

MANAGEMENT PLAN FOR CHINOOK AND COHO SALMON
IN THE SOUTHEAST ALASKA/YAKUTAT SUMMER TROLL FISHERY, 1994



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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 1994 season. A companion document, the "Alaska Commercial Salmon Trolling Regulatory Guide, Summer 1994", provides a detailed description of open areas, legal gear and other regulations. This Management Plan incorporates the new regulations adopted by the Alaska Board of Fisheries in January of 1994.

TABLE OF CONTENTS

	<u>Page</u>
LIST OF FIGURES	iii
INTRODUCTION	1
1994 SUMMER SEASON DATES	1
MANAGEMENT APPROACH	2
Chinook Salmon	2
Management Objectives	2
Management Methods	2
Projected 1994 Chinook Salmon Harvests	3
Preliminary Total Troll Fishery Catch Projections	4
Chilkat Inlet Closure	4
Coho Salmon	5
Management Objectives and Methods	5
Allocation Actions	6
Sitka Area Coho Closure	7
Tentative 1994 Coho Season Schedule	7
FISHERY CONTACTS	9

LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
1.	Fisheries Performance Data Program data collection areas in Southeast Alaska	11
2.	Southeast Alaska areas closed to trolling for all species following the initial chinook salmon opening in 1994 in Southeast Alaska summer troll season	12
3.	Inseason model used to predict the total Southeast Alaska commercial coho salmon catch in 1994	13
4.	Inseason model to be used to predict the total Southeast Alaska commercial catch of wild coho salmon in 1994	14

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 (NPFMC), and the U.S./Canada Pacific Salmon Commission (PSC). Inseason management is conducted by the department under emergency order authority. In 1994, the chinook salmon quota will be reduced by 23,000 to comply with the listing of the Snake River Fall Chinook salmon as "Threatened" under the Endangered Species Act (ESA). The reduction is in accordance with an Incidental Take Permit (ITP) issued in conjunction with a biological opinion by the National Marine Fisheries Service Northwest Region (NMFS-NW).

This management plan discusses the management objectives and methods used to achieve Board, NPFMC, 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. A discussion and management plan for chum salmon adopted by the Northern Southeast Regional Aquaculture Association appear in the "Alaska Commercial Salmon Trolling Regulatory Guide, Summer 1994".

1994 SUMMER SEASON DATES

1. Chinook Salmon Experimental and Terminal Fisheries:

The Carroll Inlet terminal troll fishery will begin on May 18. Several experimental fisheries will begin on May 23, with all experimental fisheries open by May 31 (See the Alaska Commercial Salmon Trolling Regulatory Guide, Summer 1994).

2. Chinook Salmon Hatchery Access Fishery:

This fishery was eliminated by the Board.

3. General Summer Troll Fishery:

July 1 through September 20. Chinook salmon may be harvested only during open periods announced by the department. The Board also gave the department authority to extend the coho salmon season no more than 10 days in Districts 1 through 16 if abundance is large.

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 British Columbia, Canada, Washington and Oregon. 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 PSC. 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 (1,000 fish projected for 1994). In 1994, the troll fishery will also be managed for a reduction of 18,860 chinook salmon to comply with the Biological Opinion of the effect of the Southeast Alaska fishery on the Snake River Fall Chinook.

Management Objectives

1. Achieve the allowable chinook salmon harvest.
2. Maximize the harvest of Alaska hatchery-produced chinook salmon.
3. Manage the fishery according to the Southeastern Alaska-Yakutat Chinook and Coho salmon Fisheries management plan.
4. Continue the Southeast Alaska and coastwide natural chinook salmon stock rebuilding programs.
5. Achieve catch allocations among user groups as mandated by the Board.
6. Minimize the incidental mortality of chinook salmon to the extent practicable.
7. Comply with the conditions of the ITP (a reduction of 23,000 chinook salmon).

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 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 be closed to stay within the allowable harvest is one of the major functions of the department's 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. In 1992 and 1993, because of the low number of chinook salmon available for harvest, the department announced a fixed number of days beginning July 1. In 1994, the initial chinook salmon opening will be 7 days.

After a reduction of 18,860 to comply with the ITP, approximately 117,300 chinook salmon are expected to be available for harvest in the general summer fishery (including Alaska hatchery fish). The summer fishery will be managed according to the new management plan adopted by the Board in January of 1994. Only 70% of the remaining number of chinook salmon will be available for harvest during the July 1 to July 7, 1994 opening. The remainder will be harvested following any closure for coho salmon conservation and/or allocation in August. During the first opening (July 1 to 7), all areas will be open. During the second opening, the areas of high abundance (Figure 2) will be closed unless fewer than 30% of the total remaining number of chinook salmon were harvested in the first opening. Abundance is once again expected to be high in the outside areas and the department will allow an initial 7-day opening for chinook salmon. The number of chinook salmon targeted for the first opening is approximately 81,000.

The hatchery add-on is calculated inseason through the FPD and port sampling programs. Chinook salmon are sampled for the presence of coded-wire tags (CWTs). The heads containing CWTs are sent to the Juneau coded wire tag lab 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.

Projected 1994 Chinook Salmon Harvests

No PST chinook salmon Annex was signed in 1994; however, the chinook salmon fisheries will be managed for a ceiling of 263,000 (not including Alaska hatchery salmon). The actual management target will have to be reduced by 23,000 to 240,000 to comply with the ITP. The troll fishery will be reduced by 18,860. In addition to this "base catch", Alaskan hatcheries are expected to contribute approximately 19,900 chinook salmon to the commercial troll harvest. Once the troll portion of the pre-Treaty annual catch of hatchery chinook salmon (3,788) and a projected risk adjustment factor (1,000) are subtracted, the total allowable hatchery add-on for the troll fishery is 15,100 fish. 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.

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 average hatchery harvests by gear type. The actual hatchery add-on will be determined inseason, and finalized postseason, from CWT estimates.

At the January 1994 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 82% of the PST quota after subtracting 20,000 fish for the net fisheries. The recreational fishery was allocated the remaining 18%. In addition, each group is now responsible for proportionally sharing the 5,000 pre-Treaty chinook harvest and risk adjustment factors.

Preliminary Total Troll Fishery Catch Projections

<u>Troll Chinook Catches in Thousands</u>	
Fishery	(Base Catch Plus Hatchery Add-on)
Winter Fishery (October 1993 - April 1994)	56.4
June Terminal and Experimental Fisheries	17.0
Summer Season	117.0
Total Troll	190.4

Chilkat Inlet Closure

The 1994 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 similar closures for the drift gillnet 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. Catches in the 1990s have been excellent. While information on the status of specific coho stocks is limited, some escapement and exploitation patterns based on cwt 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 salmon 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 22.3% in 1991. The percentage in 1992 and 1993 was 21.8% and 16.3% respectively.

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 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 fish, the department will implement a 7 to 14-day conservation closure beginning sometime in late July. In 1994, the department will make this projection during the week beginning July 18. The department will also closely monitor the projected total catch of wild coho salmon using FPD data adjusted for hatchery catches (Figure 4.)

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 gillnet and sport fisheries compared to 1971-80 levels.

Cumulative catch-per-day will be monitored in each of the six FPD areas (Figure 1) through 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.

At the 1994 Board meeting, a regulation was adopted that will allow the department, in years of high abundance, to extend the troll season in portions of Districts 1 through 16 if there are no conservation problems. The department will consider the following data in determining if an extension is warranted;

1. total run size projection,
2. total harvests to date by gear by area,
3. CPUE relative to previous years by gear by area,
4. percent of hatchery fish in the catch relative to previous years,
5. survival projections for hatchery and wild stocks,
6. inseason escapement data.

The department will announce any extensions, if warranted, during the week of September 12.

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 gillnet, and 7% for set gillnet. 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." The department will, however, implement applicable, existing regulations. These regulations are:

1. An approximately 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 gillnet 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 gillnet 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 gillnet 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

The Sitka area was closed to trolling beginning September 1 in 1990 and 1991 to provide additional escapement to local streams. In 1992 and 1993, a September 1 closure was scheduled; however, the returns appeared to be adequate and the closure was not implemented. The department will be closely monitoring returns to the area in 1994 and if conservation concerns for the Sitka area wild coho salmon stocks occur, some time area closures of the troll fishery may be anticipated.

Tentative 1994 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 experimental troll fisheries may be retained;
July 1	Established regulatory opening date of 1993 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;
Mid-September	An assessment of coho strength to determine if portions of Districts 1 through 16 may be left open no longer than September 30;
Sept. 20	Established regulatory closing date of 1994 general summer troll season.

Fishermen participating in the troll fishery are encouraged to review the 1994 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 which 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
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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
Andrew McGregor 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
Phil Doherty Ketchikan Area Management Biologist	2030 Sea Level Drive, Suite, 205 Ketchikan, AK 99901 (907) 225-5195

FISHERY CONTACTS (Continued)

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Wrangell Assistant Area Biologist

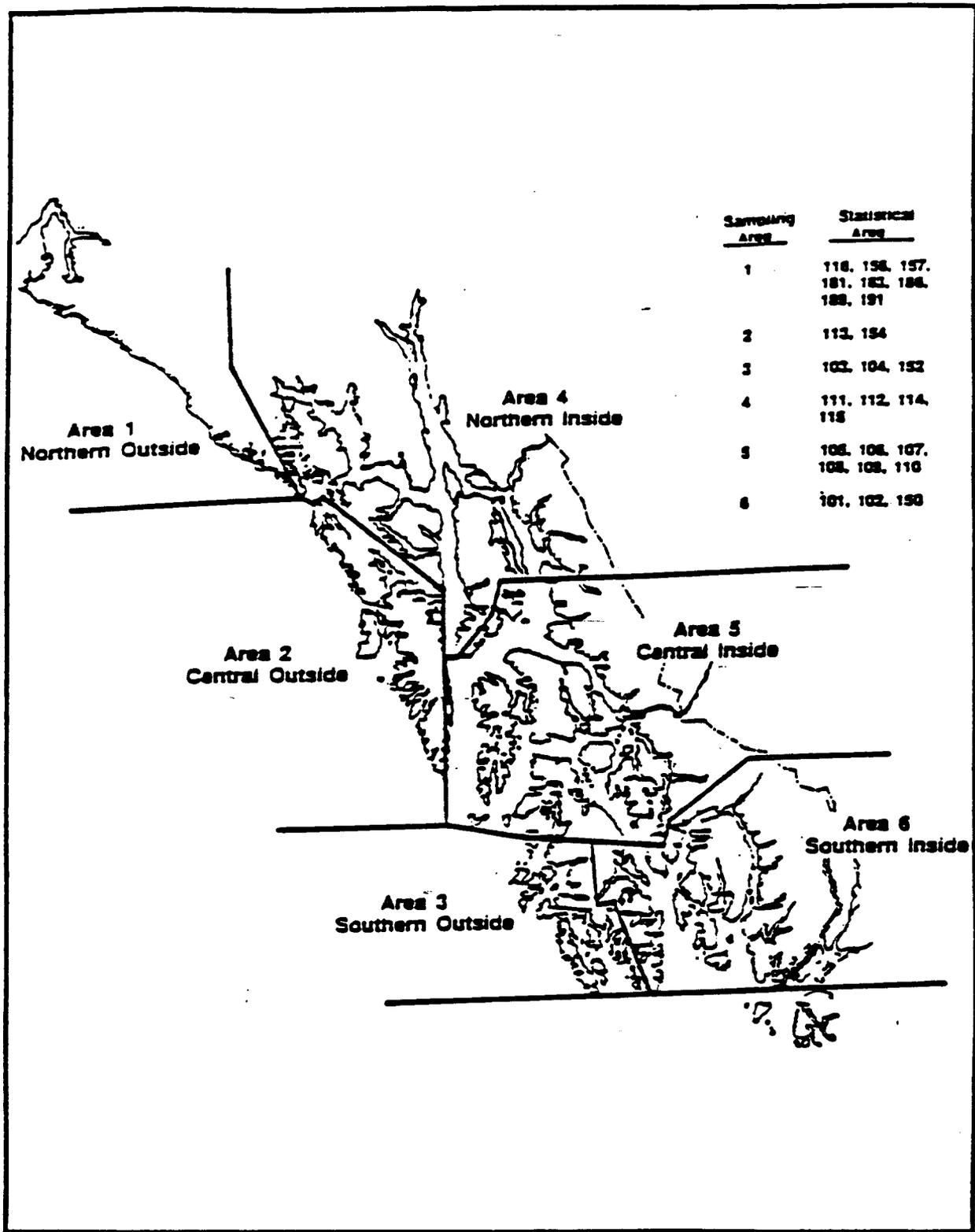
P. O. Box 200
Wrangell, Alaska 99929-0200
(907) 874-3822

Alan Burkholder
Yakutat Area Management Biologist

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

The following telephone numbers 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) 465-8905



<u>Sampling Area</u>	<u>Statistical Area</u>
1	116, 136, 157, 181, 182, 186, 188, 191
2	113, 134
3	103, 104, 132
4	111, 112, 114, 115
5	105, 106, 107, 108, 109, 110
6	101, 102, 130

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

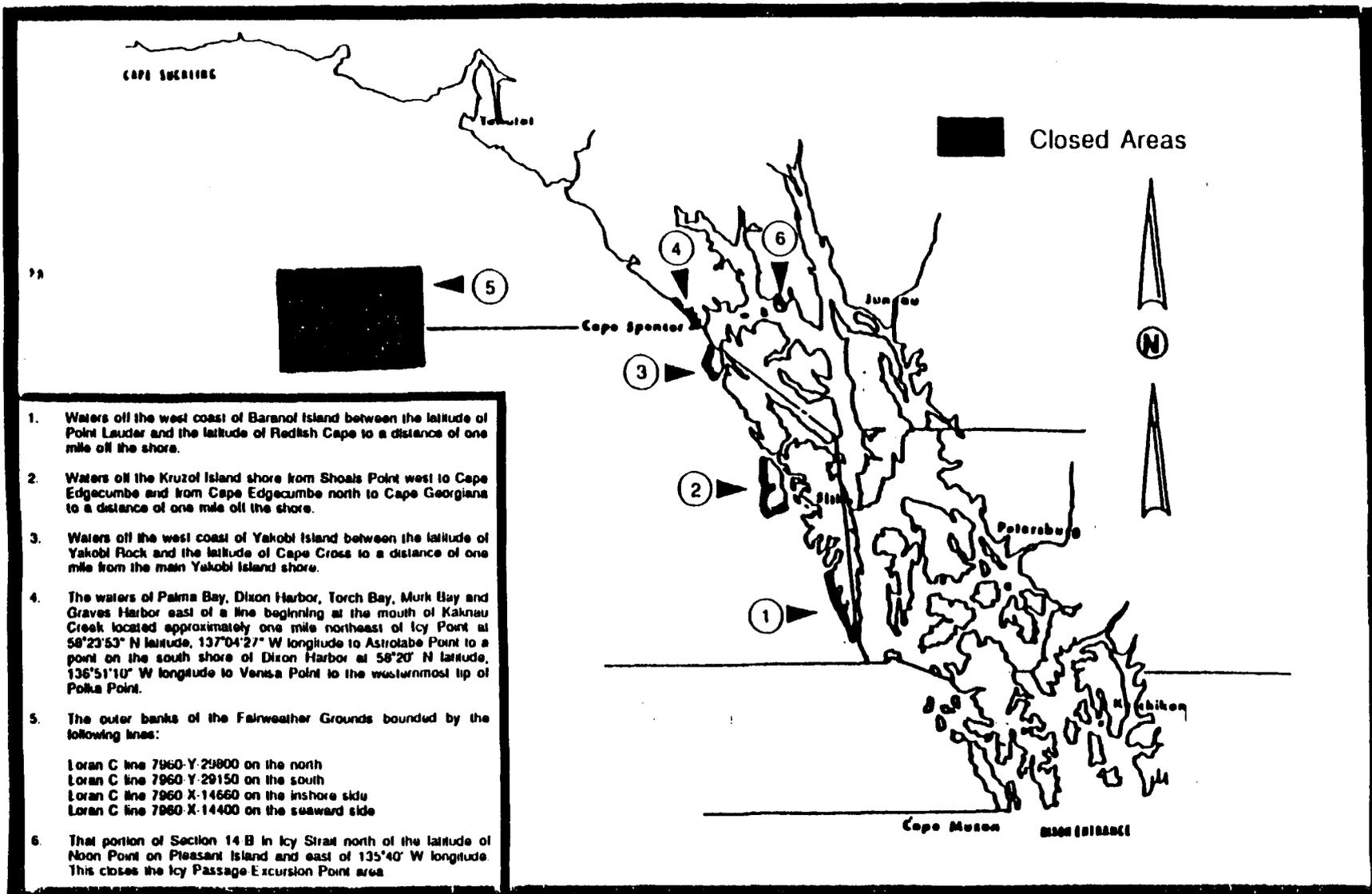
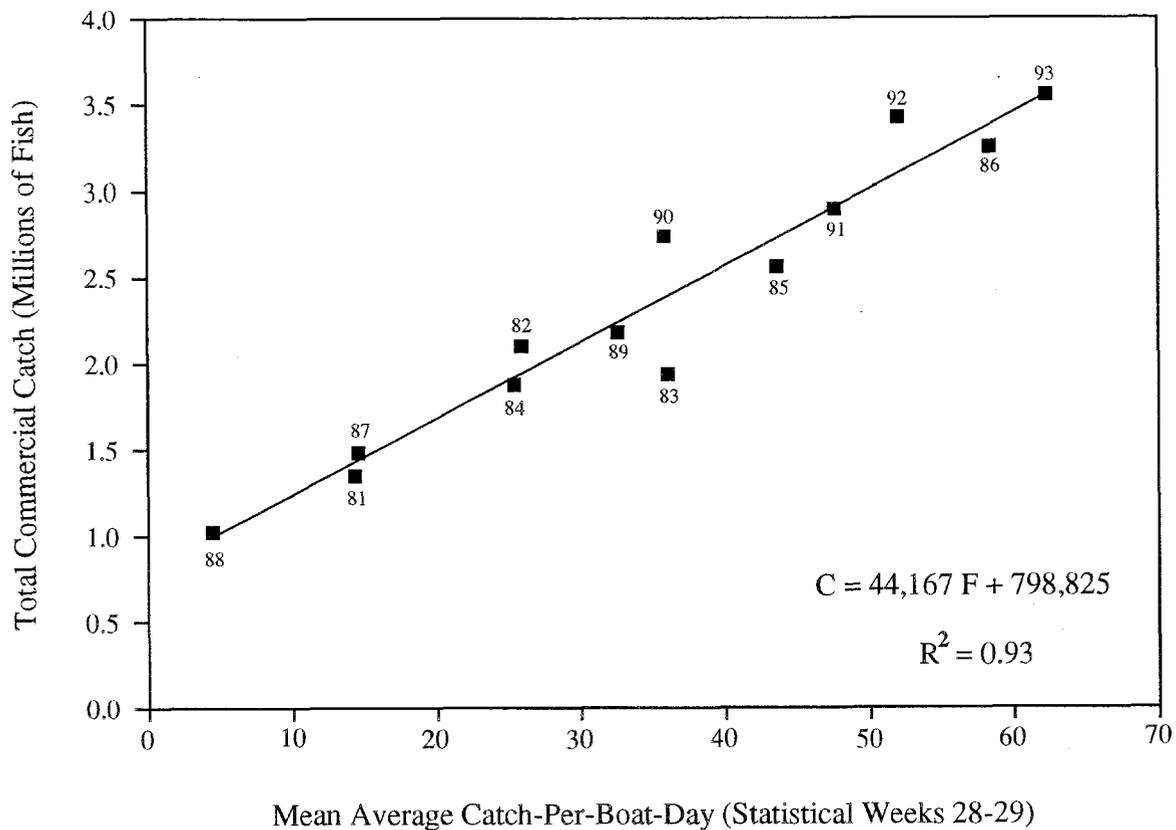
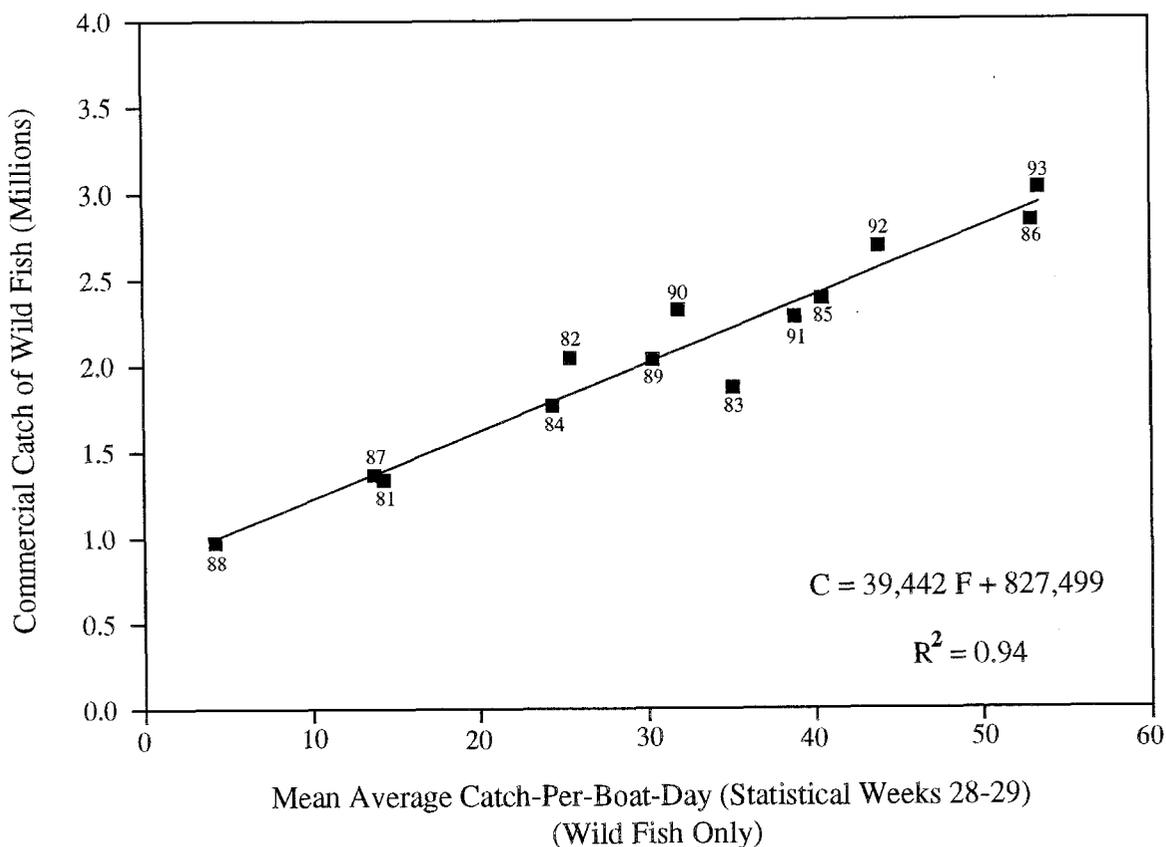


Figure 2. Southeast Alaska areas closed to troling for all species following the initial chinook salmon opening in 1994 in Southeast Alaska summer troll season.



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 4-17). F is calculated from fishery performance data (FPD) by adding the average daily catch rate for boats that land in week 28 (July 4-10) and the average daily catch rate for boats that land in week 29 (July 11-17).

Figure 3. Inseason model used to predict the total Southeast Alaska commercial coho salmon catch in 1994.



C = Region total commercial wild coho salmon catch prediction (excluding hatchery cost recovery).
 F = Troll fishery mean average catch-per-boat-day for statistical weeks 28-29 (July 4-17). F is calculated from fishery performance data (FPD) by averaging the average daily catch rate for boats that land in week 28 (July 4-10) and the average daily catch rate for boats that land in week 29 (July 11-17). The estimated harvest of hatchery fish is estimated from coded-wire tag recoveries and subtracted from the catch rates.

Figure 4. Inseason model to be used to predict the total Southeast Alaska commercial catch of wild coho salmon in 1994.

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