

SOUTHEAST ALASKA AND YAKUTAT AREA
GROUNDFISH INVESTIGATIONS

1 JULY 1987 THROUGH JUNE 30, 1988

By

Barry E. Bracken

Regional Information Report¹ No. 1J88-41

Alaska Department Of Fish And Game
Division Of Commercial Fisheries
Juneau, Alaska

December 1988

¹ The Regional Information Report Series was established in 1987 to provide an information access system for all unpublished divisional reports. These reports frequently serve diverse ad hoc informational purposes or archive basic uninterpreted data. To accommodate timely reporting of recently collected information, reports in this series undergo only limited internal review and usually contain preliminary data. This information may be subsequently finalized and published in the formal literature. Consequently, these reports should not be cited without prior approval of the author or the Division of Commercial Fisheries.

AUTHOR

Barry E. Bracken is a Fisheries Biologist III for the Alaska Department of Fish and Game stationed in Petersburg. He serves as the Region I (South-east and Yakutat area) Project Leader for the ADF&G Groundfish Project.

ACKNOWLEDGEMENTS

The Region I groundfish staff all made significant contributions to this publication and deserve thanks for their support on the project. Without them the data contained in this report would not be available. In particular Victoria O'Connell, who supervised much of the port sampling effort and summarized a great deal of the data included, deserves credit. Beverly Richardson also helped compile information for this report. Thanks also to Gary Gunstrom for his editorial review.

PROJECT SPONSORSHIP

This investigation was partially financed by the Commercial Fisheries Research and Development Act under Grant Award No. NA-87-ABD-00302.

TABLE OF CONTENTS

	<u>Page</u>
LIST OF TABLES.....	iv
LIST OF FIGURES.....	iv
ABSTRACT.....	v
INTRODUCTION.....	1
PROJECT PERSONNEL.....	2
PROGRAMS.....	2
Fishery Program Management.....	3
Logbooks And Skipper Interviews.....	3
Interviews.....	4
Logbooks.....	4
Port Sampling.....	5
Resource Assessment.....	6
On-board Observers.....	6
Other Programs.....	7
LITERATURE CITED AND SUPPLEMENTAL LITERATURE.....	18
APPENDICES.....	19

LIST OF TABLES

<u>Table</u>	<u>Page</u>
1. Distribution of personnel funded by the Region I Groundfish Project from July 1, 1987 through June 30, 1988.....	9
2. Distribution of groundfish skipper interviews and port samples collected by fishery and port in the Southeast area from July 1, 1987 through June 30, 1988.....	10
3. Sablefish tags returned to Southeast Alaska ADF&G offices by agency and port during the first nine months of 1988.....	11
4. Number of individual groundfish measured by ADF&G port samplers in Southeast Alaska by species and port from July 1, 1987 through June 30, 1988.....	12
5. Minimum, maximum, and average length of yelloweye rockfish sampled from Southeast Alaska fisheries by port between July 1, 1987 and June 30, 1988.....	13
6. Minimum, maximum, and average length of quillback rockfish sampled from Southeast Alaska fisheries by port between July 1, 1987 and June 30, 1988.....	14

LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
1. Region I Groundfish Project organizational chart....	15
2. The eastern Gulf of Alaska coastline showing Alaska Department of Fish and Game Region I boundaries and regional groundfish management areas.....	16
3. Southeastern Alaska showing groundfish management areas.....	17

ABSTRACT

The Region I Groundfish Project manages all groundfish resources in state waters within the Southeast and Yakutat areas and also manages demersal shelf rockfish in the adjacent Exclusive Economic Zone (EEZ). The project also cooperates with NMFS to regulate all groundfish fisheries in the offshore waters of the Eastern Gulf of Alaska. To do this the Project is divided into five primary functions (programs) and has staff personnel stationed in as many as six ports during peak fisheries and/or research activities. Information collected by the Groundfish Project staff is used to make management decisions regarding the Regional groundfish fisheries and to modify sampling design to obtain better data for future management.

This report describes in detail the activities conducted by the Region I Groundfish Project between July, 1987 and June, 1988 and presents preliminary summaries of data collected during that period.

INTRODUCTION

The Region I Groundfish Project has research and management responsibility for all groundfish resources in state waters (0 to 3 miles) of the Southeast and Yakutat areas. The region extends from Dixon Entrance to Cape Suckling (Figure 1). In addition, the project has management responsibility for demersal shelf rockfish in the adjacent Exclusive Economic Zone (EEZ) and cooperates with the National Marine Fisheries Service (NMFS) to manage all groundfish fisheries in the offshore waters of the Eastern Gulf of Alaska. The region is divided into seven areas for groundfish management. All groundfish fisheries in the two Yakutat management areas are managed jointly with NMFS. The waters of Southeast Alaska are divided into five management areas (Figure 2). The two inside areas include only state waters and all groundfish fisheries in those two areas are managed exclusively by the state. The three outside areas include both state and federal waters. In those three areas the state has sole management responsibility for the demersal shelf rockfish fisheries and jointly manages the sablefish fisheries and other groundfish fisheries with NMFS.

To monitor these fisheries and collect biological information and to gather the information necessary to manage them, the Groundfish Project is divided into five primary programs. Groundfish staff personnel are stationed in up to six ports during peak fisheries or when research activities require support personnel.

Project funding is received from several sources with the base budget made up primarily of Federal Aid matching funds. Other funding sources include the state general fund; test fish funding for stock assessment work; a state-wide data collection contract with NMFS to collect and enter harvest information from fisheries in the EEZ; funding from the North Pacific Fisheries Management Council (NPFMC) to offset the costs associated with the project leader's participation on the Gulf of Alaska Groundfish Plan Team; an annual grant from the Pacific Marine Fisheries Commission to cover the cost of the project leader's participation on the Technical Subcommittee of the Canada/US Groundfish Committee (TSC); and during the period included in this report, a grant was received from PMFC to develop a rockfish management plan for the Southeast area.

The responsibilities of Region I Groundfish Project personnel overlap considerably throughout the year. For example, port samplers are also responsible for collecting, editing, and entering fish tickets from both state and federal managed fisheries; on-board observers collect biological information, participate on stock assessment surveys, summarize data, etc.; the Project Leader and Port Biologist assume numerous responsibilities which transcend the specific program definitions. As a result, there is often no clear distinction between activities specifically funded by a particular funding source and those funded from other sources. Therefore, it is impractical, if not impossible, to report on those activities funded by the Federal Aid

contract exclusive of other activities performed by the Groundfish Project.

Detailed catch and effort information from the Regional groundfish fisheries is compiled annually and is included in the reports to the Board of Fisheries at the end of each calendar year. That information is therefore not included in this report. The 1987 and 1988 Board Reports (Bracken 1988a and Bracken 1989), which cover the 1987 and 1988 calendar years should be referenced for catch and effort information and regulatory action taken as a result of funding provided by this contract.

This report includes a detailed review of the Groundfish Project activities from July 1, 1987 through June 30, 1988. The report concentrates on activities funded through the Federal Aid matching fund contract 5-54-R-3 and serves as the annual progress report required as a result of that funding. As mentioned previously, there is considerable overlap between specific programs and there has been no attempt to differentiate between the activities funded through Federal Aid matching funds and those funded by other funding sources.

PROJECT PERSONNEL

A total staff of ten was funded by the groundfish project during all or part of the contract period. Of these, six are included in the annual project operations and directly participated in groundfish investigations. The other four were support personnel who were at least partially funded by the project during the reporting period.

Two positions, the Project Leader in Petersburg, and the Port Biologist/Project Assistant in Sitka are full-time personnel. All others are either seasonal employees or are only partially funded by groundfish funding. A flow diagram including primary groundfish staff, their titles, and duty stations is shown in figure 1. Table 1 displays the distribution of personnel by port and function during the contract period.

PROGRAMS

This section of the report provides an overview of the specific programs undertaken by the Groundfish Project during the contract period. As stated above, there is no clear distinction between programs since an integrated approach to data collection and compilation is used in this project. All programs undertaken and all research activities conducted by the groundfish project have direct management application. Prioritization of annual activities, placement of personnel, and analysis of the information gathered is based on the most imperative need for information to regulate the groundfish fisheries in the region.

Fishery Program Management

The Fisheries Program Management increment is used primarily to fund the normal operational costs of the Groundfish Project. Funding from this program includes: the Project Leader's salary and a portion of the Project Assistants salary; much of the fixed costs of the project such as photo copying, vehicle mileage, postage, telephone, etc.; travel to attend Board of Fisheries meetings and local Advisory Committee meetings; routine regulatory action such as issuance of Emergency Orders and circulation of News Releases; and computer costs including hardware and software acquisition and upgrades.

During the reporting period regulatory action was taken during the reporting period in the flatfish trawl and the rockfish and sablefish longline fisheries. In-season management action included: 1.) closing five small areas to trawling for conservation reasons, 2.) establishing preliminary harvest limits and closing the SSEI, SSEO, and CSEO management areas to rockfish fishing when those limits were reached, 3.) conducting public meetings which resulted in an Emergency Order to close of a portion of Sitka Sound to directed commercial rockfish fishing, 4.) establishing an Emergency Regulation to allow for retention of demersal shelf rockfish after the closure of directed fishing for those species, and 5.) setting the seasons and harvest objectives for the NSEI and SSEI area sablefish fisheries. As mentioned in the introduction to this report, the 1987 and 1988 annual Reports to the Board of Fisheries contain detailed information on catch and effort as well as on management action taken during those two years.

Funding for this program is not adequate to cover the operational costs of maintaining the three primary groundfish offices in the Southeast area or to fund the total cost of groundfish management action. Therefore, a great deal of the fixed costs of maintaining the Ketchikan office, some of the fixed costs of maintaining the year-round office in Sitka, and much of the cost of staff attendance at Board of Fisheries and Advisory Committee meetings are charged to other budget codes. An internal audit now in progress may result in a recommendation to adjust funding so that all fixed operational and management costs will come from this increment in the future.

Logbooks And Skipper Interviews

This program is conducted by port samplers and on-board observers who are trained to collect specific information from vessel operators. Interviews provide summary information from the fisheries in greater detail than that provided on the fish tickets. Information provided includes general area fished, duration of the trip, total amount of gear fished, average depth, and a total number or an estimate of pounds of fish caught during a given trip. The logbooks, on the other hand, provide very detailed set-specific information including depth fished, amount of gear fished, a detailed description of the gear, and number of fish or an estimate of pounds of fish caught by species or

species group in each set. Copies of the interview and logbook forms used in this program are included in appendix A.

All individual interview and logbook records are considered to be strictly confidential. Even summarized information cannot be released unless there are more than three vessels participating in a given area. Published information is usually provided only by broad management area, and even then information may not be released if it appears that doing so may influence the future distribution of the fleet. Interview and logbook information is currently used to assist in making in-season management decisions and for setting future harvest objectives.

Interviews

The interviews are conducted primarily with participants in the state managed rockfish and sablefish longline fisheries. The program is voluntary, but most vessel operators cooperate when asked. The information collected is entered on micro computers in Sitka and Petersburg. During the reporting period all rockfish interviews were entered in Sitka while all sablefish interviews were entered in Petersburg. Analysis of the data is still on-going. Summary information will be presented in a Technical Data Report at a later date. For an example of how interview data is compiled and interpreted see Bracken and O'Connell, 1986. A total of 322 rockfish and 105 sablefish interviews were conducted at four different ports during the reporting period. Distribution of interview coverage by fishery and port is shown in table 2.

Logbooks

The main emphasis of the logbook program during the reporting period was to obtain detailed catch and effort information from the winter flatfish trawl fishery. Participation in the logbook program is mandatory in the trawl fishery as one of the terms of a special permit which must be acquired from ADF&G prior to fishing. Trawl permits are issued for no more than one month at a time with renewal of the permit contingent on the skipper fulfilling the logbook requirement. During the 1987-88 season logbooks were collected from five different trawl vessels and included information on a total of 272 individual tows.

Logbooks were also distributed to rockfish and sablefish longline fishermen during the reporting period. Since the program is voluntary in those fisheries, the relative number of participants is small. All longline information collected was summarized into the interview format for data entry.

The staff has been working toward establishing a micro computer program to enter and retrieve logbook data. Until this program is complete, the logbook information collected from the groundfish fisheries will continue to be summarized and entered using the interview program.

Port Sampling

Port samplers were stationed at the major ports of landing during the peak groundfish fishing periods. Specific duties depended to a large extent on the fishery. For example, during the peak of the rockfish fishery samplers were stationed in Sitka, Ketchikan, and Craig, which are the major rockfish ports in the region. Port samplers monitoring the rockfish fisheries conducted skipper interviews and obtained species composition and biological data from the landed catch besides collecting and editing fish tickets. Sampling forms used in this program are included as Appendix B.

To monitor the sablefish fisheries port samplers were stationed in Petersburg, Sitka, Ketchikan, Craig, and Yakutat. During the federally managed offshore sablefish fishery their main task was to collect fish tickets and verify catch information. During the state managed sablefish fisheries port samplers were stationed in Sitka, Petersburg, and Ketchikan. During those fisheries the samplers obtained skipper interviews, collected and edited fish tickets, and also accumulated length and otolith samples from the landed catch. Samplers of both state and federal managed fisheries also collected sablefish tags which were then returned to the originating agencies.

The number of samples of each type by species in each port are shown in table 2. The number of sablefish tags collected in each port are shown in table 3. The number of actual groundfish specimens measured in each port are presented in table 4.

The accumulation of 445 sablefish tags which were released by five agencies will contribute greatly to the knowledge on sablefish movement coast wide once the data is analyzed. Our port samplers are instructed to ask each skipper they contact about tag recoveries. This represents the only concerted effort to gather sablefish tagging information in Alaska. All other agencies rely entirely upon voluntary returns of tags from fisheries in Alaskan waters.

The rockfish length samples from the ports of Ketchikan, Sitka, Craig, and Hydaburg which are shown in figure 4 are considered to accurately represent the species composition of the rockfish landings in those ports. These data indicate that yelloweye rockfish (Sebastes ruberrimus) and quillback rockfish (S. maliger) dominated the landings with 50% and 26% of the total rockfish numbers landed respectively. Length frequency statistics for yelloweye and quillback rockfish sampled during the reporting period are presented in tables 5 and 6. Data collected by port samplers during this period was also used to determine reproductive timing of nearshore rockfish. The results of that study are available in O'Connell, 1987.

In Petersburg the sampling effort was more specialized and concentrated on sablefish landings from the two inside management areas. Analysis of port sampling data is on-going. These data will be presented in detail in future publications.

Resource Assessment

This program, at least in theory, is entirely funded by the state through general fund moneys and the ADF&G test fish fund. However, because of the overlapping responsibilities of project personnel, some Federal Aid funding is used in this project as well. Federal aid funding was used for salaries of participating staff, tags, and other supplies used in conjunction with this work. Therefore, results of activities in this program increment are included in this report.

Two resource assessment surveys were completed during the reporting period. Cruise summaries are available for both surveys from the author on request. Commercially valuable fish, with the exception of halibut, from both surveys were retained and sold by the state to help off-set charter costs.

The first survey, conducted between August 16 and August 30, 1987 was designed to assess rockfish stocks in the CSEO management area using a chartered fishing vessel with snap-on type longline gear. This was a pilot project with the objectives of establishing survey stations, evaluating sampling techniques, and collecting biological data. Data collected included species composition, catch per unit of effort, length frequency of key species, age structures, and distribution of fish by area and depth. Four separate sample sites were surveyed and 17 sets of 1,000 hooks each were made. A total of 29 different species totalling 3,915 fish were taken with 57% of the catch made up of Sebastes sp.

The second survey was conducted between May 3 and May 15, 1988 and was designed to assess sablefish (Anoplopoma fimbria) populations in the SSEI area. Again a chartered fishing vessel was used and snap-on longline gear was deployed. In this survey the sample sites were selected prior to fishing using a stratified random sampling technique. A total of 33 sets of 1,000 hooks each were deployed. Sablefish on every third set were tagged and released, but all other sablefish were retained to help off-set the cost of the charter. During this charter a total of 4,630 sablefish were taken which represents one sablefish for every 7.1 hooks deployed. A total of 1,174 sablefish were tagged and 422 were used for biological (AWL) samples. Sablefish accounted for nearly 59% of all fish caught with dogfish shark (Squalus acanthias) second in abundance representing 32% of all fish taken in the survey.

On-Board Observers

This program increment is likewise, in theory, funded entirely by the state but, is included in this report to document the activities during the reporting period. The biologist hired for this position was also utilized to participate in other program activities such as port sampling and data analysis during the reporting period.

A total of nine observer trips were made between November 1987 and March 1988. Each trip averaged slightly under three days for a total of 24 observer days at sea during that time period. Most of the effort was coverage of the flatfish trawl fishery and eight of the nine observer trips were made aboard trawl vessels. Four different vessels were observed and 28 tows were sampled for species composition representing 1/3 of the tows made while the observer was on board. Starry flounder were sampled for length frequencies and sex ratios. In addition to the species composition and biological sampling, catch per trawl hour and an estimate of total catch was calculated for every tow made while the observer was aboard. The observer also made one trip aboard a rockfish longline vessel. Species composition and CPUE data was calculated for six sets during that trip.

Detailed trip reports were completed at the end of each trip. These are on file in the Petersburg office. As with the interview and logbook data, however, observer data is strictly confidential and is not available for distribution. The information gathered is used primarily to make in-season management decisions.

Other Projects

The above sections outline the activities conducted in the five primary groundfish programs during the reporting period. As indicated in the introduction to this report, there were other activities conducted by the groundfish project during that time period as well. This section briefly outlines some of those activities.

In July 1987 a contract with NMFS to collect catch information from the EEZ fisheries was finalized. Funding from that contract was used to station technicians in Sitka, Petersburg, and Ketchikan for four to six months each, to place a technician in Craig for two months, and to place a biologist in Yakutat for one month. In addition to collecting and editing fish tickets, the technicians funded under this contract monitored the off shore sablefish fisheries and sampled the demersal shelf rockfish fisheries during the peak seasons for those species.

In the period between September 1987 and January 1988 I participated actively with the NPFMC Groundfish Plan Team. From September through mid-December the Plan Team examined stock status reports and compiled a resource assessment document (RAD) which recommended biologically acceptable harvest levels for all Gulf of Alaska groundfish stocks. During this process, I wrote and presented a rockfish status of stocks report for the Eastern Gulf of Alaska (Bracken and O'Connell, 1988) and compiled the demersal shelf rockfish section of the RAD. In January the Team prioritized regulations to be considered for the 1989 season and developed Regulatory Impact Reviews for the regulations which were accepted for further consideration by the NPFMC at their January meeting. Travel expenses for participation at Plan Team meetings in September, November, and January were paid for by the NPFMC. Expenses for attendance at the September and December Council meetings were paid for by a NPFMC travel grant to ADF&G.

A grant to develop a rockfish management plan for Southeast Alaska was obtained from the PMFC in June 1988. Two meetings were held with industry representatives from five Southeast Alaska ports, to discuss management options. Four proposals for regulatory changes have been submitted by the rockfish working group to the Board of Fisheries for consideration as a result of those meetings. A Regional Research Report (O'Connell and Bracken, 1988) provides a summary of the activities of that group. As a result of the analysis of data which was required by this grant, the ADF&G staff also submitted four proposals for regulatory changes. A final Rockfish Management Plan will be completed in February 1989 after the Board of Fisheries has acted on the regulatory proposals.

In June 1988 I attended the annual TSC meetings in Monterey, CA. A summary report on 1987 Alaska groundfish fisheries (Bracken, 1988b) was presented at this meeting. That report is on file and available on request. Funding for participation was provided by the PMFC.

Groundfish Project funding was used to support a groundfish age reader in Kodiak for three months during the reporting period. Most of the emphasis was placed on reading rockfish age structures (otoliths) collected during the CSEO area rockfish stock assessment survey. Aging of rockfish from port samples taken in Ketchikan and Sitka was also accomplished. The results of this work are still being analyzed and will be reported in detail in later reports. For an example of how this data is used see O'Connell and Funk, 1987.

Project funding was also used for clerical support in both Sitka and Petersburg. As with any project of this magnitude, support personnel play a key role in making the project function. Funding during the report period provided four months of clerical time in Sitka and one month in Petersburg. The clerical staff helped with paying bills and tracking budgets; distributed News Releases and Emergency Orders; formatted and proof read documents; and processed mail and other correspondence.

Table 1. Distribution of personnel funded by the Region I Groundfish Project from July 1, 1987 through June 30, 1988.

PORT	MONTH											
	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
SITKA	B	BP	BP	BP	BP	BP	BP	BPC	BPC	BPC	BPC	BP
PETERSBURG	B	B	BP	BP	BPO	BPO	BPO	BPO	BPO	BPOC	BOC	BP
KETCHIKAN					P	P	P	P	P	P	P	P
CRAIG							P	P	P	P	P	
YAKUTAT										P		
KODIAK								A	A	A	A	

B=Biologist, P=Port Sampler, O=On-board Observer, C=Clerical Support, and A=Age Reader.

Table 2. Distribution of groundfish skipper interviews and port samples collected by fishery and port in the Southeast area from July 1, 1987 through June 30, 1988.

PORT	INTERVIEWS	BIOLOGICAL SAMPLES ^a	OTOLITHS TAKEN ^b
KETCHIKAN	85 ROCKFISH 13 SABLEFISH	79 ROCKFISH 2 SABLEFISH	995 ROCKFISH 120 SABLEFISH
SITKA	157 ROCKFISH 46 SABLEFISH	82 ROCKFISH 6 SABLEFISH	164 ROCKFISH 360 SABLEFISH
CRAIG/ HYDABURG	75 ROCKFISH	69 ROCKFISH	0
PETERSBURG	9 ROCKFISH 33 SABLEFISH 2 P. COD	5 ROCKFISH 14 SABLEFISH 2 P. COD	5 ROCKFISH 300 SABLEFISH 0 P. COD

^a Biological samples of rockfish landings range from a few fish to an entire load. Samples included species composition, length frequency and removal of otoliths. Sablefish samples were consistently of 60 fish per landing.

^b Represents individual otoliths or otolith pairs collected.

Table 3. Sablefish tags returned to Southeast Alaska ADF&G offices by agency and port during the first nine months of 1988.

PORT	ORIGINATING AGENCY						TOTAL
	ADF&G	NMFS SEATTLE	JAPAN	AUKE BAY LABORATORY	CANADA	ROK*	
PETERSBURG	75	56	45	75	20	1	271
SITKA	23	5	4	73	3	0	108
KETCHIKAN	15	13	5	27	6	0	66
TOTAL	113	74	54	150	26	1	445

* Republic of Korea

Table 4. Number of individual groundfish measured by ADF&G port samplers in Southeast Alaska by species and port from July 1, 1987 through June 30, 1988.

SPECIES	PORT					TOTAL
	PETERSBURG	SITKA	KETCHIKAN	CRAIG	HYDABURG	
PACIFIC COD	270	265	830	141	9	1,515
LINGCOD	0	615	117	275	0	1,007
POLLOCK	0	0	2	0	0	2
DOGFISH	0	0	643	0	0	643
SABLEFISH	1,440	0	120	0	0	1,560
ROCKFISH						
Bocaccio	0	4	1	25	0	30
Copper	0	18	13	80	62	173
Black	0	525	47	404	1	977
Idiot	0	5	4	0	0	9
Yelloweye	403	2,861	2,217	3,855	65	9,401
Canary	0	123	79	425	1	628
Quillback	99	1,605	900	2,052	49	4,705
Tiger	0	69	40	176	3	288
China	0	195	15	125	0	335
Rosethorn	0	211	44	88	0	343
Rougheyeye	3	44	25	27	0	99
Shortraker	5	9	7	2	0	23
Red Banded	1	76	86	135	2	300
Dusky	0	154	31	225	0	410
Yellow Tail	0	53	12	180	0	245
Silvergrey	0	43	85	154	4	286
Red Striped	0	20	3	21	0	44
Sharp Chin	0	2	5	2	0	9
Harlequin	0	7	0	0	0	7
Yellow Mouth	0	0	2	0	0	2
TOTAL	1,921	7,007	5,311	8,439	199	22,877

Table 5. Minimum, maximum, and average length of yelloweye rockfish sampled from Southeast Alaska fisheries by port between July 1, 1987 and June 30, 1988.

PORT	MINIMUM LENGTH		MAXIMUM LENGTH		AVERAGE LENGTH		STD DEV FROM MEAN		VARIANCE FROM MEAN	
	1987	1988	1987	1988	1987	1988	1987	1988	1987	1988
SITKA	31	24	74	78	51	52	8	9	72	86
KETCHIKAN	30	28	76	77	54	55	7	7	63	59
CRAIG		23		82		54		8		75

Table 6. Minimum, maximum, and average length of quillback rockfish sampled from Southeast Alaska fisheries by port between July 1, 1987 and June 30, 1988.

PORT	MINIMUM LENGTH		MAXIMUM LENGTH		AVERAGE LENGTH		STD DEV FROM MEAN		VARIANCE FROM MEAN	
	1987	1988	1987	1988	1987	1988	1987	1988	1987	1988
SITKA	27	26	45	46	27	37	3	3	10	12
KETCHIKAN	26	23	45	57	37	37	3	3	10	13
CRAIG		20		65		37		4		17

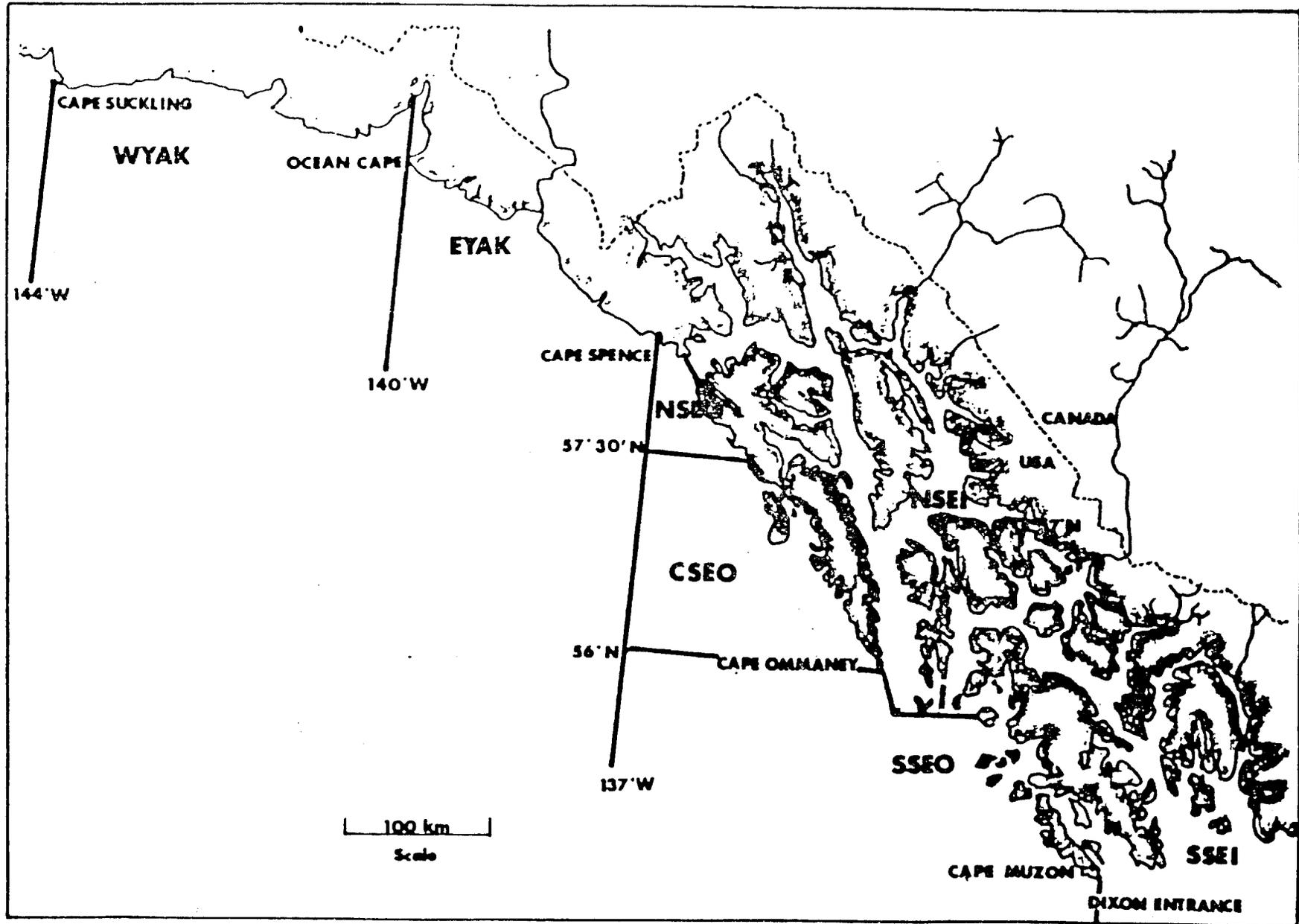


Figure 1. The eastern Gulf of Alaska coastline showing Alaska Department of Fish and Game Region I boundaries and groundfish management areas.

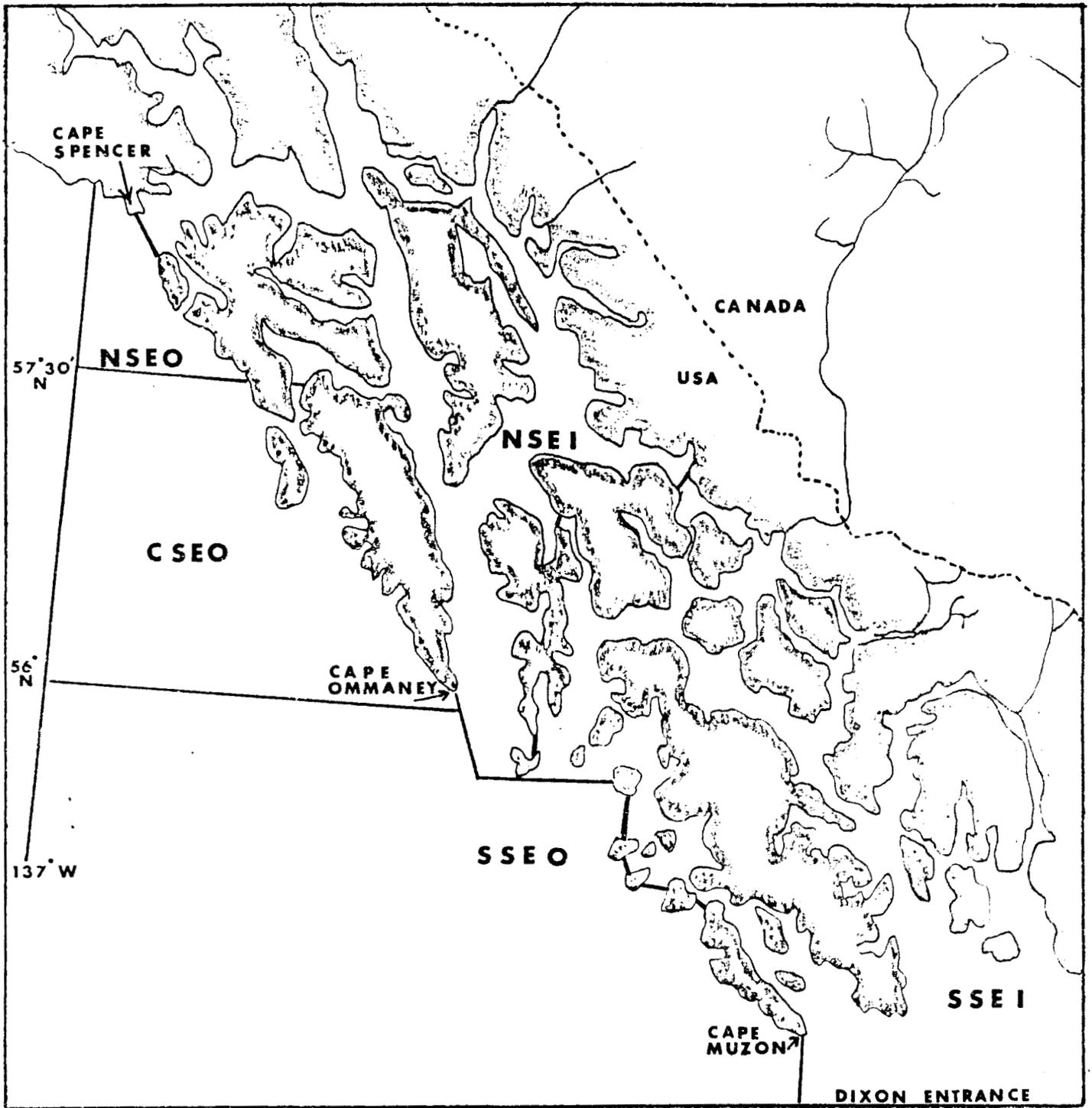


Figure 2. The Southeast Alaska coastline showing Alaska Department of Fish and Game groundfish management areas.

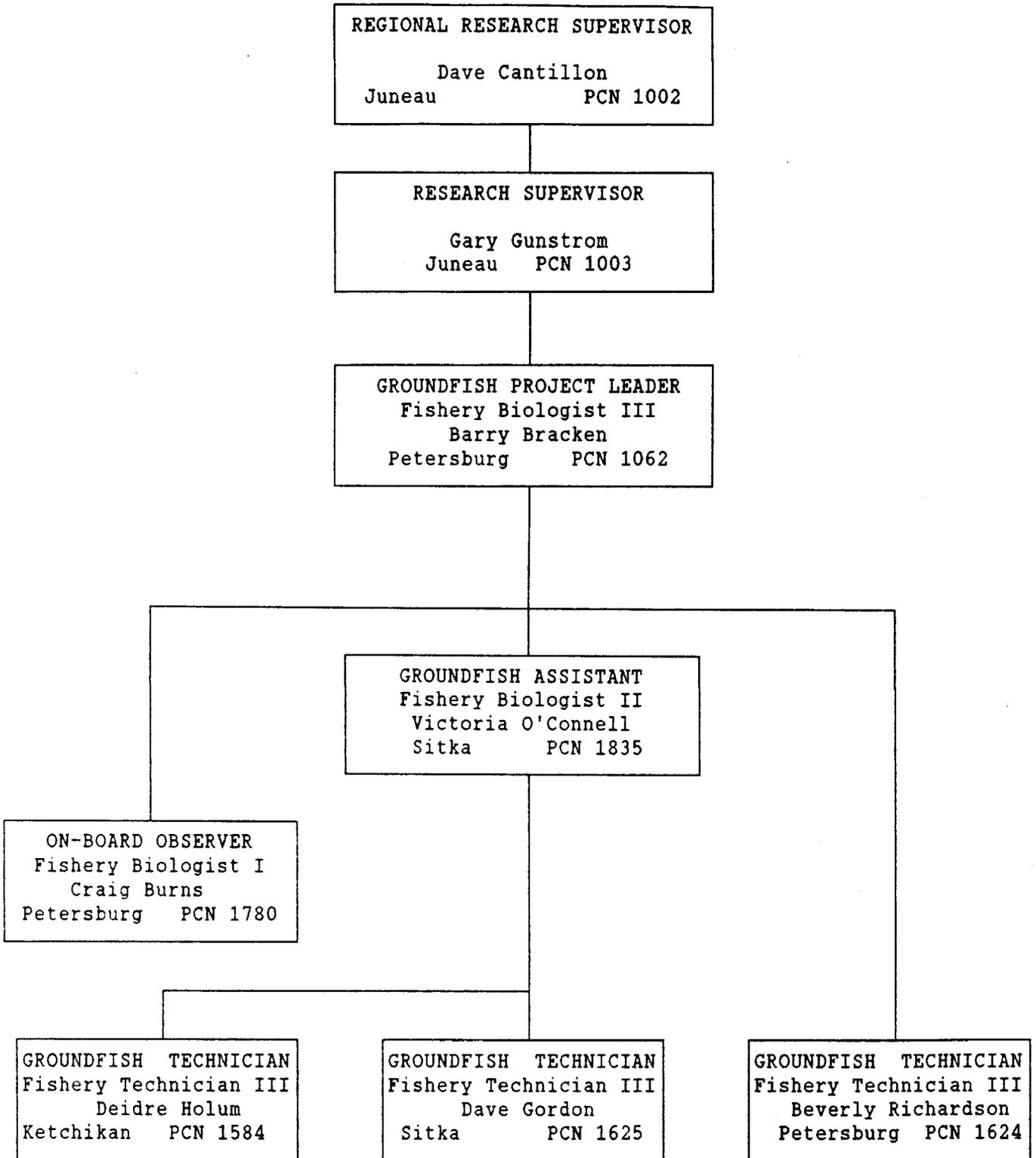


Figure 3. Region I Groundfish Project Organizational Chart

LITERATURE CITED AND SUPPLEMENTAL LITERATURE

- Bracken, B. E. 1988a. Report to the Board of Fisheries, 1987 Southeast-Yakutat groundfish fishery. In Report to the Board of Fisheries, 1987 Region I finfish fisheries. AK. Dept. of Fish and Game Regional Info. Report. IJ88-5 pp 6.1-6.31.
- Bracken, B. E. 1988b. Alaska groundfish fisheries and associated investigations in 1987. AK. Dept. of Fish and Game Regional Info. Report. IJ88-48. 9p.
- Bracken, B. E. 1989. Report to the Board of Fisheries, 1988 Southeast-Yakutat groundfish fisheries. In Report to the Board of Fisheries, 1988 Southeast-Yakutat finfish fisheries. AK. Dept. of Fish and Game Regional Info. Report. IJ89-2. 30p.
- Bracken, B. E. and V. M. O'Connell. 1986. Longline fisheries monitoring in the Eastern Gulf of Alaska, 1980 - 1985. AK. Dept. of Fish and Game Info. Leaflet No. 258. 47p.
- Bracken, B. E. and V. M. O'Connell. 1988. Condition of shelf rockfish stocks in the Gulf of Alaska as assessed in 1987. AK. Dept. of Fish and Game Regional Info. Report. IJ88-47. 22p.
- O'Connell, V. M. 1987. Reproductive seasons for some Sebastes species in Southeastern Alaska. AK. Dept. of Fish and Game Info. Leaflet No. 263. 21p.
- O'Connell, V. M. and B. E. Bracken. 1988a. Nearshore rockfishes. Alaska Fish and Game. Vol. 20 No. 2. pp 18-19.
- O'Connell, V. M. and B. E. Bracken. 1988b. Southeast Alaska rockfish, an interim report to the Pacific Marine Fisheries Commission. AK. Dept. of Fish and Game Regional Info. Report. IJ88-31. 10p.
- O'Connell, V. M., and F. C. Funk. 1987. Age and growth of yelloweye rockfish (Sebastes ruberrimus) landed in Southeast Alaska. In Proceedings of the International Rockfish Symposium. Alaska Sea Grant Report. 87-2. pp 171-185.

INDEX OF APPENDICES

A: Longline interview form and longline and trawl
logbook forms.....20-24

B: Port sampling forms.....25-26

INTERVIEW # _____

LONGLINE VESSEL INTERVIEW FORM

Vessel Name _____ Date ___/___/___
 Name of Captain _____ mm/dd/yy
 Port _____ ADF&G # _____
 Target Species _____ Processor # _____
 Days Fished _____
 LB Aboard (Y / N) LB Pages Collected (Y / N) LB Distributed (Y / N)

GEAR DESCRIPTION

Gear: LL Bait (Herring Squid Octopus) _____
 Snap-on, Fixed _____ Hook Type (Circle, J, Tara, Mixed) _____
 Hook Size _____ Hook Spacing (feet) _____

Fixed Gear

Snap - On

Hooks/Skate	_____
Skates/Set	_____
Total Skates/Trip	_____

Hooks/Set	_____
Total Sets/Trip	_____
Total Hooks/Trip	_____

CATCH & SAMPLING SUMMARY

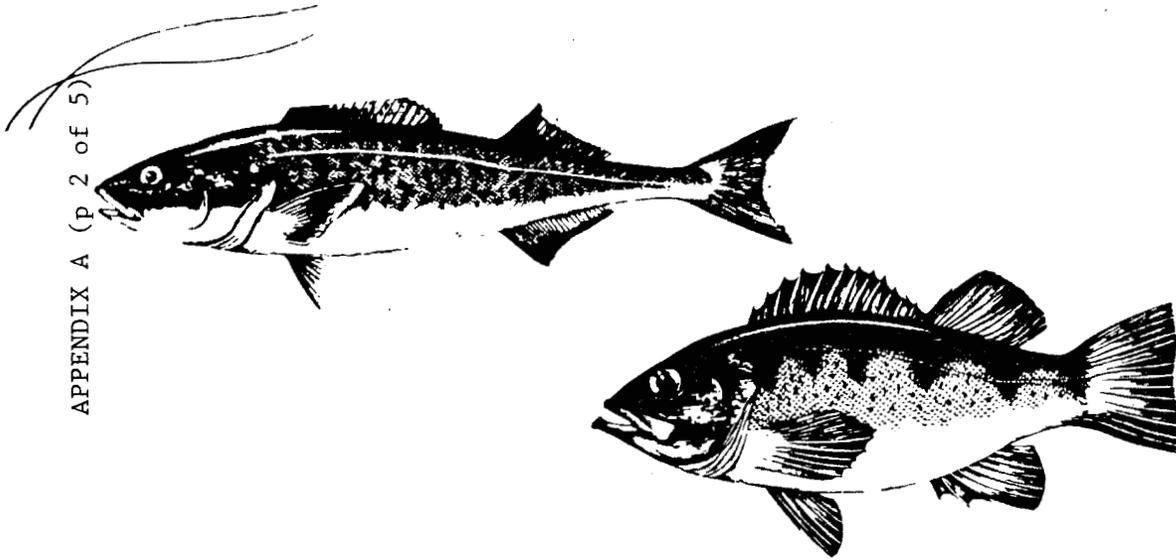
Mgmt Area	Stat Area	% Effort in Area	Ave. Depth (fms)	Species	Number	Pounds	Dress Code	Number * Otoliths
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

Fish Sampled (No / Yes) _____ Sampler Initials _____

Data Quality _____ (1-5: 1 = excellent, 5 = poor)

Comments:

* Sample #: _____

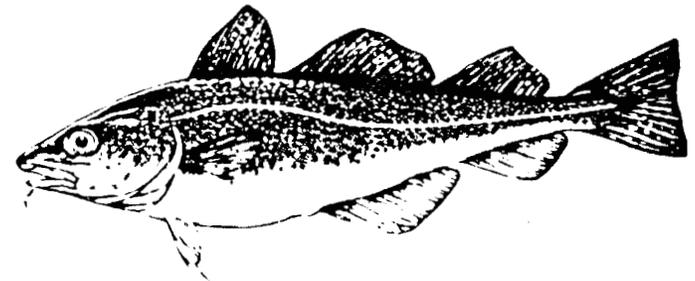


VESSEL NAME

STARTING DATE

ENDING DATE

ALASKA LONGLINE — POT FISHERY LOG BOOK



ALASKA LONGLINE — POT FISHERY LOGBOOK

APPENDIX A (p 3 of 5)

VESSEL NAME _____ **TARGET SPECIES** _____
VESSEL NUMBER _____ **PORT OF LANDING** _____
SKIPPER NAME _____ **DATE LEFT PORT** _____ **CREW SIZE** _____
(Include skipper)
DATE OF LANDING _____ **SYSTEM USED** _____

LONGLINE GEAR			
HOOK SIZE/TYPE	SKATE LINE SIZE	HOOK SPACING	NUMBER OF HOOKS/SKATE
/			

POT GEAR		
POT DIMENSIONS (ft)	GROUNDLINE WT. OR DIAMETER	POT SPACING(ft)

BAIT(S) USED	%

SET OR BOUY NO.	DATE SET	TIME SET	DATE HAILED	TIME HAILED	POSITION COMPASS OR LORAN	AVERAGE DEPTH(ft)	NO. SKATES OR POTS RUN	CATCH BY SPECIES IN NUMBERS					COMMENTS	
								TARGET						

ADDITIONAL COMMENTS

Nº 152451



ALASKA TRAWL LOGBOOK

vessel name

starting

ending

