

MANAGEMENT PLAN FOR CHINOOK AND COHO SALMON  
IN THE SOUTHEAST ALASKA/YAKUTAT SUMMER TROLL FISHERY, 1992



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## TABLE OF CONTENTS

	<u>Page</u>
LIST OF FIGURES .....	iii
FOREWORD .....	1
— INTRODUCTION .....	1
1992 SUMMER SEASON DATES .....	1
MANAGEMENT APPROACH .....	2
Chinook Salmon .....	2
Management Objectives .....	2
Management Methods .....	3
Projected 1992 Chinook Salmon Harvests .....	4
Preliminary Total Troll Fishery Catch Projections .....	5
Chilkat Inlet Closure .....	5
Coho Salmon .....	5
Management Objectives and Methods .....	6
Allocation Actions .....	7
Sitka Area Coho Closure .....	8
Tentative 1992 Coho Season Schedule .....	8
FISHERY CONTACTS .....	10

## LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
1.	Fisheries Performance Data Program data collection areas in Southeast Alaska . . . . .	12
2.	Southeast Alaska areas expected to be closed to trolling for all species during chinook non-retention periods of the 1992 Southeast Alaska summer troll season . . . . .	13
3.	Inseason model used to predict the total Southeast Alaska commercial coho salmon catch in 1992 . . . . .	14

## FOREWORD

This management plan summarizes the approach the Alaska Department of Fish and Game (department) will employ to manage the Southeast Alaska/Yakutat commercial salmon summer troll fishery for chinook and coho salmon during the 1992 season. A companion document, the "Alaska Commercial Salmon Trolling Regulatory Guide, Summer 1992", provides a detailed description of open areas, legal gear and other regulations.

## INTRODUCTION

The Southeast Alaska troll fishery occurs in State of Alaska and Federal Exclusive Economic Zone (EEZ) waters east of Cape Suckling. The fishery is managed according to regulations promulgated by the Alaska Board of Fisheries (Board), the North Pacific Fishery Management Council (Council), and the U.S./Canada Pacific Salmon Commission (PSC). Inseason management is conducted by the department under emergency order authority.

This management plan discusses the management objectives and methods used to achieve Board, Council, and PSC policies and goals for the commercial summer troll fishery. This plan covers only commercial trolling for chinook and coho salmon. Other species caught and retained by trollers are considered incidental.

## 1992 SUMMER SEASON DATES

### 1. Chinook Salmon Experimental and Terminal Season:

The Carroll Inlet terminal troll fishery will begin on May 18. Several experimental fisheries will begin on May 26, with all experimental fisheries open by June 8.

### 2. Chinook Salmon Hatchery Access Season:

June 1 through 3. If the catch during this period does not exceed 25,000, and the total catch during June is projected to be less than 35,000 (not including Alaska hatchery-produced chinook), a second opening may begin on June 17.

3. General Summer Season:

July 1 through September 20. Once the chinook salmon harvest ceiling is reached, chinook cannot be retained.

## MANAGEMENT APPROACH

### *Chinook Salmon*

The majority of the chinook salmon harvested in the Alaska troll fishery are produced from wild and hatchery stocks originating in Canada and the Pacific Northwest. As a result, the Southeast Alaska chinook salmon harvest is managed on an annual, all-gear catch ceiling established by the United States and Canada through the Pacific Salmon Commission. In addition to the catch ceiling, provisions of the Pacific Salmon Treaty (PST) administered by the PSC, provide for an additional harvest of chinook salmon that have been produced in Alaskan hatcheries (add-on). The add-on is equal to the total number of hatchery chinook caught, minus the pre-Treaty production of chinook salmon (5,000), and a risk adjustment factor (6,400 fish projected for 1992).

A 15-year natural chinook stock rebuilding program for Southeast Alaska was initiated in 1981. A total escapement goal of 64,000 chinook salmon has been established for all natural chinook salmon stocks in Southeast Alaska.

### Management Objectives

1. Achieve the allowable chinook salmon harvest established by the PST.
2. Maximize the harvest of Alaska hatchery-produced chinook salmon.
3. Continue the Southeast Alaska and coastwide natural chinook salmon stock rebuilding programs.
4. Achieve catch allocations among user groups as mandated by the Board.
5. Minimize the incidental mortality of chinook salmon to the extent practicable.

## Management Methods

Time and area closures are the primary management measures employed to rebuild the natural Southeast Alaska chinook salmon stocks. All chinook salmon stocks in Southeast Alaska are "spring type" spawners (i.e., mature chinook salmon that return to their natal streams beginning in May and June). Troll openings do not occur until late May and early June when experimental, terminal, hatchery access, and special harvest area openings are established to harvest Alaska hatchery-produced chinook salmon. These fisheries are closely monitored to evaluate their effectiveness.

Historically, the majority of chinook salmon are taken during the general summer opening when the majority of waters, including the outside waters, are open to trolling. Determining when the general summer season for chinook salmon must close to stay within the allowable harvest is one of the major functions of the department troll management plan. Tabulating the up-to-date troll catch is difficult due to the large number of fish tickets and the difficulty of receiving them from remote areas in a timely manner. Therefore, a Fisheries Performance Data program (FPD), consisting of confidential interviews with skippers as they deliver catches, is used to estimate daily catch rates in six areas (Figure 1). The total number of days the fishery will be open for chinook salmon is calculated by dividing the summer season harvest goal by the estimated daily catch by the troll fleet.

The hatchery add-on is calculated inseason through the FPD and port sampling programs. Chinook salmon are examined by department sampling personnel for the presence of coded-wire tags (CWTs). The heads containing CWTs are sent to Juneau for decoding. The number of Alaskan hatchery fish is calculated by expanding the number of Alaskan hatchery-produced chinook in the sampled catch, by the total catch.

In 1992, because of the low number of chinook salmon expected to be available for harvest in the general summer opening on July 1, and the expected high abundance of chinook salmon that count towards the PST catch ceiling, the department may choose to announce an opening for a fixed number of days. Any shortage resulting from this fixed opening could be made up later in the season. An announcement will be made approximately June 25 concerning the specific management actions for the summer season that is set to begin on July 1.

After the chinook salmon quota has been reached, areas of known high concentrations of chinook will be closed. In addition, the department urges fishermen to use methods for release that minimize injury to the fish.

## Projected 1992 Chinook Salmon Harvests

The PSC established a 1992 all-gear allowable harvest ceiling for chinook salmon of 263,000 (not including Alaska hatchery salmon). In addition to this "base catch", Alaskan hatcheries are expected to contribute approximately 80,600. From the pre-season estimate of total Alaskan hatchery contribution, the pre-Treaty annual catch of hatchery chinook salmon (5,000) and a projected risk adjustment factor (6,400) is subtracted to get an estimate of the total allowable hatchery add-on of 69,200. Adding the projected Alaskan hatchery add-on (69,200) to the PST catch ceiling of 263,000, gives a total 1992 projected all-gear catch ceiling of 332,200 chinook salmon. The PST recognizes that achievement of a precise quota is difficult and thus allows for a cumulative quota overage beginning in 1987 of  $\pm 7.5\%$  (19,725 fish) relative to the 263,000 fish catch ceiling. Currently, the overage is approximately 38,000 fish. The catch overage will be finalized when the 1991 Division of Sport Fish mail out harvest survey is completed sometime in mid-June, 1992. The total 1992 quota will then be adjusted so that the cumulative overage will be approximately 10,000 at the end of the 1992 season. The remainder of the overage will be made up during the 1993 season.

It is important to recognize that the preseason Alaska hatchery add-on figure is only a projection that is based on the approximate proportions of hatchery harvests by gear type observed in 1991. The actual hatchery add-on will be determined inseason and finalized postseason, from CWT estimates. The Board has not established levels of allocation for Alaska hatchery chinook salmon.

At the March 1992 Board meeting, sharing percentages were established for the recreational and commercial troll chinook salmon fisheries (not including Alaska hatchery chinook). The commercial troll fishery was allocated 83% of the PSC quota after subtracting 20,000 fish for the net fisheries. The recreational fishery was allocated the remaining 17%. In addition, each group is now responsible for proportionally sharing the 5,000 pre-Treaty chinook harvest and risk adjustment factors.

Currently, the 1992 quota will be adjusted by 28,000 to account for the projected overage. The allowable harvest is projected to be 209,200 chinook salmon for the troll fishery. The troll fishery is expected to occur as follows:

**Preliminary Total Troll Fishery Catch Projections**

<u>Troll Chinook Catches in Thousands</u>	
Fishery	(Base Catch Plus Hatchery Add-on)
Winter Fishery (October 1991 - April 1992) . . . . .	72.3
June Special Hatchery Access and Experimental Fisheries . . . . .	63.4
Summer Season . . . . .	73.5
<hr/>	
Total Troll . . . . .	209.2

**Chilkat Inlet Closure**

The 1992 summer troll fishing season for portions of Chilkat Inlet will be delayed from July 1 until July 15. This closure is needed to provide additional protection for mature chinook salmon returning to spawn in the Chilkat River drainage. The troll closure corresponds to a similar closure for the drift gill net and recreational fisheries, and includes all waters of Chilkat Inlet north of the latitude of Seduction Point.

*Coho Salmon*

Most coho salmon harvested in the troll fishery are believed to be of Alaskan origin. They spawn in approximately 2,000 streams in Southeast Alaska during the fall and early winter months. Coho salmon catches were depressed in the mid to late 1970s but improved through the 1980s. While information on the status of specific coho stocks is limited, some escapement and exploitation patterns based on coded-wire tagging studies have raised concerns for conservation, especially for stocks subject to harvest by multiple fisheries.

Troll fishery catches of coho salmon in outer coastal areas generally peak during mid-July to mid-August. Catches in inside fisheries generally peak during late August to mid-September. Most coho migrate into spawning streams between late September and mid-October.

Early in the season, coho stocks returning to southern Southeast Alaska are harvested by the troll fishery in northern and central outside areas where they intermingle with coho bound for northern and central areas of the region. Lack of a general coho stock identification technique prevents assessment of run

strength of individual stock groups contributing to these early-season mixed stock fisheries. Thus, by the time information on run strength of individual stock groups becomes available later in the season, overharvest of weaker stock groups may have already occurred.

Southeast Alaska hatchery coho production first became significant in 1980. The contribution of hatchery coho salmon since then has varied from 0.4% of the total troll catch in 1980, 13.0% in 1986, 5.5% in 1988, and 23.0% in 1991. The average from 1980 to 1990 was 5.8%. Smolt releases from State hatcheries have declined in recent years.

### **Management Objectives and Methods**

1. Provide adequate escapement of coho salmon by area, to ensure sustainable populations.
2. Provide maximum opportunities for harvest of coho salmon consistent with conservation objectives.
3. Manage the coho fisheries to achieve allocations consistent with Board of Fisheries regulations.

As with chinook salmon, the department's primary program for inseason assessment of catch rates is dockside interviews of vessel skippers. Catches by the net fisheries are obtained from fish tickets, while the recreational catch is estimated from a creel census conducted by the Sport Fish Division. An assessment of run strength using troll catch per unit of effort (CPUE) data from the FPD program occurs in mid-to late-July. Information available on individual coho indicator stocks will also be considered in management actions.

Projected total season troll coho harvests will be used as a relative index of total run size. Analysis of the FPD program has shown that the cumulative areawide catch per day through statistical week 29 (average week ending date is July 19) is a good predictor of the total troll and all-gear coho catch (Figure 3). If the projected overall run size is less than 1,120,000, the department will implement a 7 to 14 day conservation closure beginning sometime in late July. In 1992, the department will make this projection during the week beginning July 20.

The department will continue to closely monitor all coho fisheries after this period to determine if the number of coho salmon reaching inside areas will be adequate to provide for spawning requirements, given normal or even restricted inside fisheries. The primary abundance indicators for this assessment consist of relative harvest levels by all fisheries and, in particular, CPUE in inside drift gill net and sport fisheries compared to 1971-80 levels.

Cumulative catch per day will be monitored in each of the six FPD areas (Figure 1) throughout August to assess run strength in each of the areas. Data will be compared with catches and CPUE within these areas and, if necessary, the department will implement area-specific closures.

### **Allocation Actions**

The Board has established long term allocation goals for the coho harvest by each commercial gear type. Target percentages established by the Board are 61% for troll, 19% for purse seine, 13% for drift gill net, and 7% for set gill net. The Board specifically stated that subsistence, personal use, and recreational harvest of coho salmon are not affected by the established allocations between commercial gear types. The Board also stated that: "These percentages are guidelines only and may vary from season to season given natural fluctuations in salmon abundance and distribution and the limitations of fisheries management. It is, however, the Board's intent that these allocation guidelines be met as closely as possible over the long term. It is not the Board's intent for the department to disrupt any of the traditional commercial fisheries upon which this historical allocation is founded. The department may, however, make inseason adjustments to attempt to achieve these long term allocation guidelines." In 1992, the department does not see a need to make any inseason adjustment to achieve long term allocation guidelines. The department will, however, implement applicable, existing regulations. These regulations are:

1. A 10-day regionwide troll closure is required during the coho season to address allocations between outer coastal fisheries and inside water fisheries if the department determines that the proportional share of coho salmon harvest by the troll fishery is larger than that of inside gill net and recreational fisheries compared to the 1971-80 levels. Primary inside fishery indicators for this assessment are overall coho salmon harvests and CPUE in the Tree Point, Prince of Wales, Taku/Snettisham, and the Lynn Canal drift gill net fisheries, and the Juneau marine sport fishery.
2. An 8-day on, 6-day off troll fishing schedule is required after mid-July for the upper portion of Chatham Strait (Section 12-B) and Lynn Canal (District 15); and
3. The troll fishing schedule in portions of State waters off Yakutat beginning early August, is keyed to weekly fishing periods in the set gill net fisheries.

If a regionwide troll closure is implemented to conserve coho salmon during late July or early August, the likelihood of a closure during mid-August to meet the allocation criteria will be reduced. Any potential transfer of coho harvest to inside fisheries resulting from an early closure, if implemented, will be reflected in inside fishery performance indicators used for comparison against the allocation criteria.

## Sitka Area Coho Closure

A closure of the Sitka area has occurred the past two years. Escapements of coho to index streams in the Sitka and Salisbury Sound have been depressed since 1986. The depressed escapement trend appears to be largely the result of poor survival conditions, probably in the marine environment. This is suggested by a concurrent but more severe decline in Sitka Sound, Salisbury Sound and Peril Strait pink salmon populations during the same time period. While generally good escapement occurred in this area during 1991, the area will remain closed until a trend of good escapements continues. Therefore, the following waters will be closed to trolling from September 1 through 20:

Section 13-A: all waters of Salisbury Sound, Fish Bay, Deep Bay, St. John Baptist Bay, Neva Strait, Peril Strait south of the latitude of Pogishibi Point and east of the latitude of Kalinin Point;

Section 13-B: all waters of Sitka Sound, Olga Strait, Nakwasina Sound, Katlian Bay, Silver Bay, and Eastern Channel east of a line from the westernmost tip of Cape Burunof to Kulichof Rock to Vitskari Rock to the southeast tip of Shoals Point;

Section 13-C: all waters will be closed.

## Tentative 1992 Coho Season Schedule

The following is a generalized timetable for coho salmon management. It is emphasized that some modifications to this schedule may be required.

Dates	Expected Regulatory Actions
June 15-29	Beginning June 15, coho harvested incidentally during the June special hatchery access and experimental troll fisheries may be retained;
July 1	Established regulatory opening date of 1992 general summer troll season for all species; the troll chinook season will close when the guideline harvest level has been reached;
Late July/early Aug.	Potential 7 to 14 day regionwide closure if projected run size is less than 1,120,000; the projected total season commercial harvest will be used as index of run size;

- Mid to late August      A regionwide closure of approximately 10 days will be implemented if required for either coho conservation or allocation based on assessment of stock and fishery performance data relative to Board-established criteria. If a regionwide conservation closure has occurred during late July, the likelihood of a closure being implemented for allocation at this time will be reduced.
- Late Aug. to Sept. 20      Coho conservation measures implemented regionwide or by area, as required, to protect weak coho stocks including closure of Sitka and Salisbury Sounds and Peril Straits;
- Sept. 21                      Established regulatory closing date of 1992 general summer troll season.
- 

Fishermen participating in the troll fishery are encouraged to review the 1992 Troll Fishery Regulatory Guide.

The widespread and complex nature of the troll fishery necessitates a closely coordinated management program. Inseason management is accomplished through a team led by the Southeast Regional Management Biologist and includes the Region's Troll Fishery Management Biologist, and the six Area Management Biologists. Names and work locations of people to contact concerning commercial troll fishery management are listed at the end of this management plan.

## FISHERY CONTACTS

The following are Commercial Fisheries Division contacts regarding this management plan:

Dave Gaudet  
Regional Troll Biologist

P. O. Box 240020  
Douglas, Alaska 99824-0020  
(907) 465-4250

Patti Skannes  
Assistant Troll Biologist

304 Lake Street, #103  
Sitka, Alaska 99835  
(907) 747-6688

Scott Marshall  
Regional Supervisor

P. O. Box 240020  
Douglas, Alaska 99824-0020  
(907) 465-4250

Doug Mecum  
Regional Management Biologist

P. O. Box 240020  
Douglas, Alaska 99824-0020  
(907) 465-4250

William Bergmann  
Petersburg Area Management Biologist

P. O. Box 667  
Petersburg, AK 99833  
(907) 772-3801

Bob DeJong  
Sitka Area Management Biologist

304 Lake Street, # 103  
Sitka, AK 99835-7653  
(907) 747-6688

Don Ingledue  
Juneau Area Management Biologist

P. O. Box 240020  
Douglas, Alaska 99824-0020  
(907) 465-4250

Ray Staska  
Haines Area Management Biologist

P. O. Box 431  
Haines, Alaska 99827-0431  
(907) 766-2830

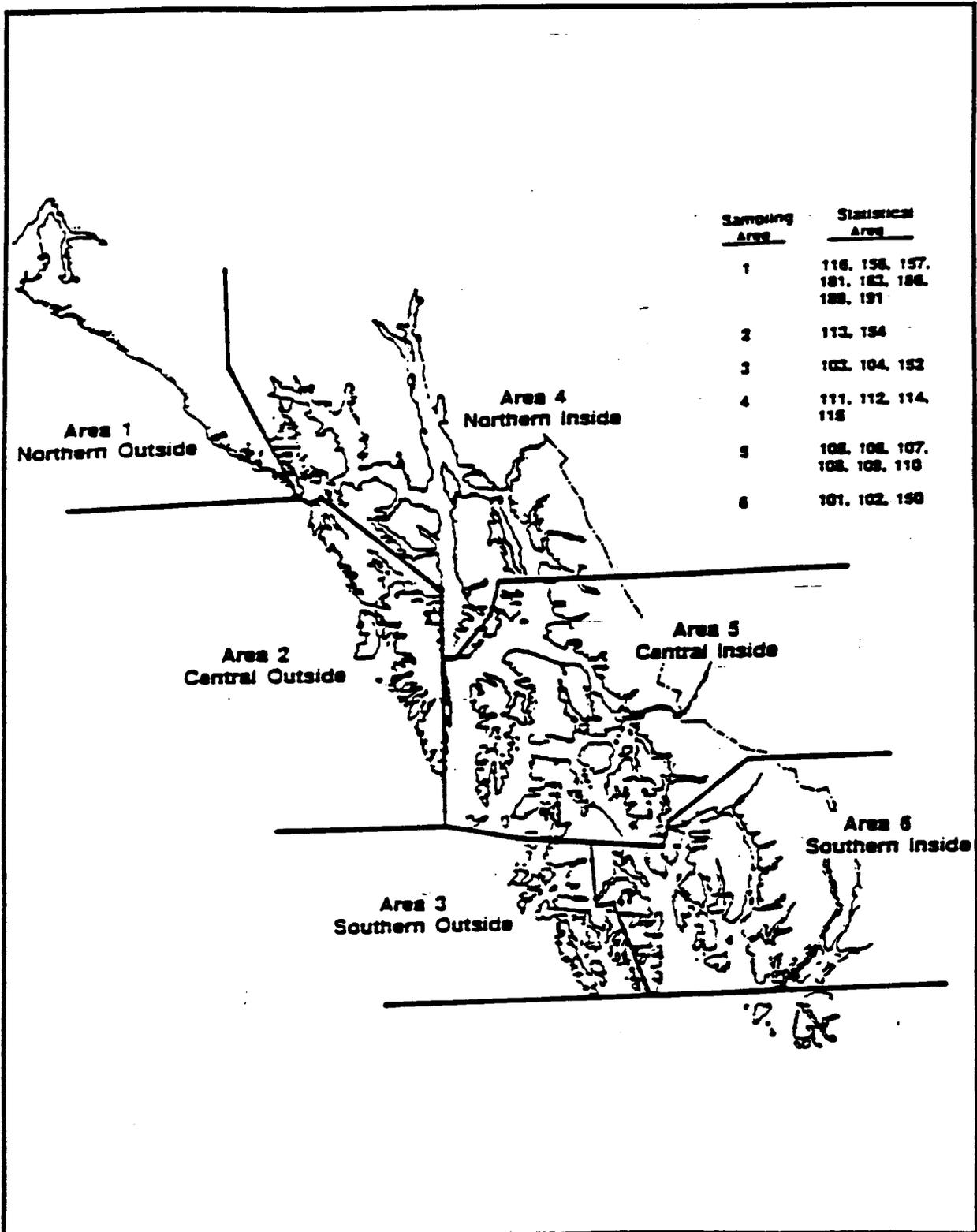


Figure 1. Fisheries Performance Data Program data collection areas in Southeast Alaska.

Phil Doherty  
Ketchikan Area Management Biologist

2030 Sea Level Drive, Suite, 205  
Ketchikan, AK 99901  
(907) 225-5195

Randy Timothy  
Wrangell Assistant Area Biologist

P. O. Box 200  
Wrangell, Alaska 99929-0200  
(907) 874-3822

Keith Weiland  
Yakutat Area Management Biologist

P. O. Box 49  
Yakutat, Alaska 99689-0049  
(907) 784-3255

The following is a list of telephone numbers that may be called during the troll fishing season to obtain recorded announcements concerning areas open to trolling.

Ketchikan - (907) 225-6870  
Sitka - (907) 747-5022  
Petersburg - (907) 772-3700  
Juneau - (907) 586-3505

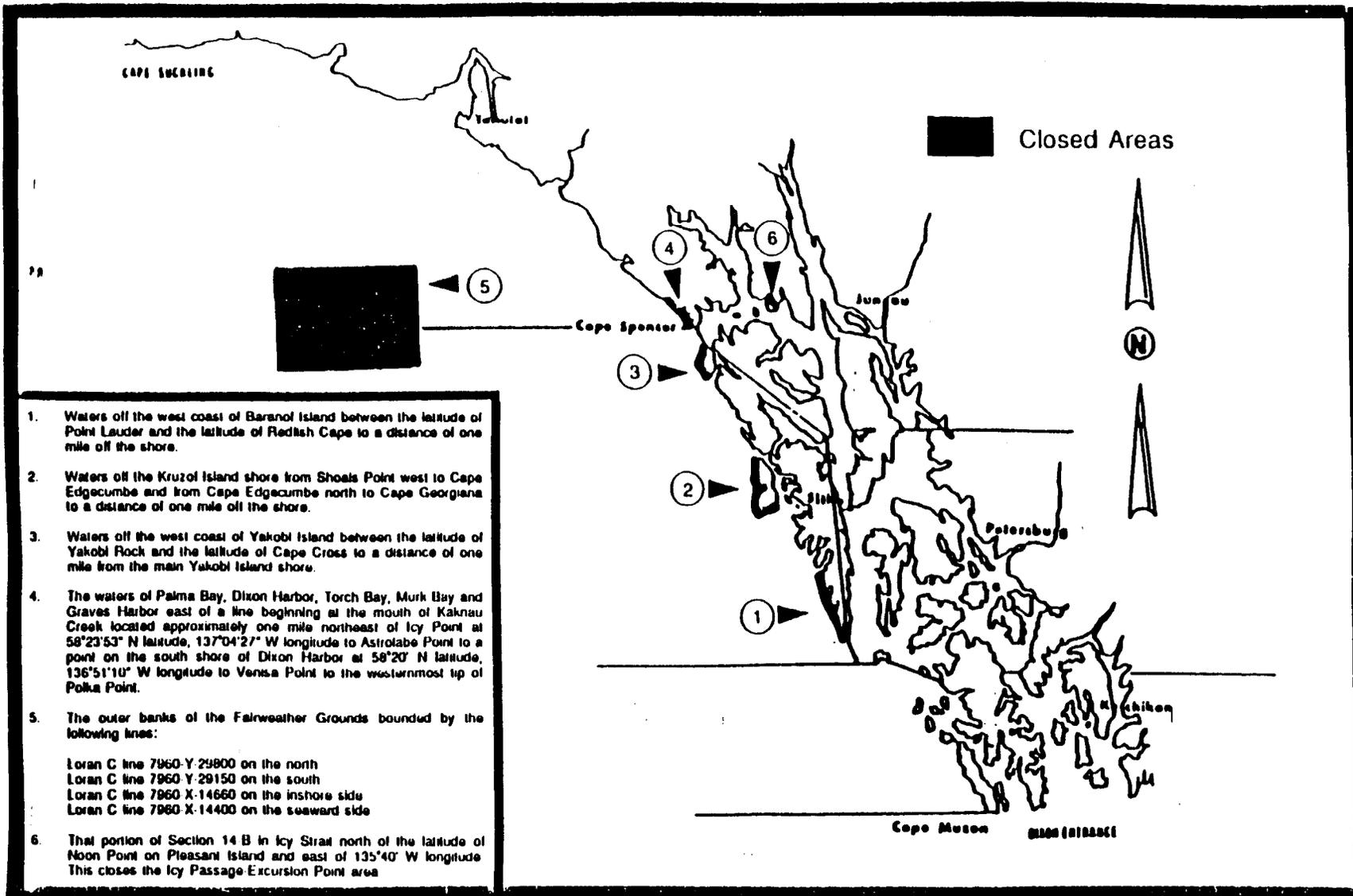


Figure 2. Southeast Alaska areas expected to be closed to trolling for all species during chinook non-retention periods of the 1992 Southeast Alaska summer troll season.

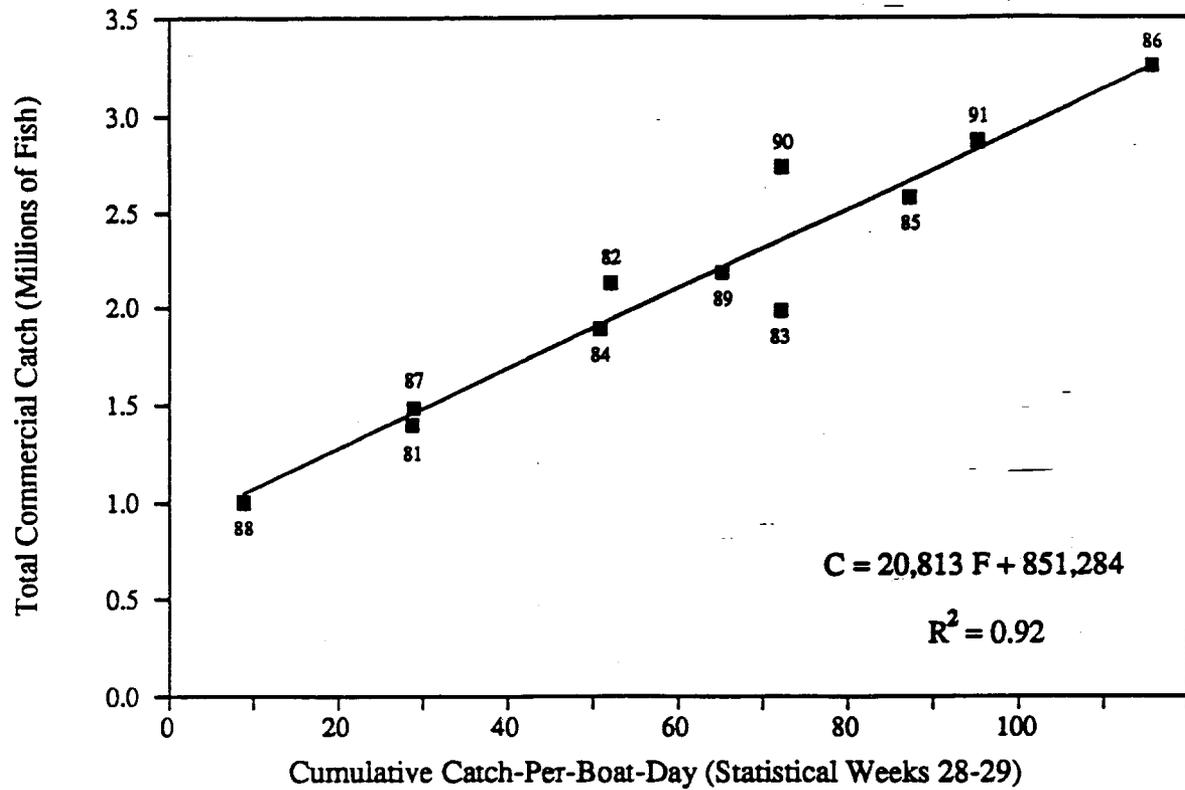


Figure 3. Inseason model used to predict the total Southeast Alaska commercial coho salmon catch in 1992.<sup>1/</sup>

<sup>1/</sup> C = Region total commercial coho salmon catch prediction (excluding hatchery cost recovery). F = Troll Fishery cumulative catch-per-boat-day for statistical weeks 28-29 (July 7-20). F is calculated from fishery performance data (FPD) by adding the average daily catch rate for boats that land in week 28 (July 7-13) and the average daily catch rate for boats that land in week 29 (July 14-20).

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ADF&G, Division of Commercial Fisheries, P.O. Box 115526, Juneau AK 99811-5526 (907)465-4210.