mean sizes within given age groups. In stocks where comparative data exist, older and larger 5-, 6-, and 7-year-old chinook are less common. The populations today consist of younger and smaller 3- and 4-year-old fish. In Washington, for example, both ocean troll-caught and ocean sport-caught chinook salmon show this trend (Figs. 10 and 11). The larger 60 to 90-pound class chinook common along the coast at the turn of the century are rare in present stocks. Some stocks strongly disposed toward older ages and larger fish such as the upper Columbia summer run stocks are now extinct. The Canadian scientist W.E. Ricker attributes the trend toward younger age classes (personal communication) to long term effects caused by selection pressures of fisheries and the continuous removal from chinook populations of older, larger fish. The troll fishery, by its nature, is well suited to provide such pressure. By fishing during active feeding and rapid growth periods over sequential years of the fish's life more of the older and larger fish are caught before they reach maturity than is the case with the younger and smaller fish. Specific year classes of some stocks are now known to remain in the same ocean nursery area and be caught by troll fisheries at several ages in the same vicinity (Davis 1976; Davis and Selin 1977). The declining size trend in Alaska troll-caught chinook is clearly evident (Table 9) in a comparison of average weights of landings at Ketchikan, Sitka, and Pelican by 10-day intervals (May through August for 1950 and 1976).

Coho stocks in Southeastern Alaska consist of hundreds of spawning populations using inner and outer island streams as well as mainland streams. These stocks, many of which produce only a few hundred adults annually, spawn in streams and rear to smolt stage in streams, backwater sloughs, small ponds and lakes. Some larger river systems have spawning escapements of several thousand fish. Southeastern Alaska coho stocks, while also considerably below historic catch levels, are not as depressed as chinook stocks. Coho catches by all gear in Southeastern Alaska averaged 1.6 million fish per year during the thirty-year consecutive high average harvest (1926-1955) compared to about 1.0 million fish per year during the 1960 to 1975 period and about 0.8 million fish per year during the 1973 to 1975 period (Alaska Salmon Fisheries Plan 1977). During the last 20 years, troll landings of coho have ranged from 267,000 fish in 1970 to 846,000 fish in 1974 with an annual average of 557,000 fish. Escapement data for specific populations is limited because coho spawn in September and October when fall rains increase stream flows and make spawner counts difficult.

In addition to the troll fishery, Southeastern Alaska coho stocks make important contributions to inside purse seine, gill net and recreational fisheries (Fig. 3).

Because coho commonly spawn and rear in small streams in heavily forested areas, widespread clearcut logging is a major threat to long-term stock stability unless it is carefully managed. Abuses of accepted logging practices destroy coho spawning and rearing habitat.

Voluntary logbook information gathered between 1971 and 1974 has shown a sublegal (shaker) to legal sized chinook ratio of 1:1 or greater when the average landed weight for an area approaches 10 pounds (ADF&G unpublished data 1971-1974). Considering an estimated shaker mortality of one fish killed for every two that are boated in the troll fishery (Ricker 1976), losses from such a fishery are high. Additional losses in production occur when the chinook landed have not attained maximum growth potential. For the Canadian, Washington and Oregon chinook stocks any harvest of less than 28-inch chinook (total length) results in a loss of potential annual growth (Ricker 1976). These fish, whether of spring or fall run variety, would be available to the troll fishery in subsequent years (ADF&G unpublished data 1974-1976). For Alaskan stocks of chinook, which are spring run only, any fishing which occurs after July results in a loss of potential growth as fish caught after July 1 would not mature at least until the following spring.

Coho stocks harvested by the troll fishery are primarily of Alaskan origin. Marking studies conducted by the Alaska Department of Fish and Game in 1972 have shown catch rates of 35.7% to 40.3% for the Taku River and Lynn Canal coho stocks by the troll fishery in statistical areas 157, 116, 114, and 113 (Fig. 1, p. 14 and ADF&G unpublished data 1974). Catches from these areas show that coho stocks from inshore mainland streams are sequentially harvested from offshore areas to near their natal streams by the troll fishery. Tag recoveries from coho tagged at artificial rearing facilities at Crystal Lake Hatchery in Petersburg, Starrigavan Bay near Sitka, the Mendenhall ponds and Fish Creek pens near Juneau, and the NMFS facility at Little Port Walter have indicated southerly coho migration routes through these same areas.

The troll fishery for chinook in statistical area 157 also harvests coho. Both species are harvested in the coastal fisheries in areas 111, 113, 104, 103, and 101. The troll fishery in areas 104, 103, and 101 harvests few tagged coho from the streams or hatcheries to the north. Tag recoveries of chinook in these areas have demonstrated reliance on Canadian and Pacific Northwest chinook stocks (Davis 1976; Davis and Selin 1977).

#### 4.7.1. Maximum Sustainable Yield (MSY)

Due to the many unknown and complex aspects of the salmon stocks dealt with in this fishery plan, MSY cannot be calculated with any degree of precision. Determining MSY is almost impossible in a highly mobile fishery on a long-ranged migratory species composed of many diverse stocks where immature and mature age groups and mixtures of stocks are constantly fluctuating. Added to these factors is the awareness that relative strengths of different stocks may vary widely. In the case of chinook, important contributions are derived from non-Alaskan stocks, many of hatchery origin. There is little contribution to date of chinook to the fisheries from the developing Alaska hatchery program.

When these factors are considered against the background of the known heavy contribution of non-Alaskan chinook stocks to the troll fishery and the increasingly successful production from Pacific Northwest hatcheries (particularly fall chinook), a potentially adverse relationship between native Alaskan stocks and hatchery stocks develops. In this instance the hatcheries are located long distances from the impacted wild stocks and the fishery itself has been reasonably stable. What some have considered an asset to the Alaska troll fishery--"first chance at Pacific Northwest chinook hatchery production"--may in fact be a serious liability to the perpetuation of native chinook stocks from Southeastern Alaska.

Achieving maximum yield levels in pounds requires eliminating harvests of any stock with remaining significant growth potential when the rate of growth exceeds the rate of natural mortality. Achieving MSY would therefore necessitate closing the ocean troll fishery since it is based on salmon taken during an active growth period when natural mortality rates are low. Shaker losses of undersized fish increase the difficulty of justifying ocean troll fisheries. Recent estimates of growth rate for coho and chinook during their last growing season are 26 percent per month for coho to 6 percent per month for chinook (fifth year) while estimates of mortality rate during the same period are considerably lower, averaging 1.3 percent per month for both species. Shaker loss estimates are one fish lost for every two fish landed (Ricker 1976).

The net effect of maintaining an ocean troll fishery is a major loss of chinook and coho salmon production annually as compared to catching the same

optimum yield (OY) for the commercial troll fisheries off the coast of Alaska.

A decision to accept Option I (see section 8.3.1.), by maintaining a troll fishery in the FCZ north of Cape Spencer, will result in overfishing native Alaskan chinook stocks and thus must be based on social and economic factors, superseding biological considerations. These socio-economic factors, while not now quantifiable in terms of cost and benefits, include avoiding dislocations and community economic impacts on some established fishing and processing operations along the northern coast of Southeastern Alaska, and the maintenance of a life style represented by the offshore troll fishery.

Should the Council choose Option I it is recommended that OY be set equivalent to the range of the ABC for all stocks, with the realization that the ABC for native Alaska chinook is zero.

Alternatively, choosing Option II \* (closing the Fairweather Grounds to troll fishing) places greater importance on the biological considerations and would prevent overfishing of a segment of the chinook stocks. Again, the socio-economic impacts of this option are not quantifiable. The economic impact on the Alaskan troll salmon fishery is ultimately expected to be beneficial. Shaker mortality will be reduced and these fish, as well as the remainder of the stocks which are now being harvested as less mature fish, will enter the offshore, coastal and inshore fisheries as larger mature fish south of Cape Spencer. It has been estimated conservatively that the average weight gain of these chinook

---

\* Data is being compiled by the Commercial Fisheries Entry Commission that will illustrate the impact on power trollers of closing the offshore fishery. As an example, these data will include for each vessel that fished in Council waters, the proportion of the troller's total catch which was taken in the offshore area.

would be approximately 4 pounds (Table AI-2). This is an increased value of approximately \$6.20 per fish (at 1976 prices, Table 3).

Choosing Option II thus becomes a decision to set OY to zero for the FCZ north of Cape Spencer. This option provides an increased total yield for the Alaskan troll fishery.

#### 7.0. TOTAL ALLOWABLE LEVEL OF FOREIGN FISHERY (FAC)

The amount of U.S. Pacific Coast salmon available to the Alaskan troll fishery will vary from year to year. At the highest conceivable level of abundance, it can be completely harvested by U.S. domestic fisheries. Therefore, in compliance with PL 94-265 there is no allowable catch of salmon for any foreign fishery.

U.S. and Canadian salmon stocks intermingle to a significant degree, especially off southern Southeastern Alaska, and ocean fisheries off the coasts of either country exploit fish destined for the other. Catches in the ocean have a direct bearing on both countries' management of "inside" net and recreational fisheries for the same stocks. Proper overall management of these salmon stocks will require joint efforts by the two countries.

#### 8.0. MANAGEMENT REGIME

catch of chinook and coho salmon having significant remaining growth potential. It should be recognized that the desired yield to the sport fishery is primarily in the recreational value of the fish caught, not in pounds produced. Therefore the optimum value in that fishery does not necessarily require harvesting only mature fish,

4. maintaining optimum spawning stock escapement,
5. minimizing undesirable genetic modifications that may arise from management practices, and
6. recognizing that biological considerations may require different management practices for different areas.

## 8.2. Areas, Fisheries, and Stocks Involved

This plan addresses the ocean salmon stocks of chinook and coho (and pink salmon as mentioned above) beyond the 3-mile territorial limit in the following three geographical management units;

1. Cape Suckling south to Cape Spencer,
2. Cape Spencer south to the Canada - U.S. border, and
3. all waters of the Northeast Pacific north and west of Cape Suckling.

## 8.3. Management Measures and Rationale

### 8.3.1. Domestic

Two alternative management strategies are presented as Options I and II. Both are more restrictive than current practices. It is believed that either is preferred to the status-quo in terms of consistency with the National Standards provided for in PL 94-265 and the achievement of



objectives stated in sections 2.0 and 8.1 of this plan. Under Option I, fishing in the offshore areas north of the latitude of Cape Spencer and south of Cape Suckling would continue, however, the harvest of native Alaskan chinook stocks would, as a result, exceed the ABC. Option II would prohibit troll fishing in offshore areas north of Cape Spencer and thereby provide greater protection for native Alaskan chinook stocks, prevent overfishing, and is consistent with the ABC. Option II would ultimately result in a greater yield by harvesting more, mature fish in coastal and offshore water during southerly migrations.

Pre-season predictions of stock abundance frequently differ from the abundance that actually occurs. Refinement of these predictions during the conduct of the fishery may indicate the need for emergency in-season changes in regulations. The authority to make necessary emergency regulations is provided for under this plan.

Regulations of this section implement the North Pacific Regional Fishery Management Council's Fishery Management Plan for commercial troll fisheries off the Coast of Alaska in compliance with the Fishery Conservation and Management Act; PL 94-265.

8.3.1.1. Season, Gear, and Area Restrictions

A. Seasons: Option I

1. All waters are open to power trolling and sport fishing for chinook, chum, sockeye and pink salmon between April 15 and October 31 with the following exceptions:

a. All waters north and west of Cape Spencer are open from April 15 through June 30.

b. All waters west of the longitude of Cape Suckling have no open season.

2. Coho season is open from June 15 through September 20 except:

All waters north and west of Cape Spencer are open from June 15 through June 30.

Rationale. Alaskan inshore and coastal waters are open to chinook troll fishing by regulation from April 15 to October 31. This period corresponds with seasonally mild weather conditions. Little fishing effort occurs beyond three miles during the period of time of the coastal and inshore closure because weather conditions are often prohibitive. From the April 15 opening of the coastal and inshore waters effort in the offshore areas increases until late July. After July the primary effort shifts to the inshore and coastal areas.

The coho season inside three miles is presently June 15 through September 20. June 15 is approximately the date when coho appear in coastal and inshore waters in numbers, although the major catches usually occur after July 15. The present September 20 closing date usually occurs after most trollers have ceased fishing. There is presently no closed season in offshore waters for either coho or chinook salmon.

Current regulatory seasons for the troll fishery are somewhat unrestrictive. The relatively long season allows distribution of catch during the entire migration of the many stocks and thereby does not key fishing by time to specific

stocks. It does, however, allow certain chinook stocks to be exposed to harvesting over several fishing seasons (Table 12). It is biologically and economically important to minimize the harvest of immature chinook whenever possible.

Catch statistics in average weights by week indicate (Appendix Fig. A1-2 and Appendix Table A1-2) a decline in average weights for chinook caught in statistical area 157 (Figs. 1 & 12) and areas north and west of the Fairweather Grounds (areas 189, 199, 184 and 191 in Figs. 1 & 13). Average weights in these areas early in the season, from April 15-June 30, have in some years been equal to the average weights in areas 113 and 104 (13-15 pounds dressed). After that date, however, the weights generally average only 10 to 12 pounds dressed. Trolling for chinook of this size produces increased shaker catches and subsequent ~~and~~ release mortality. Chinook that are harvested at a 10-12 pounds average weight obviously will not be available in subsequent months or years at a larger size. Excessive fishing pressure on chinook of this size also means that there will be fewer mature chinook available for spawning as escapement potential is reduced by up to four consecutive years of fishing pressure.

The effect of the non-catch (shaker) mortality is compounded by the fact that the troll fishery is also a multi-species fishery. When the average size of chinook salmon north of Cape Spencer declines after June 30, catches of coho taken in the same areas increase. Therefore, instead of leaving the fishing areas when continued fishing would be detrimental to the chinook stocks fishermen remain to harvest coho thereby increasing the non-catch mortality of undersized chinook.

It is recommended that the season for chinook in Council waters be April 15 through June 30 in areas 157, 189 and 199 (Fig. 1).

Some trolling activity occurs in offshore areas 150, 152 and 154 (Fig. 1) throughout the year although recorded catches have been relatively small (Table 10). Because recorded catches have been small, there is little catch data to evaluate catches in terms of average weights of fish in these areas. No early closures are recommended for areas 154, 152, or 150; the recommended season is April 15 to October 31. Recoveries of tagged chinook in these areas have not been sufficient to determine relative stock contributions to the troll fishery. The relative stock contributions in these areas are similar to those in areas 113 and 104.

It is recommended that the season for coho in Council waters be June 15 through June 30 in areas 157, 189 and 199. A closure in these areas (north and west of Cape Spencer) after June 30 will restrict the trolling effort for chinook and coho to coastal and inshore areas and thus reduce effort for coho in areas of abundance of immature chinook. Other offshore areas (150, 152, 154) will be open to trolling for coho from June 15 through September 20. These dates span the period of fishing effort for coho in offshore waters and are compatible with seasonal regulations in State waters.

Recently (since 1973) there have been efforts by commercial troll groups to reopen certain offshore waters (i.e., Cook Inlet) to trolling. The Alaska Board of Fisheries ruled against such openings on the basis that the effort would be directed toward the harvest of chinook salmon stocks that could not withstand additional fishing pressure. For these reasons it is recommended that those waters listed under Section 8.2, items 1 and 2 be the only legal ocean salmon management units to be opened to troll fishing.

B. Seasons: Option II

1. All waters are open to power trolling and sport fishing for chinook, chum, sockeye, and pink salmon between April 15 and October 31 with the exception:

All waters north and west of Cape Spencer have no open season.

2. Coho season open June 15 through September 20 with the following exception:

All waters north and west of Cape Spencer have no open season.

Rationale. Because of Alaska's geographical location many stocks of chinook (Alaskan, Canadian and stocks from the Pacific Northwest) are caught by Alaskan fisheries before entering any other fishery. Tag recoveries since 1974 indicate that some stocks of chinook are caught in the Alaskan troll fisheries for three consecutive seasons (years).

The areas of the Northeast Pacific Ocean, north and west of Cape Spencer, and the seamount commonly known as the Fairweather Grounds serve as a nursery area for immature chinook. Also, the inshore area near Lituya Bay and Cape Fairweather has been documented as producing large shaker catches especially after July 1. This area is commonly referred to as the "Inner Banks".

In addition, it has been documented (Parker & Kirkness, 1956) that Taku River chinook stocks are caught in the Fairweather troll fishery. These catches were made when the strength of the Taku River chinook stocks was significantly better than at present and when artificially produced chinooks were not present in such numbers as they are today. Increased supplemental production in the Pacific Northwest and Canada has been of such magnitude as to effectively mask the decline in natural production in

Alaska. Continued unrestricted fishing effort in areas where Alaskan wild stocks are known to exist will result in continued decline in escapement and subsequent production. It is not known to what extent the Alaskan native stocks contribute to the Alaska troll catch but it is not unreasonable to assume that the contribution of these stocks at their present depressed state would be minimal. Protecting these stocks by closing offshore waters north of the latitude of Cape Spencer would undoubtedly have some economic impact on the troll fishery. However, the annual percentage of the total chinook and coho troll catch offshore is only 16 and 6 percent, respectively (Table 1, p. 20). Since tag recoveries in area 157 and other coastal areas (113, 104, and 116, see Fig. 1) indicate that migrating chinook stocks destined for Canada and the Pacific Northwest are available to the Alaskan coastal fisheries, as larger fish, south of the latitude of Cape Spencer (Davis and Selin 1977) and since all fishermen now participating in the troll fishery north of Cape Spencer hold Commercial Fisheries Entry Commission power troll entry permits (and are therefore permitted to fish in the southern coastal and offshore areas) the long-run economic impact should be minimal. In fact, by reducing shaker mortality and harvesting mature fish, the yield to be realized from these stocks can be expected to increase.

C. Gear: Options I & II

1. Fishing with nets for salmon is not permitted in Council waters.
2. Commercial fishing by power troll gear only in Council waters with no limit on the number of lines and no type of hook restriction.
3. Sport fishing to be done only with a single line held in the hand or attached to a hand-held or closely attended rod. The line may not have more than one plug, spoon, spinner, or series of spinners or two flies or

two hooks attached to it.

Rationale. At present, by Alaska regulation, a maximum of 4 lines may be used while fishing inside State jurisdiction waters. The origin and intent of this regulation are unclear. No justifiable reason exists for a line limit. There are times when 2 lines are the maximum which a troller can handle near reefs or along rocky shores where maneuverability is important; at other times 8 or 10 lines could be fished when maneuverability is not of concern. Since the catch per fisherman is not being controlled, no line limit is recommended.

The ban on net fishing in offshore waters has been in effect since the mid-1950's by consent of the coastal fishery states and international agreement (see sec. 3.2.1.1. p. 17).

only during the second year of ocean residence. The present season opening date for the coho salmon season is June 15. There is little pre-season incidental catch of coho and weights for landings after that date average in excess of 5 pounds dressed.

It is therefore recommended that there be no minimum size limit for coho.

Pink salmon caught in the Alaska troll fishery are also in their final year of life and are sufficiently large so that no size limit is necessary.

Chum and sockeye salmon are caught in insignificant quantities in the Alaska troll fishery. No size or sex restrictions are recommended for these two species.

All troll caught salmon landed fresh are dressed, head on. In recent years, freezing the catch at sea has become more commonplace. The heads of all salmon are generally removed at sea before the fish is frozen. This process assures maximum quality and minimum handling by buyers. The ability of fisheries personnel to determine the total length of these fish at the time of catch has been questioned. The Alaska Board of Fisheries adopted a "head-off" measurement during its December 1976 meeting. This measurement is defined as the total length from the mid-point of the clethral arch (gill arch) to the tip of the tail. The practicality of this regulation will be evaluated during the summer of 1977.

A method of tagging salmon has been developed by implanting a micro-wire tag in the snout. At present there are



## Management Plan:

### 1. Seasons

- NPFMC - April 15 through October 31 for chinook.  
- June 15 through September 20 for coho.
- PFMC - May 1 through June 14 for all species except coho  
(north of Tillamook Head).  
- July 1 through October 31 for all species (between  
Tillamook Head and Point Grenville).

### 2. Gear

- NPFMC - power troll and sport gear.
- PFMC - power troll gear, hand troll gear, and sport gear  
allowed (varies within management areas).  
- single and barbless hooks only during the early season  
north of Tillamook Head.

### 3. Area Restrictions

- NPFMC - Option I - all waters west of the longitude of Cape  
Suckling closed; waters north and west of  
Cape Spencer closed July 1 - April 14; and  
waters south of Cape Spencer closed November  
1 - April 14.

Option II - all waters north and west of Cape Spencer  
closed; all waters south of Cape Spencer  
closed November 1 - April 14.

- PFMC - waters north of Tillamook Head closed to commercial  
troll fishing June 15 - 30.

#### 8.3.3.2. Federal Laws and Policies

In Council waters there are no existing troll fisheries policies promulgated by the United States Federal Government (see Section 3.2.1.1., p. 17).

#### 8.3.3.3. State Laws and Policies (8.3.3.4.)

The proposed regulations recognize that all State laws pertaining to vessels registered under the laws of the State, including State landing laws, will continue to apply to fisheries addressed in these regulations.

#### 8.4. Enforcement Requirements

Enforcement of fishery regulations in Council waters will be the responsibility of the U.S. Coast Guard and the National Marine Fisheries Service. Enforcement of regulations in State waters, including landing laws for salmon caught in Council waters, will be the responsibility of the Alaska Department of Public Safety in accordance with PL 94-265 and Alaska Statute Title 16, 5 AAC, of the Fish and Game code.

#### 8.5. Reporting Requirements

Reporting by domestic fishermen and processors should comply with existing State requirements in terms of reporting catch by species and numbers as well as other reporting requirements to be determined by the State of Alaska as set forth in Alaska Statutes Title 16.

For those fishermen intending to land fish in another jurisdiction reports detailing the number and estimated pounds of catch, area of catch, expected port of landing, vessel name, and permit number must be forwarded to the

director of the National Marine Fisheries Service Alaska Region. Such reports must be made prior to the vessel leaving the Alaska Region.

#### 8.5.1. Data Standards

All data will be reported in accordance with the U.S. system (i.e., in pounds and inches).

#### 8.5.2. Time and Place of Reporting

Landings from the Alaska troll fishery in numbers of fish, pounds, and species will be recorded by the processors at the time of delivery. The boat identification number, fisherman's name, limited entry permit number and additional information as required will also be recorded at the time of sale. A standard form (fish ticket) will be completed with each delivery and forwarded to the Alaska Department of Fish and Game (Section 4.6.).

Foreign catch will be reported annually as in the past, by the Canadian government in the Annual Summary of British Columbia Catch Statistics. These catch data are reported in numbers of fish and pounds by species.

#### 8.6. Cooperative Research Requirements

The data base upon which this Fisheries Management Plan is formulated requires refinement and expansion; the following areas are identified as needing further research:

1. stock size and origin(s) (coho and chinook),
2. migration and timing of runs (coho and chinook),
3. foreign and domestic interception rates (chinook),
4. fleet participation and catch-per-unit-effort (coho and chinook),
5. interaction between user groups; gear conflicts (coho and chinook), and
6. escapement requirements (coho and chinook).

In regard to items 1 and 2 above, there is an urgent need to establish the magnitude of the chinook stock contributions of the Situk, Alek, Stikine, Wilson, Chickamin, and Unuk Rivers to the troll fishery in both Council and Alaska State waters. There is presently no stock size or catch rate information for the management of these stocks and the protection of their escapement requirements.

#### 8.7 Permit Requirements

Domestic requirements are covered in Section 8.3.1.4. Possible foreign fishery activities would involve Canada only through a bilateral agreement; no individual fishery permits would therefore be required.

#### 8.8. Financing Requirements (8.8.1., 8.8.2.)

The economic value of salmon resources and the complexities of their management make salmon research and management priority budget items for the Alaska Department of Fish and Game. Much of the work required for short-term management of the ocean salmon fisheries can be handled under existing programs. Additional management requirements will necessitate additional funding.

Presently the only new direct cost will be for the continued operation of the salmon management planning team. This team will be responsible for continuing evaluation and revision of the plan as circumstances dictate.

Enforcement of regulations under this Plan will be a cooperative effort among the State, National Marine Fisheries Service and Coast Guard. It is expected these additional enforcement duties will require some increase in enforcement staffs. The National Marine Fisheries Service

and the U.S. Coast Guard anticipate increases in their appropriations and staff to accommodate the new extended jurisdiction law (200-mile limit).

9.0 STATEMENT OF COUNCIL INTENTIONS TO REVIEW THE PLAN AFTER  
APPROVAL BY THE SECRETARY

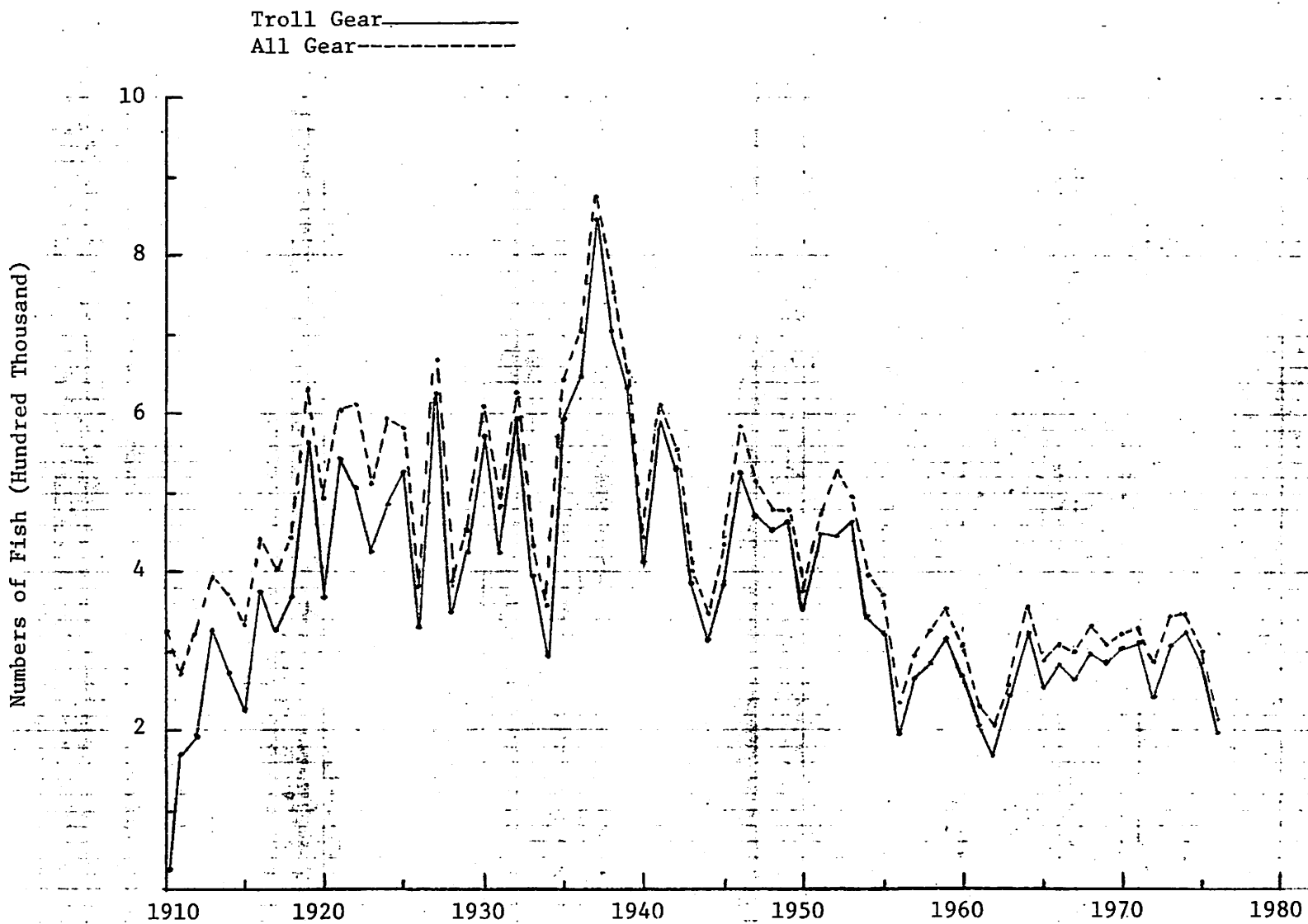
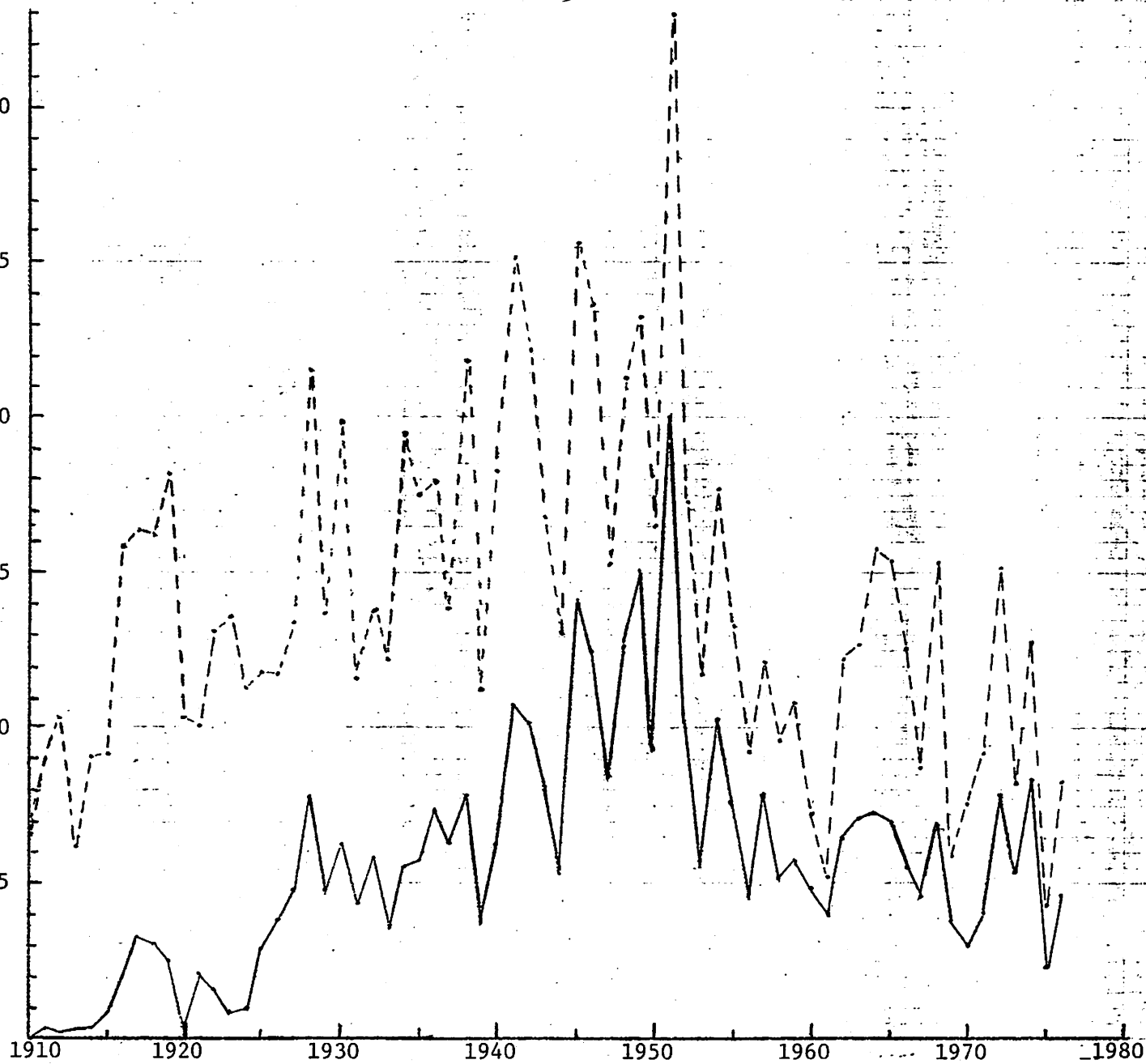


Fig. 3a. Chinook Catch - Troll Gear vs. All Gear  
 Source: Data for 1910-1959 from Alaska Fishery and Fur Seal Industry (USFWS) and for 1960-1976 from ADF&G.

Numbers of Fish (Hundred Thousand)



13a

Fig. 3b. Coho Catch - Trawl Gear vs. All Gear

Source: Data for 1910-1959 from Alaska Fishery and Fur Seal Industry (USFWS) and for 1960-1976 from ADF&G

# STATE OF ALASKA

**DEPARTMENT OF FISH AND GAME**

**OFFICE OF THE COMMISSIONER**

#6  
JAY S. HAMMOND, GOVERNOR

SUPPORT BUILDING - JUNEAU 99801

September 12, 1977

Mr. James H. Branson,  
Executive Director  
NPFMC  
P.O. Box 3136 DT  
Anchorage, Alaska 99510

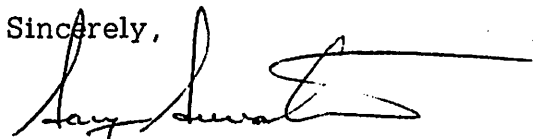
Dear Mr. Branson:

The Ocean Salmon Management Plan Development Team met for two full days on September 7 and 8 to review the Draft Plan submitted to the Council during its August meeting. The purpose of the session was to correct possible mistakes and to further clarify and clean up various sections of the Draft. It was unfortunate that the Team did not, because of time constraints resulting primarily from the late analysis of computerized data, have the opportunity to do this prior to the August deadline. We were fortunate, indeed, to have the very capable assistance of Mr. Michael Hershberger during our meeting who made many useful contributions in regard to improving the form and clarity of the text.

The result of the two-day session was, we believe, a marked improvement in the quality and intelligibility of the material in the Draft.

Rather than a complete revision of the Plan in its entirety we felt that confusion would best be avoided by submitting an errata packet showing the pages on which substantial changes have been made. Forty copies of the errata packet will be prepared and hand carried to Anchorage on Sept. 20, for distribution to the Council, SSC and Advisory Panel prior to the start of their review sessions.

Sincerely,



Gary K. Gunstrom  
Team Leader  
Commercial Troll Fishery  
Writing Team





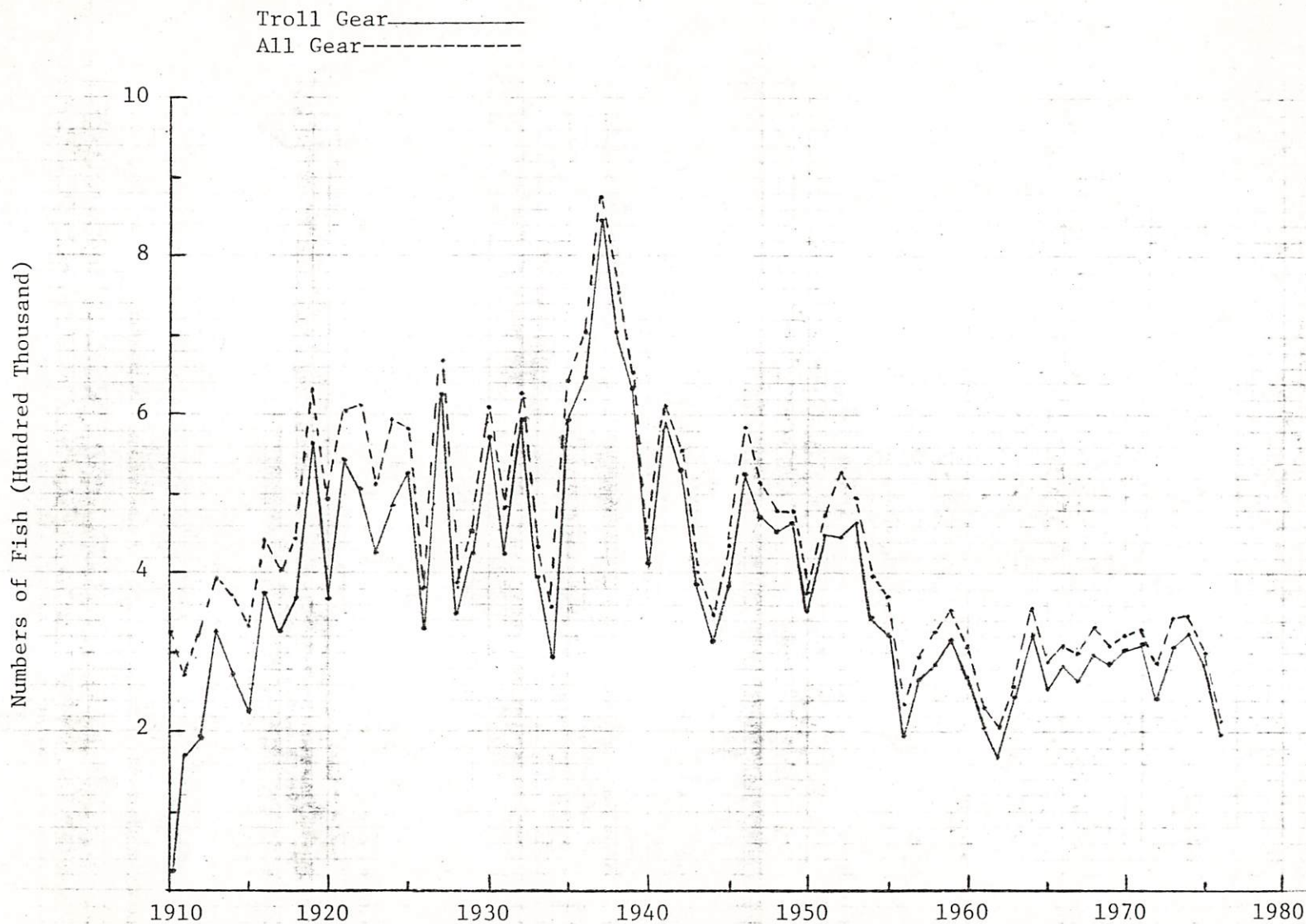
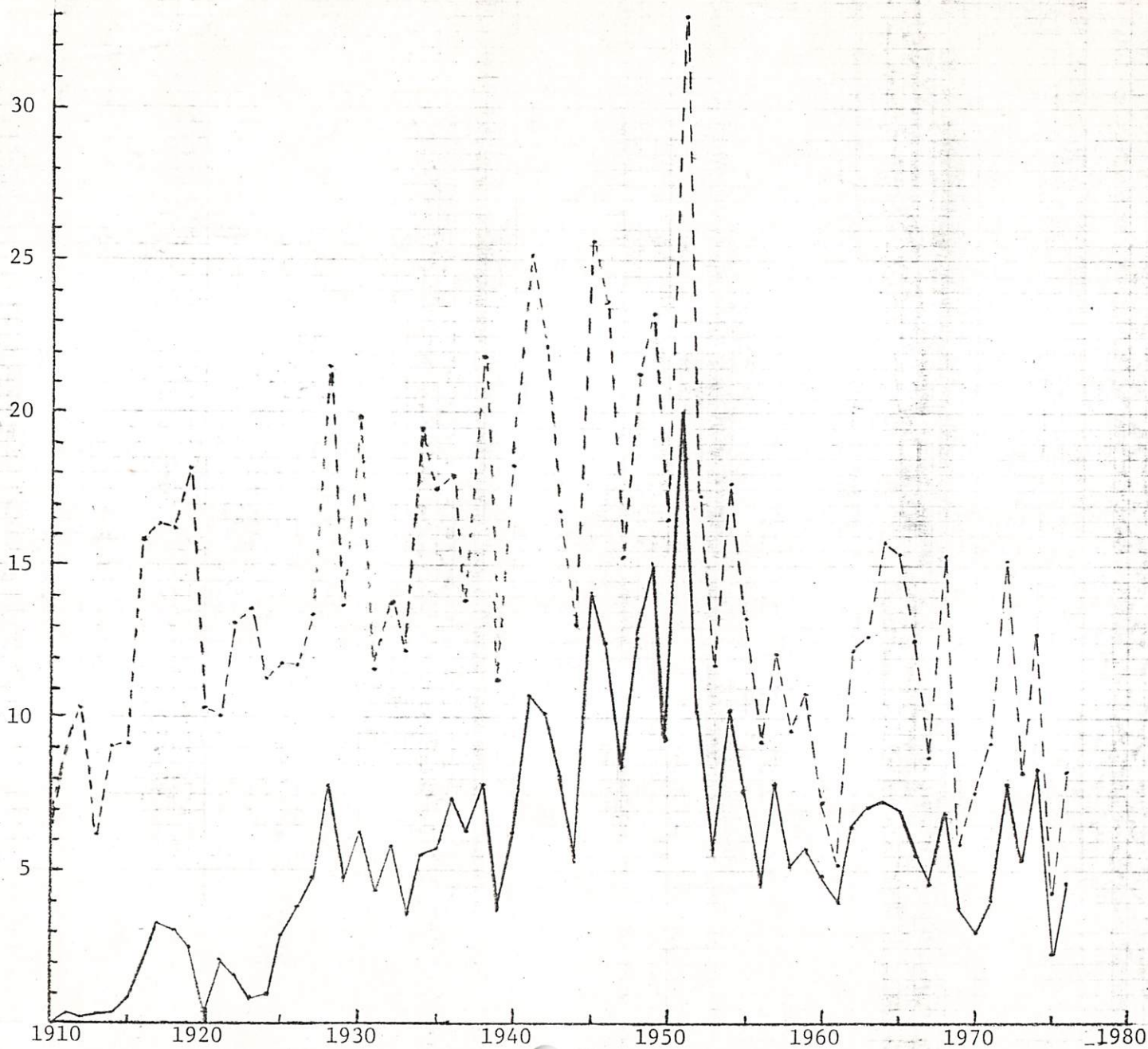


Fig. 3a. Chinook Catch - Troll Gear vs. All Gear

Source: Data for 1910-1959 from Alaska Fishery and Fur Seal Industry (USFWS) and for 1960-1976 from F&G

Numbers of Fish (Hundred Thousand)



~~13a~~  
19a

Fig. 3b. Coho Catch - Troll Gear vs. All Gear

Source: Data for 1910-1959 from Alaska Fishery and Fur Seal Industry (USFWS) and for 1960-1976 from ADF&G