

Fishery Management Report No. 08-50

**Prince William Sound Registration Area E
Groundfish Management Report, 1996–2005**

by

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October 2008

Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries



Symbols and Abbreviations

The following symbols and abbreviations, and others approved for the Système International d'Unités (SI), are used without definition in the following reports by the Divisions of Sport Fish and of Commercial Fisheries: Fishery Manuscripts, Fishery Data Series Reports, Fishery Management Reports, and Special Publications. All others, including deviations from definitions listed below, are noted in the text at first mention, as well as in the titles or footnotes of tables, and in figure or figure captions.

Weights and measures (metric)		General		Measures (fisheries)	
centimeter	cm	Alaska Administrative Code	AAC	fork length	FL
deciliter	dL			mid-eye to fork	MEF
gram	g	all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.	mid-eye to tail fork	METF
hectare	ha			standard length	SL
kilogram	kg			total length	TL
kilometer	km	all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.		
liter	L		@		
meter	m	at		Mathematics, statistics <i>all standard mathematical signs, symbols and abbreviations</i>	
milliliter	mL	compass directions:		alternate hypothesis	H _A
millimeter	mm	east	E	base of natural logarithm	<i>e</i>
		north	N	catch per unit effort	CPUE
		south	S	coefficient of variation	CV
		west	W	common test statistics	(F, t, χ^2 , etc.)
		copyright	©	confidence interval	CI
		corporate suffixes:		correlation coefficient	
		Company	Co.	(multiple)	R
		Corporation	Corp.	correlation coefficient	
		Incorporated	Inc.	(simple)	r
		Limited	Ltd.	covariance	cov
		District of Columbia	D.C.	degree (angular)	°
		et alii (and others)	et al.	degrees of freedom	df
		et cetera (and so forth)	etc.	expected value	<i>E</i>
		exempli gratia		greater than	>
		(for example)	e.g.	greater than or equal to	≥
		Federal Information Code	FIC	harvest per unit effort	HPUE
		id est (that is)	i.e.	less than	<
		latitude or longitude	lat. or long.	less than or equal to	≤
		monetary symbols		logarithm (natural)	ln
		(U.S.)	\$, ¢	logarithm (base 10)	log
		months (tables and figures): first three letters	Jan, ..., Dec	logarithm (specify base)	log ₂ , etc.
				minute (angular)	'
		registered trademark	®	not significant	NS
		trademark	™	null hypothesis	H ₀
		United States	U.S.	percent	%
		(adjective)		probability	P
		United States of America (noun)	USA	probability of a type I error	
		U.S.C.	United States Code	(rejection of the null hypothesis when true)	α
		U.S. state	use two-letter abbreviations (e.g., AK, WA)	probability of a type II error	
				(acceptance of the null hypothesis when false)	β
				second (angular)	"
				standard deviation	SD
				standard error	SE
				variance	
				population	Var
				sample	var

Weights and measures (English)

cubic feet per second	ft ³ /s
foot	ft
gallon	gal
inch	in
mile	mi
nautical mile	nmi
ounce	oz
pound	lb
quart	qt
yard	yd

Time and temperature

day	d
degrees Celsius	°C
degrees Fahrenheit	°F
degrees kelvin	K
hour	h
minute	min
second	s

Physics and chemistry

all atomic symbols	
alternating current	AC
ampere	A
calorie	cal
direct current	DC
hertz	Hz
horsepower	hp
hydrogen ion activity	pH
(negative log of)	
parts per million	ppm
parts per thousand	ppt,
	‰
volts	V
watts	W

FISHERY MANAGEMENT REPORT NO. 08-50

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GROUNDFISH MANAGEMENT REPORT, 1996–2005**

by

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TABLE OF CONTENTS

	Page
LIST OF TABLES.....	ii
LIST OF FIGURES.....	ii
LIST OF APPENDICES.....	ii
ABSTRACT.....	1
INTRODUCTION.....	1
ROCKFISH.....	2
Background.....	2
2005 Season Summary.....	4
2006 Management Outlook.....	4
PACIFIC COD.....	4
Background.....	4
Parallel Fishery.....	5
State Waters Fishery.....	5
2005 Season Summary.....	6
2006 Management Outlook.....	6
SABLEFISH.....	6
Background.....	6
2005 Season Summary.....	9
2006 Management Outlook.....	9
POLLOCK.....	9
Background.....	9
2005 Season Summary.....	12
2006 Management Outlook.....	12
LINGCOD.....	13
Background.....	13
2005 Season Summary.....	13
2006 Management Outlook.....	14
MISCELLANEOUS GROUND FISH.....	14
Background.....	14
2005 Season Summary.....	15
REFERENCES CITED.....	15
APPENDIX A. SUMMARY OF EMERGENCY ORDERS 1996–2005.....	35
APPENDIX B. SUMMARY OF CATCH SAMPLE DATA FROM COMMERCIALY IMPORTANT GROUND FISH SPECIES, 1996–2005.....	41

LIST OF TABLES

Table	Page
1. Commercial effort and harvest of rockfish from the Inside and Outside Districts and black rockfish from federal waters of the Prince William Sound Area, 1988–2005.....	18
2. Annual rockfish harvest by gear, from waters of the Inside and Outside Districts of the Prince William Sound Area, 1988–2005.....	19
3. Annual effort and harvest by gear type from the Prince William Sound parallel and state waters Pacific cod fisheries, 1988–2005.....	20
4. Annual sablefish harvest, including test fish, from the Inside and Outside Districts of the Prince William Sound Area, 1988–2005.....	21
5. Number of vessels and estimated number of hooks set and lost by gear type in the Prince William Sound sablefish fishery as derived from logbook data, 1998–2005.....	22
6. Annual effort and pollock harvest by gear type in the Prince William Sound Area, 1988–2005.....	23
7. Annual guideline harvest level (GHL), season length, and harvest from the Prince William Sound pollock fishery, 1995–2005.....	24
8. Pollock harvest and bycatch by species or group in the Prince William Sound pollock fishery, 1995–2005.....	25
9. Annual effort and harvest in the commercial lingcod fishery from the Prince William Sound Area, and adjacent federal waters, 1988–2005.....	26
10. Annual reported harvest (lb) of miscellaneous groundfish species, including at-sea discards, from the Prince William Sound Area, 1988–2005.....	27

LIST OF FIGURES

Figure	Page
1. Groundfish fishing districts of the Prince William Sound Management Area, 2005.....	28
2. Prince William Sound groundfish fishing closures implemented for Steller sea lion protection.....	29
3. Groundfish pot closure areas in the Prince William Sound Management area listed under 5 AAC 28.2450.....	30
4. Selected sites of the Inside District, Prince William Sound area.....	31
5. Estimated number of lost hooks by gear type, as derived from logbook data for the Prince William Sound sablefish fishery, 1998–2005.....	32
6. Average sablefish length and weight from the Prince William Sound commercial sablefish fishery, 1995–2005.....	33
7. Pollock management sections established in 2000 in the Inside District of the Prince William Sound area.....	34

LIST OF APPENDICES

Appendix	Page
A1. Summary of Prince William Sound Area groundfish emergency orders, 1996–2005.....	36
B1. Summary of catch sample data from commercially important groundfish species, 1996–2005.....	42

ABSTRACT

Alaska Department of Fish and Game (ADF&G) manages commercial groundfish fisheries within the Prince William Sound (PWS) Registration Area E. The PWS area includes waters of Alaska from Cape Suckling to Cape Fairfield and is divided into the Inside and Outside management districts. The Inside District only includes waters of PWS; the Outside District includes waters of the Gulf of Alaska within 3 nmi of shore including offshore islands. The Outside District is further divided into two management sections; the Eastern Section which extends from Cape Suckling at 144° W. longitude to 147° W. longitude and the Western Section which extends from 147° W. longitude to Cape Fairfield at 148° 50' .25 W. longitude.

Harvests of Pacific cod *Gadus macrocephalus*, walleye pollock *Theragra chalcogramma*, Sablefish *Anoplopoma fimbria*, and lingcod *Ophiodon elongatus* are managed on a season basis for specific guideline harvest levels (GHL). Rockfish species are managed collectively as bycatch to other directed fisheries. The harvest of miscellaneous groundfish species including flatfish, sharks, skates, as well as octopus and squid, are also landed incidental to other directed groundfish fisheries. ADF&G also has management authority of lingcod and black rockfish *Sebastes melanops* in federal waters of the exclusive economic zone (EEZ) 3 nmi offshore.

Since 1995 the total harvest of groundfish in the PWS area has ranged from 9.12 million lb in 1995 to 2.54 million lb in 2005 and has averaged 4.94 million lb. The total 2005 PWS area harvest of 2.54 million lb of groundfish is considerably below the recent 5 year average of 3.52 million lb and reflects a reduced harvest of most species groups. Harvests of walleye pollock and Pacific cod were below GHLs and the 2.0 million lb GHL for 2005 pollock season is reduced 35% from the previous 5 year average. The value of the PWS 2005 groundfish harvest of \$0.87 million is also considerably below the recent 5 year average of \$1.64 million. Sablefish generated the highest exvessel value based upon a round weight dock price of \$2.18/lb and walleye pollock generated the second highest exvessel value based upon a round weight dock price of \$0.13/lb. The combined value of the sablefish and pollock harvest is \$0.76 million and is 87% of the total value of the 2005 groundfish harvest.

Over the past 10 years the Alaska Board of Fisheries has adopted a number of regulatory changes affecting the structure and management of PWS groundfish fisheries. These regulatory changes are described in the following report.

Key words: Prince William Sound, PWS, Area E, commercial fishing, groundfish, Pacific cod, *Gadus macrocephalus*, walleye pollock, *Theragra chalcogramma*, Sablefish, *Anoplopoma fimbria*, lingcod *Ophiodon elongatus*, rockfish, *Sebastes melanops*, squid, *Beryteuthis majister*, Pacific sleeper shark *Somniosus pacificus*, salmon shark, *Lamna ditropis*.

INTRODUCTION

This report describes the commercial groundfish fisheries managed by Alaska Department of Fish and Game (ADF&G) Division of Commercial Fisheries in the Prince William Sound (PWS) Management Area (Registration Area E) through 2005 and the outlook for the 2006 season. State managed fisheries for rockfish, walleye pollock *Theragra chalcogramma*, Pacific cod *Gadus macrocephalus*, sablefish *Anoplopoma fimbria*, lingcod *Ophiodon elongatus*, and miscellaneous groundfish species will be discussed. In 1998 the state accepted management authority for black rockfish *Sebastes melanops* in adjacent federal waters of the exclusive economic zone (EEZ), therefore harvests of this species are also included (DiCosimo et al. 2000). Miscellaneous groundfish species, including sharks, skates, flatfish, sculpin, and greenling that are harvested as bycatch in other directed fisheries, are reported. Finally, other non-groundfish bycatch of significance, including salmon, octopus, and squid is summarized.

The boundaries of Registration Area E were initially established to include only those waters within PWS. These boundaries were expanded in 1996 to include territorial waters of Alaska outside of PWS from 140°00' W. longitude at Yakutat Bay to the longitude of Cape Fairfield at

148°50.25' W. longitude. In 2000, waters from 140°00' W. longitude to 143°50' W. longitude were transferred to the Eastern Gulf of Alaska Area Registration Area A. The eastern boundary line of Area E was then changed from 143°50' W. longitude to 144°00' W. longitude in 2001. In 2005, unassigned waters between the western boundary of PWS and the eastern boundary of Kodiak Registration Area K were resolved by sharing a common boundary of 149°00' W. longitude south of 58°51.10' N. latitude and extending seaward to the 200 nmi limit of the EEZ.

The PWS Area currently encompasses waters of Alaska from 144°00' W. longitude, near Cape Suckling, to the longitude of Cape Fairfield at 148°50.25' W. longitude (Figure 1). The area is divided into the Inside and Outside Districts. The Inside District is waters enclosed by lines from Point Whittshed to Point Bentinck, from Cape Hinchinbrook to Zaikof Point, and from Cape Cleare to Cape Puget. The Outside District, comprised of the Gulf of Alaska waters 0–3 miles from shore, is divided into the Eastern and Western Sections. The Eastern Section includes waters between 144°00' W. longitude and 147°00' W. longitude; the Western Section includes waters between 147°00' W. longitude and Cape Fairfield. ADF&G manages all commercial groundfish fisheries within the territorial waters of PWS including the Inside District and those waters of the Outside District from shoreline to 3 nmi offshore. State management authority extends into the EEZ for black rockfish and lingcod.

Regulations restrict legal gear types for groundfish to longline, pelagic trawl, hand troll, seine, mechanical jigging machine, dinglebar troll, and pots. Although area regulations restricted non-pelagic trawl gear in 1997, shrimp trawl vessels may retain groundfish bycatch not to exceed 10% of the gross weight of the landed shrimp. In addition, there is a single bottom trawl permit in the limited entry sablefish fishery. Area regulations also allow groundfish bycatch taken in the salmon gillnet fishery to be retained.

In 2001, the Alaska Board of Fisheries (BOF) adopted a regulation giving the commissioner authority to make fishing area closures to protect endangered Steller sea lions *Eumetopias jubatus* (Schreber, 1776). ADF&G, via emergency order, complemented National Marine Fisheries Service (NMFS) closures at two locations in the Outside District. All groundfish fishing was closed within 3 nmi of Seal Rocks in Hinchinbrook Entrance and Wooded Island along outer Montague Island (Figure 2).

ROCKFISH

BACKGROUND

Rockfish (genera *Sebastes* and *Sebastolobus*) are categorized into pelagic shelf, demersal shelf, and slope species assemblages defined in regulation 5 AAC 39.975. Pelagic shelf rockfish are usually associated with near shore, rocky reef areas, may exhibit a midwater schooling behavior, and are often harvested in directed fisheries with mechanical and hand jig gear. Pelagic shelf species common to PWS include black *S. melanops*, dusky *S. ciliatus*, and yellowtail rockfish *S. flavidus* (Bechtol 2000). Demersal shelf rockfish are also associated with rocky, reef areas, but tend to be bottom dwelling and often occur at greater depths than pelagic shelf species. Yelloweye *S. ruberrimus* and quillback rockfish *S. maliger* are common demersal shelf species in PWS and are most likely to be taken with longline gear. Slope rockfish include any rockfish not specified as either demersal shelf or pelagic shelf rockfish. Slope rockfish are typically

found near the bottom in waters deeper than 200 meters and therefore are most likely to be taken with longline gear. Common slope species in PWS include rougheye *S. aleutianus*, shorttraker *S. borealis*, and thornyhead *Sebastolobus* spp. rockfishes.

Rockfish were not actively managed in PWS prior to 1989 and seasons remained open all year. From 1989 through 1991, rockfish seasons were set by emergency order to coincide with NMFS inseason adjustments for the federal Central Gulf of Alaska Regulatory Area (CGOA). Favorable market conditions, in conjunction with lengthy seasons in adjacent federal waters, resulted in large annual harvests from PWS. Following dramatic increases in rockfish harvests, the BOF adopted the PWS Rockfish Management Plan in 1992. Original provisions of the management plan included a 150,000 lb guideline harvest level (GHL) for all rockfish species with a trip limit of 3,000 lb within a 5-day period, and a 20% bycatch allowance once the directed fishery closed.

When the management plan was adopted, PWS was defined to include only that area currently described as the Inside District, and the GHL was based on mean annual harvests (Bechtol 1992). The 150,000 lb GHL has remained the same despite the expansion in the size of the management area to include waters of the Outside District, subsequent area boundary changes and the addition of black rockfish management in the EEZ.

In 1996 the BOF also amended the management plan to reduce overall rockfish harvests by making the 150,000 lb GHL a harvest cap. Following adoption of the rockfish harvest cap, ADF&G managed the fishery by identifying a harvest level at which the directed fishing season closed and the season reopened as a bycatch-only fishery. However, assignment of a directed fishery harvest level proved problematic due to the uncertainty in projecting bycatch needs for other directed fisheries. In setting a directed rockfish harvest level, ADF&G was placed in the role of allocating rockfish harvest between directed and bycatch fisheries. In addition to the directed rockfish fishery, rockfish were taken incidental to directed fisheries for Pacific cod, Pacific halibut *Hippoglossus stenolepis*, sablefish, walleye pollock, and lingcod. Beginning in 1997, ADF&G used emergency orders to set rockfish bycatch at 10% of the gross round weight of all delivered groundfish species (Appendix A1). Subsequently, the department increased the rockfish bycatch level to 20% for the 1998 and 1999 PWS sablefish fisheries to accommodate demonstrated bycatch levels.

The BOF again amended the Prince William Sound Rockfish Management Plan (5 AAC 28.265) in 2000. Current regulations for the fishery include:

- 1) 150,000 lb harvest cap for all rockfish species combined,
- 2) a bycatch-only fishery with mandatory full retention of all rockfish bycatch,
- 3) bycatch allowances of 20% to sablefish, 5% to state waters Pacific cod, and 10% to all other groundfish and halibut, and
- 4) proceeds from the sale of bycatch overages accrue to the State of Alaska.

Rockfish harvests from PWS from 1988–1995 ranged from 108,573 lb in 1993 to 506,468 lb in 1990 (Table 1). The harvest of 228,417 lb of rockfish by trawl gear in 1988 was mostly black rockfish (Table 2). The peak harvest in 1990 was attributed to market conditions that encouraged targeting of rockfish. The relatively high harvests during 1994–1996 are attributed to misreporting of rockfish, harvested from state waters following closure of the state waters directed fishery, from adjacent federal waters where directed rockfish fishing remained open.

This was supported by the shift in harvest distribution following the state's acceptance of black rockfish management in the EEZ from the NMFS.

Rockfish harvests from PWS from 1996–2004 ranged from 47,990 lb in 2003 to 184,686 lb in 1996. Annual rockfish harvests in the Inside District during the same period ranged from 35,240 lb in 2003 to 136,593 lb in 1997. Historically, the majority of the harvest from the Inside District was comprised of rougheye and shortraker rockfishes harvested by longline gear. Annual rockfish harvest in the Outside District ranged from 7,369 lb in 2002 to 76,315 lb in 1996. The vast majority of the rockfish harvest has been taken on longline gear (Table 1).

Rockfish harvests have declined since elimination of the directed rockfish fishery in 2000. From 2001–2004, harvests from the Inside District have ranged from 35,240 lb in 2003 to 67,242 lb in 2002. Harvests from the Outside District have ranged from 7,369 lb in 2002 to 13,485 lb in 2001 (Table 1). Low or no participation in recent years by vessels fishing longline gear in the parallel Pacific cod fishery may explain a portion of the reduction in rockfish harvest.

2005 SEASON SUMMARY

The commercial harvest for all rockfish species was 60,850 lb from 206 landings by 80 vessels (Table 2). Harvest and effort from the Inside District totaled 47,528 lb from 166 landings by 72 vessels and from the Outside District 13,322 lb from 47 landings by 17 vessels. ADF&G dockside sampled 110 rockfish from 11 deliveries during 2005 (Appendix B1). Most rockfish were sampled during the PWS pollock, sablefish, and lingcod fisheries. Shortraker rockfish were the predominant rockfish species sampled in both the pollock (100%) and sablefish fisheries (80%). Thornyhead rockfishes comprised approximately 16% of the rockfish sampled.

2006 MANAGEMENT OUTLOOK

Judging by the number of halibut fish tickets received that do not specify any rockfish bycatch, it is not apparent that mandatory retention of rockfish has been an effective tool for improving rockfish catch reporting. Some rockfish are retained for personal use and are unreported on a fish ticket. The anticipated rockfish harvest is likely to remain at fairly low levels as prices remain far below that of other target species. ADF&G will continue to monitor rockfish harvest, encourage full retention and reporting of rockfish bycatch, and attempt to achieve catch-sampling goals by maintaining close contact with the industry.

PACIFIC COD

BACKGROUND

Pacific cod fisheries in the PWS Area are managed under the PWS Pacific Cod Management Plan (5 AAC 28.267), which provides for two seasons, the parallel season and the state waters season.

Statewide regulations for groundfish pots specify a tunnel eye perimeter not to exceed 36 inches and a biodegradable escape panel in the pot wall. Area regulations specify a groundfish pot closure area in waters of eastern PWS and in waters greater than 75 fathoms deep in Hinchinbrook Entrance (Figure 3.)

PARALLEL FISHERY

The commercial Pacific cod fishery in state waters was historically regulated via emergency order to coincide with inseason adjustments for the adjacent federal CGOA fishery. This fishery was adopted into regulation in 1996 and termed a “parallel season”. The season opens and closes annually via emergency order and may be prosecuted with longline, pot, and jig gear. Early seasons spanned January 1 to approximately mid-March and more recently have shortened to 1 month in duration. During 1997–1999, NMFS reopened Pacific cod for a second directed fishing period in September or October. Beginning in 2001, provisions of the management plan restricted the parallel season to the initial fishing period and gave the commissioner emergency order authority to open to subsequent seasons. This provided greater opportunity for the state waters GHL to be achieved. Finally, a 20% bycatch allowance was in place during Pacific cod directed fishery closures.

Since 1988, annual catch and effort in the parallel Pacific cod fishery ranged from 13,604 lb from 45 landings by 17 vessels in 2004 to 2.2 million lb from 234 landings by 88 vessels in 1991 (Table 3). Peak harvests occurred during 1990–1995 and averaged 1.7 million lb annually. From 1996–2000, harvests declined to less than 1.0 million lb in all years except 1999, when the harvest totaled 1.3 million lb. Prior to 1990, nearly all Pacific cod was harvested by longline gear. Following expansion of the pot fishery for Pacific cod in 1991, the proportion harvested by pot gear increased to a high of 83% in 1994. Overall harvest since 2001 has declined 98% with longline gear accounting for the majority of the parallel fishery Pacific cod harvest. The 2003 and 2004 parallel seasons were open 40 and 31 days respectively (Appendix A1). The Pacific cod harvest during these seasons totaled 14,292 lb in 2003 and 13,604 lb in 2004 and occurred predominantly as bycatch to other directed groundfish and halibut fisheries throughout the year (Table 3).

The decline in parallel season catch and effort can be attributed to a variety of biological and economic factors such as shortened season, loss of yelloweye rockfish harvest opportunity due to restructuring of the PWS rockfish fishery to a bycatch-only fishery, high exvessel prices for halibut and sablefish, and fixed cost increases for fishermen.

STATE WATERS FISHERY

The state waters Pacific cod season was adopted by the BOF in October 1996 to provide a Pacific cod harvest opportunity, with low halibut bycatch, by local fleets following closure of the parallel season. Current elements of the PWS state waters Pacific cod fishery include:

- 1) Open by emergency order 7 days following closure of the federal CGOA season;
- 2) GHL calculated as 10% of the total allowable catch (TAC) of Pacific cod for the federal Eastern Gulf of Alaska Regulatory Area (EGOA);
- 3) Pot closure when 60% of the GHL is reached, or December 31;
- 4) State season applies only to the Inside District and the Western Section of the Outside District;
- 5) PWS is an exclusive registration area for Pacific cod;
- 6) Gear limits are 5 jigs or 60 pots with a pot buoy tag requirement;
- 7) Rockfish bycatch limited to 5%;
- 8) Remove gear limits and exclusive area registration by emergency order any time after October 30 if the commissioner determines the GHL will not be reached by December 31.

Harvest and GHL have varied inversely in the PWS state waters Pacific cod fishery. For example, the fishery harvested almost half of a 0.9 million lb GHL in 1998 and declined to 228 lb of a 2.62 million lb GHL in 2001 (Table 3). The disparity between harvest and GHL was the result of a decline in Pacific cod fishing effort and an increase in Pacific cod allowable harvest in the EGOA. Although the pot limit and exclusive area registration requirement were relaxed on October 31 each year, as stipulated in the management plan, these changes had no apparent effect on the fishery. Pot gear harvested 21% to 45% of the GHL in the early years, peaked at 385,817 lb in 1998 and declined to zero in 2001. Jig harvest peaked in 1999 at 79,147 lb (Table 3).

In 2003 the BOF reduced the PWS state waters Pacific cod GHL from 25% to 10% of the estimated total allowable harvest of Pacific cod for the EGOA and provided for the allocation to subsequently increase to 15% and then 25% following years when the allocation was harvested. Reducing the regulatory allowance for Pacific cod was intended to align industry expectations with fishery performance. Providing for an incremental percentage increase was also consistent with the structure of other state waters Pacific cod fisheries.

The GHL for the 2003 season was 750,000 lb and that for the 2004 season was 970,000 lb which is considerably reduced from the GHLS of 2.9 and 2.6 million lbs in the peak years of 2000 and 2001 (Table 3). While the actual harvest for 2003 and 2004 seasons remains confidential due to the limited number of participants, it still averaged less than 40% of the GHLS.

2005 SEASON SUMMARY

The 2005 parallel Pacific cod season was open January 1 to January 26. There was no harvest during the open directed season. However, the parallel fishery harvest, which includes bycatch to other directed groundfish and halibut fisheries through the remainder of the year, totaled 11,204 lb from 38 landings by 24 vessels primarily fishing longline gear (Table 3). Due to the lack of any directed harvest and with bycatch landings occurring sporadically, opportunities for commercial catch sampling of Pacific cod were limited and sampling goals were not achieved.

The state waters season opened on February 2 with a GHL of 896,600 lb. The harvest through September by 2 vessels remains confidential due to the limited number of participants, but is less than 15% of the GHL. ADF&G issued an emergency order on October 31 to remove gear limits and the exclusive area registration requirement. This action is unlikely to increase effort.

2006 MANAGEMENT OUTLOOK

The parallel Pacific cod season will open January 1 and is expected to close in late January. The GHL for the state waters fishery will be announced after the Pacific cod harvest allocation for the EGOA is established. The state waters Pacific cod season will open 7 days following closure of the parallel fishery. Fishing effort for Pacific cod in PWS is expected to remain at a low level unless catch rates and prices were to increase to offset fixed costs.

SABLEFISH

BACKGROUND

The PWS sablefish fishery developed in the late 1970s in response to increased sablefish value and declines in shrimp and crab fisheries (Bechtol and Morrison 1997). Most sablefish harvests historically occurred in the Inside District. However, Outside District catches comprised almost

20% of the total harvest in some years (Table 4). Regulations have restricted the fishery to the Inside District since 1997. Most of the Inside District fishing effort has concentrated in a deepwater trench between Lone Island and the Naked Island group (Figure 4). Other harvest areas include Port Wells, Knight Island Passage, and the deeper waters of central PWS near the tanker traffic lane.

The fishery is managed for a 242,000 lb GHL, approximately equal to the midpoint of a 97,000–385,900 lb guideline harvest range (GHR) derived from a yield-per-habitat model (Bechtol and Morrison 1997).

In 1996, the Commercial Fisheries Entry Commission (CFEC) adopted a limited entry program for the PWS sablefish fishery (Muse et al. 1995). Based on the qualifying years 1991 to 1994, the program established a target of 49 permanent permits. These are divided into 4 vessel size classes (90, 60, 50, and 35 feet) and two gear classes, fixed (longline) and combined pot gear and trawl. The process of awarding permanent PWS sablefish permits is ongoing. Interim use permits are issued to individuals pending final adjudication. The 62 eligible permit holders in 2002 included 45 permanent permits and 17 interim use permits, comprised as 61 fixed gear permits and 1 trawl permit. The CFEC has advised the BOF that the target number of permanent permits could be increased to 59.

Vessel size class	Permanent permits	Interim-use permits	Total
A – 90'	1	1	2
B – 60'	2	1	3
C – 50'	32	9	41
D – 35'	9	6	15
Trawl	1	0	1
Total	45	17	62

Regulations specify sablefish may be taken only in the Inside District and only under the conditions of a permit issued by ADF&G. Permit conditions include:

- 1) In the Inside District of PWS, sablefish may not be possessed on board a vessel registered to participate in the PWS sablefish fishery within 24 hours prior to the opening of the PWS sablefish fishing season, and
- 2) PWS sablefish logbooks must be completed and returned to ADF&G within 5 days of the closure of the sablefish fishing season.

From 1987 to 1992, PWS sablefish seasons opened concurrently with sablefish seasons in federal waters of the CGOA and closed by emergency order when the state waters GHL was attained. From 1993 to 2002, ADF&G staff established the duration of the fishing period based on the GHL, the projected number of participants, and past fishery performance. As effort and efficiency of the PWS fleet increased, fishing seasons became more restrictive. Seasons were comprised of one or two fishing periods with total fishery duration ranging from 96 hours in 1993 to 26 hours in 2002.

Emergency orders were used to adjust fishing periods to provide for daylight openings and closures. To facilitate enforcement of the fishery, emergency orders adjusted fishing periods for daylight openings and closures and restricted fishing with groundfish gear before and after the

sablefish season (Appendix A1). Closures prior to and after the fishery were of 144 hours duration in 1996, 72 hours prior and 48 hours afterwards in 1997, and 48 hours prior and 24 hours afterwards in the following years. ADF&G monitored the fishery on the grounds aboard the *R/V Montague*. Working with Department of Public Safety, Division of Fish and Wildlife Protection (DPS/FWP) staff, vessels were boarded prior to the fishery to verify the permit holder was aboard with all necessary licenses and permits. To the extent practical, fish holds were also inspected.

From 1988 to 1995, annual sablefish harvest and effort ranged from 188,788 lb by 25 vessels in 1989 to 577,315 lb by 126 vessels in 1995 (Table 4). The 1995 peak in catch and effort was attributed to speculation about qualifying for the limited entry program. Since implementation of the limited entry program in 1996, catch and effort averaged 265,324 lb and 46 vessels.

Despite adoption of the limited entry program, increased competition produced notable changes in fishing practices. Increased fishing intensity resulted in shorter season duration and gear conflicts. These latter were typically related to tangled longlines and vessel crowding and resulted in lost gear when lines were parted. Minimum estimates of lost gear ranged from 6,570 hooks in 1999 to 45,365 in 2002 (Table 5; Figure 5). Another source of “lost” gear was from longline gear that was cut when vessels set more gear than could be effectively retrieved in the fishing period. Sablefish and other bycatch mortality attributable to lost gear is unknown. Although lost gear estimates have declined since adoption of the shared quota approach, another source of undocumented mortality began in 2003 when 5 vessels reported Orca whales taking sablefish from their longline gear.

In response to the gear conflicts and the undocumented mortality from lost gear and to provide for conservation of the resource, the BOF adopted a shared quota approach for the PWS sablefish fishery in 2003. Elements of the restructured fishery include a registration deadline, a split fishing season, and a shared quota system. The registration deadline is 5:00 p.m. March 1 and registration occurs via a commissioner’s permit. Season dates are March 15–May 15 and August 1–August 21. Quota allocations are derived such that half of the GHF is allocated equally among registered participants and the balance of the GHF is allocated according to the permit’s vessel size class: Classes A and B (90 and 60 feet maximum length) vessels = 18.53%; Class C (50 feet maximum length) vessels = 70.33%; and Class D (35 feet maximum length) vessels = 11.14%. These percentages were derived from average harvest by each vessel size class from 2000 through 2002.

During the 2003 fishery quota allocations were 9,757 lb for A&B class permits, 4,410 lb for C class permits and 3,631 lb for D class permits. The fishery harvest totaled 213,843 lb from 66 landings by 38 vessels (Table 4). The estimated lost gear was only 1,772 hooks (Table 5; Figure 5). However another source of undocumented mortality occurred in the spring season as 5 vessels reported Orca whales taking sablefish from their longline gear. This occurred during retrieval and is reportedly signaled by the sound of the vessel’s hydraulic system.

In the 2004 sablefish fishery quota allocations were 8,025 lb for A & B permits 4,659 lb for C class permits and 4,105 lb for D class permits. The fishery harvest totaled 225,003 lb from 67 landings and 38 vessels. The estimated gear loss was very similar to 2003 at 1,795 hooks. Again 5 vessels reported Orca whales taking sablefish from their longline gear during the spring season.

2005 SEASON SUMMARY

With adoption of the shared quota system, the importance of maintaining vessel permit classes was recognized while the need to restrict permit holders from fishing on vessels larger than their permitted size class, was found to be extraneous. ADF&G petitioned CFEC to amend 20 AAC 05.779 Fishing Capacity Restrictions for Prince William Sound Sablefish Permits to remove the restriction on sablefish fishing from vessels of a larger size class while maintaining the vessel size classification for the purposes of issuing the permit and allocating the resource among vessel classes. This change became effective for the 2005 season and allowed stakeholders to benefit from the efficiency of being able to harvest quota from any size vessel.

The 2005 sablefish fishery opened on March 15 with a GHF of 242,000 lb. Sixty-two individuals were eligible to receive PWS sablefish permits for the season. ADF&G issued 49 commissioner's permits through offices in Anchorage, Homer, and Cordova. Quota allocations were 8,075 lb for A & B class permits, 4,901 lb for C class permits and 3,817 lb for D class permits.

The fishery harvest totaled 220,393 lb from 70 landings by 34 vessels (Table 4). The estimated total of lost gear was 2,350 hooks, 95% of which were from 1 vessel (Table 5; Figure 5). During the early spring portion of the 2005 season, biologists heard numerous complaints from fishery participants regarding removal of hooked sablefish by orca whales. Although speculative, estimates of sablefish lost to whales during some trips were 50–80 % of the trip total.

ADF&G staff sampled 618 sablefish from 16 dockside deliveries (Appendix B1). Data collected included length, weight, gonad maturity, and otoliths. Sablefish length ranged from 460 to 920 mm and averaged 627 mm, slightly larger than the 2004 average of 615 mm, but comparable to the 2003 average of 626 mm. The average weight was 3.0 kg (6.6 lb), again slightly greater than the 2004 average of 2.8 kg (6.2 lb) and comparable to the 2003 average of 3.0 kg (6.5 lb) (Figure 6). Otoliths were sent to the ADF&G Age Determination Unit (ADU) in Juneau for processing.

2006 MANAGEMENT OUTLOOK

In mid January the department will issue a news release regarding the availability of registrations for the PWS sablefish fishery. The PWS sablefish fishery will open March 15 as specified in regulation. Fishing effort is expected to remain near the 2005 level.

In December 2005, the BOF approved a proposal to allow longline pot gear to be used in the PWS sablefish fishery. However, adoption of the regulation is contingent upon changes to CFEC regulations that currently do not provide for use of this gear. ADF&G will issue a news release prior to this change becoming effective.

POLLOCK

BACKGROUND

Prior to 1995, the PWS pollock fishery consisted of incidental harvests by jig, longline, and trawl gears during other directed fisheries with total harvests ranging from 272 lb in 1991 to 8,932 lb in 1992 (Table 6; Bechtol 1995). The directed trawl fishery for pollock in state waters of PWS began in 1995 when Kodiak based trawlers and a Cordova processor combined efforts to establish the fishery. The department implemented a guideline harvest range of 2.1 to 4.4 million lb based on historical trawl survey data (Table 7; Haynes and Urban 1991). Several different approaches have

been used in subsequent years to set the GHL, although all approaches relied on a basic assumption that pollock assessed in PWS during the summer are not sampled by the NMFS summer bottom trawl survey in adjacent federal waters (Bechtol 2002). Whereas winter acoustic surveys have documented substantial volumes of pollock in PWS, both during and after the close of the commercial fishery, the relationship between winter prespawning aggregations and the summer population is unknown (Thomas et al. 2001). Therefore, harvest levels for the PWS pollock fishery have been based on estimates of the PWS summer pollock population.

The 1996 fishery GHL was derived from a May 1994 acoustic survey biomass estimate that was adjusted based upon changes in the NMFS pollock estimates for the adjacent CGOA (Bechtol 1995). For the next several years, the GHL was calculated by either adjusting the previous year's GHL to mirror relative annual changes in harvest levels in federal waters of the Gulf of Alaska, or by applying 8–10% harvest rates to biomass estimates derived from ADF&G summer bottom trawl assessment surveys (Bechtol 1998a, 1998b, 1999). Beginning with the 2000 season, the department set the GHL by applying the Tier 5 approach similar to that used by the North Pacific Fishery Management Council to establish Acceptable Biological Catch (ABC) for some groundfish species. This method incorporates a biomass estimate, a factor of natural mortality of 0.30, and a precautionary factor of 0.75. The PWS pollock GHL increased from 3.1 million lb in 1996 to 4.6 million lb in 1999, and has since decreased as stock biomass estimates declined (Table 7; Bechtol 2002).

A pollock test fishery was conducted after the close of the commercial fishery in most years since 1996 under ADF&G's program receipts authority. Revenues from the test fishery fund were applied to PWS commercial fishery management, groundfish stock assessment, inseason pollock catch sampling, and in some years, acoustic stock assessment surveys. The department also cooperated with the Prince William Sound Science Center and the fishing industry to conduct acoustic biomass assessments of prespawning pollock in PWS during the winters of 1995, 1997, 1998, 2000, and 2001 (Thomas and Stables 1995; Kirsch 1997; Kirsch and Thomas 1998; Thomas et al. 2001). These surveys found substantial variability in pollock distribution. From 1995 to 1999, the commercial trawl fishery primarily occurred in Port Bainbridge with occasional catches along the southern end of Knight Island. The 1998 acoustic survey observed an aggregation of pollock distributed from Hinchinbrook Entrance to near Knowles Head (Bechtol 1998b; Kirsch and Thomas 1998), an area historically closed to all trawling. Subsequent action by the BOF opened some of this area to the use of midwater trawl gear for pollock only.

Emergency regulations adopted for the 1996 fishery included a January 13 registration deadline and a commissioner's permit requirement. For the 2000 season, an emergency regulation established the PWS Pollock Pelagic Trawl Management Plan (5 AAC 28.263), primarily as a means to increase protection for endangered Steller sea lions. The plan, subsequently adopted by the BOF, provided for the directed fishery to be apportioned among three sections of the Inside District, with no more than 40% of the GHL taken in any one section (Figure 7). The commissioner's permit provided ADF&G some annual flexibility to meet inseason management needs and was used to specify check-in and check-out requirements, catch reporting procedures, and logbooks.

The 2000 PWS pollock fishery opened under the new management plan with a 3.1 million lb GHL. Managing for the 40% section harvest apportionment proved problematic and approximately 1.0 million lb of pollock remained unharvested. Similarly, the 2002 and 2003 pollock seasons closed with approximately 1.4 million lb unharvested due to pollock distribution

among the three management sections. The 2003 season was extended to April 15 to provide additional harvest opportunity but was ultimately closed to avoid harvest of post-spawning aggregations of pollock of poor quality and low value, and to avoid herring bycatch.

The duration of the PWS pollock fishery has generally increased over time (Table 7). From 1996 to 1998, the fishery averaged approximately 6.5 days in length. Since 1999 the duration of the fishery has ranged from 36 days in 1999 to 84 days in 2003 and has averaged 62 days. As seasons lengthened ADF&G became concerned about potential bycatch issues and established a season closure date of March 31 by emergency order.

The directed fishery for pollock in PWS has typically experienced low bycatch rates relative to many other groundfish fisheries (Table 8). However, bycatch has increased through time. The most common species or species groups incidentally caught by midwater trawl were squid, sharks, rockfish, and salmon. Bycatch of squid *Beryteuthis majister* totaled 86,850 lb for the period 1995 to 2001, and ranged from 468 lb in 1996 to 31,101 lb in 2001. During the same period, bycatch of the other species or species groups totaled 32,049 lb of sharks, 6,059 lb of rockfish, and 4,228 lb of salmon. Relative to previous years, the 2002 pollock trawl fishery experienced a dramatic increase in bycatch (Berceli et al. 2002). As in previous years, bycatch was dominated by squid at 180,250 lb, followed by sharks at 52,486 lb, rockfish at 30,172 lb, miscellaneous species 3,431 lb, and salmon at 1,274 lb. Squid bycatch was spread across the primary fishing areas and averaged 224 pounds per hour (lb/hr). Rockfish bycatch was localized in the Hinchinbrook Section and averaged 47 lb/hr.

During the BOF groundfish committee meeting in 2003, discussions addressed concerns for the increased bycatch observed during the 2002 pollock fishery. It was determined ADF&G would encourage cleaner fishing practices by adopting bycatch limits for the PWS pollock fishery. Although the BOF did not adopt these as regulatory bycatch measures at this time, it was understood that ADF&G would implement the following criteria during the 2003 PWS pollock season:

- 1) A fishery bycatch cap of 5% of the pollock guideline harvest level (GHL), apportioned among 5 species groups.
- 2) The total bycatch from a management section may not exceed 2% of the total round weight of pollock harvested from that section.
- 3) Establish bycatch group apportionments as: rockfish 0.49%, salmon 0.04%, shark 0.96%, squid 3.28%, and miscellaneous groundfish species 0.23%.

In addition the BOF adopted the March 31 season closure date into regulation.

The 2004 pollock fishery opened with a GHL of 2.0 million lb. The Hinchinbrook Section closed on March 5 when approximately 40% of the GHL was harvested within the area. The Port Bainbridge Section closed when the bycatch cap for miscellaneous groundfish species was achieved and approximately 35% of the pollock GHL was taken there. Subsequently it was determined that the section bycatch cap for miscellaneous groundfish was exceeded by 351 lb. The Knight Island Section closed on March 24 when the remainder of the GHL had been achieved. After the closure it was determined that the section bycatch cap for miscellaneous groundfish was exceeded by 2,752 lb. Approximately 80% of this bycatch was Pacific cod and arrowtooth flounder *Atheresthes stomias*. In conclusion, the pollock harvest totaled 1.9 million lb or 95% of the GHL and bycatch totaled 22,058 lb or 1.1% of the directed species harvest.

2005 SEASON SUMMARY

ADF&G offices in Cordova and Kodiak issued 15 commissioner's permits for PWS pollock fishery. The directed trawl fishery opened January 20 with a GHF of 2.0 million lb. The following bycatch caps and section caps were announced:

	Species Group (lb)					Total
	Rockfish	Salmon	Shark	Squid	Miscellaneous	
Annual bycatch cap	9,971	814	19,535	66,744	4,680	101,743
40% section cap	3,988	326	7,814	26,697	1,872	40,697

The Hinchinbrook Section closed by emergency order on March 5 with a harvest of 868,776 lb, or 43% of the GHF (Appendix A1). The remaining sections, Port Bainbridge and Knight Island, closed on March 9 with a harvest of 808,381 lb. The closure of the fishery was warranted because the bycatch cap for miscellaneous groundfish species was exceeded and the bycatch cap for salmon in the Port Bainbridge Section was exceeded. After the fishery closure it was determined that section bycatch caps in the Port Bainbridge Section for salmon were exceeded by 216 lb and that for miscellaneous groundfish by exceeded by 3,998 lb. Eulachon and arrowtooth flounder comprised 52% and 26% of the miscellaneous groundfish bycatch species. It was later determined that section bycatch caps in the Hinchinbrook Section had also been exceeded; for rockfish by 1,232 lb for shark by 1,970 lb and for miscellaneous groundfish species by 1,353 lb. Arrowtooth flounder and eulachon comprised 55% and 28% of the miscellaneous bycatch species.

Overall, the bycatch cap for miscellaneous groundfish species was exceeded by 5,161 lb or 210%. Due to the delay in fish ticket reporting, it is difficult to manage the pollock fishery for bycatch caps. While it is feasible to close the fishery when a section or fishery bycatch cap is approached or has been met, full accounting of bycatch may not be available until after the closure when all fish ticket data are reviewed. The pollock harvest for the 2005 season totaled 1,677,157 lb or 82% of the GHF, taken by 6 vessels, and bycatch totaled 36,432 lb or 2.17% of the directed species harvest (Table 8).

ADF&G observers aboard fishing vessels and at dockside sampled pollock and associated bycatch. Sampling included collection of length, weight, and gonad maturity data as well as otoliths for age determination. A total of 930 pollock were sampled from 6 PWS deliveries. The average length was 473 mm and average weight was 1.0 kg (2.2 lb), incrementally larger than the 2004 average of 450 mm and 0.9 kg (1.9 lb).

The pollock test fishery was conducted in the Hinchinbrook Section in late March after the close of the commercial fishery. Two tows totaling 3.7 hours harvested 287,183 lb of pollock. The test fishery CPUE of 85,700 lb/hr was the highest CPUE observed in either the commercial or previous test fisheries. However, most of the pollock were in a post-spawn condition.

2006 MANAGEMENT OUTLOOK

The 2006 PWS pollock fishery is expected to open at 12:00 noon January 20. The GHF will be announced via news release in late December. Registration packets will be available to the fleet on January 2, 2006. As in past years, ADF&G plans to conduct a test fishery immediately following the directed fishery closure.

LINGCOD

BACKGROUND

Since 1998, ADF&G has managed lingcod harvest in both state and federal waters. A regulatory season of July 1 to December 31 exists to protect spawning and nest guarding lingcod during the first half of the year. A minimum size requirement of 35 inches overall, or 28 inches measured from the front of the dorsal fin to the tip of the tail, is intended to allow at least one spawning opportunity prior to being harvested. Historically the PWS lingcod fishery was typically a bycatch fishery composed of many small landings, primarily by longline vessels. In recent years directed harvests have occurred by vessels using jig gear. Season closures in the Outside District have occurred from July 21 to August 24. Season closures in the Inside District have occurred as early as August 24 but the season has often remained open through the calendar year.

Beginning in 1996, ADF&G established a lingcod fishery GHL calculated as 50% of the recent (1986–1995) 10-year harvest. In 2000, the department increased the GHL to 75% of the average for these years. Establishing the GHL at 75% of the historical harvest is consistent with the most conservative alternative used by the North Pacific Fishery Management Council when considering fisheries with little data on abundance or stock structure. This resulted in a 5,500 lb GHL for the Inside District and a 19,000 lb GHL for the Outside District and adjacent federal waters. No lingcod retention is allowed during the closed season and mortality of released lingcod is believed to be low.

Lingcod harvest from 1988 to 1999 ranged from 9,344 lb by 16 vessels in 1999 to 69,091 lb by 32 vessels in 1995, and averaged 34,657 lb by 26 vessels (Table 9). Since 2000, harvests have ranged from 23,855 lb by 18 vessels in 2000 to 30,292 lb by 30 vessels in 2004 and averaged 24,935 lb by 27 vessels. Consistent with most of the historical harvest, the majority of the Outside District harvest since 2002 was reported from adjacent federal waters of the EEZ.

To facilitate biological sampling, the BOF adopted a regulation in 2003 that provides ADF&G emergency order authority to require that all lingcod be delivered with the head attached and a 1-inch area of the vent intact as proof of gender. An emergency order was issued specifying these requirements.

In the 2003 season the Outside District, including adjacent federal waters, closed on August 23 with a harvest of 18,642 lb and the Inside District closed on December 23 with a harvest total of 5,593 lb. Therefore, the total lingcod harvest for all PWS waters, including federal waters, was 24,235 lb from 51 landings by 32 vessels (Table 9). ADF&G staff sampled 243 lingcod primarily from the ports of Cordova, Whittier, and Seward. Therefore the new landing requirement has resulted in increased lingcod sample sizes.

Interest in the lingcod fishery increased during the 2004 season. The Outside District, including adjacent federal waters, closed on August 2 with a harvest of 24,268 lb and the Inside District closed on August 24 with a harvest total of 6,023 lb. Therefore, the total lingcod harvest for all PWS waters, including federal waters, was 30,292 lb from 47 landings by 30 vessels. ADF&G staff sampled 453 lingcod and 92% were female (Appendix B1).

2005 SEASON SUMMARY

The 2005 lingcod season opened July 1 with a 5,500 lb GHL for the Inside District and a 19,000 lb GHL for the Outside District and federal waters. The Outside District, including

adjacent federal waters, closed at 3:00 p.m. August 5 with a harvest of 18,051 lb (Table 9; Appendix A1). While the groundfish closures around Steller sea lion rookeries at Seal Rocks and Wooded Islands displaced lingcod fishermen from some traditional harvest areas, lingcod are still retained as bycatch in the IFQ halibut fishery. The Inside District closed at 12:00 noon October 13 and harvest total was 6,193 lb. Therefore, the total lingcod harvest for all PWS waters, including federal waters, was 24,244 lb from 46 landings by 30 vessels.

As in past years, an emergency order was issued requiring lingcod be landed with the head attached and the vent intact. The requirement was in place for the entire season. ADF&G staff sampled 258 lingcod from 10 deliveries. Length of male lingcod ranged from 880–1,170 mm and averaged 951 mm. Round weights ranged from 7.2 to 16.8 kg and averaged 9.8 kg. Length of female lingcod ranged from 790–1,650 mm and averaged 1,110 mm. Round weights ranged from 5.1 to 23.5 kg and averaged 14.6 kg. In addition, staff also collected otoliths that were forwarded to ADF&G's ADU lab in Juneau for processing.

2006 MANAGEMENT OUTLOOK

The fishery will open on July 1 with the established GHs. ADF&G will continue to monitor the fishery and continue to pursue commercial catch sampling. In the absence of a lingcod stock assessment program, commercial catch samples allow ADF&G to characterize stock structure of fishery removals and infer relative cohort strength.

MISCELLANEOUS GROUND FISH

BACKGROUND

Miscellaneous groundfish, including numerous species of flatfish, sharks, skates, as well as octopus and squid, have been landed incidental to PWS groundfish fisheries and targeted only sporadically (Table 10). Additionally, these species have been discarded at sea during other directed fisheries. Seasons for miscellaneous groundfish were typically set by emergency order to coincide with seasons set by NMFS in the adjacent federal waters of the EEZ. However, BOF action in 1998 and in 2000 made two significant changes to management of miscellaneous groundfish. The 1998 action closed directed fishing for sharks and established a permit requirement for targeting skates. These actions were consistent with the lack of information on stock size necessary to conduct a sustainable fishery. Shark bycatch, particularly Pacific sleeper shark *Somniosus pacificus* in longline and trawl fisheries, has been reported to be significant. Similarly, there is an incidental catch of salmon sharks *Lamna ditropis* during salmon seine fisheries. The 2000 BOF action established a miscellaneous groundfish permit requirement. This is a commissioner's permit that provides a mechanism for developing fisheries while providing ADF&G a flexible tool to insure adequate data collection and manageability. Most miscellaneous groundfish catch in commercial fisheries is discarded at sea, with discarded bycatch largely undocumented. Exceptions emerge from observer coverage in the pollock trawl and shrimp trawl fisheries as well as stock assessment survey data from ADF&G and other agencies. An indication of incidental catch in longline fisheries is also provided by the ADF&G longline survey.

Octopus and squid, although considered shellfish under state regulation, fall under the "other" groundfish category in federal regulation. Octopus harvested incidental to Pacific cod in the pot fishery were usually sold or kept for personal use as bait. A bycatch allowance of 20% was set for octopus. Squid harvest of any magnitude is a recent phenomenon in PWS. Squid landings,

particularly in the pollock trawl fishery have varied widely among years. Harvest levels in 1997, 2001, and 2002 were the highest on record (Tables 8 and 10). Sharks, squid, skates, and flatfish dominated the historical harvest of landed or discarded miscellaneous groundfish.

2005 SEASON SUMMARY

ADF&G has not issued any miscellaneous groundfish permits for the PWS area. Therefore, all reported miscellaneous groundfish was either landed as bycatch or discarded at sea. The reported harvest of miscellaneous groundfish species totaled 175,071 lb, consisting of 7,117 lb of squid, 70,177 lb of sharks, 775 lb of salmon, and 97,001 lb was comprised of skates, flatfish, and other groundfish. All reported squid and flatfish landings, and the majority of shark landings occurred incidentally to the directed pollock trawl fishery or ADF&G test-fishery and International Pacific Halibut Commission (IPHC) test-fishing efforts. For example, 11,483 lb of the reported shark discards were attributed to the pollock trawl fishery and the remaining 58,344 lb was attributed to IPHC and ADF&G test-fisheries.

The reported harvest of octopus in 2005 was nominal but remains confidential due to the number of participants.

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TABLES AND FIGURES

Table 1.—Commercial effort and harvest of rockfish from the Inside and Outside Districts and black rockfish from federal waters of the Prince William Sound Area, 1988–2005.

Year	Inside District			Outside District			Total
	Vessels	Landings	Pounds	Vessels	Landings	Pounds	Pounds
1988	64	170	113,253	18	25	313,489	426,742
1989	35	95	93,307	7	8	25,124	118,431
1990	93	391	489,154	10	11	17,314	506,468
1991	88	239	153,889	6	6	2,762	156,650
1992	106	275	178,621	16	24	12,882	191,503
1993	67	183	81,095	20	33	27,478	108,573
1994	65	160	97,710	31	51	104,670	202,380
1995	122	211	153,107	35	60	156,839	309,946
1996	86	208	108,372	31	51	76,315	184,686
1997	90	234	136,593	26	36	29,245	165,838
1998	80	198	100,120	13	23	8,914	109,034
1999	81	214	60,539	21	31	11,447	71,987
2000	97	260	111,171	18	31	10,749	121,919
2001	94	205	60,597	17	37	13,485	74,082
2002	81	161	67,242	13	26	7,369	74,612
2003	72	168	35,240	30	58	12,751	47,990
2004	61	149	40,582	23	47	12,219	52,801
2005	72	166	47,528	17	47	13,322	60,850
Average ^a	81	205	118,229	20	34	47,576	165,805
Percent of Total			71%			29%	

^a Average through 2005.

Table 2.—Annual rockfish harvest by gear, from waters of the Inside and Outside Districts of the Prince William Sound Area, 1988–2005.

Year	Vessels	Landings ^a	Harvest (lb)				Total
			Troll/Jig	Trawl	Longline	Pots	
1988	80	195	54,097	228,417	144,228	0	426,742
1989	39	103	^b	997	104,633	^b	118,431
1990	96	402	^b	20,238	455,789	^b	506,468
1991	89	247	15,624	11,162	129,864	0	156,650
1992	114	299	^b	28,510	152,945	^b	191,503
1993	80	209	13,905	^b	81,978	^b	108,573
1994	92	211	94,588	^b	104,811	^b	202,380
1995	134	269	182,031	^b	127,616	^b	309,946
1996	99	257	57,103	3,507	124,076	0	184,686
1997	106	266	34,047	^b	130,141	^b	165,838
1998	88	220	2,903	^b	104,888	^b	109,034
1999	92	244	1,130	1,951	68,905	0	71,987
2000	100	284	2,401	2,061	117,210	247	121,919
2001	101	233	^b	4,495	68,400	^b	74,082
2002	87	190	0	30,553	44,059	0	74,612
2003	89	243	256	4,752	42,983	0	47,990
2004	71	197	283	3,735	48,783	0	52,801
2005	80	206	^b	8,863	51,542	^b	60,850
Average ^c	91	238	28,490	20,409	116,825	82	165,805

^a Total landings may be less than shown on Table 1 due to vessels fishing multiple districts in a single trip.

^b Confidential data due to less than 3 participants.

^c Average through 2005.

Table 3.—Annual effort and harvest by gear type from the Prince William Sound parallel and state waters Pacific cod fisheries, 1988–2005.

Parallel Season			Harvest (lb)				
Year	Vessels	Landings	Other ^a	Longline	Pot	Jig ^b	Total
1988	39	87		330,718			330,718
1989	23	47	c	c		c	73,600
1990	84	307	c	1,203,118	c	c	1,219,979
1991	88	234	17,074	1,248,217	961,912	c	2,227,428
1992	140	524	c	1,359,176	594,741	c	1,972,969
1993	57	205	c	810,831	466,202	c	1,304,977
1994	46	197		316,550	1,584,722	c	1,902,336
1995	75	205	24,539	359,765	1,204,451	6,982	1,595,736
1996	50	135	218,170	214,021	420,183	1,663	854,037
1997	60	172	1,506	334,086	582,325	4,333	922,249
1998	50	150	5,879	534,553	138,243		678,675
1999	54	196	c	687,169	641,523	c	1,330,710
2000	58	175	c	403,230	332,310		735,963
2001	23	63	c	143,641	c		170,445
2002	22	51	c	17,700			17,831
2003	26	45	c	14,051			14,292
2004	17	45	c	13,247			13,604
2005	24	38	221	10,983			11,204

State Waters Season				Harvest (lb)		
Year	Vessels	Landings	GHL	Pots	Jigs ^b	Total
1997	9	36	880,000	192,142	8,378	200,520
1998	9	33	860,000	385,817	33,177	418,994
1999	7	27	930,000	314,987	79,147	394,134
2000	12	37	2,950,000	268,765	22,377	291,142
2001	3	3	2,620,000	0	228	228
2002	0	0	1,900,000	0	0	0
2003	c	4	750,000	c	0	c
2004	c	6	970,000	c	0	c
2005	c	3	897,000	c	0	c

^a “Other” includes trawl and gillnet.

^b Includes mechanical jig and hand troll.

^c Confidential due to limited number of participants.

Table 4.—Annual sablefish harvest, including test fish, from the Inside and Outside Districts of the Prince William Sound Area, 1988–2005.

Year	Vessels	Landings	Annual Harvest (lb)			Total
			Inside	Outside	Test Fish ^a	
1988	54	145	219,416	27,958		247,374
1989	25	95	188,042	746		188,788
1990	71	251	211,486	4,929		216,414
1991	78	157	326,235	24,398		350,633
1992	63	126	432,172	33,684		465,856
1993	60	92	316,602	74,943		391,546
1994	66	102	280,700	60,359		341,059
1995	126	134	565,547	11,767		577,315
Limited entry program implemented						
1996	69	77	247,545	33,475	10,376	291,396
1997	51	81	196,370	2,689	9,311	208,370
1998	59	60	233,004	14	11,676	244,695
1999	42	45	206,142	0	7,765	213,907
2000	32	32	342,854	77	13,582	356,513
2001	47	49	310,217	0	13,692	323,908
2002	49	51	320,694	0	7,924	328,618
2003	38	66	213,843	0	9,914	223,757
2004	38	67	225,003	0	9,994	234,996
2005	34	70	220,393	0	6,687	227,080
Average ^b	46	60	251,606	3,625	10,092	265,324

^a Test fish not included in landings summary.

^b Average 1996–2005.

Table 5.—Number of vessels and estimated number of hooks set and lost by gear type in the Prince William Sound sablefish fishery as derived from logbook data, 1998–2005.

Year	Type and Number of Hooks Set				Hooks Lost		
	Vessels	Snap	Vessels	Conventional	Snap	Conventional	Total
1998	28	140,770	27	423,525			
1999	16	56,704	23	300,605	0	6,570	6,570
2000	11	50,412	16	484,875	0	12,600	12,600
2001	21	99,390	25	534,770	1,320	28,120	29,440
2002	23	100,646	24	375,715	1,620	43,745	45,365
2003	21	140,226	16	252,313	517	1,255	1,772
2004	20	156,756	16	239,482	775	1,020	1,795
2005	19	244,048	11	250,513	2,350	0	2,350

Table 6.—Annual effort and pollock harvest by gear type in the Prince William Sound Area, 1988–2005.

Year	Vessels	Landings	Harvest (lb)			Total
			Other Gear ^a	Trawl Gear ^b	Test Fish ^c	
1988	d	d	1,548	d		1,548
1989	6	9	639	919		1,558
1990	8	14	1,514	6,588		8,102
1991	5	7	272			272
1992	15	23	2,591	6,341		8,932
1993	3	7	191	5,442		5,633
1994	5	7	5,811			5,811
Average ^e	7	11	1,795	4,823		4,551

Directed fishery begins

1995	23	66	10,220	6,325,575	215,025	6,550,820
1996	13	28	1,296	3,271,583	421,137	3,694,016
1997	16	49	3,762	4,323,129	539,123	4,866,014
1998	17	51	2,680	4,013,725	631,751	4,648,156
1999	15	62	11,890	4,673,074	490,761	5,175,725
2000	16	49	4,039	2,260,510	366,724	2,631,273
2001	5	20	d	3,128,066	381,502	3,509,669
2002	3	21	0	2,364,143	177,071	2,541,214
2003	5	28	0	2,422,364	54,224	2,476,588
2004	5	18	0	1,929,009	400,677	2,329,686
2005	8	20	0	1,677,962	317,183	1,995,145
Average	11	37	3,090	3,308,104	363,198	3,674,392

^a Includes jig, pot, and longline harvest from the Inside and Outside Districts.

^b Includes pollock bycatch in PWS shrimp trawl fishery.

^c Landed test fish not included in vessels or landings.

^d Confidential data.

^e Averages through 2005.

Table 7.—Annual guideline harvest level (GHL), season length, and harvest from the Prince William Sound pollock fishery, 1995–2005.

	(million lb)	Days	Vessels	Harvest (lb)
1995	2.1–4.4	26	9	6,325,575
1996	3.1	5	11	3,265,740
1997	3.9	8	10	4,319,707
1998	3.9	7	11	4,013,725
1999	4.6	36	6	4,673,074
2000 ^a	3.1	70	4	2,256,504
2001	3.1	64	2	3,128,037
2002	3.8	70	3	2,364,143
2003	3.8	84	3	2,421,773
2004	2.0	68	3	1,928,458
2005	2.0	48	6	1,677,157

^a Harvest sections created in 2000.

Table 8.—Pollock harvest and bycatch by species or group in the Prince William Sound pollock fishery, 1995–2005.

Year	Pollock	Rockfish	Salmon	Reported Bycatch (lb)			Total Bycatch	% Bycatch
				Shark	Squid	Misc.		
1995	6,325,575	67	104	378	1,346	2,308	4,203	0.07
1996	3,265,740	13		2,738	468	3,884	7,103	0.22
1997	4,319,707	12	90	648	18,316	2,188	21,254	0.49
1998	4,013,725	10	371	8,026	23,577	10,293	42,277	1.05
1999	4,673,074	325	2,148	14,133	6,162	3,135	25,903	0.55
2000	2,256,504	1,421	860	2,042	5,880	982	11,185	0.50
2001	3,128,037	4,211	655	4,084	31,101	1,644	41,695	1.33
2002	2,364,143	30,172	1,274	52,486	180,250	3,431	267,613	11.32
2003	2,421,773	3,912	195	8,054	20,547	8,385	41,093	1.70
2004	1,928,458	3,236	151	3,648	11,175	3,848	22,058	1.14
2005	1,677,157	8,289	775	11,483	6,044	9,841	36,432	2.17

Note: Includes at-sea discards.

Table 9.—Annual effort and harvest in the commercial lingcod fishery from the Prince William Sound Area, and adjacent federal waters, 1988–2005.

Year	Vessels	Landings	Harvest (lb) ^a			
			Inside	Outside	Federal	Total
1988	20	27	1,338	7,106	18,508	26,952
1989	20	24	1,279	5,335	15,096	21,710
1990	25	31	8,117	3,154	31,628	42,899
1991	21	34	19,358	4,928	7,559	31,845
1992	43	55	2,349	3,786	19,611	25,746
1993	25	45	246	7,462	58,873	66,581
1994	27	52	9,542	831	33,300	43,673
1995	32	44	138	2,751	66,202	69,091
1996	27	46	5,799	790	22,164	28,753
1997	42	73	22,890	2,933	12,375	38,198
1998	18	27	3,399	1,468	6,229	11,096
1999	16	18	1,483	5,352	2,509	9,344
2000	18	41	5,113	12,174	6,568	23,855
2001	32	49	4,359	18,796	3,657	26,812
2002	20	27	1,007	777	18,386	20,170
2003	32	51	5,593	7,023	11,619	24,235
2004	30	47	6,024	6,791	17,477	30,292
2005	30	46	6,193	8,986	9,065	24,244
Average ^b	27	41	5,790	5,580	20,046	31,416

^a Does not include harvest reported as area 640.

^b Average through 2005.

Table 10.—Annual reported harvest (lb) of miscellaneous groundfish species, including at-sea discards, from the Prince William Sound Area, 1988–2005.

Year	Vessels	Landings	Flatfish ^a	Salmon	Sharks ^b	Skates	Other ^c	Octopus	Squid	Totals
1988	9	15	15,457		34	11,770	315			27,576
1989	5	8	56			614	644		1,467	2,781
1990	19	77	72,973				454		2,166	75,593
1991	27	53	5,742		175	11,022	2,124	15		19,077
1992	33	76	8,942		1,338	19,192	17,008	1,230	399	48,109
1993	18	69	664		1,080	1,565	2,781	5,625	317	12,031
1994	21	69	1,216		2,465	4,435	19,203	5,798		33,117
1995	34	99	10,421	79	1,368	9,668	5,534	3,814	1,367	32,250
1996	33	76	76,346	0	32,052	26,700	3,603	994	468	140,163
1997	25	79	320	72	4,840	37,256	1,326	3,547	18,316	65,678
1998	24	66	4,182	371	8,692	44,790	6	2,928	23,577	84,546
1999	10	62	462	2,148	14,233	868	1,240		6,162	25,113
2000	12	43	7,637	545	2,044	999	129		5,951	17,304
2001	9	45	1,235	372	7,149	4,158	457		31,101	44,472
2002	10	42	4,214	1,274	188,256	6,402	776	20	180,250	381,192
2003	10	47	3,893	189	47,939	8,938	5,718	2,697	20,547	89,922
2004	11	31	4,515	156	36,757	7,758	1,850	380	11,175	62,590
2005	21	55	5,562	775	70,177	85,971	5,468	^d	7,117	175,071

^a Flatfish includes general flatfish, flounders, sole and turbot.

^b Sharks include spiny dogfish, salmon, Pacific sleeper, and unspecified sharks.

^c Other includes general groundfish, miscellaneous unidentified fish, eel, greenling, and sculpin.

^d Confidential data.

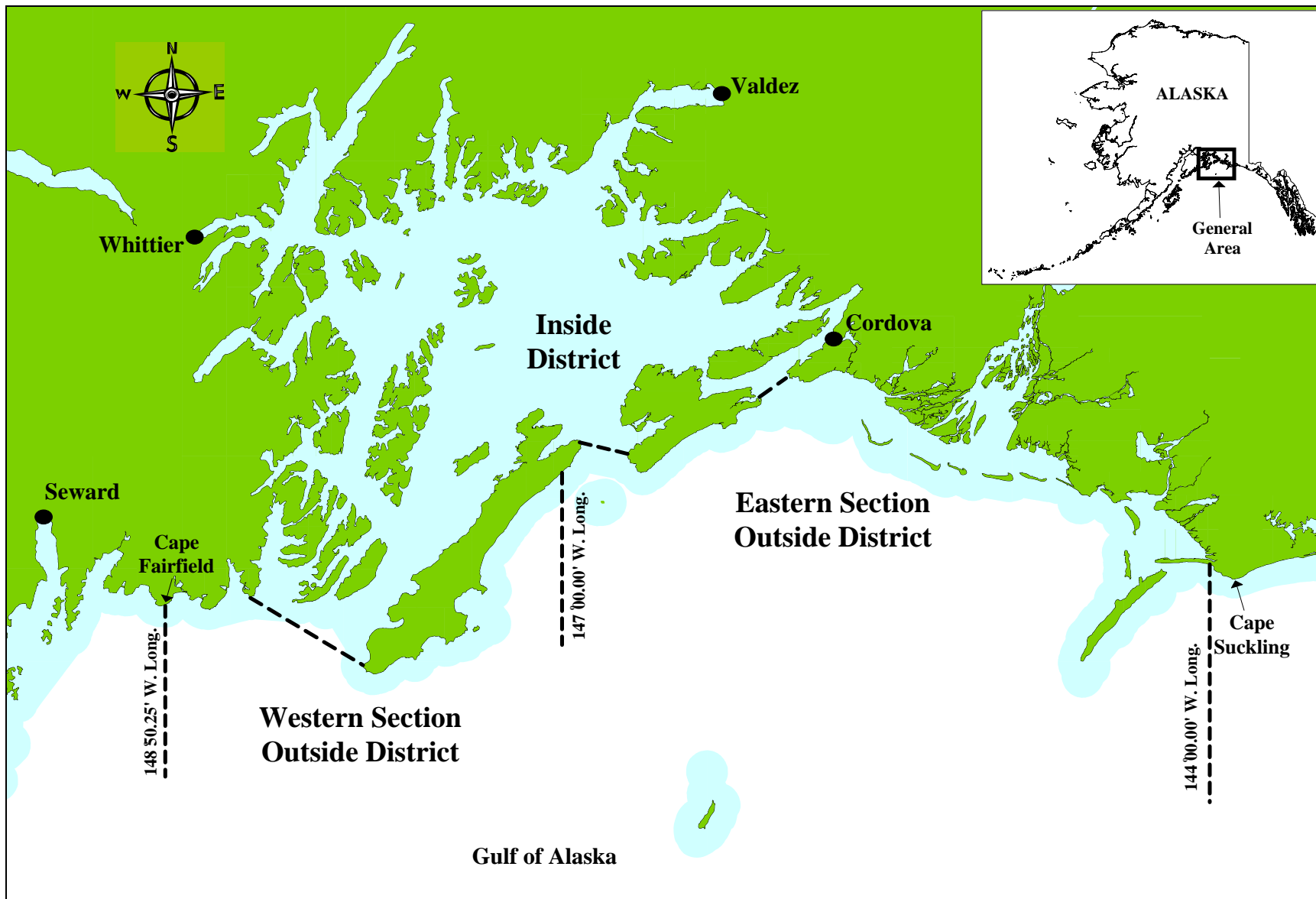


Figure 1.—Groundfish fishing districts of the Prince William Sound Management Area, 2005.

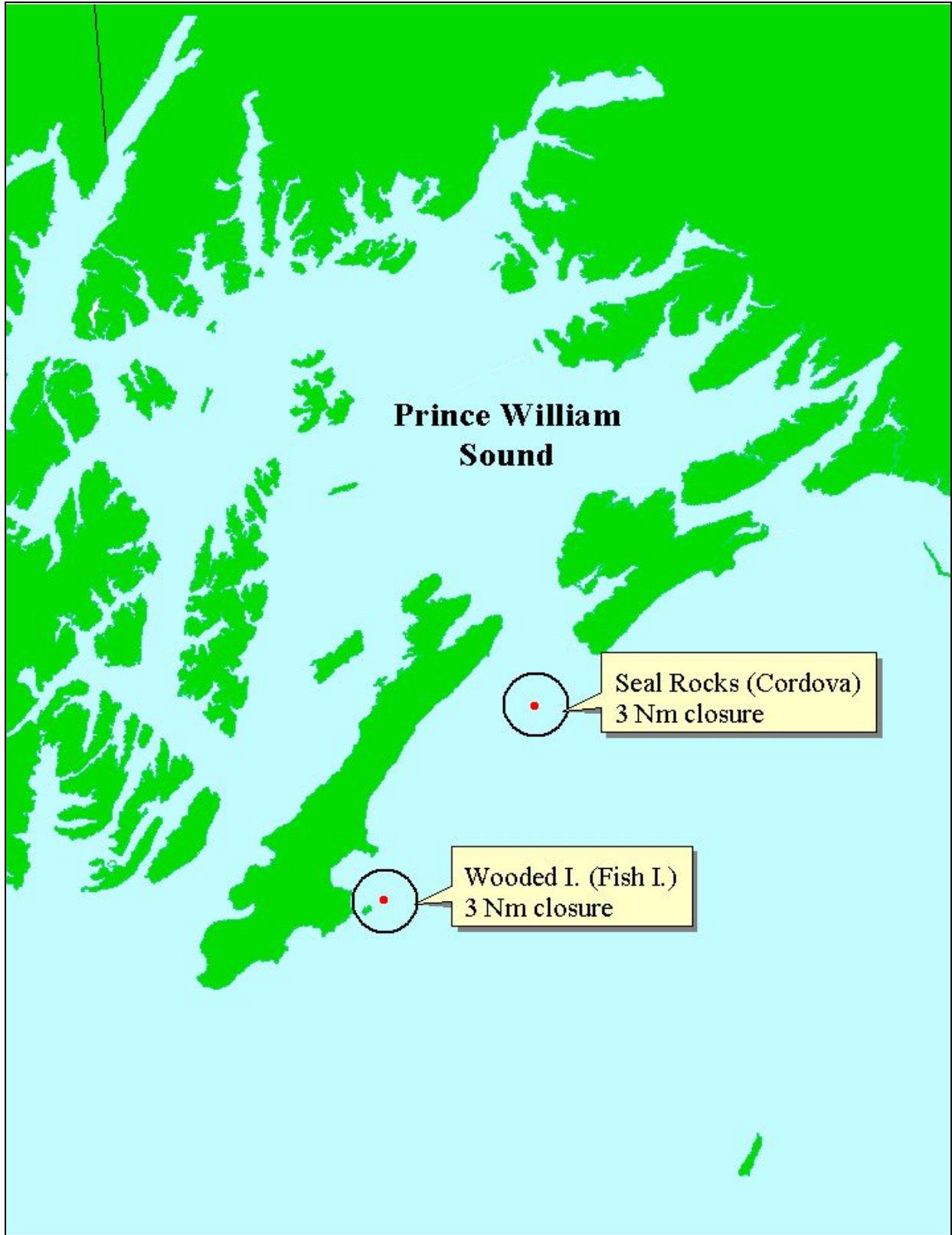


Figure 2.—Prince William Sound groundfish fishing closures implemented for Steller sea lion protection.

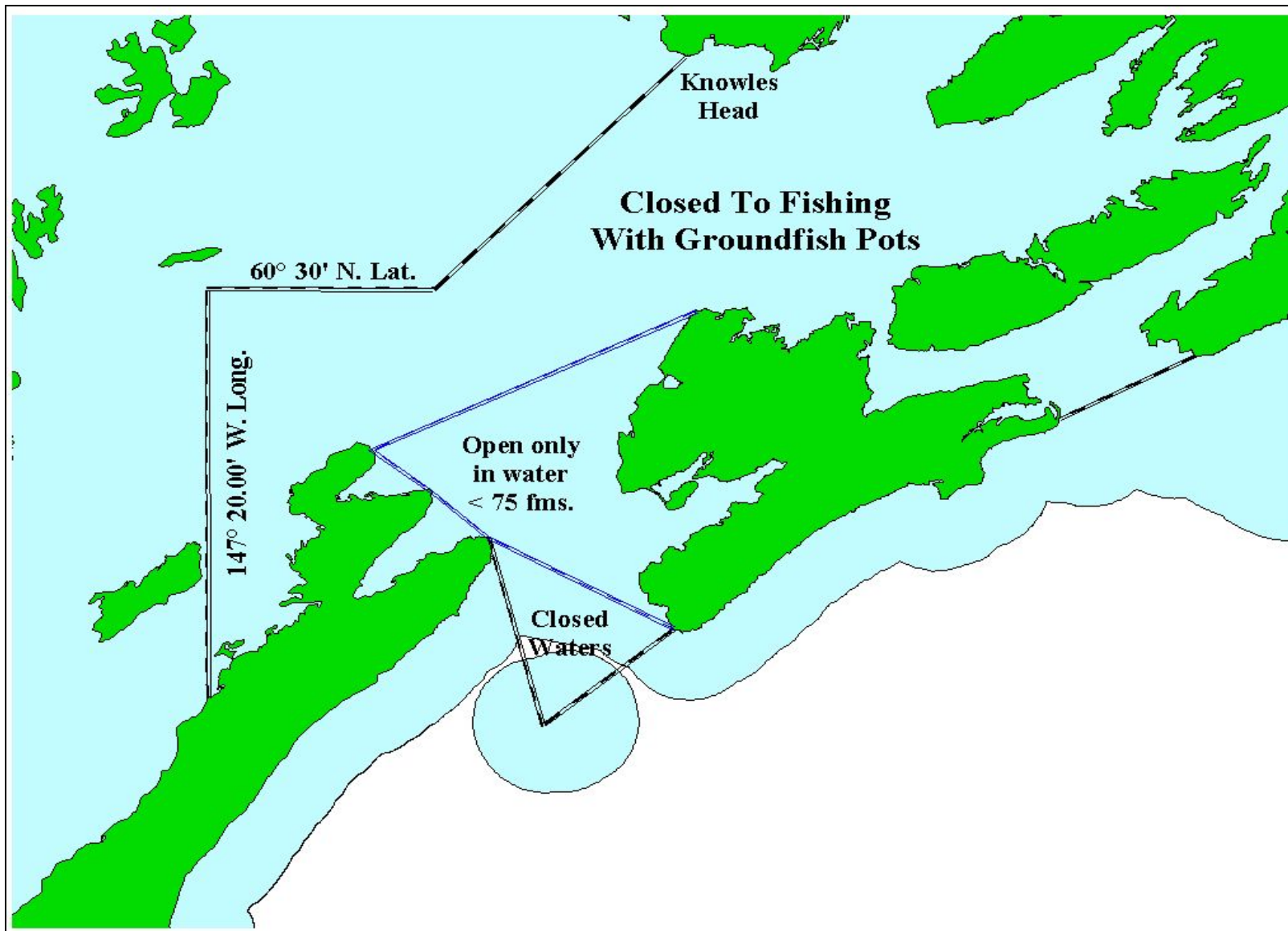


Figure 3.—Groundfish pot closure areas in the Prince William Sound Management area listed under 5 AAC 28.2450.

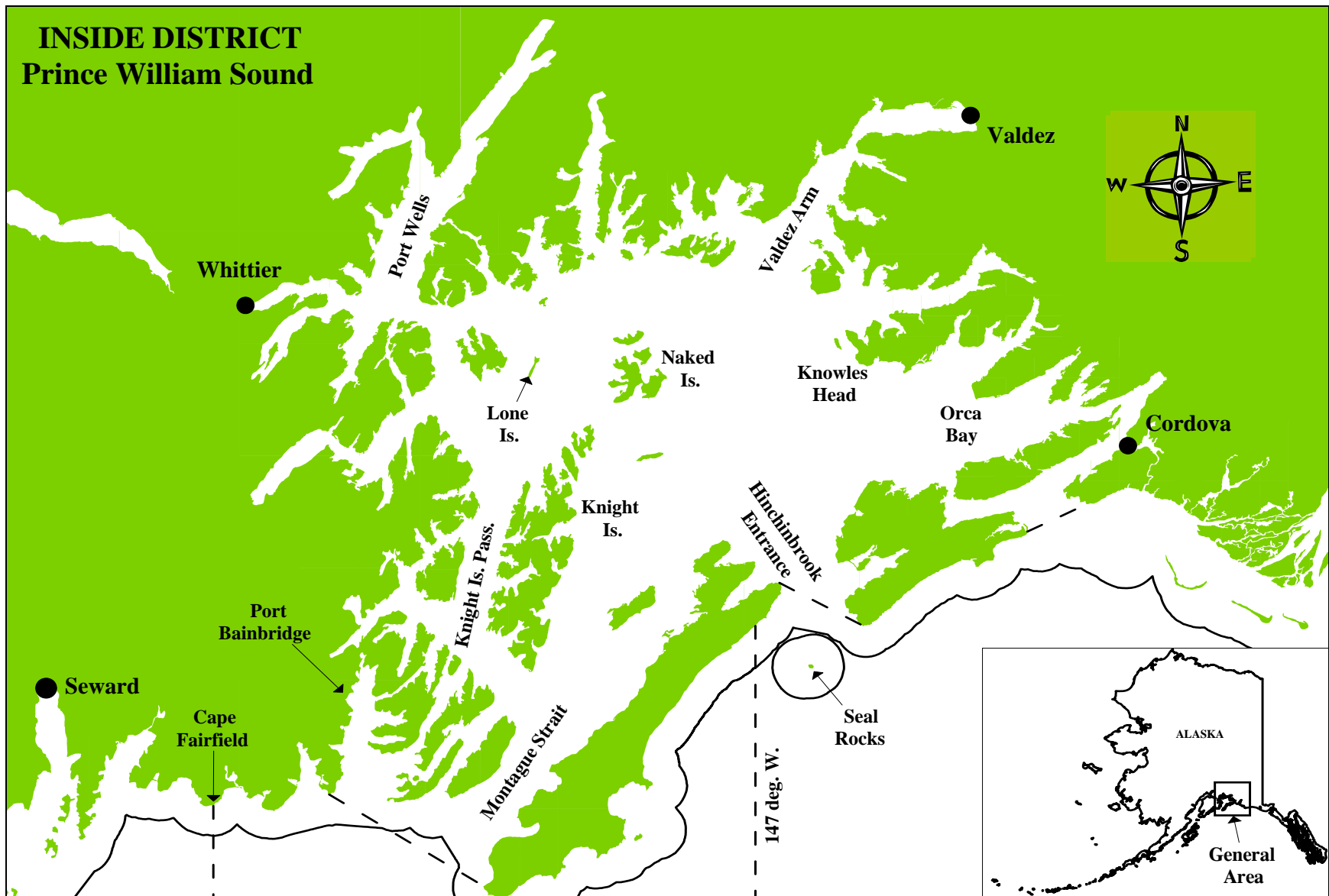


Figure 4.—Selected sites of the Inside District, Prince William Sound area.

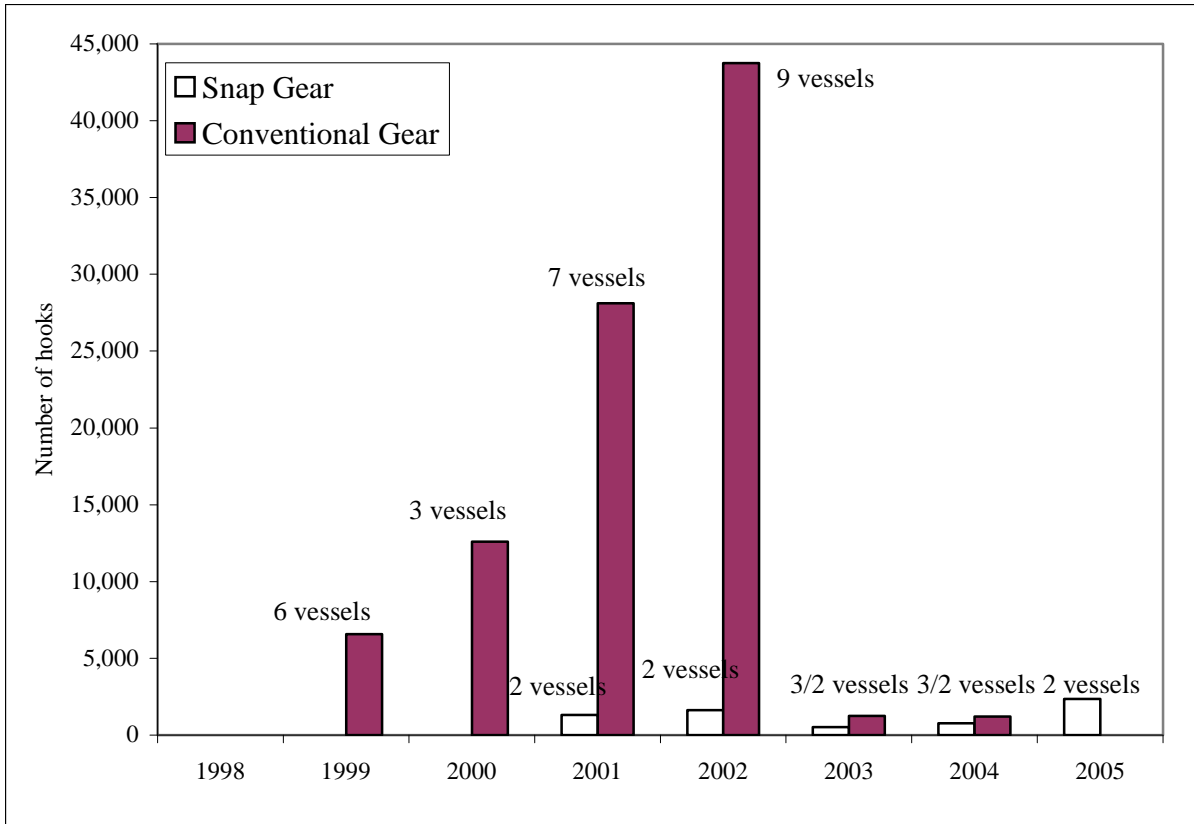


Figure 5.—Estimated number of lost hooks by gear type, as derived from logbook data for the Prince William Sound sablefish fishery, 1998–2005.

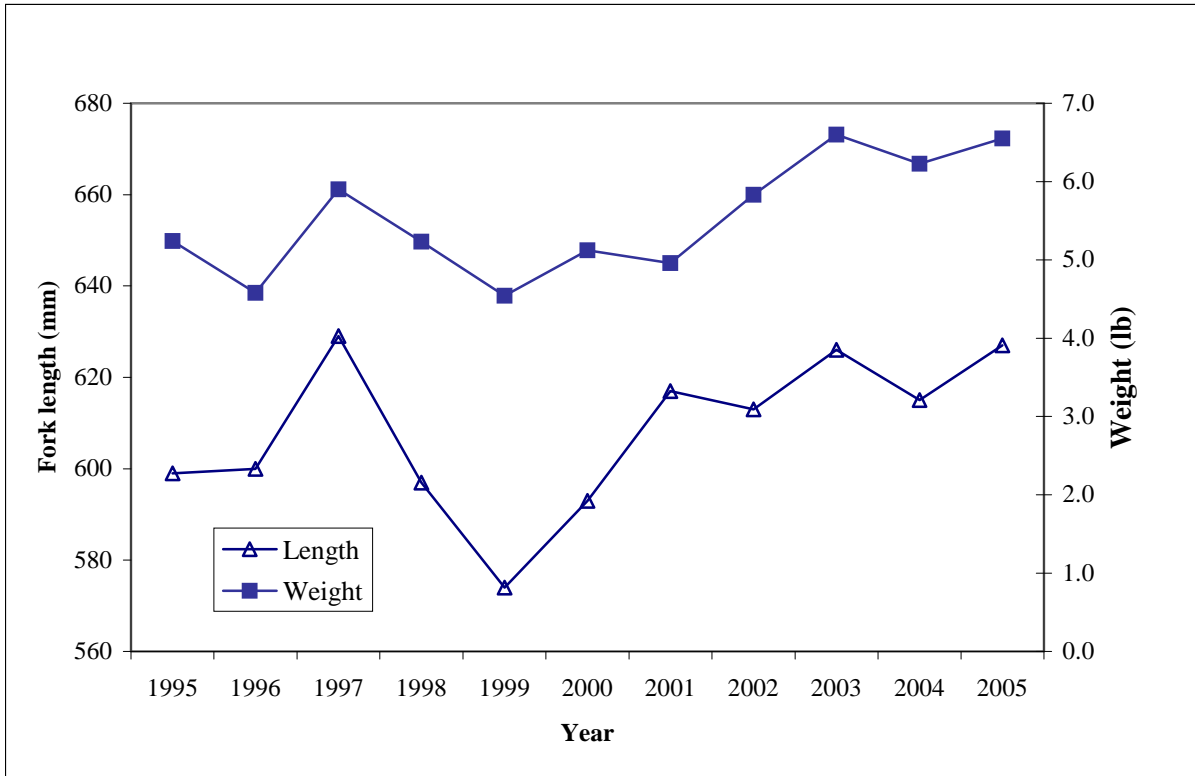


Figure 6.—Average sablefish length and weight from the Prince William Sound commercial sablefish fishery, 1995–2005.

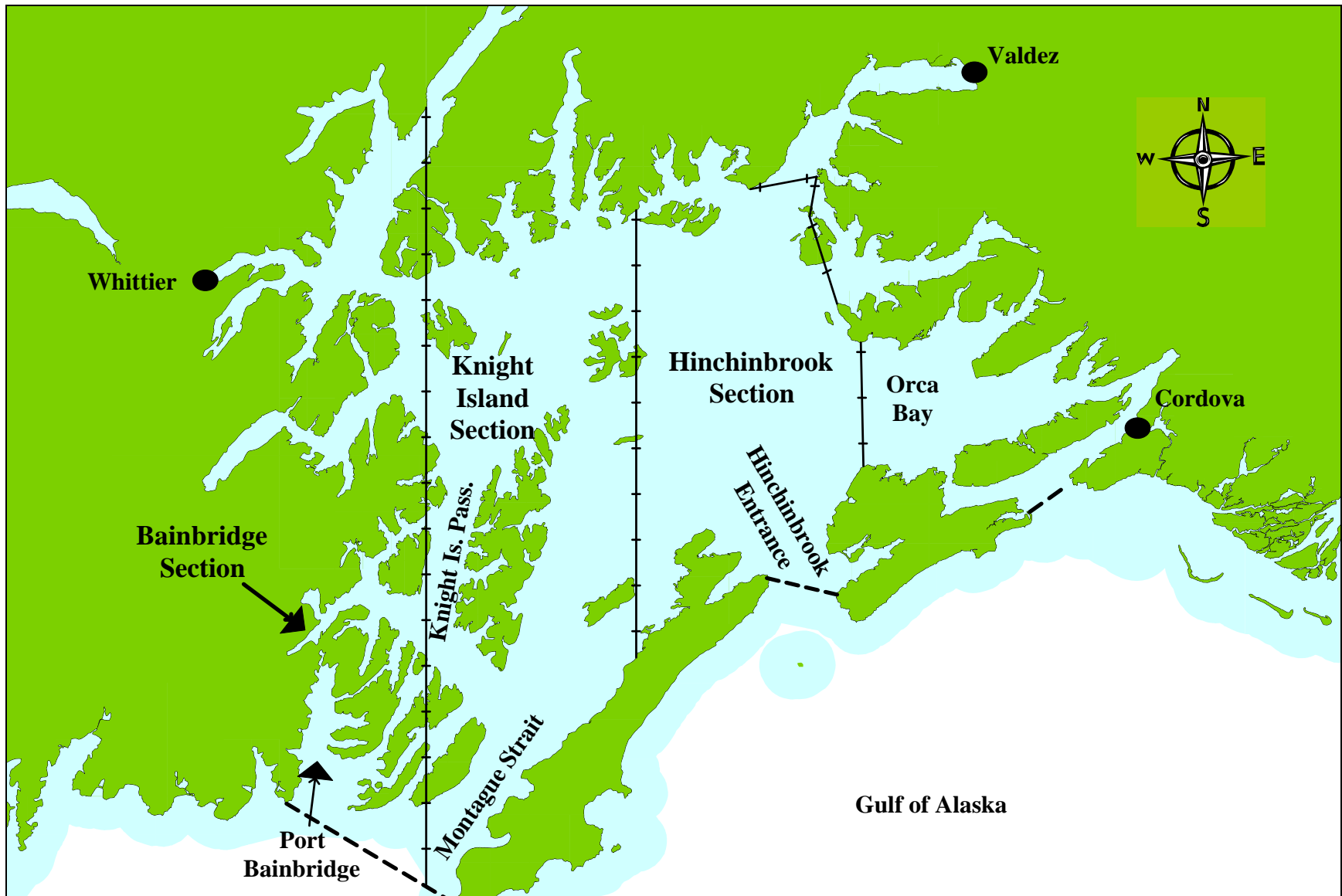


Figure 7.—Pollock management sections established in 2000 in the Inside District of the Prince William Sound area.

**APPENDIX A. SUMMARY OF EMERGENCY ORDERS
1996–2005**

Appendix A1.–Summary of Prince William Sound Area groundfish emergency orders, 1996–2005.

Year Fishery	Emergency Order #	Effective Date	Explanation
1996			
Pollock	2-GF-E-01-96	1/25/96	Closes directed fishery for pollock for remainder of calendar year.
Sablefish	2-GF-E-02-96	4/25/96	Establishes 24 hour weekly fishing period effective noon Wednesday April 25 to May 8 and closes the PWS Area to groundfish fishing 144 hours prior to and following the fishery to provide a fair start and controlled management of the fishery.
Groundfish	2-GF-E-03-96	5/4/96	Resumes open season for groundfish in the PWS Area effective 12:00 noon May 4.
1997			
Pollock	2-GF-E-01-97	1/28/97	Closes directed fishery for pollock at 3:30 p.m. for remainder of calendar year.
Pacific cod	2-GF-E-03-97	4/4/97	Opens state water's season for pot and jig gear.
	2-GF-E-07-97	10/30/97	Closes the state waters season and immediately reopens this season waiving the gear limits for pot and jig gear as well as exclusive area registration requirements.
Sablefish	2-GF-E-04-97	4/28/97	Establishes 24 hour fishing period beginning 12:00 noon May 1 and closes the PWS Area to groundfish gear 72 hours prior to and 24 hours following the fishery to provide for a fair start and avert illegal fishing after the period closure.
	2-GF-E-05-97	5/7/97	Establishes 12 hour fishing period beginning 8:00 a.m. May 8 and closes the PWS Area to groundfish gear 24 hours prior to and 24 following the fishery to provide for a fair start and avert illegal fishing after the period closure.
Rockfish	2-GF-E-06-97	8/21/97	Closes directed rockfish fishery in the PWS Area effective 12:00 noon and provides for the retention of rockfish bycatch to 10 percent round weight of delivered groundfish species.
1998			
Pollock	2-GF-E-01-98	1/26/98	Closes directed fishery effective 12:00 midnight for remainder of calendar year.
Rockfish	2-GF-E-02-98	3/13/98	Closes directed rockfish fishery in the PWS Area effective 12:00 noon and provides for the retention of rockfish bycatch to 10 percent round weight of delivered groundfish species.
Sablefish	2-GF-E-03-98	4/29/98	Delay start of sablefish until 6:00 p.m. May 1, closes the Inside District to fishing with longline gear 48 hours prior to and 24 hours after of the fishery to provide for a fair start and avert illegal fishing after the period closure. Increases the rockfish bycatch limit to 20% during the fishery.
Lingcod	2-GF-E-04-98	7/21/98	Closes the fishing season in the Outside District effective 12:00 noon.
Pacific cod	2-GF-E-05-98	10/30/98	Closes the state waters season and immediately reopens this season waiving the gear limits for pot and jig gear as well as exclusive area registration requirements.

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Appendix A1.–Page 2 of 5.

Year Fishery	Emergency Order #	Effective Date	Explanation
1999			
Pollock	2-GF-E-01-99	1/20/99	Opens the directed fishery effective 12:00 noon.
	2-GF-E-02-99	2/25/99	Closes the directed fishery for effective 12:00 noon.
	2-GF-E-04-99	3/14/99	Provides for the retention of pollock bycatch .
Pacific cod	2-GF-E-03-99	3/21/99	Opens the state waters season to pot and jig gear effective 12:00 noon.
	2-GF-E-08-99	10/5/99	Closes the parallel season effective 12:00 noon and lifts the allocation by gear type for pot and jig gear.
	2-GF-E-09-99	10/30/99	Closes the state waters season and immediately reopens this season waiving the gear limits for pot and jig gear as well as exclusive area registration requirements.
Rockfish	2-GF-E-05-99	3/27/99	Closes directed rockfish fishery in the PWS Area effective 12:00 noon and provides for the retention of rockfish bycatch to 10% round weight of delivered groundfish species.
Sablefish	2-GF-E-06-99	4/29/99	Establishes a 42 hour fishing season beginning 6:00 a.m. May 1, closes waters of the Inside District west of a line from Johnstone Point to Knowles Head to fishing with longline gear 48 hours prior to and 24 hours following the fishery to provide a fair start and avert illegal fishing after the closure. Increases the rockfish bycatch limit to 20% during the fishery.
Lingcod	2-GF-E-07-99	7/30/99	Closes the fishing season in the Outside District effective 12:00 noon.
2000			
Pollock	2-GF-E-01-00	1/20/00	Opens the directed fishery effective 12:00 noon.
	2-GF-E-02-00	2/9/00	Closes the directed fishery in the Hinchinbrook Section effective 12:00 noon.
	2-GF-E-05-00	3/23/00	Closes the directed fishery in the Port Bainbridge Section effective 12:00 noon.
	2-GF-E-06-00	3/31/00	Closes the directed fishery in the Knight Island Section effective 12:00 noon.
Pacific cod	2-GF-E-03-00	3/11/00	Opens state water season to pot and jig gear effective 12:00 noon.
	2-GF-E-10-00	10/30	Closes the state waters season and immediately reopens this season waiving the gear limits for pot and jig gear as well as exclusive area registration requirements.
Rockfish	2-GF-E-04-00	3/14/00	Closes the directed fishery effective 12:00 noon and specifies a 10% bycatch limit.
Sablefish	2-GF-E-07-00	4/29/00	Establishes a 48 hour fishing season beginning noon May 1, closes the Inside District west of a line from Johnstone Point to Knowles Head to fishing with longline gear 48 hours prior to and 24 hours following the fishery to provide for a fair start and avert illegal fishing after the season closure. Increases the rockfish bycatch limit to 20% during the fishery.
Lingcod	2-GF-E-08-00	8/24/00	Closes the season in the Outside District effective 3:00 p.m.
	2-GF-E-09-00	10/28/00	Closes the season in the Inside District effective 12:00 noon.

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Appendix A1.–Page 3 of 5.

Year Fishery	Emergency Order #	Effective Date	Explanation
2001			
Pacific cod	2-GF-E-01-01	1/1/01	Opens parallel season in state waters at 12:00 noon concurrent with federal season in the Central Gulf of Alaska.
	2-GF-E-02-01	2/26/01	Prohibits the use of longline gear effective 12:00 noon in response to the closure of the same gear type in federal waters of the Central Gulf of Alaska.
	2-GF-E-03-01	3/4/01	Closes the parallel season and opens the state waters season to pot and jig gear.
	2-GF-E-08-01	10/30/01	Closes the state waters season and immediately reopens this season waiving the gear limits for pot and jig gear as well as exclusive area registration requirements.
Pollock	2-GF-E-04-01	3/9/01	Closes the directed fishery in the Hinchinbrook Section effective 6:00 p.m.
	2-GF-E-05-01	3/25/01	Closes the directed fishery in the Port Bainbridge Section effective 12:00 noon.
Sablefish	2-GF-E-06-01	4/29/01	Establishes a 32 hour fishing season beginning 10:00 a.m. May 1, closes the Inside District west of a line from Johnstone Point to Knowles Head to fishing with longline gear 48 hours prior to and 24 hours following the fishery to provide for a fair start and avert illegal fishing after the season closure.
Lingcod	2-GF-E-07-01	8/10/01	Closes the season in the Outside District effective 12:00 noon.
2002			
Pacific cod	2-GF-E-01-02	1/1/02	Opens parallel season with closed water restrictions about Seal Rocks and Fish Island as specified by NMFS to protect Steller Sea lions.
	2-GF-E-04-02	3/9/02	Closes the parallel season effective 12:00 noon and opens the state waters season to pot and jig gear effective 12:00 noon March 16.
	2-GF-E-08-02	10/30/02	Closes the state waters season and immediately reopens this season waiving the gear limits for pot and jig gear as well as exclusive area registration requirements.
Pollock	2-GF-E-02-02	1/20/02	Opens the directed trawl fishery at 12:00 noon.
	2-GF-E-03-02	2/2/02	Closes the directed fishery in the Hinchinbrook Section effective 9:00 p.m. .
	2-GF-E-05-02	3/31/02	Closes the directed fishery in the Port Bainbridge and Knight Island Sections effective 12:00 midnight.
Sablefish	2-GF-E-06-02	4/29/02	Establishes a 26 hour fishing season beginning 10:00 a.m. May 1, closes the Inside District west of a line from Johnstone Point to Knowles Head to fishing with longline gear 48 hours prior to and 24 hours following the fishery to provide for a fair start avert illegal fishing after the season closure.
Lingcod	2-GF-E-07-02	7/14/02	Closes the season in the Outside District effective 12:00 noon.

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Appendix A1.–Page 4 of 5.

Year Fishery	Emergency Order #	Effective Date	Explanation
2003			
Pacific cod	2-GF-E-01-03	1/1/03	Opens parallel season with closed water restrictions about Seal Rocks and Fish Island as specified by NMFS to protect Steller Sea lions.
	2-GF-E-03-03	2/9/03	Closes the parallel season effective 12:00 noon and opens the state waters season to pot and jig gear effective 12:00 noon February 9.
	2-GF-E-07-03	10/30/03	Closes the state waters season and immediately reopens this season waiving the gear limits for pot and jig gear as well as exclusive area registration requirements.
Pollock	2-GF-E-02-03	1/20/03	Opens the directed trawl fishery at 12:00 noon.
	2-GF-E-04-03	4/15/03	Closes the directed fishery in the PWS Area effective 12:00 noon to avoid harvest of post spawning aggregations that are of poor quality and low value and to avoid development of bycatch issues.
Lingcod	2-GF-E-05-03	7/1/01	To accommodate biological sampling requirements; requires all lingcod landed in the PWS Area be delivered with the head on and area of the vent intact as evidence of gender.
	2-GF-E-06-03	8/23/03	Closes the season in the Outside District and adjacent waters of the federal EEZ effective 12:00 noon.
	2-GF-E-08-03	12/23/03	Closes the season within the Inside District effective at midnight.
2004			
Pacific cod	2-GF-E-01-04	January 1	Opens parallel season with closed water restrictions about Seal Rocks and Fish Island as specified by NMFS to protect Steller Sea lions.
	2-GF-E-03-04	1/31/04	Closes the parallel season effective 12:00 noon and opens the state waters season to pot and jig gear effective 12:00 noon February 7.
	2-GF-E-10-04	10/30/04	Closes the state waters season and immediately reopens this season waiving the gear limits for pot and jig gear as well as exclusive area registration requirements.
Pollock	2-GF-E-02-04	1/20/04	Opens the directed trawl fishery at 12:00 noon.
	2-GF-E-04-04	3/5/04	Closes the directed fishery in the Hinchinbrook Section effective 12:00 noon March 5.
	2-GF-E-05-04	3/20/04	Closes the directed fishery in the Port Bainbridge Section effective 12:00 noon March 20.
	2-GF-E-06-04	3/24/04	Closes the directed fishery in the Port Bainbridge Section effective 12:00 midnight March 24.
Lingcod	2-GF-E-07-04	7/1/04	To accommodate biological sampling requirements; requires all lingcod landed in the PWS Area be delivered with the head on and area of the vent intact as evidence of gender.
	2-GF-E-08-04	8/2/04	Closes the season in the Outside District and adjacent waters of the federal EEZ effective 12:00 noon.
	2-GF-E-09-04	8/24/04	Closes the season within the Inside District effective at 12:00 noon.

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Appendix A1.–Page 5 of 5.

Year Fishery	Emergency Order #	Effective Date	Explanation
2005			
Pacific cod	2-GF-E-01-05	1/1/05	Opens parallel season with closed water restrictions about Seal Rocks and Fish Island as specified by NMFS to protect Steller Sea lions.
	2-GF-E-02-05	1/26/05	Closes the parallel season effective 12:00 noon and opens the state waters season to pot and jig gear effective 12:00 noon February 2.
	2-GF-E-08-05	10/30/05	Closes the state waters season and immediately reopens this season waiving the gear limits for pot and jig gear as well as exclusive area registration requirements.
Pollock	2-GF-E-03-05	3/5/05	Closes the directed fishery in the Hinchinbrook Section effective 11:00 a.m. March 5.
	2-GF-E-04-05	3/9/05	Closes the directed fishery in the Hinchinbrook Section effective 9:00 p.m. March 9.
Lingcod	2-GF-E-05-05	7/1/05	To accommodate biological sampling requirements; requires all lingcod landed in the PWS Area be delivered with the head on and area of the vent intact as evidence of gender.
	2-GF-E-06-05	8/5/05	Closes the season in the Outside District and adjacent waters of the federal EEZ effective 12:00 noon.
	2-GF-E-07-05	10/13/05	Closes the season within the Inside District effective at 12:00 noon.

**APPENDIX B. SUMMARY OF CATCH SAMPLE DATA
FROM COMMERCIALY IMPORTANT
GROUNDFISH SPECIES, 1996–2005**

Appendix B1.—Summary of catch sample data from commercially important groundfish species, 1996–2005.

Species	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Rockfish										
Percent of deliveries sampled	1.2	1.9	5.9	4.1	4.2	5.6	11.6	6.6	9.1	5.3
Number fish sampled	112	189	1080	357	420	371	442	281	228	110
Avg. fork length (mm)	Pelagic				663	479		520		453
	Demersal			488	524	558	544	569	562	513
	Slope	649	635	587	604	616	571	669	709	687
Length range (mm) min–max	Pelagic				663–663	385–555		500–540		340–510
	Demersal			303–663	440–610	490–630	390–720	443–757	363–705	445–650
	Slope	453–840	428–805	350–930	291–870	248–834	370–860	368–902	410–910	430–890
Avg. round weight (kg)	Pelagic				4.1	2.1		4.7		
	Demersal			2.1	2.7	3.5	2.7	3.6	2.7	
	Slope	4.1	3.9	3.7	3.6	4.1	3.1	5.8	6.7	5.8
Weight range (kg) min–max	Pelagic				4.1–4.1	1.0–3.0		2.8–9.4		
	Demersal			0.5–5.0	1.5–4.5	2.0–5.0	1.5–4.9	1.4–5.9	1.5–6.1	
	Slope	1.5–8.2	1.4–5.4	0.7–13.5	0.5–8.4	0.8–12.3	0.2–11.0	0.9–15.7	1.1–14.5	1.3–15.5
Sex ratio (%Female)	Pelagic				0%	50%		50%		67%
	Demersal			67%	67%		57%	38%	40%	
	Slope	30%	53%	34%	35%	33%	33%	40%	43%	40%

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Appendix B1.–Page 2 of 3.

Species	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Sablefish										
Percent of deliveries sampled	3.9	4.9	8.3	11.1	21.9	16.3	27.4	29.8	46.2	22.8
Number fish sampled	221	327	409	471	471	464	759	650	823	618
Avg. fork length (mm)	626	658	623	599	593	617	614	626	615	627
Length range (mm) min–max	354–801	509–983	286–906	401–789	425–1,130	479–834	460–1,165	490–1,010	490–770	460–920
Avg. round weight (kg)	2.0	2.7	2.4	2.16	2.3	2.2	2.7	3.0	2.8	3.0
Weight range (kg) min–max	0.91–4.3	1.0–5.6	0.9–4.3	0.4–5.1	0.6–15.0	0.22–5.6	1.0–15.5	1.2–11.6	1.2–5.7	1.0–8.1
Sex ratio (%Female)	57%	67%	62%	64%	43%	No data	63%	25%	41%	42%

43

Species	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Pacific cod										
Percent of deliveries sampled	0	0	4.8	4.1	9.7	1.6	3.9	6.7	2.2	0
Number fish sampled			481	640	795	30	21	135	1	
Avg. fork length (mm)			692	661	665	580	670	711	750	
Length range (mm) min–max			460–960	390–950	460–935	425–720	550–760	520–880	N/A	
Avg. round weight (kg)			4.5	3.6	3.9	3.6	3.4	4.1	4.8	
Weight range (kg) min–max			2.0–11.0	0.8–8.2	1.3–8.4	2.1–4.2	2.4–4.9	2.2–8.8	N/A	
Sex ratio (%Female)			49.7%	59.0%	59.5%	73.3%	71.4%	22.2%	100%	

Catch sample data not collected in 1996, 1997 and 2005.

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Appendix B1.–Page 3 of 3.

Species	1998		2000		2001		2003		2004		2005	
Lingcod												
Percent of deliveries sampled	3.7		4.8		14.3		25.5		25.5		21.7	
Number fish sampled	8		33		116		243		453		258	
Sex ratio (%Female)	100		100		74		79		92		83	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Avg. fork length (mm)	1074		1095		928		1065		944		1085	
Length range (mm) min–max	1010–1200		1010–1250		777–987		900–1330		800–1000		845–1310	
Avg. round weight (kg)	13.7		13.7		10.2		12.0		9.6		14.1	
Weight range (kg) min–max	11.0–18.0		10.0–23.4		6.1–16.6		7.2–22.5		6.0–12.5		6.8–24.2	
	7.3–12.2		5.6–26.5		7.2–16.8		5.1–23.5					

44

Species	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Walleye pollock										
Percent of deliveries sampled	35.7	34.7	25.5	29.0	22.4	75	85.7	53.6	66.7	30
Number fish sampled	498	1,153	1,090	1,534	1,001	1,492	628	697	1,604	930
Avg. fork length (mm)	543	551	542	504	486	509	519	431	450	473
Length range (mm) min–max	380–635	382–659	323–671	318–647	362–648	358–677	280–660	270–672	320–660	290–670
Avg. round weight (kg)	1.4	1.2	1.6	1.0	1.0	1.1	1.3	0.8	0.9	1.0
Weight range (kg) min–max	0.5–2.8	0.7–2.5	0.2–3.5	0.2–2.2	0.4–2.7	0.4–2.8	0.2–3.0	0.2–3.0	0.3–3.0	0.3–2.6
Sex ratio (%Female)	44%	49%	39%	43%	42%	43%	39%	25%	41%	42%

Catch sample data not collected in 1996, 1997 and 1999.