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Overview of the Kodiak Area Sport Fisheries with Proposals for Consideration by the Alaska Board of Fisheries, January 2011

by

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December 2010

Alaska Department of Fish and Game **Divisions of Sport Fish and Commercial Fisheries**

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Weights and measures (metric)

centimeter	cm
deciliter	dL
gram	g
hectare	ha
kilogram	kg
kilometer	km
liter	L
meter	m
milliliter	mL
millimeter	mm

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 (negative log of)	pH
parts per million	ppm
parts per thousand	ppt, ‰
volts	V
watts	W

General

Alaska Administrative Code	AAC
all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.
all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.
at	@
compass directions:	
east	E
north	N
south	S
west	W
copyright	©
corporate suffixes:	
Company	Co.
Corporation	Corp.
Incorporated	Inc.
Limited	Ltd.
District of Columbia	D.C.
et alii (and others)	et al.
et cetera (and so forth)	etc
exempli gratia (for example)	e.g.
Federal Information Code	FIC
id est (that is)	i.e.
latitude or longitude	lat. or long.
monetary symbols (U.S.)	$, ¢
months (tables and figures): first three letters	Jan,...,Dec
registered trademark	®
trademark	™
United States (adjective)	U.S.
United States of America (noun)	USA
U.S.C.	United States Code
U.S. state	use two-letter abbreviations (e.g., AK, WA)

Mathematics, statistics

all standard mathematical signs, symbols and abbreviations	
alternate hypothesis	H_A
base of natural logarithm	*e*
catch per unit effort	CPUE
coefficient of variation	CV
common test statistics	(F, t, χ^2, etc.)
confidence interval	CI
correlation coefficient (multiple)	R
correlation coefficient (simple)	r
covariance	cov
degree (angular)	°
degrees of freedom	df
expected value	*E*
greater than	>
greater than or equal to	≥
harvest per unit effort	HPUE
less than	<
less than or equal to	≤
logarithm (natural)	ln
logarithm (base 10)	log
logarithm (specify base)	$log_{2,}$ etc.
minute (angular)	'
not significant	NS
null hypothesis	H_O
percent	%
probability	P
probability of a type I error (rejection of the null hypothesis when true)	α
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

SPECIAL PUBLICATION NO. 10-16

OVERVIEW OF KODIAK REGULATORY AREA SPORT FISHERIES WITH PROPOSALS FOR CONSIDERATION BY THE ALASKA BOARD OF FISHERIES, JANUARY 2011

by
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December 2010

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TABLE OF CONTENTS

Page

LIST OF TABLES ii

LIST OF FIGURES ii

ABSTRACT 1

INTRODUCTION 1

KODIAK REGULATORY AREA OVERVIEW 1

KODIAK ROAD ZONE COHO SALMON FISHERY 5

Associated Board of Fisheries Proposals 5
Historical Overview 5
Recent Fisheries Performance and Management Actions 7

AMERICAN AND OLDS RIVERS KING SALMON FISHERY 7

Associated Board of Fisheries Proposals 7
Historical Overview 7
Recent Fisheries Performance and Management Actions 7

KODIAK REGULATORY AREA ROCKFISH FISHERY 10

Associated Board of Fisheries Proposals 10
Historical Overview 10
Recent Fisheries Performance and Management Actions 12

REFERENCES CITED 15

LIST OF TABLES

Table **Page**

1. History of smolt releases to establish an enhanced king salmon sport fishery at American and Olds rivers in the Kodiak Road Zone....9
2. American and Olds River coho salmon escapement index counts and estimated sport harvests, 2000-2009. 10
3. Kodiak Area sport fishery harvests of rockfish, 2000-2009....11
4. Kodiak Area sport fishery harvest estimates of pelagic and nonpelagic rockfish, 2000-2009. 11
5. Kodiak Area commercial harvests of black rockfish, 2000-2009. 12
6. Kodiak Area guided angler average harvest statistics from chartered vessel trips where an individual caught at least one rockfish, 2006-2009. 12
7. Number of Kodiak Area guided anglers who harvested more than 5 rockfish per trip, including those who harvested 10 per trip, 2006‑2009. 13

LIST OF FIGURES

Figure **Page**

1. The Kodiak Sport Fish Management Area: Kodiak Island Archipelago, Alaska Peninsula, and Aleutian Islands. 2
2. Kodiak Regulatory Area showing the Road Zone and Remote Zone....3
3. Angler-days of sport fishing effort by anglers fishing Kodiak Regulatory Area waters, 2000-2009. 4
4. Number of sport-harvested fish by species in Kodiak Regulatory Area waters during 2009. 4
5. Combined coho salmon escapement counts for Kodiak Road Zone streams, 2000–2009. 5
6. Combined coho salmon harvests for major Kodiak Road Zone streams, 2000–2009. 6
7. Kodiak Road Zone showing American and Olds rivers. 8
8. Sample age composition of black and yelloweye rockfish harvested by Kodiak anglers, 2000-2009. 14

ABSTRACT

This report provides a summary of sport fisheries in the Kodiak Regulatory Management Area for which the Alaska Board of Fisheries (BOF) is considering proposals in January 2011. A historical overview, recent fisheries performance and management actions, and associated BOF proposals is included in each section.

Key words: Kodiak Regulatory Management Area, Alaska Board of Fisheries, sport fisheries overview, Kodiak Road Zone, Buskin River, Kalsin Pond, American River, Olds River, Monashka Creek, rockfish (pelagic and nonpelagic) *Sebastes*, coho salmon, king salmon, Chinook salmon, *Oncorhynchus kisutch, O. tshawytscha*.

INTRODUCTION

The Kodiak Sport Fish Management Area comprises two regulatory areas. The Kodiak Regulatory Area (KRA) is covered in Chapter 64 of the Alaska Administrative Code and includes all waters circumjacent to the Kodiak and Afognak archipelagos. The Alaska Peninsula/Aleutian Islands Regulatory Area is described in Chapter 65 of the Alaska Administrative Code and includes all waters of the Alaska Peninsula west of Cape Douglas on the Pacific side and west of Cape Menshikof on the Bering Sea side, extending to the international dateline, including waters circumjacent to the Aleutian and Pribilof islands (Figure 1). This report focuses on KRA sport fisheries.

The most commonly harvested species in the KRA include coho salmon *Oncorhynchus kisutch,* Pacific halibut *Hippoglossus stenolepis*, sockeye salmon *O. nerka*, pink salmon *O. gorbuscha*, Dolly Varden *Salvelinus malma* , and king salmon *O. tshawytscha*. In order to maintain consistency with regulatory language, "king salmon" shall be used throughout this report to also mean "Chinook salmon."

The following proposals will be considered by the Alaska Board of Fisheries (BOF) in January 2011 and will directly affect KRA sport fisheries.

Proposal 79: Close the Kalsin Pond outlet stream to sport fishing from Chiniak Highway downstream approximately 150 feet.

Proposal 80: Close the Kalsin Pond outlet stream to sport fishing from Chiniak Highway downstream approximately 200 feet.

Proposal 81: Open the American and Olds rivers to king salmon fishing from August 1 through September 15.

Proposal 82: Reduce the rockfish (pelagic and nonpelagic) *Sebastes* bag limit from 10 per day, 20 in possession to 5 per day, 10 in possession.

KODIAK REGULATORY AREA OVERVIEW

The current human population on the Kodiak Archipelago is approximately 13,000. Kodiak Island has a road system along the northeast coast extending 70 miles from the City of Kodiak. The archipelago also contains six outlying village communities, with a combined population of around 1,000. For management purposes, KRA is divided into two zones, the Road Zone and the Remote Zone (Figure 2). The Road Zone and adjacent salt waters receive significantly more fishing effort than the Remote Zone due to comparatively convenient access for anglers. Consequently, sport fishing regulations applied to the Road Zone are generally more conservative than those in effect within the Remote Zone.

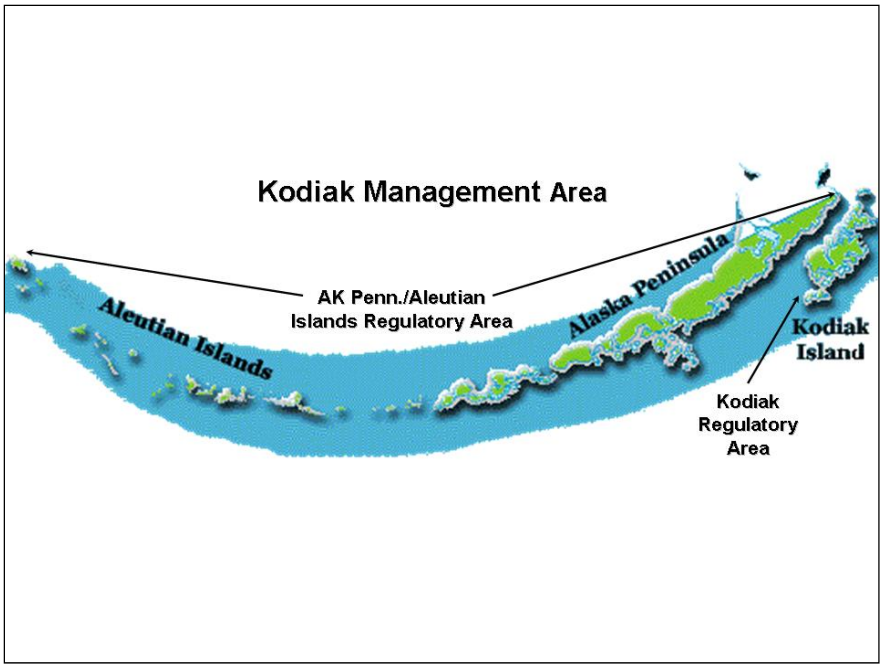


Figure 1.-The Kodiak Sport Fish Management Area: Kodiak Island Archipelago, Alaska Peninsula, and Aleutian Islands.

Angler effort, harvest, and catch from the Statewide Harvest Survey (SWHS) (Walker et al. 2003; Jennings et al. 2004, 2006a-b 2007, 2009a-b, 2010a-b, *In prep* is presented throughout this report. In addition, guided angler statistics from the Division of Sport Fish logbook program and results from annual dockside sampling of saltwater catches are presented to describe Kodiak's rockfish sport fishery. Current catch, harvest, and effort figures from both logbooks (Sigurdsson and Powers 2009) and the SWHS are available through 2009. Estimated salmon escapements derived from weir counts and index surveys are also available through 2009.

Annual angling effort in KRA during the last 10 years (2000-2009) has averaged nearly 100,000 angler-days, with an estimated 102,000 angler-days occurring in 2009. Effort levels have remained relatively stable over time, on average fluctuating annually by less than 7% (Figure 3). Areawide angling effort has typically been divided evenly between freshwater and saltwater fisheries.

The most actively fished areas are within the Kodiak Road Zone, and include Chiniak Bay, and the Buskin, Saltery, and Pasagshak rivers. The combined effort for these areas has averaged around 20,000 angler-days over the past 10 years, and accounts for approximately 20% of total annual KRA angling effort.

Areawide average annual sport harvests in 2009 included more than 30,000 coho salmon, 33,000 halibut, roughly 12,000 pink salmon, a similar number of sockeye salmon, 3,500 Dolly Varden, and 8,000 king salmon (Figure 4). Although estimates vary somewhat by species, KRA anglers released more than 60% of the fish they caught during 2009.

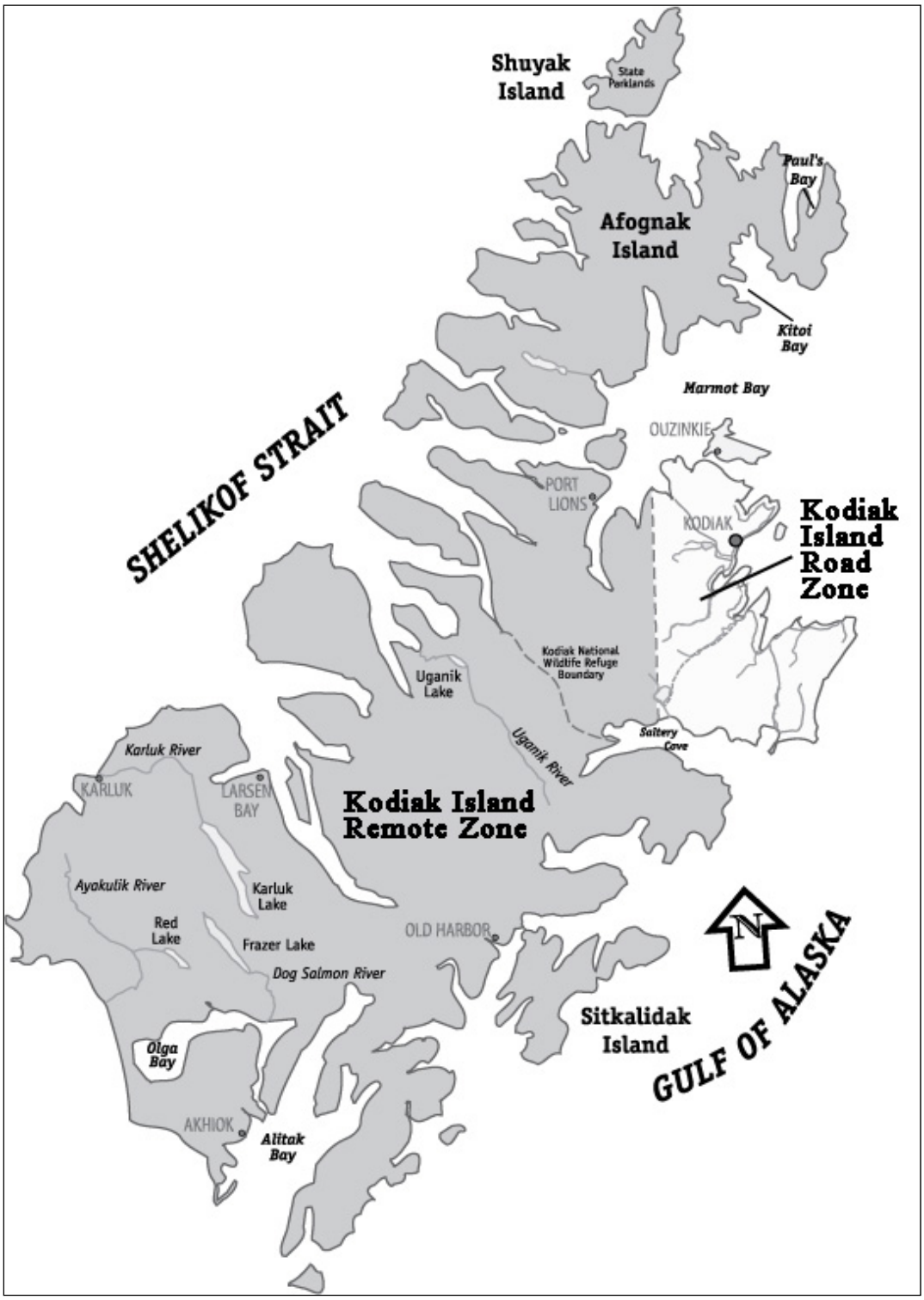


Figure 2.-Kodiak Regulatory Area showing the Road Zone and Remote Zone.

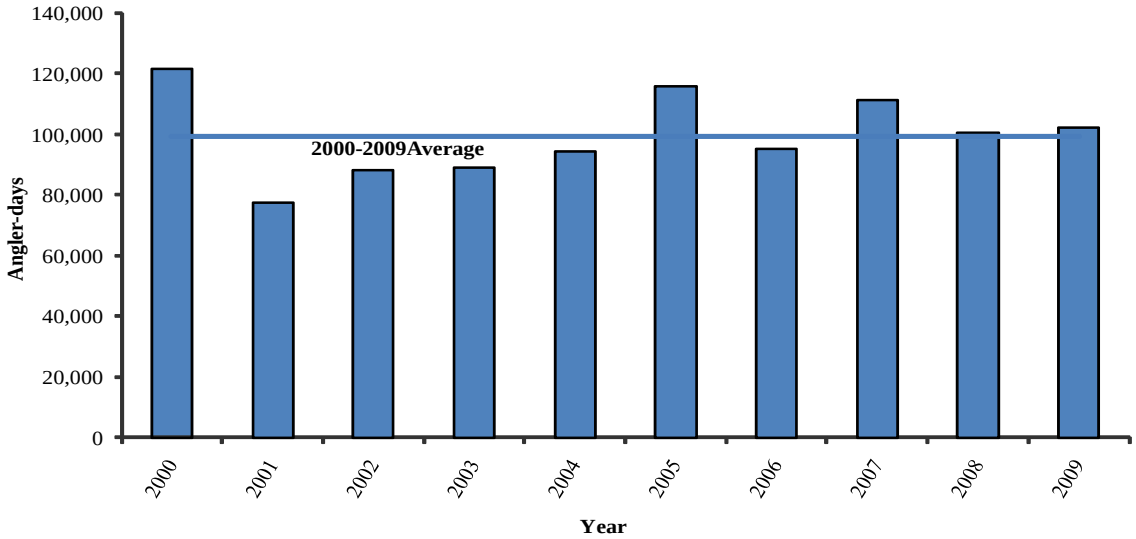


Figure 3.-Angler-days of sport fishing effort by anglers fishing Kodiak Regulatory Area waters, 2000-2009.

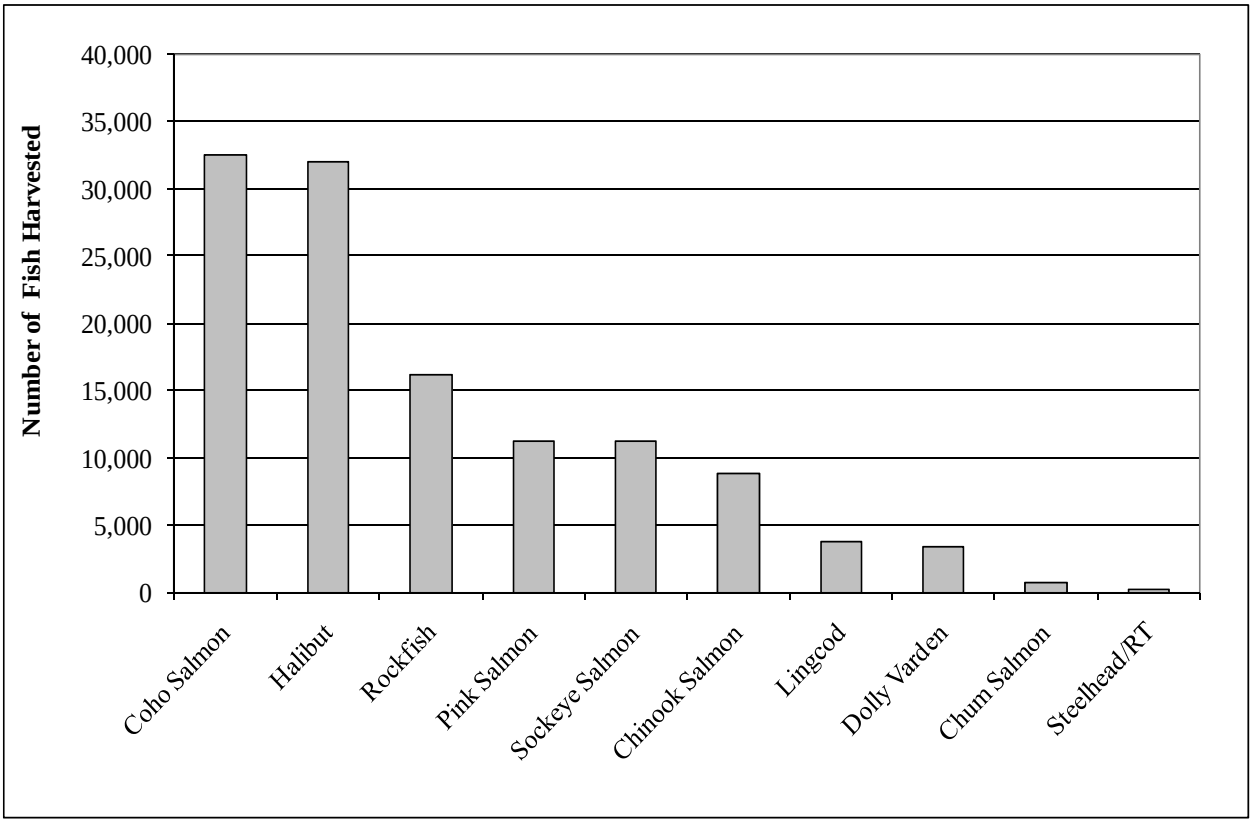


Figure 4.-Number of sport-harvested fish by species in Kodiak Regulatory Area waters during 2009.

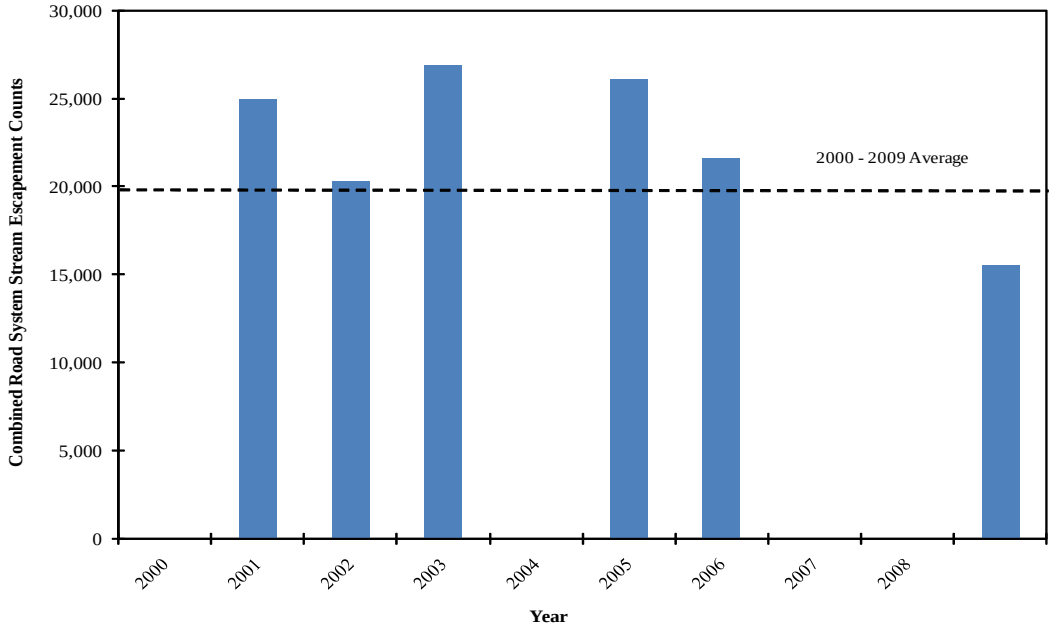
KODIAK ROAD ZONE COHO SALMON FISHERY

ASSOCIATED BOARD OF FISHERIES PROPOSALS

Proposals 79 and 80 are public proposals which would close waters of the Kalsin Pond outlet stream currently open to sport fishing to discourage snagging of coho salmon. Snagging is illegal in these and other fresh waters of the KRA, but open landscape surrounding the outlet of Kalsin pond makes surveillance of fishing activities by enforcement officers difficult. The department supports providing Department of Public Safety additional tools for enforcing current regulations, but is neutral on closing waters to sport fishing because there is no biological justification. Without biological justification to reduce sport fishing opportunity, these proposals are social in nature.

HISTORICAL OVERVIEW

The Kodiak Road Zone sport fishery accounts for the largest proportion of angler effort within the KRA. Pink and coho salmon are the most commonly targeted species by anglers fishing Road Zone streams. The department annually monitors Road Zone coho salmon escapements with a weir on the Buskin River and escapement index surveys conducted on up to 13 additional streams. During the most recent 10-year period (2000-2009) weir counts have ranged from approximately 8,000 to 16,000 coho salmon, and averaged slightly less than 10,000. Survey counts (Figure 5) have varied annually by drainage, and in aggregate, accounted for around 50% of the average total escapement counts.



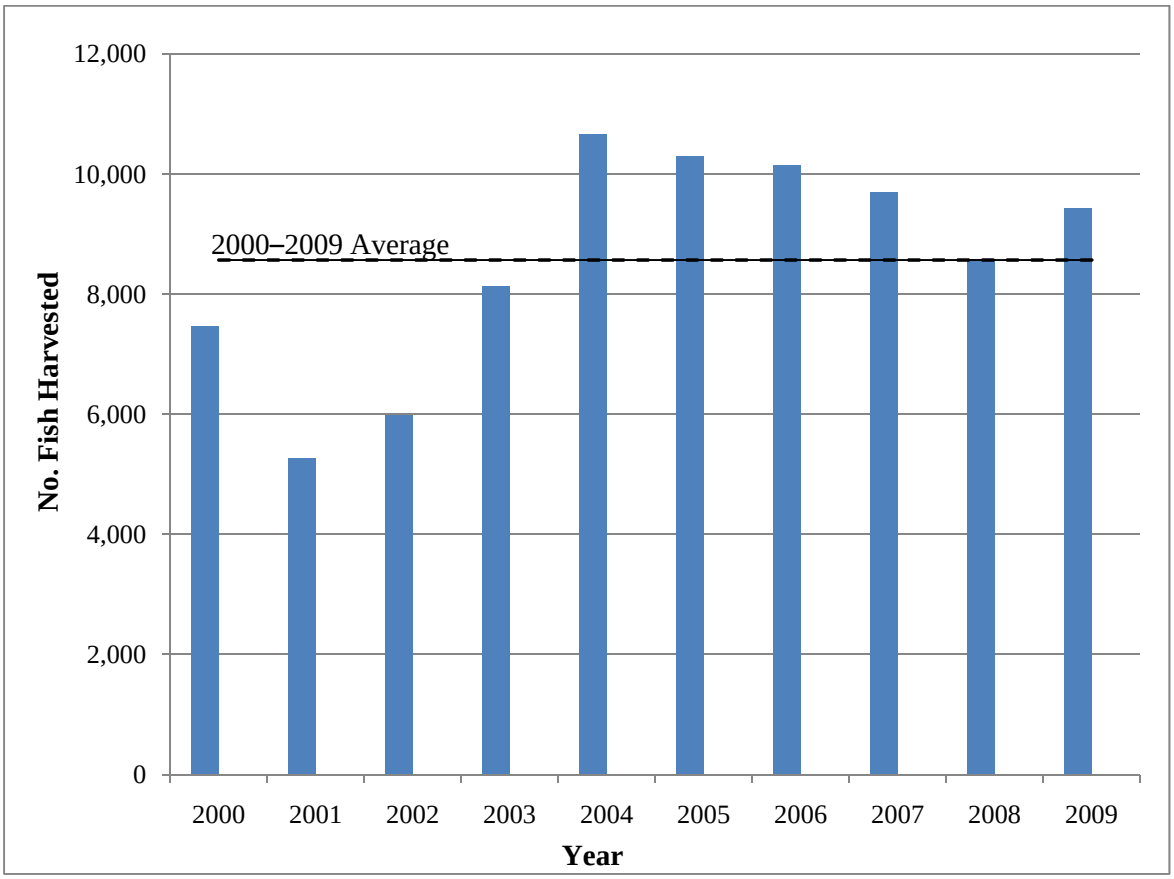
Note: Includes escapement index counts from the American, Pasagshak, Olds, Roslyn, Salonie, and Russian rivers, Pillar, Monashka, Sargent, Felton, Myrtle, and Chiniak creeks, and annually estimated total escapement for the Buskin River.

Figure 5.-Combined coho salmon escapement counts for Kodiak Road Zone streams, 2000–2009.

Coho salmon sport harvests from several major Road Zone drainages have averaged more than 8,200 fish over the most recent 10-year period (Figure 6). Annual harvests increased from approximately 5,000 in 2001 to 10,000 in 2004, but have since declined slightly.

Sport fishing regulations in the Road Zone include a daily bag and possession limit of 2 coho salmon 20 inches total length and longer. Additionally, all drainages except the Buskin and Pasagshak rivers and Kalsin Pond are closed to salmon fishing above the Chiniak Highway from August 1 through September 15.

Previous efforts to accurately assess coho salmon escapements into the Kalsin Pond drainage have largely failed due to an inability to locate spawning fish during ground-based surveys and a lack of financial resources to employ more intensive escapement survey methods, such as aerial surveys or a counting weir. Therefore, data on productivity and abundance of this population are not available. Annual SWHS estimates of catch and harvest are unavailable due to an inadequate number of survey respondents who fish for coho salmon in this drainage. Thus, legal angler effort on this stock appears to be relatively light.



Note: Includes harvests from the American, Buskin, Pasagshak and Olds rivers.

Figure 6.-Combined coho salmon harvests for major Kodiak Road Zone streams, 2000–2009.

RECENT FISHERIES PERFORMANCE AND MANAGEMENT ACTIONS

With the exception of Buskin River drainage, all Road Zone coho salmon escapement monitoring is conducted annually after harvests by all user groups. Management of the sport fishery is based on annual trend information, rather than inseason observations. Consequently, daily bag and possession limits may be adjusted for resource conservation over time, but generally are not subject to inseason changes during the coho salmon run. Recent trends in Road Zone escapements indicate that current regulations have largely been effective in sustaining the resource while providing predictable sport fishing opportunity for anglers.

AMERICAN AND OLDS RIVERS KING SALMON FISHERY

ASSOCIATED BOARD OF FISHERIES PROPOSALS

Proposal 81 would keep the American and Olds rivers open to sport fishing for king salmon from August 1 through September 15. The department submitted and supports this proposal.

HISTORICAL OVERVIEW

The American and Olds rivers drain into Middle and Kalsin Bays, respectively, within the Kodiak Road Zone (Figure 7). Since 2007, the department has annually imprinted and released up to 160,000 hatchery-reared king salmon smolt in these rivers for the purpose of providing enhanced sport fishing opportunity.

The brood source for this king salmon enhancement project was originally from Karluk River king salmon in 2000. Annual egg takes from adult king salmon returning to Monashka Creek since 2004 have provided smolt for release in Monashka Creek and, beginning in 2007, American and Olds rivers (Table 1). Consequently, all adult king salmon annually returning to the American and Olds rivers are surplus to future production needs of the project and available for harvest by sport anglers and other users. The long-term goal of the king salmon enhancement project is to produce a combined annual return to these drainages of 2,000 adult fish for anglers to utilize.

RECENT FISHERIES PERFORMANCE AND MANAGEMENT ACTIONS

Angler catch and harvest statistics for king salmon returns to the American and Olds rivers currently are not available, largely because 2010 was the first year an inriver abundance estimate of full-sized adult fish was available to the sport fishery. During 2008 and 2009, smaller returns of jack king salmon also generated angler interest. However, the catch and harvest of these fish was not documented by the SWHS because the level of effort was too small to provide a sufficient number of survey responses.

To conserve early escapements of coho salmon current regulations prohibit sport fishing for salmon at American and Olds rivers upstream of the Chiniak Highway from August 1 through September 15. In 2009, this regulation was superseded by emergency order to allow the harvest of jack king salmon in both drainages after August 1. Both streams are managed for coho salmon abundance through establishment of escapement goals and annual monitoring through post-run escapement index surveys. Inriver coho salmon sport harvests are assessed annually by the SWHS. Over the past 10 years, coho salmon escapement index counts in the American River

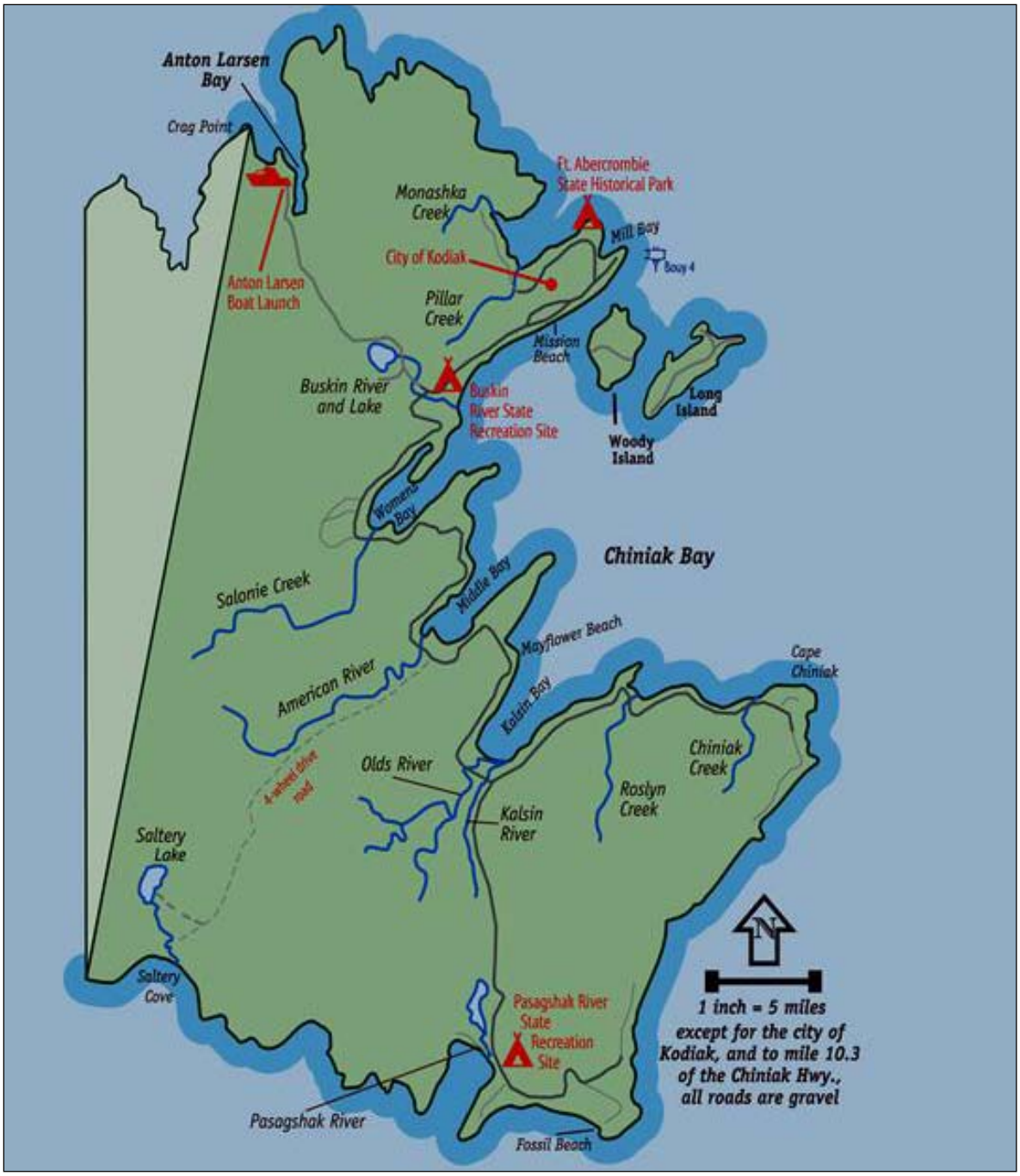


Figure 7.-Kodiak Road Zone showing American and Olds rivers.

Table 1.-History of smolt releases to establish an enhanced king salmon sport fishery at American and Olds rivers in the Kodiak Road Zone.

Year of Release	Release Location	Imprinting Dates	No. Smolt Released	Smolt Weight (g)
2002	Monashka Creek	May 6 - 24	60,000	30
2003	Monashka Creek	May 19 - 30	33,000	25
2004	Monashka Creek	May 17 - 28	11,000	30
2005	Monashka Creek	April 27 - May 12	72,000	15
2006	Monashka Raceway	April 16 - May 24	29,000	20
2007	Monashka Raceway	April 21 - June 12	47,000	16
	American River	May 29 - June 9	28,000	12
	Olds River	May 24 - June 8	28,000	11
2008	Monashka Raceway	May 31 - June 13	58,000	14
	American River	May 15 - June 2	45,000	12 - 13
	Olds River	May 19 - June 12	45,000	14
2009	Monashka Raceway	June 13 - 19	79,000	15
	American River	May 12 - June 12	51,000	9 - 11
	Olds River	May 11 - June 12	52,000	10 - 11
2010	Monashka Raceway	May 11 (release date)	85,000	15
	American River	May 19 - June 16	80,000	14
	Olds River	May 14 - June 8	80,000	14

have averaged 668 (Table 2). During the same period, indexed escapements into the Olds River averaged 1,515. Anglers targeting coho salmon in the American and Olds rivers comprise a relatively substantial percentage of the total Kodiak Road Zone sport fishing effort. During 2000-2009, annual coho salmon harvest estimates averaged around 950 at the American River and more than 1,500 at Olds River (Table 2). Annual fluctuations in abundance based on escapement index survey counts may partially be attributable to variability in survey conditions (i.e., visibility for counting) and weather-caused environmental changes such as flooding and droughts that likely affect short-term coho salmon productivity in most Kodiak Road Zone drainages.

Table 2.-American and Olds River coho salmon escapement index counts and estimated sport harvests, 2000-2009.

	Escapement Index Count		Sport Harvest			
Year	American River	Olds River	American River	% of Road Zone Total	Olds River	% of Road Zone Total
2000	133	1,097	480	6%	1,712	23%
2001	233	3,454	860	16%	1,268	24%
2002	1,034	580	1,195	20%	1,346	22%
2003	511	1,534	1,051	13%	1,233	15%
2004	753	1,860	1,283	12%	2,082	20%
2005	339	2,495	1,636	16%	1,993	19%
2006	2,033	1,912	835	8%	1,637	16%
2007	307	868	980	10%	1,401	14%
2008	700	656	799	9%	696	8%
2009	639	697	405	4%	1,889	20%
10 Year Avg.	668	1,515	952	12%	1,526	18%

KODIAK REGULATORY AREA ROCKFISH FISHERY

ASSOCIATED BOARD OF FISHERIES PROPOSALS

Proposal 82 seeks to reduce the rockfish sport bag limit from 10 per day, 20 in possession to 5 per day, 10 in possession. The department submitted and supports this proposal.

HISTORICAL OVERVIEW

KRA sport rockfish harvests were highly variable from year to year, but generally remained in the range of 5,000-8,000 fish annually until 2005, when harvest increased to over 15,000 fish (Table 3). Harvests averaged over 14,000 fish annually over the last 5 years. The recent growth in harvest is largely attributable to the guided sector, whose share of harvest increased from 30% in 2000 to 60% in 2009. Rockfish harvests include pelagic species (black, dark, and dusky) and nonpelagic species (yelloweye). Pelagic rockfishes historically constitute most of the annual catch (Table 4).

Current sport fishery regulations for harvesting rockfishes include a combined species daily bag limit of 10 and possession limit of 20. There is no size or annual limit, and no annual harvest reporting requirement.

KRA black rockfish populations are also harvested annually in a directed commercial jig fishery, and incidentally in relatively small numbers by other gear types. The commercial fishery is managed for guideline harvest levels established preseason for each of seven fishing districts. Since 2000, the annual commercial harvest ranged from approximately 84,000 to 246,000 fish, and averaged around 147,000 (Table 5).

Table 3.-Kodiak Area sport fishery harvests of rockfish, 2000-2009.

Year	Harvest		
	Guided Anglers	Unguided Anglers	Total
2000	1,967	5,158	7,125
2001	2,516	2,989	5,505
2002	2,557	4,999	7,556
2003	1,774	4,392	6,166
2004	4,239	3,605	7,844
2005	5,889	9,503	15,392
2006	6,087	5,601	11,688
2007	7,132	5,419	12,551
2008	9,961	5,635	15,596
2009	9,264	6,673	15,937
10 Year Avg.	5,139	5,397	10,536

Source: Statewide Harvest Survey (SWHS) (Walker et al. 2003; Jennings et al. 2004, 2006a-b 2007, 2009a-b, 2010a-b, *In prep*).

Table 4.-Kodiak Area sport fishery harvest estimates of pelagic and nonpelagic rockfish, 2000-2009.

Year	Harvest (number of fish)		
	Pelagic	Non-pelagic[a]	Total
2000	6,788	337	7,125
2001	5,364	141	5,505
2002	7,145	411	7,556
2003	5,810	356	6,166
2004	7,282	562	7,844
2005	13,637	1,755	15,392
2006	10,174	1,514	11,688
2007	12,490	61	12,551
2008	14,320	1,276	15,596
2009[b]	15,141	796	15,937
10 Year Avg.	9,815	721	10,536

Note: Proportions based on composition of pelagic and nonpelagic species in port sample results from angler catches.

[a] Nonpelagic harvest consists mostly of yelloweye.

[b] 2009 proportion based on 2000-2008 average.

Table 5.-Kodiak Area commercial harvests of black rockfish, 2000-2009.

Year[a]	Harvest (lbs.)
2000	245,891
2001	213,629
2002	196,548
2003	84,237
2004	122,180
2005	116,726
2006	123,443
2007	135,386
2008	132,325
2009	103,422
10 Yr. Avg.	147,379

Source: Sagalkin et al. 2009.

[a] 2000–2007 includes both directed and incidental harvests; 2008–2009 includes directed harvest only.

RECENT FISHERIES PERFORMANCE AND MANAGEMENT ACTIONS

In addition to the SWHS, recent rockfish catches by guided anglers are also available from the department's guide operator logbook program. Catch data collected since 2006 indicate that aboard chartered fishing vessels, where individual anglers caught at least 1 rockfish of any species, an overall average of just over 3 rockfish per angler was harvested (Table 6). The average pelagic rockfish harvest per angler during the same trips was 2.5 for resident anglers, but slightly higher at 2.8 for nonresidents. Harvest rates between resident and nonresident anglers of nonpelagic rockfish were also similar at an average of less than 1 per person. Harvest rates of all rockfish species by charter crews and nonpaying anglers were slightly lower than those for paying clients, averaging about 2.5 per person. Nonpelagic rockfish harvests were comprised mostly of yelloweye, which comprised 12% of rockfish harvested by resident charter vessel anglers and 19% of the harvest recorded for nonresidents.

Table 6.-Kodiak Area guided angler average harvest statistics from chartered vessel trips where an individual caught at least one rockfish, 2006-2009.

Year	Average Harvest per Angler								
	Resident			Non-Resident			Crew/Non-Client		
	Pelagic	Non-Pelagic[a]	All	Pelagic	Non-Pelagic[a]	All	Pelagic	Non-Pelagic[a]	All
2006	1.7	0.5	2.2	2.1	0.3	2.4	0.8	0.2	1.0
2007	2.3	0.6	2.8	2.7	0.3	3.0	1.9	0.6	2.5
2008	2.7	0.7	3.4	3.0	0.5	3.5	2.2	0.7	2.8
2009	3.3	0.6	4.0	3.6	0.4	4.0	3.0	0.6	3.6
Average	2.5	0.6	3.1	2.8	0.4	3.2	2.0	0.5	2.5

[a] Nonpelagic harvest consists mostly of yelloweye.

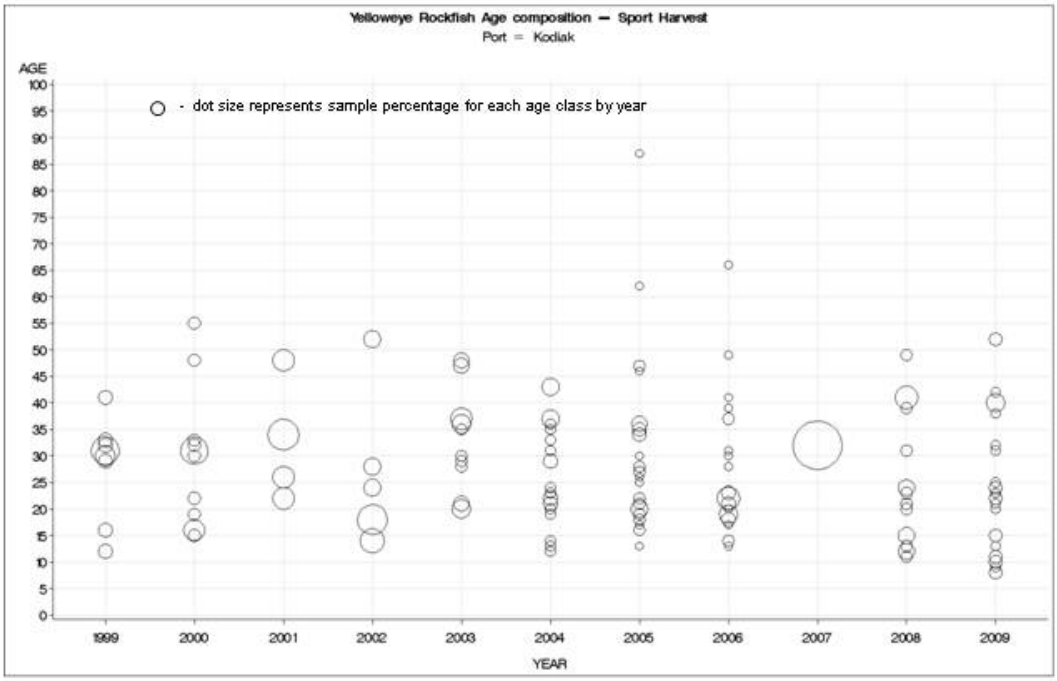
Table 7.-Number of Kodiak Area guided anglers who harvested more than 5 rockfish per trip, including those who harvested 10 per trip, 2006–2009.

	Anglers who Harvested Rockfish					
	Resident		Non-Resident		Crew/Non-Client	
Year	>5 per trip	10 per trip	>5 per trip	10 per trip	>5 per trip	10 per trip
2006	37	22	255	133	23	9
2007	56	27	708	376	4	0
2008	72	48	779	481	12	7
2009	103	51	913	542	13	9

Within the same group of anglers an increasing number harvested more than 5 rockfish per trip between 2006 and 2009 (Table 7). Both resident and non-residents in this category more than tripled in number over the 4-year period. Similarly, the inclusive number of guided resident anglers harvesting 10 rockfish per day more than doubled, and non-residents harvesting 10 fish per trip nearly quadrupled. In contrast, a relatively small number of crew members and other non-client anglers harvesting more than 5 fish per trip decreased by nearly one-half during the same period.

Research conducted annually by the department to assess Kodiak rockfish population dynamics includes size and age composition samples collected dockside from angler catches. Results from 1999-2009 indicate steady recruitment has been occurring in black rockfish populations, with most harvested fish averaging around age 10-12 years (Figure 8). Although the ages of port sampled individuals over the last decade for this long-lived species range from 8 to 87 years, sample sizes of sport-caught yelloweye typically are too small to accurately identify recruitment trends within local population.

Bag and possession limits were established by BOF in 1999, and at the time, generally matched rockfish limits elsewhere in the state. Since then more conservative daily harvest limits, including some applied separately for pelagic and nonpelagic rockfish, have been implemented in most other sport fisheries in state waters due to increasing harvest trends and concern over localized depletion of this long-lived and slow-growing group of fishes, particularly the nonpelagic species. Harvest limits for the Kodiak fishery remain some of the most liberal statewide.



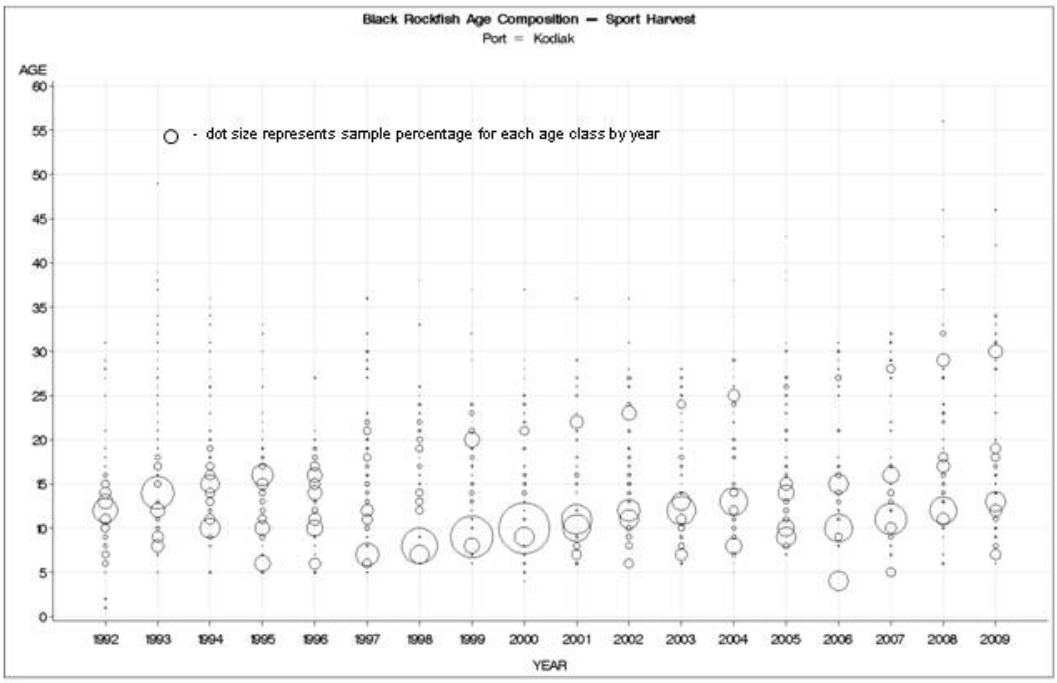


Figure 8.-Sample age composition of black and yelloweye rockfish harvested by Kodiak anglers, 2000-2009.

REFERENCES CITED

Jennings, G. B., K. Sundet, and A. E. Bingham. 2007. Participation, catch, and harvest in Alaska sport fisheries during 2004. Alaska Department of Fish and Game, Fishery Data Series No. 07-40, Anchorage. http://www.sf.adfg.state.ak.us/FedAidPDFs/fds07-40.pdf

Jennings, G. B., K. Sundet, and A. E. Bingham. 2009a. Estimates of participation, catch, and harvest in Alaska sport fisheries during 2005. Alaska Department of Fish and Game, Fishery Data Series No. 09-47, Anchorage. http://www.sf.adfg.state.ak.us/FedAidPDFs/FDS09-47.pdf

Jennings, G. B., K. Sundet, and A. E. Bingham. 2009b. Estimates of participation, catch, and harvest in Alaska sport fisheries during 2006. Alaska Department of Fish and Game, Fishery Data Series No. 09-54, Anchorage. http://www.sf.adfg.state.ak.us/FedAidPDFs/FDS09-54.pdf

Jennings, G. B., K. Sundet, and A. E. Bingham. 2010a. Estimates of participation, catch, and harvest in Alaska sport fisheries during 2007. Alaska Department of Fish and Game, Fishery Data Series No. 10-02, Anchorage. http://www.sf.adfg.state.ak.us/FedAidpdfs/Fds10-02.pdf

Jennings, G. B., K. Sundet, and A. E. Bingham. 2010b. Estimates of participation, catch, and harvest in Alaska sport fisheries during 2008. Alaska Department of Fish and Game, Fishery Data Series No. 10-22, Anchorage. http://www.sf.adfg.state.ak.us/FedAidpdfs/FDS10-22.pdf

Jennings, G. B., K. Sundet, and A. E. Bingham. *In prep*. Estimates of participation, catch, and harvest in Alaska sport fisheries during 2009. Alaska Department of Fish and Game, Fishery Data Series, Anchorage.

Jennings, G. B., K. Sundet, A. E. Bingham, and D. Sigurdsson. 2004. Participation, catch, and harvest in Alaska sport fisheries during 2001. Alaska Department of Fish and Game, Fishery Data Series No. 04-11, Anchorage. http://www.sf.adfg.state.ak.us/FedAidPDFs/fds04-11.pdf

Jennings, G. B., K. Sundet, A. E. Bingham, and D. Sigurdsson. 2006a. Participation, catch, and harvest in Alaska sport fisheries during 2002. Alaska Department of Fish and Game, Fishery Data Series No. 06-34, Anchorage. http://www.sf.adfg.state.ak.us/FedAidpdfs/fds06-34.pdf

Jennings, G. B., K. Sundet, A. E. Bingham, and D. Sigurdsson. 2006b. Participation, catch, and harvest in Alaska sport fisheries during 2003. Alaska Department of Fish and Game, Fishery Data Series No. 06-44, Anchorage. http://www.sf.adfg.state.ak.us/FedAidpdfs/fds06-44.pdf

Sagalkin, N. H., P. Converse, K. Phillips, and S. E. Mejjati. 2009. Annual management report for the groundfish fisheries in the Kodiak, Chignik, and South Alaska Peninsula Management Areas, 2008. Alaska Department of Fish and Game, Fishery Management Report No. 09-55, Anchorage. http://www.sf.adfg.state.ak.us/FedAidpdfs/FMR09-55.pdf

Sigurdsson, D., and B. Powers. 2009. Participation, effort, and harvest in the sport fish business/guide licensing and logbook reporting programs, 2006-2008. Alaska Department of Fish and Game, Special Publication No. 09-11, Anchorage. http://www.sf.adfg.state.ak.us/FedAidPDFs/SP09-11.pdf

Walker, R. J., C. Olnes, K. Sundet, A. L. Howe, and A. E. Bingham. 2003. Participation, catch, and harvest in Alaska sport fisheries during 2000. Alaska Department of Fish and Game, Fishery Data Series No. 03-05, Anchorage. http://www.sf.adfg.state.ak.us/FedAidPDFs/fds03-05.pdf