RC 2

ALASKA DEPARTMENT OF FISH AND GAME

STAFF COMMENTS ON
BERING SEA TANNER CRAB
AND
KODIAK GROUNDFISH AND FINFISH REGULATORY PROPOSALS

COMMITTEE OF THE WHOLE–GROUPS 1 AND 2,

ALASKA BOARD OF FISHERIES MEETING
KODIAK, ALASKA

January 10-13, 2017

Regional Information Report 4K16-04

The following staff comments were prepared by the Alaska Department of Fish and Game for use at the Alaska Board of Fisheries (board) meeting, January 10–13, 2017, in Kodiak, Alaska. The comments are forwarded to assist the public and board. The comments contained herein should be considered preliminary and subject to change, as new information becomes available. Final department positions will be formulated after review of written and oral public testimony presented to the board.

Symbols and Abbreviations

The following acronyms and abbreviations, and others approved for the Système International d'Unités (SI), are used without definition in the following reports by the Divisions of Commercial Fisheries, Sport Fish, and Subsistence: 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)

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)

Acronyms

Alaska Board of Fisheries	board
Alaska Department of Fish and Game	department
Biological Escapement Goal	BEG
Chignik Management Area	CMA
Commercial Fishery Entry Commission	CFEC
Emergency Order	EO
Federal Salmon Fishery Management Plan	FMP
Guideline Harvest Level	GHL
Inriver run goal	IRRG
Jack sockeye salmon	JSS
Kodiak Management Area	KMA
Kodiak Regional Aquaculture Association	KRAA
Kodiak Road Zone	KRZ
Northwest Stepovak Section	NWSS
Southeastern District Mainland	SEDM
Sustainable Escapement Goal	SEG
Western Alaska Salmon Stock Identification Program	WASSIP

REGIONAL INFORMATION REPORT 4K16-04

ALASKA DEPARTMENT OF FISH AND GAME

STAFF COMMENTS ON
BERING SEA TANNER CRAB
AND
KODIAK GROUNDFISH AND FINFISH REGULATORY PROPOSALS

COMMITTEE OF THE WHOLE–GROUPS 1&2,

ALASKA BOARD OF FISHERIES MEETING
KODIAK, ALASKA

January 10-13, 2017

Alaska Department of Fish and Game
Division of Commercial Fisheries
333 Raspberry Road
Anchorage, AK 99518-1565

December 2016

ABSTRACT

This document contains Alaska Department of Fish and Game staff comments on commercial regulatory proposals for the Kodiak Finfish meeting. These comments were prepared by the department for use at the Alaska Board of Fisheries meeting, January 10–13, 2017, in Kodiak, Alaska. The comments are forwarded to assist the public and board. The comments contained herein should be considered preliminary and subject to change, as new information becomes available. Final department positions will be formulated after review of written and oral public testimony presented to the board.

Key words: Alaska Board of Fisheries (board), Alaska Department of Fish and Game (department), staff comments, regulatory proposals, fisheries, commercial, groundfish, tanner crab

This document should be cited as
ADF&G (Alaska Department of Fish and Game). 2016. Alaska Department of Fish and Game staff comments on Bering Sea Tanner crab and Kodiak groundfish and finfish regulatory proposals, committee of the whole–groups 1 and 2, Alaska Board of Fisheries meeting, Kodiak, Alaska, January 10-13, 2017. Alaska Department of Fish and Game, Regional Information Report 4K16-04, Kodiak.

TABLE OF CONTENTS

Page

LIST OF TABLES

LIST OF FIGURES

Summary of department positions on regulatory proposals for the Kodiak Finfish–Kodiak, January 10–13, 2017.

Proposal No.	Department Position[a]	Issue
278	O/N	Amend the Bering Sea District Tanner crab harvest strategy to remove the mature female Tanner crab biomass threshold for opening the fishery and remove provisions allowing a harvest in waters east of 166° W. long.
49	N	Remove the 5-day stand down period and increase trip limits in the black rockfish fishery.
50	N	Change dates when the Kodiak Area can become a nonexclusive registration area for jig gear from October 30 to June 10.
66	S	Repeal closed water provisions for sport fishing for salmon and reduce bag and possession limits within the Kodiak Road Zone.
67	S	Decrease the rockfish sport fishery bag and possession limits in Chiniak Bay and Marmot Bay.
68	O	Close the Buskin River drainage, from lake outlet to Bridge #2, to sport fishing April 20 to June 1.
69	O	Allow only single hook lures in Kodiak fresh waters.
70	O	Prohibit use of bait in fresh waters of Kodiak Archipelago from October 1 to August 15.
47	S	Correct inconsistent GPS coordinates for waters of Kitoi Bay closed to commercial salmon fishery.
48	S	Correct inconsistent GPS coordinates for waters of Kitoi Bay closed to subsistence salmon fishing.
51	N	Increase the minimum expected sockeye salmon harvest thresholds from 300,000 to 600,000 prior to July 8 and 600,000 to 1,000,000 fish after July 8, and from 600,000 to 1,000,000 fish in years when runs are as strong as expected.
52	O	Require commercial salmon fishermen to register prior to fishing in the Cape Igvak Section and check out upon leaving the section, and require tender operators to report fish ticket harvest data within 12 hours of taking a delivery.
53	N	Amend the Cape Igvak Salmon Management Plan so that the harvest allocation applies only prior to July 9.
54	N	Redefine the area used to determine allocation percentages within the Cape Igvak Salmon Management Plan.
55	N	Repeal the Cape Igvak Salmon Management Plan and close commercial salmon fishing through July 25.
56	N	Reduce the Cape Igvak Section allocation from 15 percent to 7.5 percent of the total Chignik Area sockeye salmon catch.
57	N	Allow set gillnet gear in the entire Alitak District after September 4.
58	O	Limit escapement of jack sockeye salmon into Frazer Lake to no more than15 percent of total Frazer Lake sockeye salmon escapement.
59	O, N	Implement a mandatory minimum commercial salmon fishery closure of 63 consecutive hours during every 7-day period in both the Westside and Alitak districts.

-continued-

Summary of department positions on regulatory proposals for the Kodiak Finfish–Kodiak, January 10–13, 2017 (Page 2 of 2).

Proposal No.	Department Position[a]	Issue
60	O,S	Create a special harvest area (SHA) allowing the Kodiak Regional Aquaculture Association to harvest Karluk River sockeye salmon deemed excess to escapement needs.
61	S	Amend the Spiridon Bay Sockeye Salmon Management Plan to reflect cost-recovery activities conducted by Kodiak Regional Aquaculture Association.
62	O	Close all waters within a 1,000-yard radius of the terminus of Ayakulik River to commercial salmon fishing June 1 to July 15.
63	O	Close all waters within a 500-yard radius of the terminus of Ayakulik River to commercial salmon fishing.
64	N	Close commercial salmon fishing from July 10 to August 10 in all waters north of a line from Ouzinkie Point on Ouzinkie Island to Parokoda Island and then from Paroka Island to the old Alaska Department of Fish and Game marker on Spruce Island near Black Point.
65	O	Establish a four and one half inch minimum mesh size for salmon seines from June 1 to July 15.

[a] N = Neutral, S = Support, O = Opposed.

COMMITTEE OF THE WHOLE–GROUP 1 (8 PROPOSALS)

BERING SEA TANNER CRAB

PROPOSAL 278 – 5 AAC 35.508. Bering Sea District C. bairdi Tanner crab harvest strategy.

PROPOSED BY: Alaska Board of Fisheries.

WHAT WOULD THE PROPOSAL DO? This would modify the Bering Sea District *Chionoecetes bairdi* Tanner crab harvest strategy by 1) removing the restriction that the Bering Sea District *C. bairdi* Tanner crab fishery may open only if the preseason estimate of mature female biomass in the Eastern Subdistrict is at or above a specified threshold; 2) removing a rule that reduces TAC for the areas east and west of 166° W long. by one-half from computed values if the current year's estimate of mature female biomass in the Eastern Subdistrict is at or above the specified threshold, but the prior year's estimate was not; 3) removing the provisions for opening the commercial fishery and computing TAC in the area east of 166° W long.; and 4) adding the provision that the department maintain consistency with the board's *Policy on King and Tanner Crab Resource Management* in implementing the harvest strategy.

WHAT ARE THE CURRENT REGULATIONS? Tanner crab in the Bering Sea District are managed as a single stock, but with TACs established separately for the areas east and west of 166° W long. (Figure 278-1). The Bering Sea District Tanner crab harvest strategy, 5 AAC 35.508, has three components relevant to this proposal: 1) a mature female biomass threshold that must be met or exceeded before a commercial fishery in the Bering Sea District may be opened; 2) provisions for opening and computing TAC for the fisheries in the areas east and west of 166° W long. if mature female biomass meets or exceeds the threshold for opening the Bering Sea District fishery; and 3) factors that the department is directed to consider when implementing the harvest strategy.

Subsection (a) of the harvest strategy establishes a threshold level of mature female biomass in the Eastern Subdistrict of the Bering Sea District, defined as 40 percent of the 1975–2010 average female biomass, that must be met or exceeded for fisheries east or west of 166° W long. to open. Mature females in the Eastern Subdistrict (i.e., the area east of 173° W long. in Bering Sea District) are defined by size class, which varies by area, for computation of mature female biomass: subsection (g)(7)(A) defines mature females in the area east of 166° W long. as females that are more than 84 millimeters (3.3 inches) in carapace width; and subsection (g)(7)(B) defines mature females in the area west of 166° W long. as females that are more than 79 mm (3.1 inches) in carapace width.

If the threshold requirement for opening the Bering Sea District fishery specified in subsection (a) is met, subsections (b), (c), (d) and (e) establish the provisions for opening and computing separate TACs in the area east and west of 166° W long. Subsections (c)(1) and (d)(1) specify that the fishery in the areas east or west of 166° W long. may not open unless the preseason estimate of mature male biomass in each area is at least 25 percent of the 1975–2010 average for that area, with mature males in the area east of 166° W long. defined in subsection (g)(1) as those more than 112 mm in carapace width, and mature males in the area west of 166° W long. defined in subsection (g)(3) as those more than 102 mm (4 inches) in carapace width. If the preseason

estimate of mature male biomass within an area east or west of 166° W long. is at least 25 percent of the 1975–2010 average for that area, subsections (c) and (d) establish the rules for computing TACs within the areas east and west of 166° W long. as a function of the preseason estimate of mature male biomass within an area, the 1975–2010 average of mature male biomass within an area, and the quantities $C_{E,MSY}$ or $C_{W,MSY}$ (corresponding to areas east and west of 166° W long., respectively). Subsection (g)(5 and 6) defines $C_{E,MSY}$ and $C_{W,MSY}$ as the catch biomass of male Tanner crab five inches (127 mm) or greater in carapace width in the area east (or west) of 166° W long. that would result from fishing on mature male biomass at the maximum sustained yield fishing rate (F_{MSY}) at the time of mating. Computation of $C_{E,MSY}$ and $C_{W,MSY}$ requires survey data on the size and shell condition composition of male Tanner crab in the areas east and west of 166° W long. and values that are not specified in the regulatory harvest strategy, but which are estimated annually: the retained-catch fishery selectivity of male Tanner crab by size and shell condition; the full-selection F_{MSY} rate or a proxy thereof; the natural mortality rate of mature male Tanner crab; and the time between survey and mating. Subsections (b), (e)(1), and (e)(2) reduce TAC from that computed according to subsections (c) and (d) under certain conditions. If the fishery was not opened in the previous season because the stock did not meet the threshold requirements of subsection (a), subsection (b) specifies that TACs for the areas east and west of 166° W long. shall be one-half the value computed according to subsections (c) and (d). Subsections (e)(1) and (e)(2) set a limit on TAC for the areas east and west of 166° W long., notwithstanding TAC computations according to subsections (b), (c), and (d). Subsections (e)(1) and (e)(2) establishes that TAC not exceed 50% of the biomass of the male Tanner crab five inches or greater in carapace width in the areas east and west of 166° W long., as discounted by fishery selectivity, that would survive to the time of mating in the absence of fishing. Computation of that biomass requires survey data on the size and shell condition composition of male Tanner crab in the areas east and west of 166° W long. and values that are not specified in the regulatory harvest strategy, but which are estimated annually: the retained-catch fishery selectivity of male Tanner crab by size and shell condition; the natural mortality rate of mature male Tanner crab; and the time between survey and mating.

Subsection (f) of the harvest strategy directs the department to use the best scientific information available and to consider the reliability of preseason estimates, fishery manageability, consistency with sustained yield principles, and all sources of uncertainty as necessary to avoid overfishing when implementing the provisions of the harvest strategy.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The proposed harvest strategy removes the mature female biomass threshold that is in the current regulatory harvest strategy for the commercial Tanner crab fishery in the Bering Sea District. Thresholds in harvest strategies address the board's policy to "maintain an adequate brood stock to rebuild king or Tanner crab populations when they are depressed" by closing fisheries "until there is adequate brood stock." This would exclude data on mature female biomass from estimation of brood stock relative to the level adequate for stock rebuilding.

This would remove a precautionary measure in the current regulatory harvest strategy that reduces the TAC from the computed value in the first year that a stock is above threshold after having been below threshold.

Provisions for determining a fishery opening and for computing TAC for the fishery in the area east of 166° W long. would be removed, effectively closing the commercial Bering Sea District

Tanner crab fishery in the area east of 166° W long. without any provision for re-opening that fishery in the future, resulting in loss of future yield.

This would allow for opening a commercial Tanner crab fishery in the area west of 166° W long. in the Bering Sea District if the preseason estimate of mature male biomass in the area west of 166° W long. is at least 25 percent of the 1975–2010 average, with TAC computed for the area west of 166° W long. according to the current provisions in regulation, regardless of the level of mature female biomass in the Eastern Subdistrict.

This would have the effect of managing the Tanner crab occupying the area west of 166° W long. in the Bering Sea District as a distinct stock that is biologically independent of and disconnected from the Tanner crab occupying the area east of 166° W long.

For the 2016/2017 fishing season this could potentially result in increased Tanner crab harvest relative to status quo. In future years it is likely that Tanner crab harvest would be unnecessarily constrained because the area east of 166° W long. would be permanently closed to commercial Tanner crab fishing.

Tanner crab IFQs are issued independently for Tanner crab east and west of 166° W long., although most IFQ holders own equal shares in both areas. However, by effectively closing the fishery east of 166° W long., three out of the 354 entities holding IFQs for the fisheries east or west of 166° W long. would see a reduction in their total IFQ for Bering Sea District Tanner crab relative to other IFQ holders if this proposal were adopted, while four would see an increase in their total IFQ for Bering Sea District Tanner crab relative to other IFQ holders.

BACKGROUND: *C. bairdi* are harvested in the Bering Sea District of Tanner crab Registration Area J which includes all waters of the Bering Sea north of Cape Sarichef at 54°36′ N lat. and east of the U.S.-Russia Maritime Boundary Line of 1990. The Bering Sea District is divided into the Eastern and Western subdistricts at 173° W long. The Eastern Subdistrict is further divided into two sections at 166° W long. establishing the eastern Tanner crab fishery (163° to 166° W long) and, when combined with the entirety of the Western Subdistrict, the western Tanner crab fishery (west of 166° W long.) grounds (Figure 278-1).

Bering Sea District *C. bairdi* Tanner crab are managed under the federal FMP for Bering Sea and Aleutian Islands king and Tanner Crabs. Harvest levels are set to maximize socioeconomic benefits within the constraints necessary to avoid overfishing. The FMP stipulates that the board will consider the National Standards (FMP Appendix B) and the following factors, to the extent information is available, when developing harvest strategies: 1) whether the federal ACL for that stock was exceeded in the previous year, 2) stock status relative to the federal OFL and ACL, 3) estimates of exploitable biomass, 4) estimates of recruitment, 5) estimates of thresholds, 6) market and other economic considerations, 7) additional uncertainty, and 8) any additional factors pertaining to the health and status of the stock or the marine ecosystem (FMP Section 8.2.2).

Prior to 1999 there were no thresholds or provisions in regulation for determining fishery openings or computing catch levels in the Bering Sea District Tanner crab fishery. The harvest strategy, 5 AAC 35.508, was first adopted in 1999 by the board as a harvest strategy for the Tanner crab fishery in the Eastern Subdistrict of the Bering Sea District. Adoption of the harvest strategy followed the 1999 federal overfished declaration for the Bering Sea Tanner crab stock, and the regulatory harvest strategy was incorporated into the federal rebuilding plan for Bering Sea Tanner

crab (FMP Amendment 11). The harvest strategy included a specified threshold level that mature female biomass in the Eastern Subdistrict must meet or exceed for the fishery to open, exploitation rates applied to estimated mature male abundance determined as a function of estimated mature female biomass, and provisions for determining GHLs separately for the areas east and west of 168° W long. The board modified 5 AAC 35.508 in 2005 by changing "guideline harvest level" (GHL) to "total allowable catch" (TAC) to accommodate federal rationalization of the fishery and by changing the longitudinal dividing line used to define the subareas for which catch levels were separately computed from 168º W long. to 166º W long. to better reflect the historical distribution of harvest in the Bering Sea Tanner crab and Bering Sea snow crab fisheries.

Major changes to 5 AAC 35.508 were adopted by the board in 2011 in response to a proposal from industry to reduce the minimum legal size from 5.5 inches carapace width to 5 inches carapace width for Bering Sea Tanner crab west of 166° W long. and to incorporate department analyses of spatial and temporal variation in size at maturity of Tanner crab in the Bering Sea District. The harvest strategy adopted by the board in 2011 was identical to that currently in regulation except for subsections (g)(5) and (e)(1). Subsection (g)(5) defined $C_{E,MSY}$ as the catch biomass of male Tanner crab 5.5 inches or greater in carapace width in the area east of 166° W long. that would result from fishing on mature male biomass at the maximum sustained yield fishing rate (F_{MSY}) at the time of mating, and subsection (e)(1) established that TAC not exceed 50% of the biomass of the male Tanner crab 5.5 inches or greater in carapace width in the area east of 166° W long., as discounted by fishery selectivity, that would survive to the time of mating in the absence of fishing. The board adopted the current subsections (g)(5) and (e)(1) in 2015 in response to a proposal from industry to reduce the size of exploitable legal male Tanner crab, from 5.5 to 5.0 inches carapace width, for computing TAC in the area east of 166° W long.

Regulation 5 AAC 35.080 states: *.....If adequate data are available, the department shall establish a threshold level of abundance for each* [Tanner crab] *stock and may not allow fishing on any stock that is below its threshold level of abundance ...*" Thresholds in harvest strategies address Policy 5 of the board's *Policy on King and Tanner Crab Resource Management* (90-04-FB), which states: "*Maintain an adequate brood stock to rebuild king or Tanner crab populations when they are depressed. Maintenance of an adequate brood stock takes precedence over short term economic considerations. When populations are at or below threshold, the minimum stock size that allows sufficient recruitment so that the stock can rebuild itself, fisheries must be closed and must remain closed until there is adequate brood stock.*" Ideally, the measure of brood stock used to establish a threshold should be a direct measure of the productive capacity of the stock, such as spawning biomass or fertilized egg production. However, the reproductive biology and mating systems of most crab stocks are too complex to estimate a direct measure of stock productive capacity from survey data and estimates of mature biomass are used as proxy measures of stock productive capacity. In the harvest strategy for the Bristol Bay red king crab stock (5 AAC 34.816), where a model exists for estimating effective spawning biomass (ESB; an estimate of the biomass of mature females that can be successfully mated by available mature males in a given year), ESB and mature female abundance are used in establishment of threshold. Models for estimating ESB do not exist for other Bering Sea king and Tanner crab stocks. The department believes that mature female biomass provides a better and more direct proxy for spawning biomass or fertilized egg production for establishment of thresholds than mature male biomass if survey data are adequate for annually estimating mature female biomass and no model exists for estimating ESB. The department believes that the annual National Marine Fisheries Service eastern Bering Sea trawl survey provides data adequate for estimating

mature female biomass of Tanner crab in the Bering Sea District and hence the threshold for a fishery opening is established in terms of mature female biomass (5 AAC 35.508 (a)). If the stock is above the female biomass threshold for a fishery opening, the harvest strategy addresses concerns that spawning biomass or fertilized egg production may be overestimated by mature female biomass when the sex ratio is at a low level (due to a low level of mature males) by secondarily establishing provisions for opening the fishery and for establishing harvest rates that are based on the current estimate of mature male biomass relative to the long-term average (5 AAC 35.508 (c) and (d)).

Because female Tanner crab mature at younger age and smaller size than male Tanner crab, increases and decreases in mature male biomass tend to lag behind the increases and decreases in mature female biomass by 1–2 years (Figure 278-2). Annual recruitment of juvenile Tanner crab in the Bering Sea District is highly variable (Figure 278-3) and a level of mature female biomass that is below threshold, as in 2016, is an indicator that the stock is in a period of low male and female recruitment. Specifically, population trends show low abundance of immature male and female crabs and a relatively large proportion of old shell mature crabs in recent years (Figures 278-3, 278-4, and 278-5). Hence, during a period of poor recruitment, mature female biomass may be below threshold in a year that mature male biomass remains relatively high. Closure of the fishery in such years serves to maintain an abundance of mature males during a period of poor recruitment that is sufficient to mate the mature females that future recruitment may provide.

The provision in the harvest strategy that reduces the TACs for the fisheries east and west of 166° W long. by one-half from the computed values in the first year that the stock is above threshold after having been below threshold is a precautionary measure that addresses two issues. First, this provision provides a buffer against the effect of erroneously determining the stock to be above threshold due to random survey error. Secondly, due to the lag in maturation of males behind females, the ratio of preferred-sized legal male crab to mature male crab is likely to be low in the first year that the stock is above threshold. This provision protects against a high harvest rate on preferred-sized legal males that could occur under such conditions.

The stock structure of Tanner crab within the Bering Sea District and the connectivity among Tanner crab occupying subregions of the Bering Sea remain poorly understood. Data sufficient for evaluation of the genetic stock structure of Bering Sea Tanner have not been collected; a previously published genetic analysis suggesting eastern–western genetic differentiation was not supported by a more recent reanalysis of the data by department geneticists. The survey distribution of Tanner crab in the Bering Sea suggests that a single stock occupies the Bering Sea. However, longitudinal variation in size at maturity of male and female Tanner crab and analysis of larval advection and retention patterns suggest that an east-to-west substructuring exists within the Bering Sea Tanner crab stock. The current harvest strategy addresses this uncertainty on the stock structure of Tanner crab in the Bering Sea: Bering Sea District Tanner crab are managed as one stock with one threshold for opening the district to fishing, but with rules for opening fishing and establishing TAC separately for the eastern and western areas.

The longitudinal line used to separate the eastern and western areas for establishment of TAC is based on the historical distribution of fishery catch and effort by longitude. The historical commercial fishery catch and effort was concentrated in two areas east of 166° W long. and west of 168° W even before the late 1990s when the state harvest strategy apportioned the catch to east and west of 168°W (Figure 278-6). As part of a comprehensive rebuilding plan, the harvest strategy first

adopted in 1999 distributed the GHL geographically to the east and west of a line drawn at 168° W to align with the western boundary of king crab Registration Area T. The east–west line was moved to 166° W long. (Figure 278-1) in 2005 to better reflect the historical distribution by longitude of harvest in both the Bering Sea Tanner crab and Bering Sea snow crab fisheries. In more recent years, Tanner crab spatial distribution has shifted with increasing abundances in the area west of 166° W. While historical population centers were more spatially separated between east and west, recent geographic trends are reflected in the increased proportion of harvest between 166° and 168° W long. (Figure 278-6). Increased harvests in this area during the 2013/14–2015/16 fisheries can, in part, be explained by three factors: 1) the spatial shift in Tanner crab population abundance; 2) the inclusion of closure areas (Pribilof closure area and the area east of 163° W long.), thereby redistributing effort with the restricted spatial extent for fishing; and 3) the reduction in legal size limit from 5.5 inches carapace width to 4.8 inches east of 166° W long. and 4.4 inches west of 166° W long., which effectively liberates a significant portion of the population to fishing.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposed change in harvest strategy and is **NEUTRAL** on the allocative aspects of this proposal.

By removing the mature female biomass threshold from the harvest strategy, adoption of this proposal would remove mature female biomass as a proxy measurement of "adequate brood stock" that must be maintained for stock rebuilding that thresholds are intended to represent. The department believes that, for stocks in which mature female biomass can be adequately estimated and no reliable model exists for estimating effective spawning biomass as a function of mature female biomass and mature male abundance, mature female biomass provides a better and more direct proxy for brood stock and fertilized egg production for establishment of thresholds than mature male biomass. That is the case for Bering Sea District Tanner crab.

By removing the rule in the harvest strategy that reduces TAC by one-half from the computed value of TAC in the first year that the stock is above threshold after being below threshold, adoption of this proposal would remove a precautionary measure that protects against possible overharvest of legal males due to random survey error or to a low ratio of preferred-sized legal males to mature males. By some, there has been a misinterpretation of subsection (b) of the harvest strategy. Once it has been established that the mature female biomass is at or above the threshold for opening the fishery, the TAC for the areas east and west of 166° W long. is determined as either 1) 100% of the computed TAC value if the previous year was at or above the mature female biomass threshold, or 2) 50% of the computed TAC value if the previous year was NOT at or above the mature female biomass threshold.

Adoption of this proposal would result in management practices that treat the Tanner crab occupying the area west of 166° W long. in the Bering Sea District as a distinct stock that is biologically independent of and disconnected from the Tanner crab occupying the area east of 166° W long. Although, connectivity among Tanner crab occupying subregions of the Bering Sea District remains poorly understood, no analyses have been performed and no new information has been brought forth to support considering the Tanner crab occupying the area west of 166° W long. as a distinct stock that is biologically independent of and disconnected from the Tanner crab occupying the area east of 166° W long. The department believes that a harvest strategy for Tanner crab in the Bering Sea District should continue to treat the Tanner crab in the Bering Sea District as one stock unless the existence of distinct Tanner crab stocks within the Bering Sea can be firmly established and the subregions that such stocks occupy can

be clearly defined. While the department believes the line of demarcation between the eastern and western portions is needed for managing the stock, the department is open to reexamining the longitudinal position of the line based on current knowledge of stock distribution, areas closed to commercial fishing, and stock biology.

By removal of the rules for determining an opening for and establishing TAC for the Bering Sea District Tanner crab fishery in the area east of 166° W long., adoption of this harvest strategy would effectively close the fishery east of 166° W long. without any provisions for re-opening the fishery in the future. The department believes that a harvest strategy for the Bering Sea District Tanner crab fishery should include rules for opening the fishery and establishing TAC in the area east of 166° W long. that are based on indices of stock abundance in the Bering Sea District as a whole and in the area east of 166° W long. specifically.

Although the department is opposed to this proposed change in the harvest strategy as written, the department **SUPPORTS** amending the current 5 AAC 35.508 (f) to include the language "maintain consistency with the *Policy on King and Tanner Crab Resource Management*." The department believes that consistency with the board's policy should be maintained in development and application of harvest strategies and believes that it has maintained that consistency in development and application of 5 AAC 35.508.

Harvest Levels are a Category 2 management measure under the FMP (Section 8.2.2). Category 2 management measures should be consistent with the criteria set out in the FMP and the National Standards (FMP Appendix B).

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

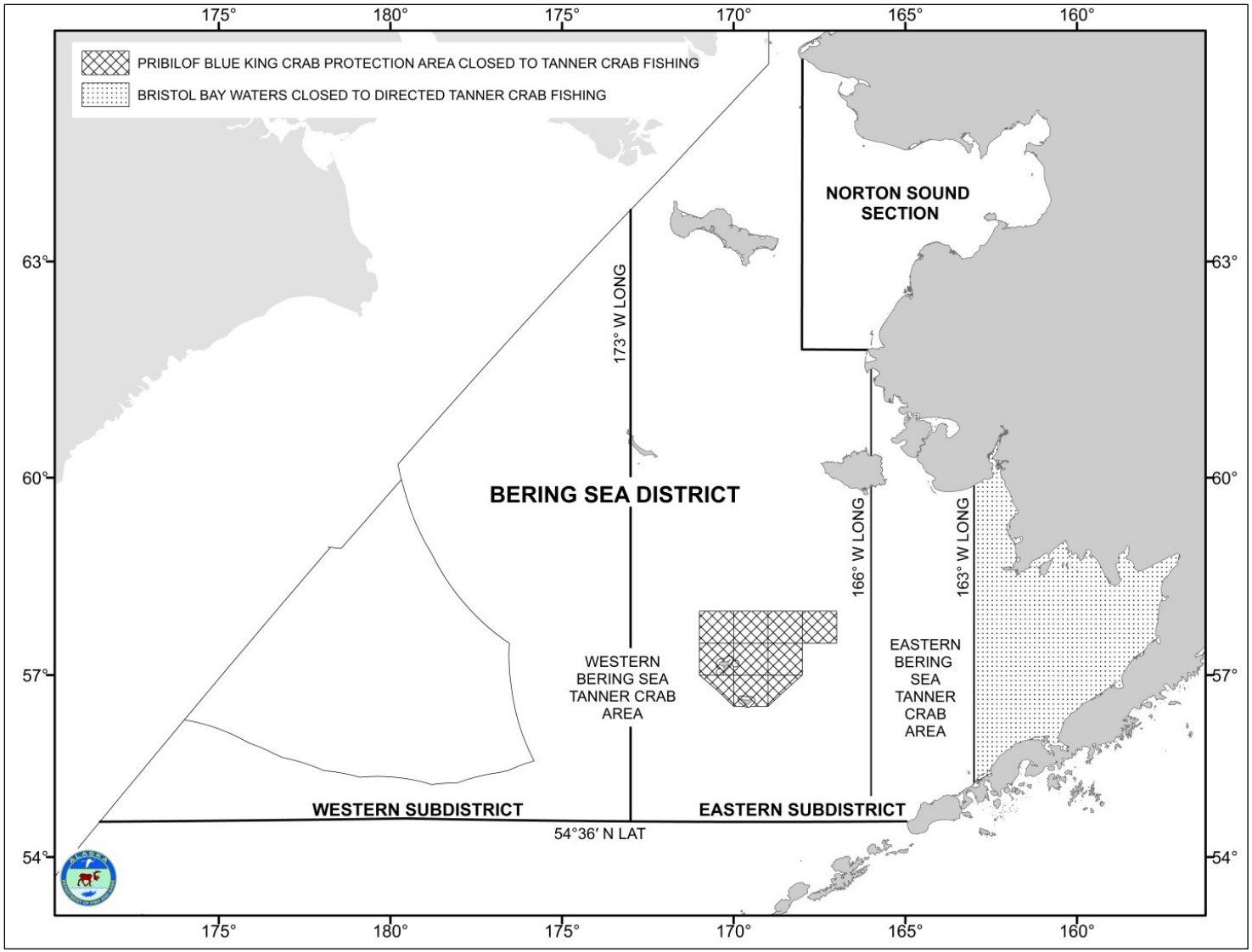

Figure 278-1.–Bering Sea District Tanner crab fishery management boundary for eastern and western total allowable catch. The hatched polygon indicates the area around the Pribilof Islands closed to all directed crab fishing. Historically, the portion of the population located in the Pribilof closure area has been included in Tanner crab TAC computations.

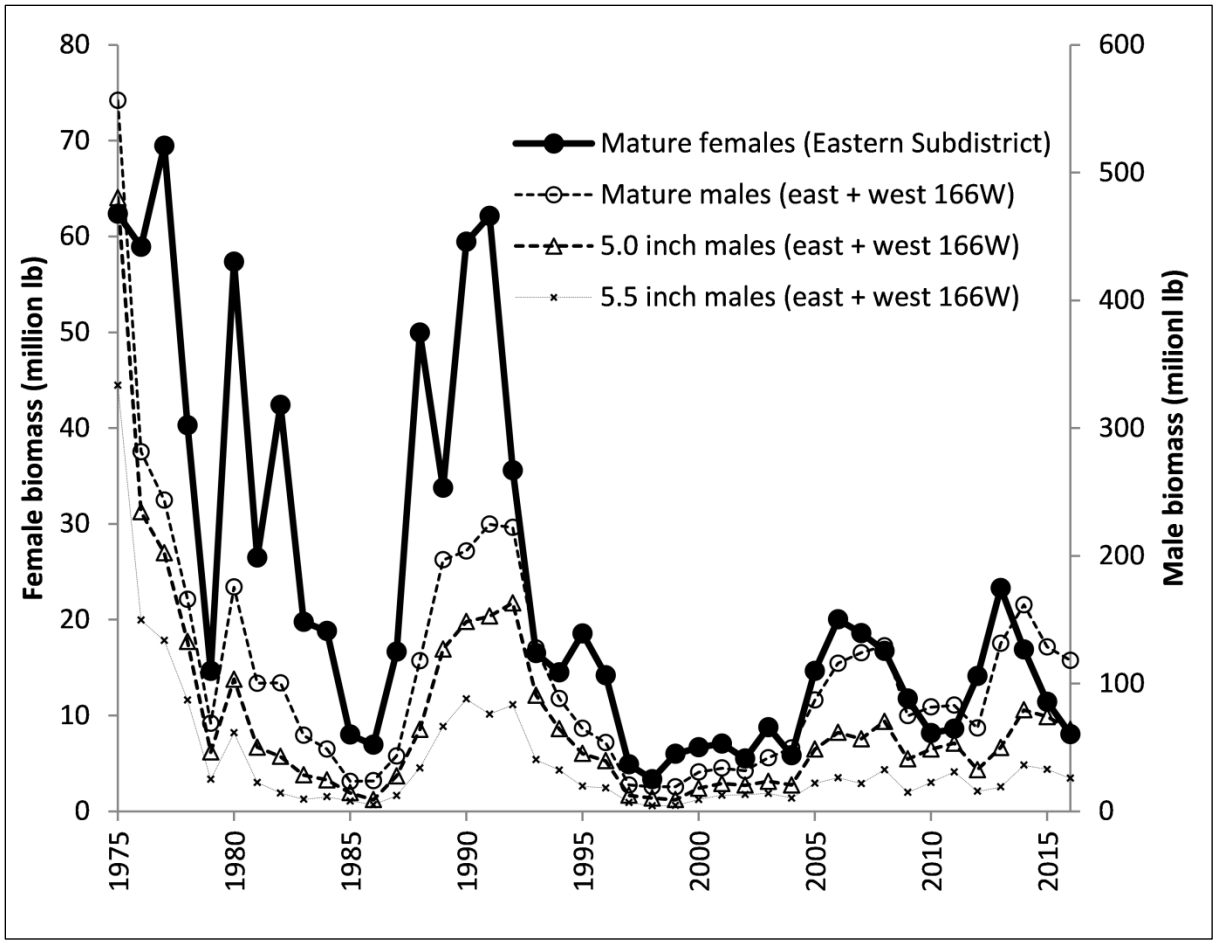

Figure 278-2.–Area-swept estimates of total mature female (Eastern Subdistrict), mature male (east and west of 166° W long.), 5.0-inch male (east and west of 166° W long.), and 5.5-inch male (east and west of 166° W long.) biomass from NOAA annual bottom trawl surveys between 1975 and 2016. Note the different scales for male and female biomass.

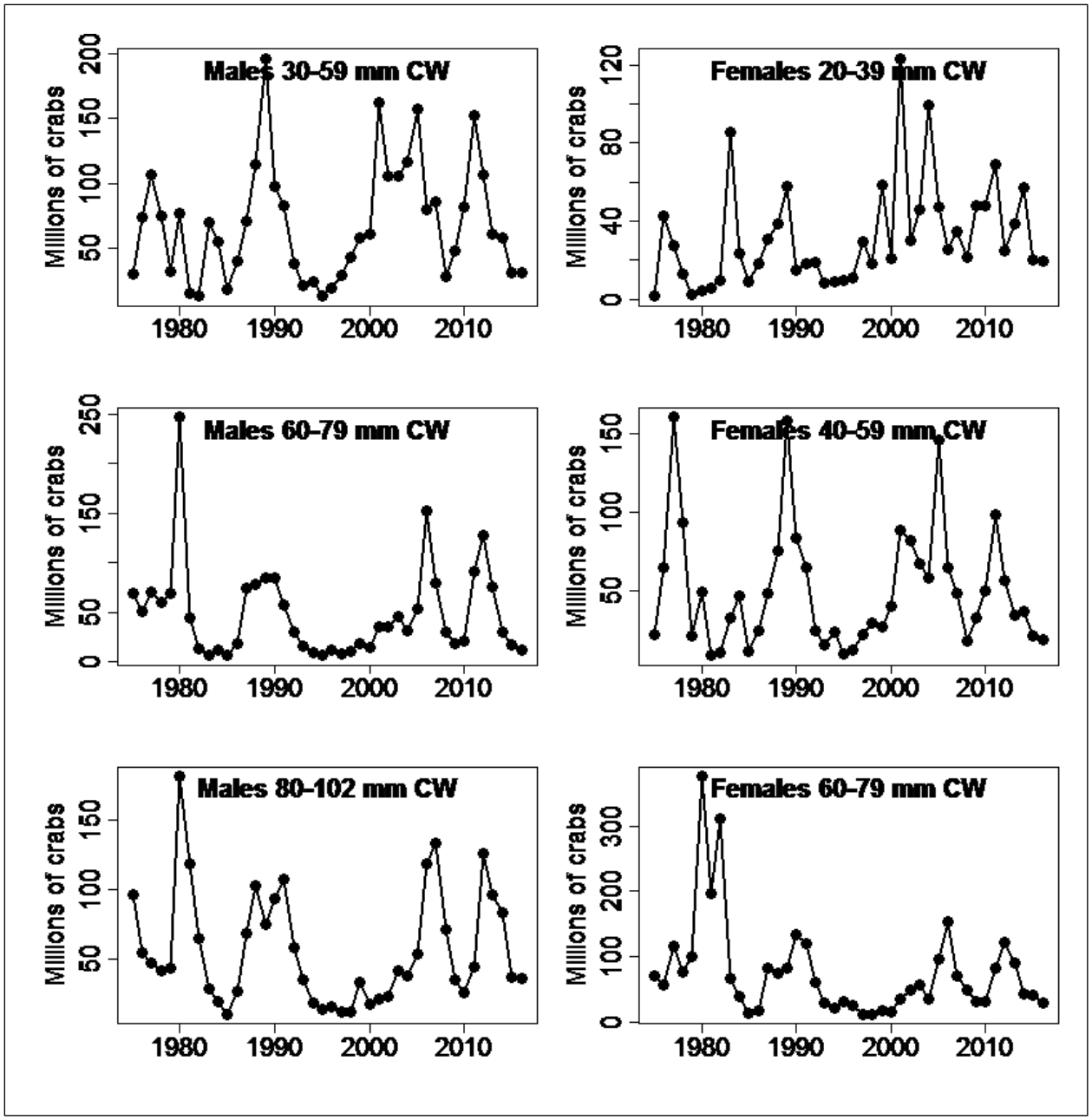

Figure 278-3.–Area-swept estimates of total juvenile male and female Tanner crab abundance (east and west of 166° W long.) from NOAA annual bottom trawl surveys between 1975 and 2016.

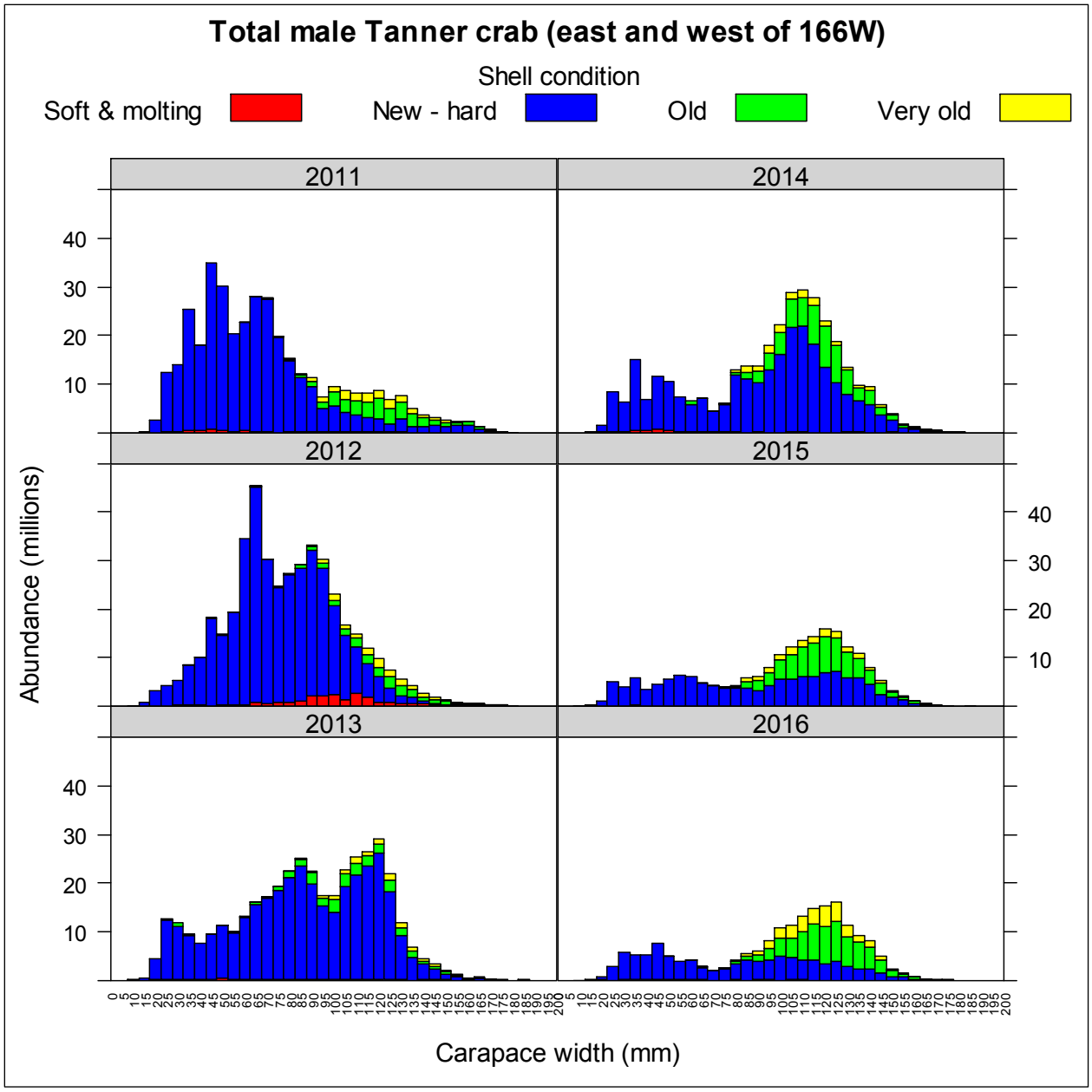

Figure 278-4.–Area-swept estimates of total male Tanner crab (east and west of 166° W long.) abundance by shell condition from NOAA annual bottom trawl survey between 2011 and 2016.

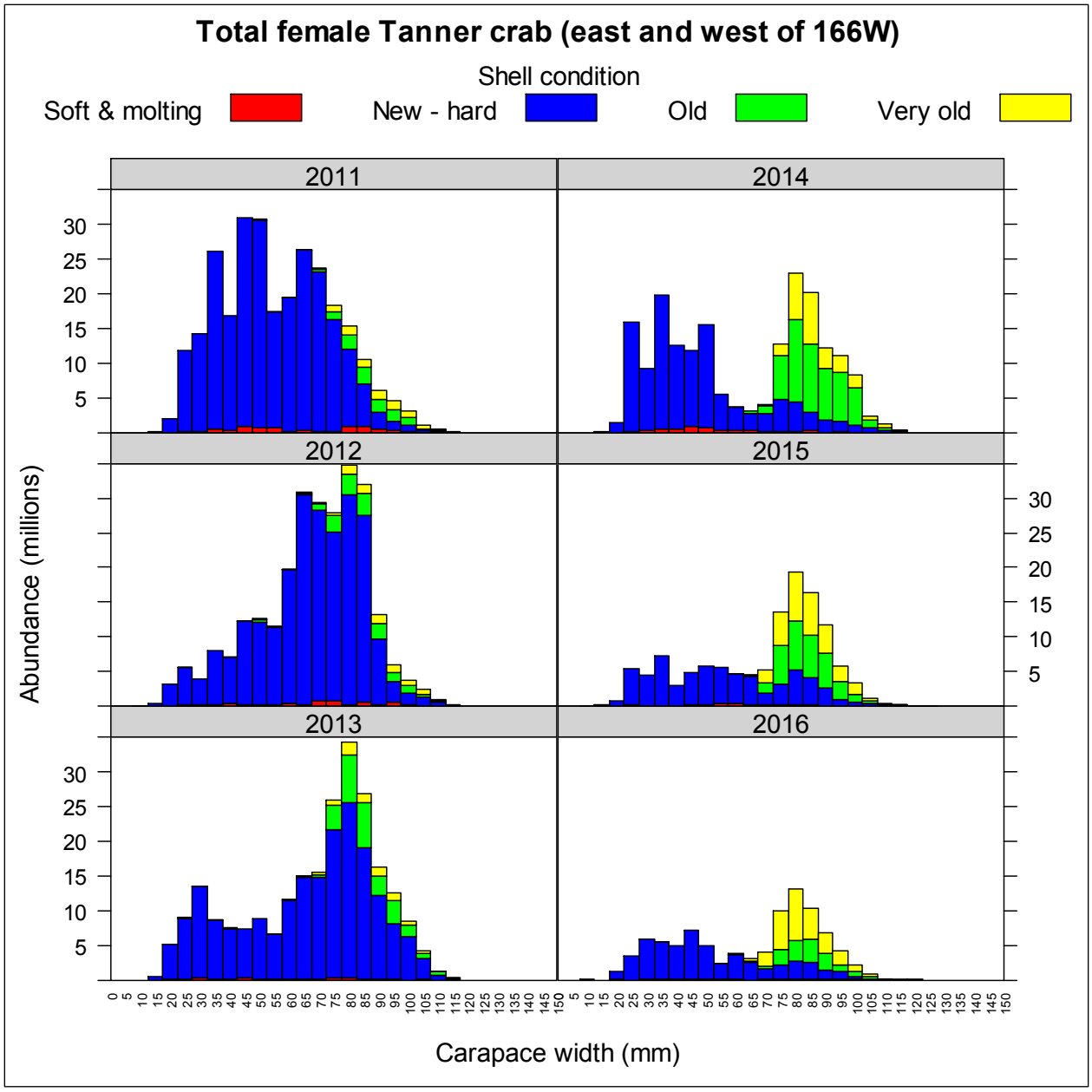

Figure 278-5.–Area-swept estimates of total female Tanner crab (east and west of 166° W long.) abundance by shell condition from NOAA annual bottom trawl survey between 2011 and 2016.

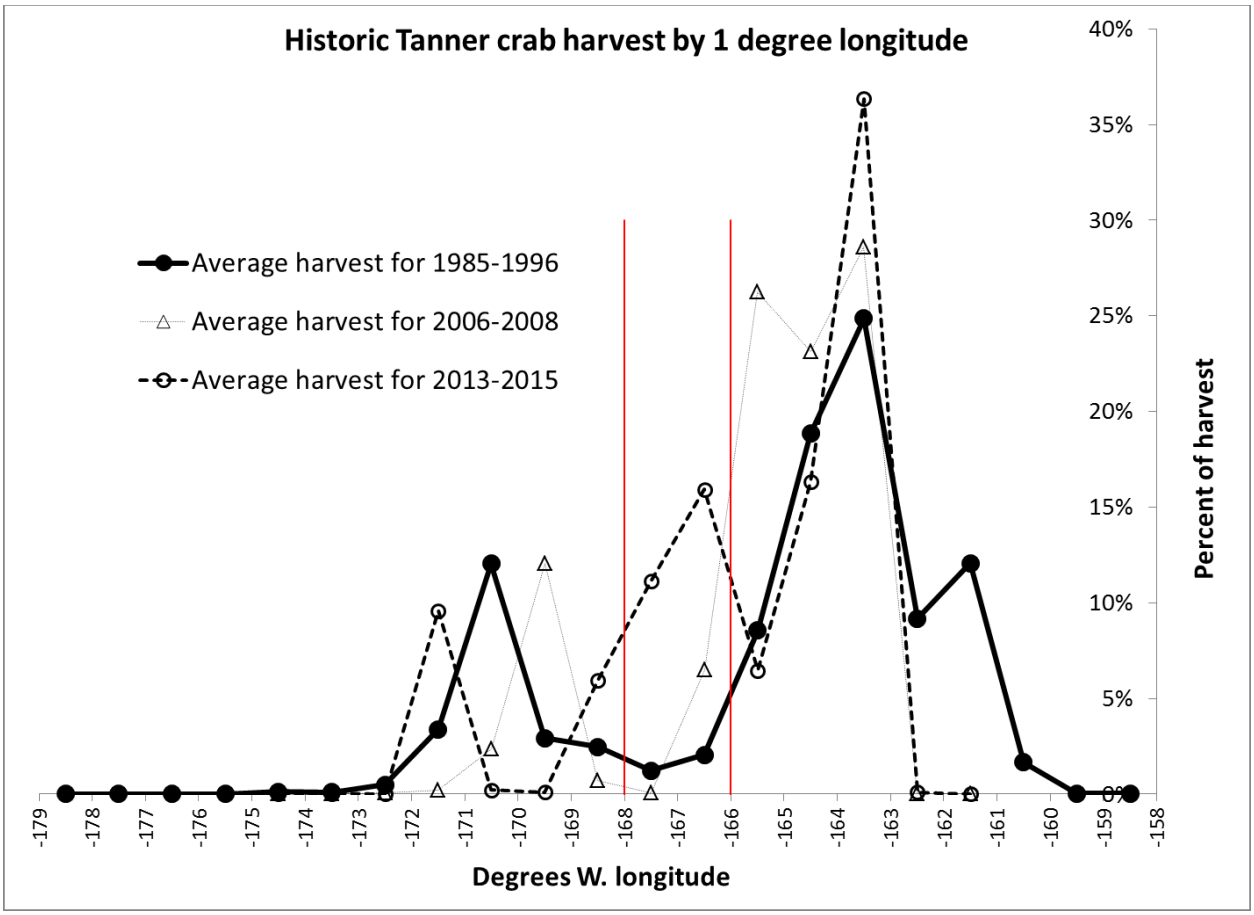

Figure 278-6.–Historical Bering Sea Tanner crab harvest by degrees longitude. The solid line indicates average percent harvest between the 1985/1986 and 1996/1997 fishing seasons, the light grey line indicates average percent harvest between the 2006/2007 and 2008/2009 fishing seasons, and the dashed line indicates average percent harvest between the 2013/2014 and 2015/2016 fishing seasons.

KODIAK AREA GROUNDFISH MANAGEMENT

PROPOSAL 49 – 5 AAC 28.466. Kodiak Area Rockfish Management Plan.

PROPOSED BY: H. Bruce Magnusson, Ian Alvin A. Brown, Christopher Johnson, Curtis Bollinger, Bob Bowhay, Bobby Evensiosky, Greg Perkins, Robert Martin, Glenn Crocetti, Joseph Yarbrough, and Jeffrey Widman.

WHAT WOULD THE PROPOSAL DO? Relax trip limits for vessels targeting black rockfish in the Kodiak Area from 5,000 pounds in a five-day period to 5,000 pounds per landing. This proposal would also increase the Southeast District trip limit from 5,000 pounds to 10,000 pounds of black rockfish per landing.

WHAT ARE THE CURRENT REGULATIONS? The *Kodiak Area Rockfish Management Plan* (5 AAC 28.466) restricts catcher vessels to possessing, or landing, a maximum of 5,000 pounds of black rockfish in a five-day period. If a district's black rockfish GHL is not taken by August 15, the trip limit may be increased from 5,000 pounds to 7,000 pounds in a five-day period to facilitate full harvest of the GHL. Catcher-processor vessels are allowed to retain 10,000 pounds of black rockfish in a 10-day period (or 14,000 pounds in a 10-day period after August 15 if the trip limit has been increased).

Vessels may only target black rockfish in the Kodiak Area with jig gear; vessels are limited to operating no more than five mechanical jigging machines with no more than 30 hooks per line or 500 hooks in aggregate onboard the vessel. A vessel registered to target black rockfish may not be simultaneously registered to target Pacific cod.

Vessels targeting other groundfish species with jig gear may retain black rockfish, up to 20% by weight of the target species onboard, unless the department has established a lower bycatch rate by emergency order. Vessels using gear types other than jig gear may retain black rockfish, up to 5% by weight of the target species onboard.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Repealing the five-day waiting period between full trips would result in increased harvest rates and shorter fishing seasons. In Northeast District for example, the relatively small GHL (20,000 pounds) can be fully harvested in four trips. If this proposal were adopted, a vessel could make those four trips back-to-back; whereas a vessel would need at least 20 days to make four full trips under current regulation. Depending on magnitude of increased harvest rates, the department may need to adopt a more conservative management approach to ensure district GHLs are not exceeded.

A 10,000-pound trip limit in Southeast District would likely result in the GHL (30,000 pounds) being fully harvested in fewer landings than in previous seasons. From 2007 to 2016, directed effort for black rockfish in Southeast District averaged three vessels and five landings annually.

BACKGROUND: The Kodiak Area for black rockfish is divided into seven management districts with separate GHLs (Table 49-1; Figure 49-1). The current trip limits were put into regulation in 2003 to slow harvest rates in response to three consecutive seasons during which GHLs were exceeded (2000–2002; Table 49-2). Trip limits, combined with stricter registration requirements, slowed harvest rates and allowed the department to more effectively target the GHL. Reductions in GHL between 2011 and 2014 (175,000 pounds to 125,000 pounds areawide) were based on rockfish survey data that suggest lower abundance and less habitat availability

along the western and southern portions of Kodiak Island. Specifically, the Southwest and Mainland district GHLs were eliminated (previously 20,000 pounds each) and the Westside district GHL was reduced from 20,000 pounds to 10,000 pounds.

During 2012–2016, vessels targeting black rockfish in the Kodiak Area landed 86.5% of the total harvest; the remaining 13.5% was landed primarily as bycatch to the Pacific cod jig gear fishery (Table 49-3).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 49-1.–Kodiak Area black rockfish guideline harvest levels (GHLs), by district, 2016.

District	GHL (pounds)
Afognak	30,000
Northeast	20,000
Eastside	30,000
Southeast	30,000
Westside	10,000
Southwest	bycatch only
Mainland	bycatch only
Total	120,000

Table 49-2.–Kodiak Area black rockfish jig gear effort, guideline harvest level (GHL), harvest, and value, by year, 1990–2016.

Year[a]	Vessels count	Number of landings	GHL (pounds)	Harvest (pounds)	Price per pound
1990	2	8	NA	CF	CF
1991	55	317	NA	782,133	$0.25
1992	34	167	NA	476,623	$0.24
1993	14	58	NA	105,244	$0.24
1994	23	126	NA	116,724	$0.37
1995	33	183	NA	311,455	$0.44
1996	43	167	NA	301,798	$0.46
1997	51	297	NA	221,167	$0.38
1998	64	348	190,000	196,548	$0.33
1999	70	300	185,000	128,008	$0.42
2000	72	260	185,000	245,891	$0.44
2001	36	168	185,000	213,629	$0.50
2002	25	123	185,000	196,166	$0.43
2003	33	90	185,000	84,237	$0.36
2004	37	125	185,000	122,303	$0.39
2005	23	85	175,000	116,726	$0.40
2006	25	97	175,000	123,443	$0.42
2007	21	96	175,000	135,386	$0.41
2008	17	91	175,000	132,325	$0.53
2009	18	90	175,000	122,249	$0.41
2010	12	74	175,000	103,698	$0.39
2011	21	67	175,000	124,900	$0.39
2012	19	53	135,000	80,940	$0.41
2013	20	62	135,000	141,226	$0.45
2014	17	74	125,000	109,053	$0.41
2015	26	120	125,000	112,340	$0.44
2016[b]	45	188	120,000	129,956	$0.48
1997–2016 avg.	33	140	166,842	142,115	$0.42
2012–2016 avg.	25	99	129,000	115,125	$0.44

Notes: CF = confidential data.

[a] Prior to 1998, black rockfish were under federal management.

[b] Through September 30, 2016.

Table 49-3.–Kodiak Area black rockfish jig gear directed and bycatch effort and harvest, by year, 2007–2016.

	Directed (jig gear)			Bycatch (jig gear)		
Year	Vessel count	Harvest (pounds)	Percent of total harvest	Vessel count	Harvest (pounds)	Percent of total harvest
2007	4	37,082	27.4%	20	98,304	72.6%
2008	4	57,239	43.3%	17	75,086	56.7%
2009	6	79,575	65.1%	17	42,674	34.9%
2010	7	81,693	78.8%	11	22,005	21.2%
2011	14	118,342	94.7%	12	6,558	5.3%
2012	11	64,700	79.9%	14	16,240	20.1%
2013	17	135,921	96.2%	7	5,305	3.8%
2014	9	93,988	86.2%	11	15,065	13.8%
2015	8	95,724	85.2%	25	16,616	14.8%
2016[a]	8	112,456	84.9%	43	17,500	15.1%
2007–2016 avg.	9	87,839	74.2%	18	31,742	25.8%
2012–2016 avg.	11	100,892	86.5%	20	14,559	13.5%

[a] Through September 30, 2016.

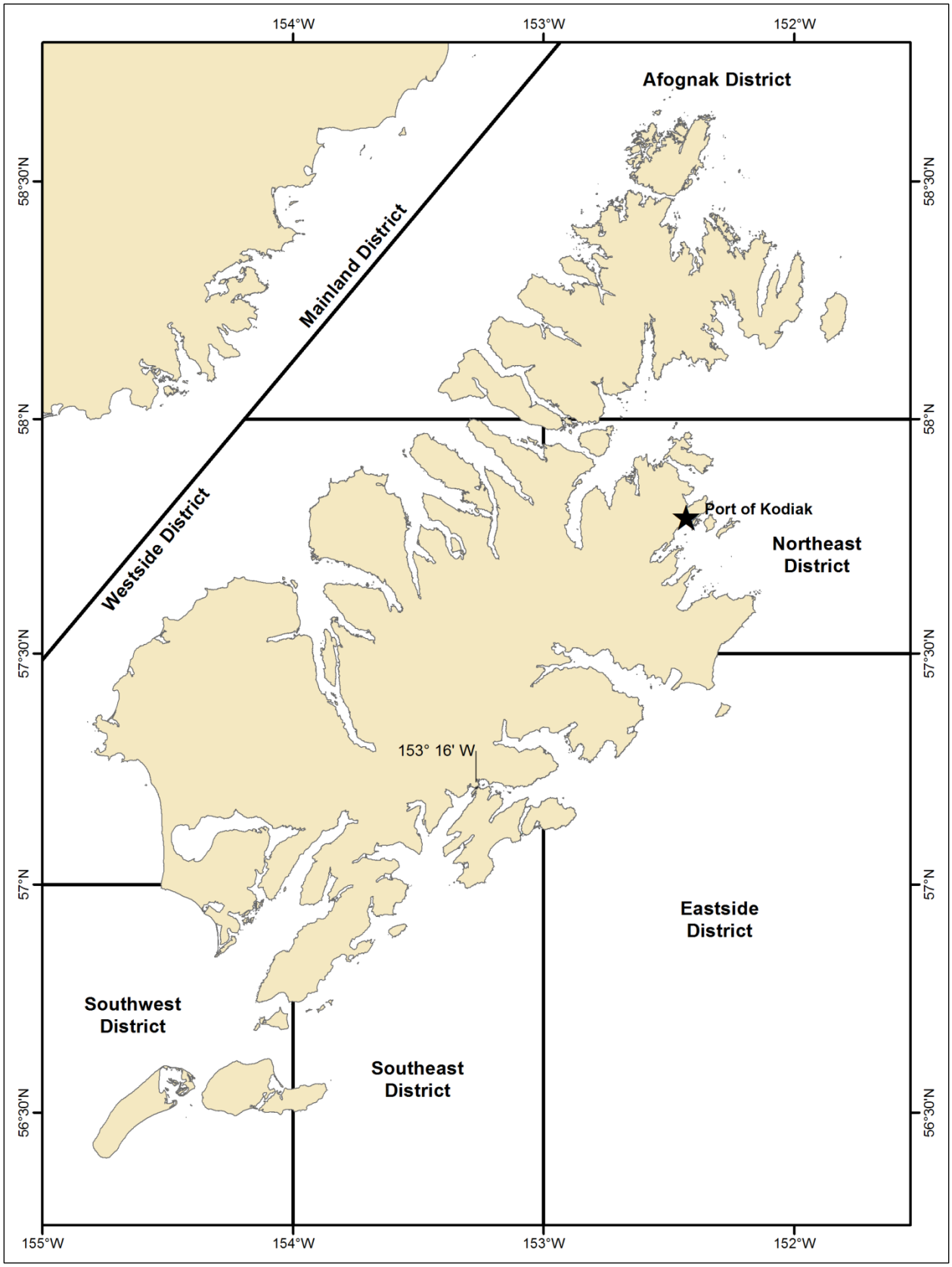

Figure 49-1.–Kodiak Area black rockfish management districts.

PROPOSAL 50 – 5 AAC 28.467. Kodiak Area Pacific Cod Management Plan.

PROPOSED BY: Neil Rickman.

WHAT WOULD THE PROPOSAL DO? Change the Kodiak Area state-waters Pacific cod jig gear fishery from an exclusive registration area to a nonexclusive registration area after June 10. The change in registration type would be at the discretion of the department based on anticipated effort, harvest rate, and remaining GHL.

WHAT ARE THE CURRENT REGULATIONS? The Kodiak Area state-waters Pacific cod fishery is an exclusive registration area. A vessel registered for the exclusive Kodiak Area state-waters Pacific cod season may not be used to take Pacific cod in any other exclusive or superexclusive state-waters Pacific cod registration area in the same calendar year. Conversely, a vessel registered to take Pacific cod in any other exclusive or superexclusive state-waters Pacific cod registration area may not be used to take Pacific cod during the Kodiak Area state-waters Pacific cod fishery in the same calendar year. A vessel registered for an exclusive state-waters Pacific cod fishery may be used to take Pacific cod in other nonexclusive state-waters Pacific cod fisheries during the same calendar year.

The *Kodiak Area Pacific Cod Management Plan* (5 AAC 28.467) currently provides the department with authority to designate the Kodiak Area as a nonexclusive registration area for Pacific cod after October 30 if the guideline harvest level is not expected to be fully harvested before the regulatory closure date.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Relaxing exclusivity after June 10 would increase opportunity for vessels targeting Pacific cod with jig gear by allowing them flexibility to move between registration areas earlier in the season. Vessels that initially registered for other exclusive state-waters Pacific cod jig gear fisheries would be allowed to participate in the Kodiak Area state-waters Pacific cod jig gear fishery. Conversely, vessels that initially registered for the Kodiak Area state-waters Pacific cod jig gear fishery would be allowed to participate in other exclusive state-waters Pacific cod jig gear fisheries.

The effect of this proposal on Kodiak Area state-waters jig gear harvest rates is difficult to predict given this proposal would allow vessels to both enter and exit the Kodiak Area fishery.

BACKGROUND: State-waters Pacific cod fisheries are open access fisheries, although each fishery is designated as a superexclusive, exclusive, or nonexclusive registration area (Table 50-1). The Kodiak Area has been an exclusive registration area for the state-waters Pacific cod fishery since inception in 1997.

The Kodiak Area state-waters Pacific cod GHL is allocated to vessels using pot gear (50%) and jig gear (50%). From 1997 through 2015, the jig gear GHL allocation was fully harvested during five seasons (2005, 2009–2012; Table 50-2). On average, 99% of Kodiak Area jig gear Pacific cod harvest has occurred before October 30, the current date when exclusivity can be relaxed. If the jig gear GHL allocation is not fully harvested at the time of the federal Central Gulf of Alaska (CGOA) pot gear B season closure, the state-waters season may reopen to both pot and jig gear to facilitate full harvest of the GHL prior to the end of the regulatory season on December 31.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 50-1.–State-waters Pacific cod registration type, by area.

State-waters Pacific cod fishery	Area registration type
Eastern Gulf of Alaska	Nonexclusive
Prince William Sound (pot gear)	Exclusive
Prince William Sound (jig gear)	Nonexclusive
Cook Inlet	Exclusive
Kodiak	Exclusive
Chignik	Superexclusive
South Alaska Peninsula	Exclusive
Aleutian Islands District	Nonexclusive
Dutch Harbor Subdistrict	Exclusive

Table 50-2.–Kodiak Area state-waters Pacific cod jig gear effort, guideline harvest level (GHL), and harvest, by year, 1997–2016.

Year	Vessel count	Number of Landings	GHL (pounds)	Harvest (pounds)	Percent of GHL harvested
1997	73	484	4,249,410	1,979,077	46.6%
1998	88	662	4,057,608	2,114,685	52.1%
1999	113	793	5,860,989	2,294,837	39.2%
2000	139	1,226	6,000,707	2,814,481	46.9%
2001	69	433	5,325,542	1,252,692	23.5%
2002	51	340	4,365,153	1,389,838	31.8%
2003	100	688	3,995,878	3,195,605	80.0%
2004	120	961	4,932,843	4,210,284	85.4%
2005	**117**	**849**	**4,563,155**	**4,570,327**	**100.2%**
2006	77	477	5,218,480	1,446,881	27.7%
2007	63	457	5,218,480	1,249,753	23.9%
2008	76	647	5,222,338	2,042,082	39.1%
2009	**94**	**833**	**4,343,244**	**4,450,423**	**102.5%**
2010	**81**	**707**	**6,757,444**	**6,504,733**	**96.3%**
2011	**132**	**980**	**7,415,248**	**7,135,466**	**96.2%**
2012	**145**	**1,159**	**7,845,701**	**7,936,707**	**101.2%**
2013	55	199	6,791,340	587,942	8.7%
2014	77	518	7,316,583	3,149,000	43.0%
2015	100	809	8,449,216	3,877,899	45.9%
2016[a]	107	714	6,794,647	3,323,238	48.9%
1997–2015 avg.	93	696	5,680,493	3,273,827	57.4%
2012–2015 avg.	102	733	7,563,618	4,537,403	59.0%

Note: **Bold** text indicates years when the jig gear GHL allocation was fully harvested.
[a] Through September 30, 2016.

KODIAK ARCHIPELAGO SPORT FISHING

PROPOSAL 66 – 5 AAC 64.022. Waters; seasons; bag, possession, annual, and size limits; and special provisions for the Kodiak Area.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? Repeal the current KRZ seasonal stream closures and replace them with a seasonal bag limit reduction for coho salmon 20 inches or greater in length.

WHAT ARE THE CURRENT REGULATIONS? All waters flowing into Chiniak Bay, except Kalsin Pond and the Buskin River, are closed upstream of the Chiniak Highway from August 1 through September 15 (Figure 66-1). The bag and possession limit in the KRZ is five salmon per day, 20 inches or greater in length, of which no more than two can be sockeye salmon and two can be coho salmon.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Reduce the harvest of coho salmon after September 15 through the end of the year to encompass peak spawning periods. A bag limit reduction during the later portion of the run and throughout the spawning period will provide more effective conservation of road system coho salmon while still providing angler opportunity. Effort would be spread out throughout the entire KRZ, but harvest would be reduced during the time period when local coho salmon populations are most vulnerable.

BACKGROUND: The KRZ has returns of coho salmon in at least 22 distinct drainages, most of which are small and highly variable in productivity. Thirteen of these returns are monitored by foot survey during the spawning season in October and November, while returns to the Buskin River are assessed with a floating weir in August and September. Over the last 10 years, the annual average counts by foot survey for individual drainages have ranged from 0 to 2,365 coho salmon observed. Over this same time frame the Buskin River has annually averaged 6,930 coho salmon (Table 66-1). Coho salmon productivity can be highly variable and is greatly influenced by environmental factors during spawning and rearing, as well as fishing pressure during the migration period. Within a three-year life cycle, populations in a given drainage can experience both record high and record low returns.

Only streams flowing into Chiniak Bay (except for the Buskin River and Kalsin Pond) are affected by the current seasonal closure; however, all KRZ drainages and salt waters bordering the KRZ within 1 mile of the shoreline of Kodiak Island would be affected by the new seasonal bag limit. Stocked coho salmon returns to Monashka and Mill bays and Mission Beach are used to reduce pressure on wild stocks and would not be affected by the seasonal bag limit reduction.

Harvests of KRZ wild coho salmon are variable, but are generally increasing as popularity of KRZ coho salmon fishing increases (Figure 66-2). Ease of access, relatively low cost, and a wide variety of streams to fish has created increasing angler interest from around the world. Harvests of coho salmon are assessed through the SWHS, and recent 10-year average harvests in the KRZ (excluding the Buskin River) range from 4,372 to 15,037, and average 7,909 coho salmon. Harvest of Buskin River coho salmon have ranged from 1,926 to 6,567 in the last 10 years, and average 4,486 fish.

Observations by department staff and the angling public suggest that coho salmon harvests dramatically increase immediately following the September 16 opening upstream of the highway bridges and, historically, returns of coho salmon to KRZ streams are only 50% complete by mid-September. Since coho salmon are highly aggressive, especially when left undisturbed, most fish are vulnerable to harvest when the rivers open. Furthermore, opening of closed waters midway through the run does little to protect coho salmon returning to spawn. The only other salmon species affected by repeal of the upriver closure are pink salmon. There is little angler interest in harvesting pink salmon, as shown by the SWHS, and KRZ streams have historically large escapements of pink salmon.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal as a means to conserve coho salmon runs in the KRZ while also simplifying existing regulations.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 66-1.–Coho salmon escapement survey index counts and Buskin River weir counts within the KRZ, 2006–2015.

Location	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Average 2006–2015
American River	2,033	307	700	639	58	1,061	427	841	1,595	530	819
Chiniak Creek	127	161	21	17	1	20	66	43	31	NS	54
Felton Creek	166	83	232	160	NS	633	17	50	22	33	155
Monashka Creek	238	185	19	132	37	36	300	679	230	100	196
Myrtle Creek	61	25	NS	0	NS	NS	1	NS	NS	NS	22
Olds River	1,912	868	656	697	127	1,003	624	2,145	1,320	1,357	1,071
Pasagshak	937	1,896	3,875	2,385	1,971	1,083	3,132	1,648	4,934	1,790	2,365
Pillar Creek	300	130	78	89	56	248	858	858	750	180	355
Roslyn Creek	328	198	87	NS	18	293	159	460	3,900	271	635
Russian Creek	694	463	262	144	97	158	39	214	246	70	239
Salonie Creek	1,111	326	970	NS	90	942	304	286	509	215	528
Sargent Creek	334	241	264	74	44	135	90	173	75	39	147
Twin Creek	37	34	13	27	NS	NS	NS	NS	NS	NS	28
Buskin River	12,035	7,958	8,176	9,583	6,239	5,298	4,906	4,401	7,335	3,364	6,930
Total	20,313	12,875	15,353	13,947	8,738	10,910	10,923	11,798	20,947	7,949	13,375

Note: NS = No Survey
Note: Surveys represent an index of escapement and are considered minimal estimates.

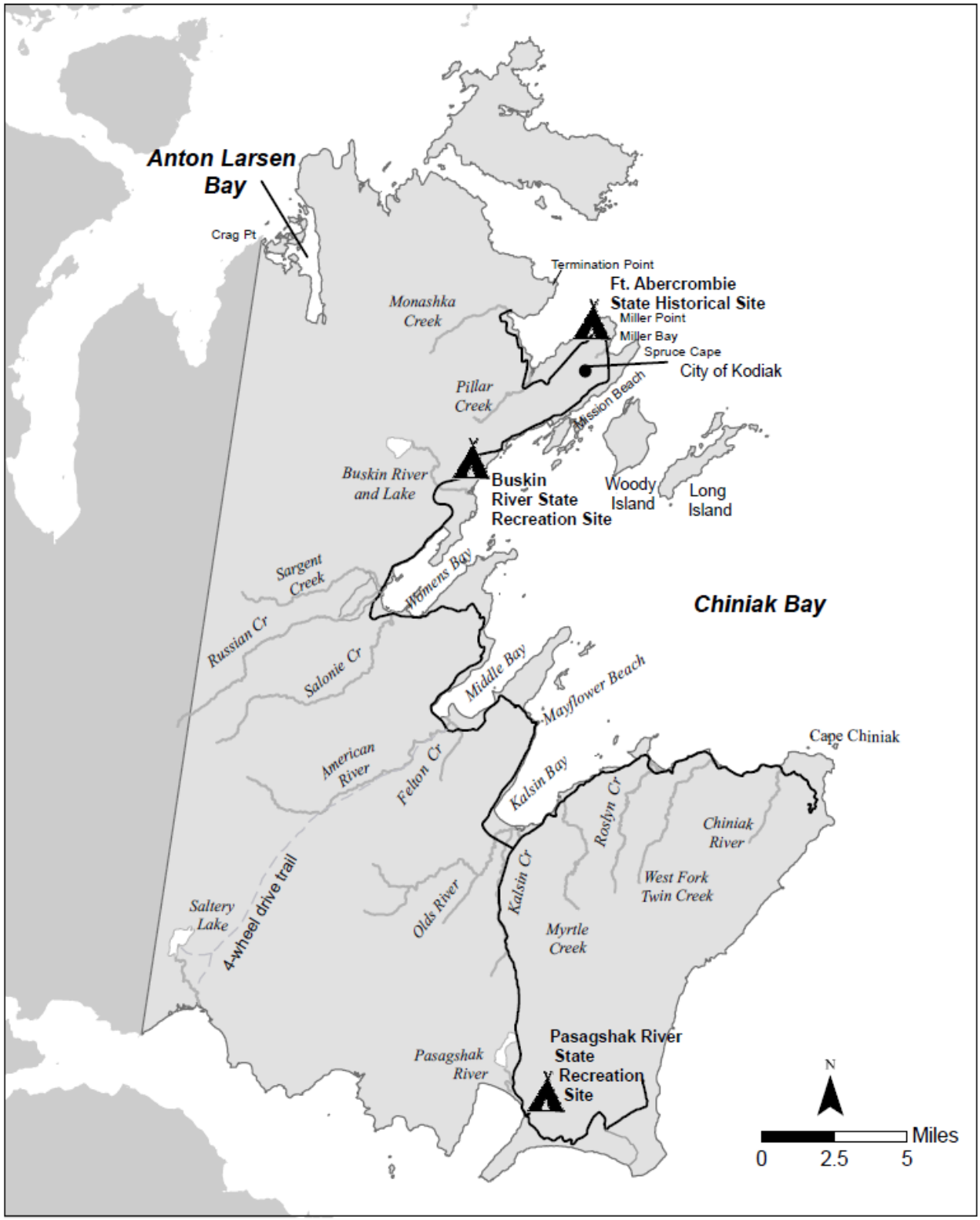

Figure 66-1.–Map of the KRZ highlighting drainages with coho salmon populations.

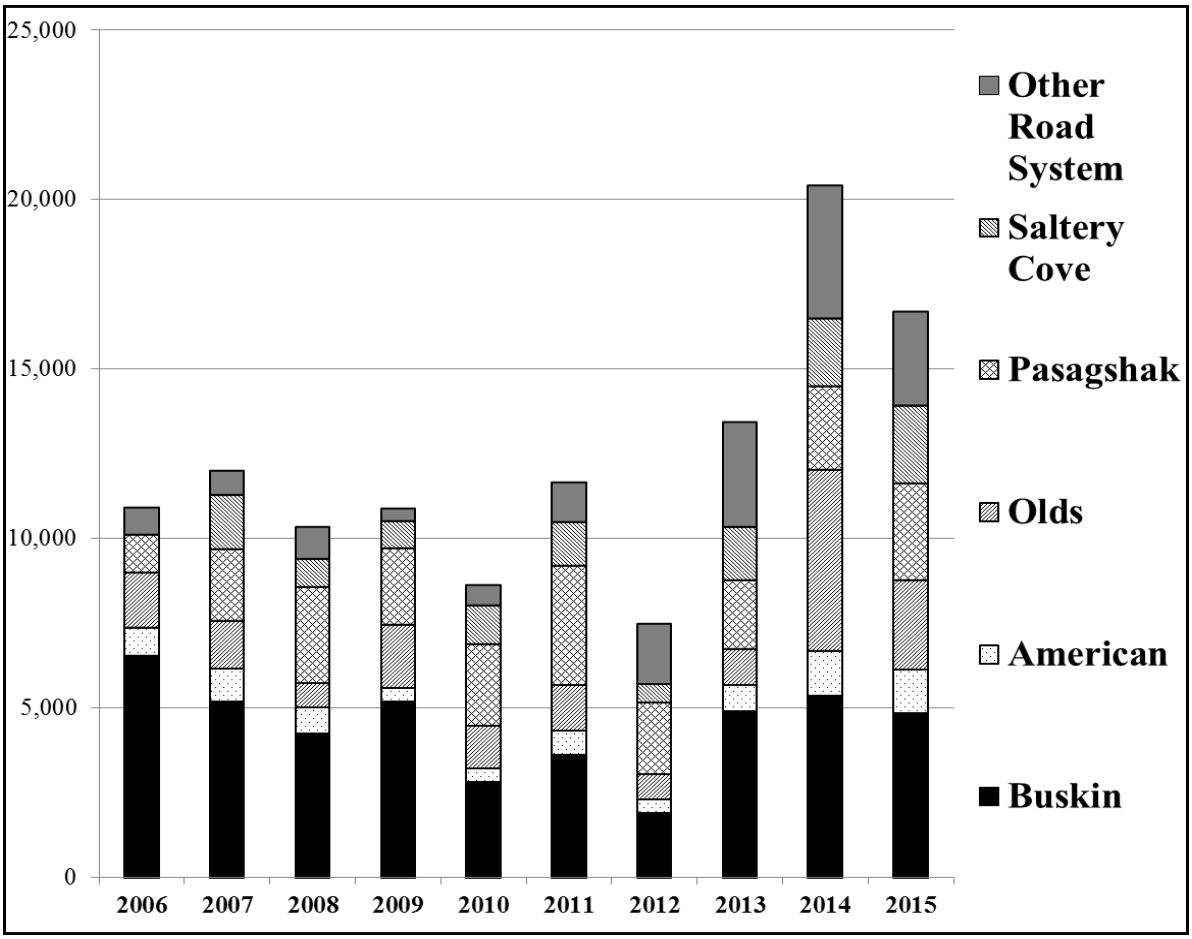

Figure 66-2.–Estimates of coho salmon harvests from the SWHS in the KRZ.

PROPOSAL 67 – 5 AAC 64.022. Waters; seasons; bag, possession, annual, and size limits; and special provisions for the Kodiak Area.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? Reduce the bag and possession limit for pelagic rockfish in Marmot and Chiniak bays (Figure 67-1) to three per day, six in possession, and prohibit charter vessel operators and crewmembers from retaining rockfish while clients are onboard.

WHAT ARE THE CURRENT REGULATIONS? The rockfish limit is five per day, ten in possession for all of Kodiak Area, of which no more than two per day, four in possession may be nonpelagic rockfish and no more than one per day, two in possession may be yelloweye rockfish.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This will help stabilize the increasing harvest of pelagic rockfish in Chiniak and Marmot bays. According to a bag limit analysis conducted by department staff using data from the SWHS, creel surveys, and guided logbook information, implementing this proposal would reduce the annual harvest of pelagic rockfish by an average of 28%.

BACKGROUND: From 2001 to 2010, the harvest of rockfish increased from approximately 5,500 fish to 19,900 fish (Figure 67-2; Table 67-1). In 2011, the board reduced the bag limit of rockfish in the Kodiak Area from 10 per day to five per day, and also reduced the bag limit for nonpelagic rockfish to two per day with no more than one being a yelloweye rockfish. This was in response to rapid growth in the harvest of rockfish in preceding years. However, since the bag limit reduction in 2011, the harvest has increased from 15,539 in 2011 to a high of 29,733 in 2014.

The harvest of rockfish occurs throughout the Kodiak Area but is concentrated in Chiniak and Marmot bays due to their proximity to the City of Kodiak and ease of access for both guided and unguided anglers. Angler interest in rockfish in both guided and unguided fisheries has increased dramatically, and what was once considered discard fish are now targeted due to their quality as table fare and the ease at which they are caught. Estimates of harvest from the SWHS for rockfish are available for Chiniak Bay, but specific harvests for Marmot Bay are mostly unavailable and are included in estimates for general areas that include portions of Marmot Bay. In 2015, harvest in Chiniak Bay was 15,334 rockfish, and over the last 10 years has increased from 5,040 fish harvested in 2006 to more than 18,570 fish harvested in 2014 (Table 67-1). On average, Chiniak Bay has accounted for 56% of the total Kodiak Area harvest over the last 10 years. Over the same period, guided harvest of rockfish in the Kodiak Area has annually accounted for an average of 75% of the total harvest, while in Chiniak Bay, guided harvest has accounted for 47% on average.

Other available information for rockfish in the Kodiak Area comes from the department's groundfish port sampling program and includes age, weight, length, sex and species composition. There is currently not a fully developed population assessment for rockfish in the Kodiak Area and little is known about the specific effects of current harvest rates in the sport fishery on local populations; however, rockfish are a long-lived, slow-growing species that are highly susceptible to overharvest and localized depletion. With the information currently available, trends in age, length, sex, or species composition may give indications of over-exploitation; however, such

changes in population structures may take a full generation to restore (30 years or more for most rockfish).

Commercial harvests of rockfish occur in jig, pot, and trawl fisheries and are composed of black, dark, and dusky rockfish. Directed harvest occurs with jig gear and targets black rockfish. The black rockfish fishery is prosecuted according to GHLs established in 5 of 7 commercial fishing districts in the Kodiak Area. Harvest of black rockfish in the jig fishery has averaged 114,703 lb (approximately 28,675 fish using 2016 average weight of 4.3 lb) annually over the last 5 years (Table 67-2) for the Kodiak Area; specifically in the Northeast District, harvest of black rockfish has averaged 21,076 lb (approximately 5,269 fish using 2016 average weight of 4.3 lb) annually during the same period (Table 67-3). The Northeast District has an established GHL of 20,000 lb, and the combined GHLs for the Kodiak Area equal 120,000 lb.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal as a precautionary conservation measure to reduce the potential for overharvest or localized depletion of rockfish in Chiniak and Marmot bays.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 67-1.–Harvest of rockfish from guide logbooks and the SWHS in Chiniak Bay and the Kodiak Area, 2006–2015.

	Chiniak Bay			Kodiak Area		
Year	Guided	SWHS Estimate	% Guided	Guided	SWHS Estimate	% Guided
2006	2,565	5,040	51%	6,222	11,688	53%
2007	3,825	7,845	49%	12,035	12,551	96%
2008	5,018	9,653	52%	11,531	15,596	74%
2009	5,099	10,538	48%	13,488	15,937	85%
2010	5,123	12,310	42%	11,361	19,897	57%
2011	5,103	9,111	56%	12,286	15,539	79%
2012	2,910	8,372	35%	13,981	18,511	76%
2013	4,633	8,229	56%	16,195	19,861	82%
2014	6,025	18,570	32%	18,917	29,733	64%
2015	7,076	15,334	46%	22,319	25,786	87%
2006–2015 Avg	4,738	10,500	47%	13,834	18,510	75%
2011–2015 Avg	5,149	11,923	45%	16,740	21,886	77%

Table 67-2.–Kodiak Area black rockfish jig gear effort, guideline harvest level (GHL), harvest, and value, by year, 1990–2016.

Year[a]	Vessels count	Number of landings	GHL (pounds)	Harvest (pounds)	Price per pound
1990	2	8	NA	CF	CF
1991	55	317	NA	782,133	$0.25
1992	34	167	NA	476,623	$0.24
1993	14	58	NA	105,244	$0.24
1994	23	126	NA	116,724	$0.37
1995	33	183	NA	311,455	$0.44
1996	43	167	NA	301,798	$0.46
1997	51	297	NA	221,167	$0.38
1998	64	348	190,000	196,548	$0.33
1999	70	300	185,000	128,008	$0.42
2000	72	260	185,000	245,891	$0.44
2001	36	168	185,000	213,629	$0.50
2002	25	123	185,000	196,166	$0.43
2003	33	90	185,000	84,237	$0.36
2004	37	125	185,000	122,303	$0.39
2005	23	85	175,000	116,726	$0.40
2006	25	97	175,000	123,443	$0.42
2007	21	96	175,000	135,386	$0.41
2008	17	91	175,000	132,325	$0.53
2009	18	90	175,000	122,249	$0.41
2010	12	74	175,000	103,698	$0.39
2011	21	67	175,000	124,900	$0.39
2012	19	53	135,000	80,940	$0.41
2013	20	62	135,000	141,226	$0.45
2014	17	74	125,000	109,053	$0.41
2015	26	120	125,000	112,340	$0.44
2016[b]	45	184	120,000	129,956	$0.48
1997–2016 avg.	33	140	166,579	142,010	$0.42
2012–2016 avg.	25	99	128,000	114,703	$0.44

Note: 2016 average weight = 4.3 lb, CF = confidential data, NA = not applicable

[a] Prior to 1998, black rockfish were under federal management.

[b] Through September 30, 2016.

Table 67-3.–Kodiak Area Northeast District black rockfish guideline harvest level (GHL), effort, and harvest, by gear type, by year, 1990–2016.

Year[a]	GHL	Jig			Non-Jig	Total
		Vessels	Landings	Pounds	Pounds	Pounds
1990	NA	2	7	CF	1,171	1,171
1991	NA	42	159	227,164	3,222	230,386
1992	NA	16	62	104,449	889	105,338
1993	NA	8	22	14,908	CF	14,908
1994	NA	11	48	16,982	CF	16,982
1995	NA	18	66	35,635	CF	35,635
1996	NA	15	25	18,499	CF	18,499
1997	NA	26	113	34,644	CF	34,644
1998	25,000	35	123	34,672	CF	34,672
1999	20,000	33	77	17,679	1,480	19,159
2000	20,000	36	84	28,656	1,194	29,850
2001	20,000	17	48	19,355	4,535	23,889
2002	20,000	16	45	36,026	3,815	39,841
2003	20,000	18	43	24,575	CF	24,575
2004	20,000	27	68	22,637	CF	22,637
2005	20,000	12	40	20,563	CF	20,563
2006	20,000	11	33	27,388	300	27,688
2007	20,000	11	29	23,104	1,115	24,219
2008	20,000	8	20	20,017	CF	20,017
2009	20,000	6	17	19,071	CF	19,071
2010	20,000	6	18	19,444	104	19,548
2011	20,000	9	23	20,168	1,904	22,072
2012	20,000	4	10	17,148	160	17,309
2013	20,000	8	19	23,694	50	23,744
2014	20,000	6	21	17,394	68	17,462
2015	20,000	19	55	21,336	146	21,482
2016[b]	20,000	28	110	25,808	3,072	28,879
1997–2016 avg.	20,263	17	50	23,669	1,380	24,566
2012–2016 avg.	20,000	13	43	21,076	699	21,775

Notes: 2016 average weight = 4.3 lb, CF = confidential data, NA = not applicable

[a] Prior to 1998, black rockfish were under federal management.

[b] Through November 16, 2016.

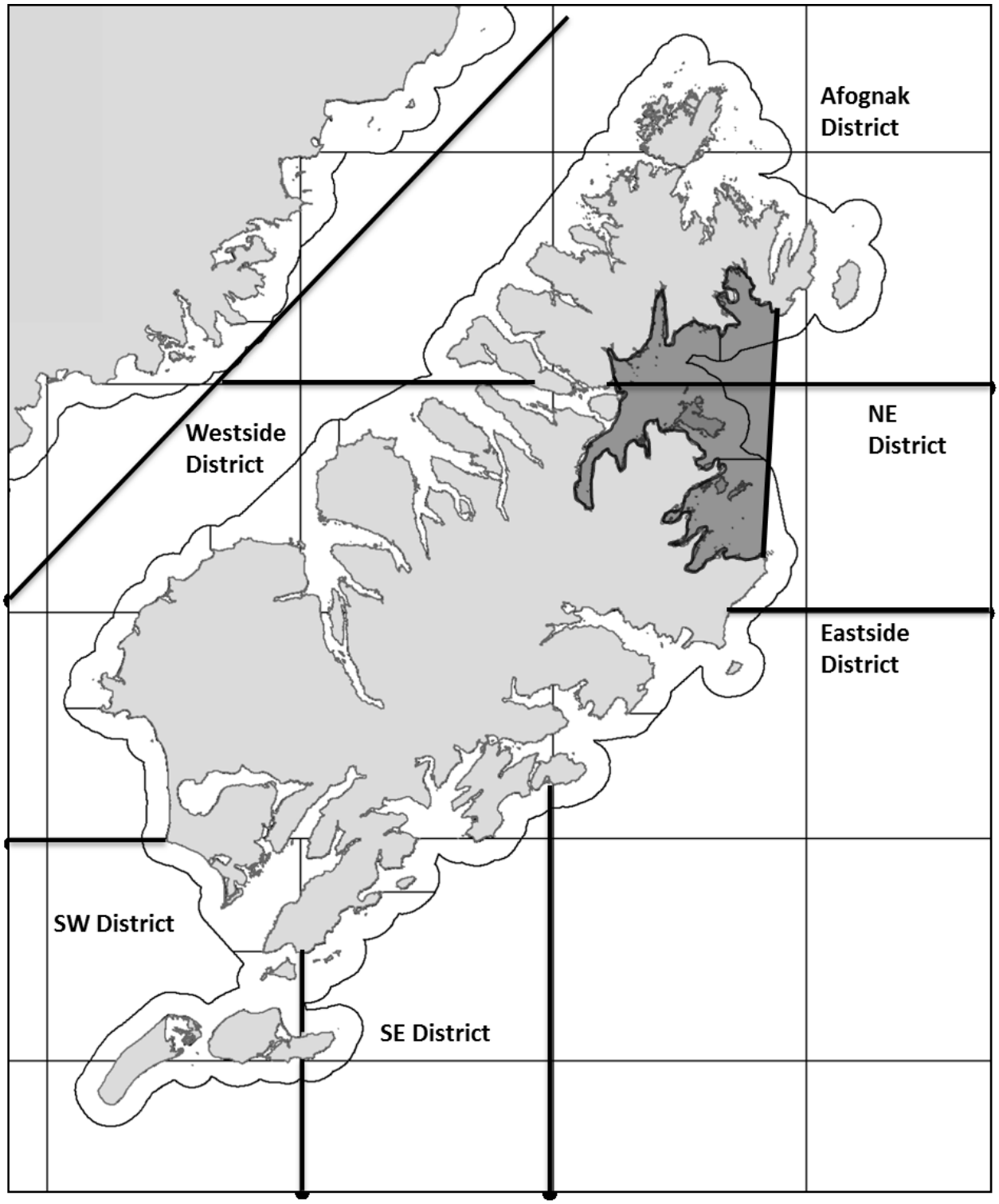

Figure 67-1.–Map of the Kodiak Area with commercial fishing districts and area affected (shaded) by Proposal 67.

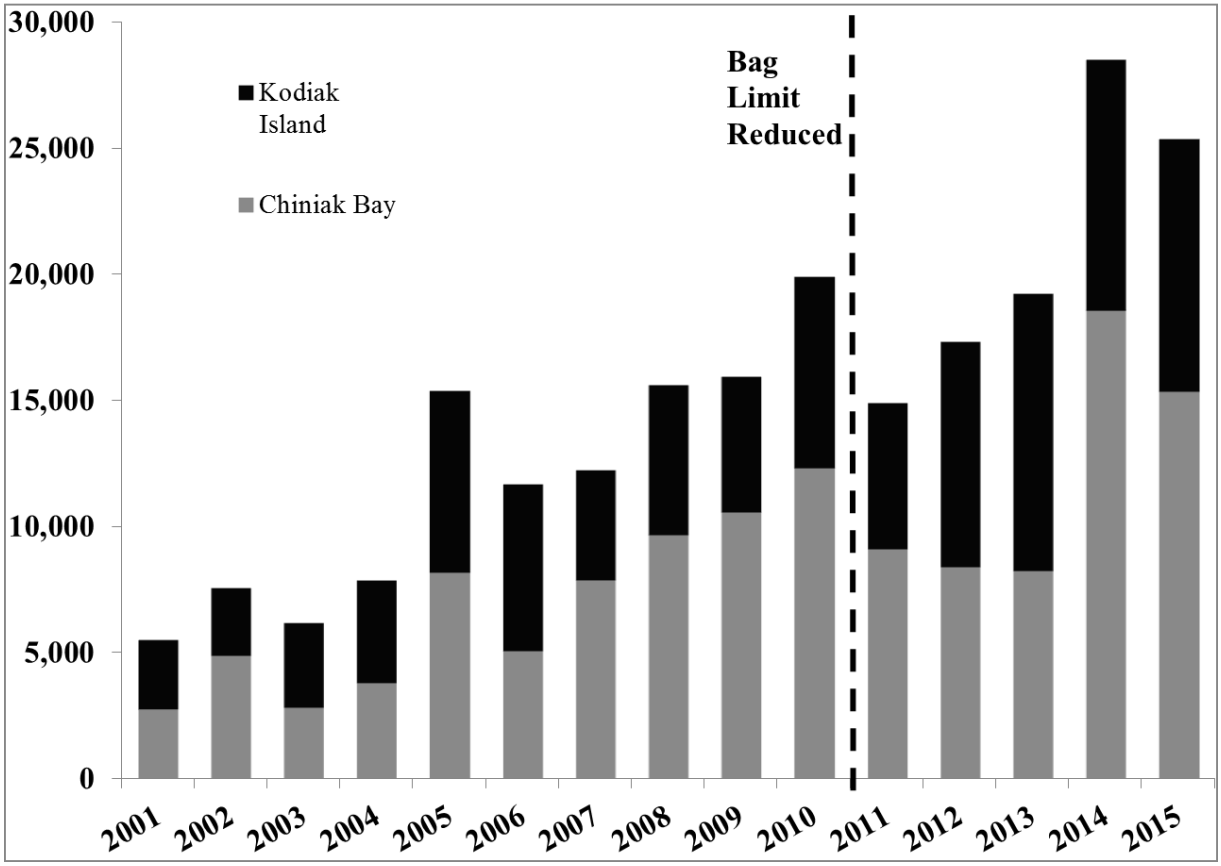

Figure 67-2.–Harvest of rockfish in Chiniak Bay and the remainder of Kodiak Area, 2001–2015.

PROPOSAL 68 – 5 AAC 64.022. Waters; seasons; bag, possession, annual, and size limits; and special provisions for the Kodiak Area.

PROPOSED BY: Stig Yngve.

WHAT WOULD THE PROPOSAL DO? Close the Buskin River, from the lake outlet downstream to Bridge #2 (Figure 68-1), to sport fishing from April 20 to June 1.

WHAT ARE THE CURRENT REGULATIONS? The Buskin River is open year round to sport fishing with the exception of closed areas around two department weirs while they are in operation. Use of bait is prohibited from November 1 through April 15. The harvest of rainbow trout/steelhead is not allowed and they must be released immediately.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Eliminates sport fishing in the majority of the Buskin River drainage (Figure 68-1) during the spring fishing season and severely restricts opportunity for anglers to target Dolly Varden and early sockeye salmon. Closing this portion of the Buskin River drainage from April 20 through June 1 would significantly impact these two fisheries.

BACKGROUND: Little information is available about the steelhead run on the Buskin River or size of the spawning population. Adults are occasionally counted during weir operations targeting coho salmon in August and September, but steelhead trout primarily return during the month of October after weir operations cease. For drainages the size of the Buskin River, the annual spawning population is likely fewer than 1,000 fish. Most steelhead in the Buskin River drainage overwinter in Buskin Lake but may also overwinter in deeper pools along the river as well. Steelhead spawning on Kodiak Island typically occurs from mid-April through mid-May and steelhead kelts return to the ocean shortly after spawning.

Anglers target steelhead and rainbow trout from late summer until late spring each year and have caught and released an average 249 steelhead per year in the Buskin River (SWHS). Estimates for both steelhead and rainbow trout are provided in Table 68-1. There is no directed harvest of Buskin River steelhead or rainbow trout; however, some steelhead are occasionally mistaken for coho salmon and subsequently harvested. Some incidental hooking mortality also likely occurs but this is likely low and minimized by the seasonal bait restriction in the KRZ.

Two other sport fisheries exist in the Buskin River drainage during the proposed closure. Dolly Varden are generally available to be caught year round as ice conditions allow, but a large part of the effort for Buskin River Dolly Varden occurs in the spring months from mid-April through early June. Anglers target Dolly Varden in the spring because these fish are highly aggressive and generally abundant. They are often one of the first fish available to catch in local rivers after the winter months, especially for young anglers. Harvest in the spring is generally lower than later in the summer, and many anglers choose to release their catch. Sockeye salmon are available from early May through the summer months and the Buskin River drainage has one of the earliest returns of sockeye salmon in the Kodiak Area.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. There is relatively low angler effort for steelhead in the Buskin River drainage, and no directed harvest. This closure would unnecessarily restrict the sport sockeye salmon and Dolly Varden fisheries in the Buskin River.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 68-1.–Estimates of rainbow and steelhead trout and Dolly Varden released by anglers and the harvest of sockeye salmon in the Buskin River, 2006–2015.

Year	Rainbow Trout Released	Steelhead Released	Dolly Varden Released	Sockeye Harvest
2006	767	206	12,908	1,577
2007	170	111	19,927	1,509
2008	197	115	15,250	1,159
2009	34	42	6,266	687
2010	161	62	7,470	332
2011	851	337	5,131	1,277
2012	70	46	1,969	1,484
2013	29	8	1,918	1,310
2014	645	211	9,571	4,237
2015	1,021	1,352	8,101	3,978
2006–2015 Average	395	249	8,851	1,755

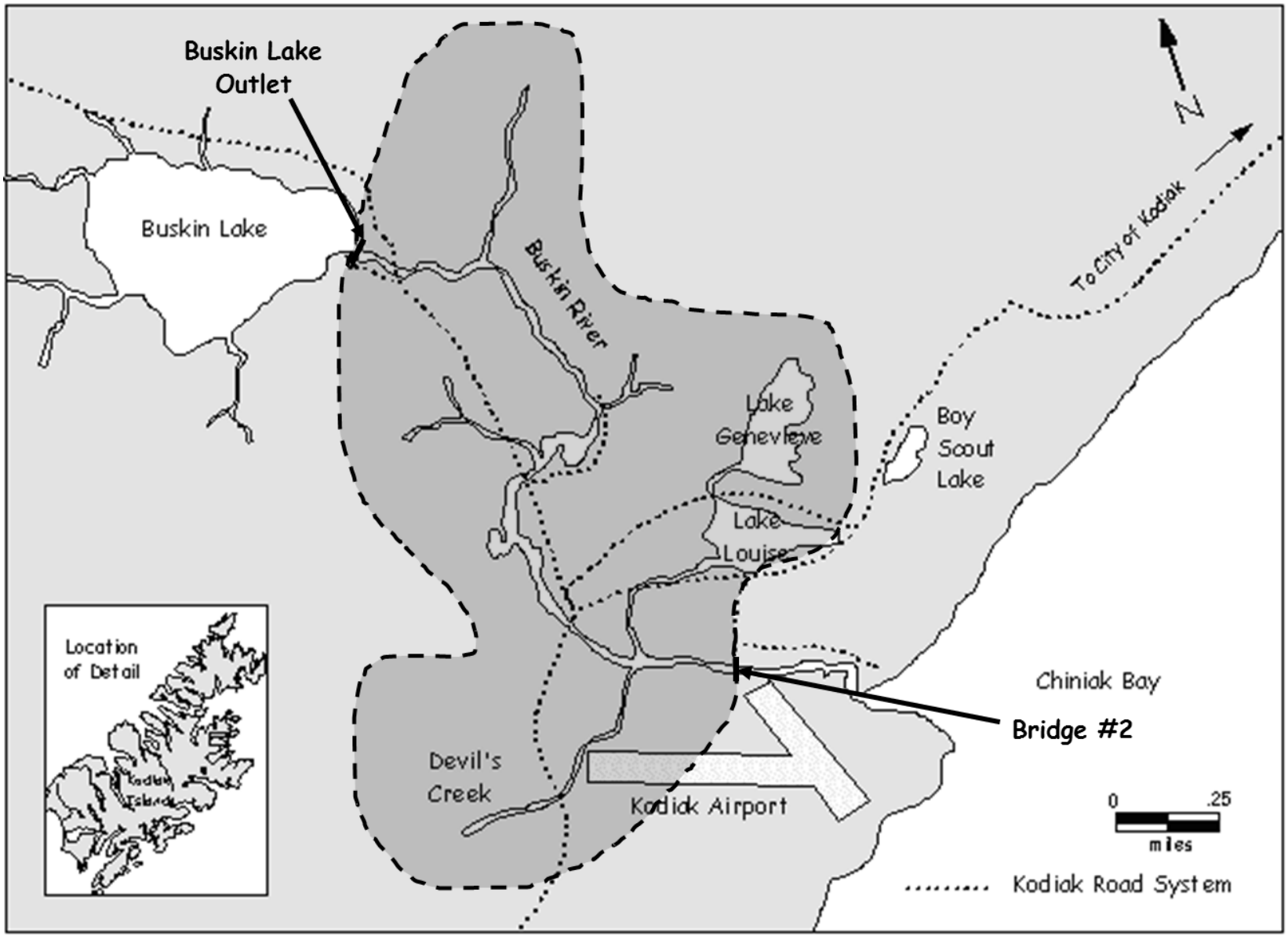

Figure 68-1.–Map of the Buskin River drainage showing the affected area (shaded) of the proposed closure.

PROPOSAL 69 – 5 AAC 64.022. Waters; seasons; bag, possession, annual, and size limits; and special provisions for the Kodiak Area.

PROPOSED BY: Stig Yngve.

WHAT WOULD THE PROPOSAL DO? Require only single-hook lures and artificial flies as legal sport fishing gear in all Kodiak Area fresh waters.

WHAT ARE THE CURRENT REGULATIONS? There are no specific hook regulations in the Kodiak Area, therefore statewide provisions apply for fresh waters: multiple hooks are allowed with a hook size of less than ½ inch between the point and shank.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Restriction of multiple hooks would require anglers to purchase new lures or re-fit their existing lures with a single hook. Prohibiting the use of treble hooks would reduce angler efficiency by some amount, and recent studies have shown youth and inexperienced anglers are disproportionately affected. Reduced angler efficiency would result in either anglers fishing longer in order to achieve their bag limit for salmon, or a reduced harvest. Reduced hooking mortality or any benefit derived from the use of single hooks would be difficult to assess, although some savings of fish may occur.

BACKGROUND: Many standard lures designed for freshwater use come with treble hooks, and are used in nearly all freshwater sport fisheries in the Kodiak Area. The common 'Pixie' and 'Vibrax' lures are among the most popular. Many manufactures now include a single hook with purchases of new lures; however, treble hooks are still universally used.

When releasing fish not intended for harvest, a single hook can provide a quicker and gentler hook release than treble hooks, but only with the use of proper release methods. Anglers can use single hooks if they prefer, and many do.

DEPARTMENT COMMENTS: The department **OPPOSES** the proposed gear restriction over a large area without biological or conservation need. The department promotes best practices for releasing fish, including the potential to minimize handling time by various means, through education and outreach.

COST ANALYSIS: Approval of this proposal may result in an additional direct cost for a private person to participate in this fishery. Many anglers would be required to purchase new lures with single hooks or new hooks to replace treble hooks that are common on most lures designed for freshwater use.

PROPOSAL 70 – 5 AAC 64.022. Waters; seasons; bag, possession, annual, and size limits; and special provisions for the Kodiak Area.

PROPOSED BY: Stig Yngve.

WHAT WOULD THE PROPOSAL DO? Prohibit the use of bait while sport fishing in all fresh waters of the Kodiak Archipelago, October 1 through August 15, including stocked lakes and streams.

WHAT ARE THE CURRENT REGULATIONS? The use of bait is allowed throughout the Kodiak Area year round except within the KRZ from November 1 through April 30. Bait is allowed year round in all stocked lakes and in Chiniak and Barry's lagoons.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Restriction of the use of bait from October 1 through August 15 would eliminate the use of bait in two highly popular fisheries: the enhanced runs of king salmon to the KRZ and the 17 lakes stocked with rainbow trout by the department. It would allow the use of bait throughout the majority of the coho salmon run, however. There would be reduced angler efficiency, especially for young and inexperienced anglers; reduced harvest of many species; and an increase in time it takes for anglers to harvest a limit of fish, and thus creating more crowded fishing areas. An unknown number of fish would be saved by this proposal.

BACKGROUND: The use of bait is highly popular among anglers in many freshwater fisheries in the Kodiak Area, and bait is primarily used in several specific fisheries. Anglers target all species of salmon, Dolly Varden, and rainbow trout with bait. The majority of anglers fishing with bait, however, target king and coho salmon and stocked rainbow trout.

Current bait restrictions in the KRZ were implemented to conserve resident populations of rainbow trout and overwintering populations of steelhead. Other bait restrictions in the Kodiak Area occur through EOs for specific fisheries, primarily king salmon in remote areas. The use of bait and multiple hooks has been restricted on both the Karluk and Ayakulik rivers on numerous occasions since 2006 to conserve returns of king salmon in times of low abundance. The use of bait is highly effective in king and coho salmon and steelhead and rainbow trout fisheries and hooking mortality has been documented to be higher with the use of bait over artificial lures.

The majority of angler effort occurs in the KRZ (Table 70-1) and bait restrictions are already in place to conserve small populations of wild rainbow trout and steelhead. The use of bait can and will be restricted by EO in any drainage where its use can be a conservation concern for meeting escapement goal objectives.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal as an areawide conservation measure when no conservation measure is required. Bait restrictions have and will be implemented in specific drainages by EO and the department will continue to monitor escapements of king salmon to the Karluk and Ayakulik rivers to determine restrictions on harvest and tackle. The department promotes best practices for releasing fish, including the potential to minimize handling time by various means, through education and outreach.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 70-1.–Angler effort in the KRZ and Kodiak Area.

Year	Kodiak Road Zone Angler Days	All Kodiak Area Angler Days	% Effort in Road Zone
2006	40,028	49,722	81%
2007	46,492	57,988	80%
2008	40,526	49,820	81%
2009	43,204	49,619	87%
2010	35,288	41,082	86%
2011	41,817	47,620	88%
2012	37,275	43,032	87%
2013	56,983	63,325	90%
2014	58,578	66,858	88%
2015	46,599	51,787	90%
2006–2015 Average	44,679	52,085	86%

COMMITTEE OF THE WHOLE–GROUP 2 (17 PROPOSALS)

REGULATORY ALIGNMENT

PROPOSAL 47 – 5 AAC 18.350. Closed waters.

PROPOSED BY: Kodiak Regional Aquaculture Association.

WHAT WOULD THE PROPOSAL DO? This changes closed water coordinates in regulation to accurately reflect the location of closed waters markers currently in use within the Inner Kitoi Bay Section of the Afognak District.

WHAT ARE THE CURRENT REGULATIONS? All waters near the terminus of Big Kitoi Creek west of a line from 58° 11.45′ N lat., 152° 21.84′ W long., to 58° 11.34′ N lat., 152° 21.66′ W long., and all waters near the terminus of Little Kitoi Creek west of a line from 58° 11.50′ N lat., 152° 21.65′ W long., to 58° 11.50′ N lat., 152° 21.61′ W long. are closed to commercial fishing for salmon.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The description of closed waters in regulation would be changed to accurately reflect the current and long standing practice of changing the coordinates by EO.

BACKGROUND: The department and Kitoi Bay Hatchery manager have established a variety of closed waters for commercial salmon fisheries opening near the Kitoi Bay Hatchery in the Inner Kitoi Bay Section of the Afognak District. For the past several seasons closed water markers have been put in place by hatchery staff at the proposed coordinates.

DEPARTMENT COMMENTS: The department **SUPPORTS** this proposal. This will simplify regulations and improve clarity for fishermen and enforcement.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

PROPOSAL 48 – 5 AAC 01.525. Waters closed to subsistence fishing.

PROPOSED BY: Kodiak Regional Aquaculture Association.

WHAT WOULD THE PROPOSAL DO? Closed water coordinates in regulation would be changed to accurately reflect closed waters markers currently in use within the Inner Kitoi Bay Section of the Afognak District.

WHAT ARE THE CURRENT REGULATIONS? From June 1 through October 31, all waters seaward of the terminus of Big Kitoi creek to a line extending northwesterly from 58° 11.42′ N lat., 152° 21.95′ W long., to 58° 11.59′ N lat., 152° 22.03′ W long., and from August 15 through September 30, all waters of Big Kitoi Bay west of the longitude of 152° 21.55′ W long. are closed to subsistence fishing for salmon.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The description of closed waters in regulation would be changed to accurately reflect the current and long-standing practice of changing the coordinates by EO.

BACKGROUND: The department and Kitoi Bay Hatchery manager have established a variety of closed waters for the subsistence salmon fishery near the Kitoi Bay Hatchery in the Inner Kitoi Bay Section of the Afognak District. For the past several seasons closed water markers have been put in place by hatchery staff at the proposed coordinates.

DEPARTMENT COMMENTS: The department **SUPPORTS** this proposal. This will simplify regulations and improve clarity for fishermen and enforcement.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

SUBSISTENCE REGULATION REVIEW

1. Are these stocks in a nonsubsistence area? No.
2. Is the stock customarily and traditionally taken or used for subsistence? Yes, the board made positive customary and traditional use findings for salmon and finfish other than salmon, except steelhead and rainbow trout, in the Kodiak Area, except a portion on the Alaska Peninsula north of Kodiak Island (5 AAC 01.536).
3. Can a portion of the stocks be harvested consistent with sustained yield? Yes.
4. What amount is reasonably necessary for subsistence uses? The board finds that 26,800–44,700 salmon, 21,000–35,000 rockfish, 3,300–5,600 lingcod, and 550,000–900,000 usable pounds of finfish other than salmon, rockfish, and lingcod, are reasonably necessary for subsistence uses in the Kodiak Area.
5. Do the regulations provide a reasonable opportunity for subsistence uses? This is a board determination.
6. Is it necessary to reduce or eliminate other uses to provide a reasonable opportunity for subsistence uses? This is a board determination.

CAPE IGVAK SALMON MANAGEMENT PLAN

PROPOSAL 51 – 5 AAC 18.360. Cape Igvak Salmon Management Plan.

PROPOSED BY: Axel S. Kopun.

WHAT WOULD THE PROPOSAL DO? This would increase the Chignik-bound sockeye salmon forecast allocation criteria and Chignik Area allocation period harvest assurance from the current expected Chignik Area harvestable surplus of 600,000 sockeye salmon to a Chignik Area harvestable surplus of 1,000,000 sockeye salmon. Additionally, this proposal adjusts the Chignik Area sockeye salmon harvest assurance prior to July 9 from the current 300,000 fish to 600,000 fish in years when the Chignik Area harvestable surplus is expected to be below 1,000,000 sockeye salmon or in years when the early run fails to develop and the expected Chignik Area harvestable surplus of 1,000,000 fish may not be achieved. After July 8, a Cape Igvak fishery would not be allowed until at least 600,000 sockeye salmon have been harvested in the Chignik Area and the total sockeye salmon harvest within the Chignik Area is expected to be at least 1,000,000 fish for the season.

WHAT ARE THE CURRENT REGULATIONS? The *Cape Igvak Salmon Management Plan* provides a framework for how the Cape Igvak Section is to be managed. This framework is based on the preseason forecast of the harvestable surplus of sockeye salmon returning to the Chignik River watershed and provides for a harvest assurance within Chignik Area as follows:

- In years when a harvestable surplus beyond escapement goals for the first (Black Lake) and second (Chignik Lake) runs of Chignik River system sockeye salmon is expected to be less than 600,000, there will be no commercial salmon fishery allowed in the Cape Igvak Section until a harvest of 300,000 sockeye salmon in the Chignik Area is achieved. After July 8, after at least 300,000 sockeye salmon have been harvested in the Chignik Area, and if escapement goals are being met, the department shall manage the Cape Igvak Section so that the number of sockeye salmon harvested in the Chignik Area will be at least 600,000 and the harvest in the Cape Igvak Section will approach as near as possible 15 percent of the total Chignik Area sockeye salmon catch.
- In years when a harvestable surplus beyond escapement goals for the first and second runs of Chignik River system sockeye salmon is expected to be more than 600,000, but the first run fails to develop as predicted and it is determined that a total sockeye salmon harvest in the Chignik Area of 600,000 or more may not be achieved, the Cape Igvak Section commercial salmon fishery will be curtailed in order to allow at least a minimum harvest in the Chignik Area of 300,000 sockeye salmon by July 9 if that number of fish are determined to be surplus to the escapement goals of the Chignik River system. After July 8, after at least 300,000 sockeye salmon have been harvested in the Chignik Area, and if escapement goals are being met, the department shall manage the Cape Igvak Section so that the number of sockeye salmon harvested in the Chignik Area will be at least 600,000 and the harvest in the Cape Igvak Section will approach as near as possible 15 percent of the total Chignik Area sockeye salmon catch.
- In years when a harvestable surplus beyond the escapement goals for the first and second runs of Chignik River system sockeye salmon is expected to be more than 600,000 and

the department determines the runs are as strong as expected, the department will manage the fishery in such a manner whereby the number of sockeye salmon taken in the Cape Igvak Section will approach as near as possible 15 percent of the total Chignik Area sockeye salmon catch.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? On average, this would decrease the likelihood of a salmon fishery in the Cape Igvak Section. In years that a Cape Igvak fishery could occur, the department anticipates there would be less fishing time during June/July and KMA purse seine harvests and exvessel value would decline. In the event that the Cape Igvak fishery remains closed, Chignik Area fishermen would likely experience higher sockeye salmon harvests and greater exvessel values, though the exact increase cannot be calculated because the abundance of sockeye salmon and harvest at Cape Igvak is not known in advance. There would likely be little effect on escapement of sockeye salmon past the Chignik River weir.

Although the department cannot determine the exact decrease in Cape Igvak Section sockeye salmon harvest if this proposal were in effect, over the past 15 years it is reasonable to assume that this would have had little net change in years of very low sockeye salmon forecasts and harvest (2008 and 2014) and in years of very high sockeye salmon forecasts and harvests (2011 and 2013; Figure 51-1 and Table 51-1). In years of average to slightly above average Chignik River sockeye salmon returns this proposal would likely reduce fishing time within the Cape Igvak Section.

BACKGROUND: Beginning in 1964, a purse seine fishery developed along the capes of the southern Mainland District of the KMA, in what is now the Cape Igvak Section (Figure 51-1). Tagging studies and stock identification studies using average weight and age composition conducted in 1968 and 1969 concluded that up to 80 percent of the sockeye salmon harvested in the Cape Igvak Section were of Chignik River origin. The issue of interception of Chignik River system sockeye salmon in the Cape Igvak Section came before the board several times over the next ten years, and management of this section was modified many times. From 1974 through 1977, this area was managed for 'day-for-day' equal fishing time with fisheries in the Chignik Area.

In 1978, a specific management plan for the Cape Igvak Section was adopted by the board. Based on the long-standing harvest of sockeye salmon in the Cape Igvak Section during June and July, 80 percent of which could be Chignik-bound, the board chose to create an allocative harvest strategy, the *Cape Igvak Salmon Management Plan,* which remained unchanged until 2002. In 2002 the board increased the percentage of Cape Igvak Section sockeye salmon harvest considered bound for CMA from 80 percent to the current 90 percent. The harvest of sockeye salmon in the Cape Igvak fishery has averaged approximately 200,000 fish per season over the past 20 years and comprises approximately 12 percent of the total KMA areawide harvest of sockeye salmon on average (Table 51-2).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 51-1.–Cape Igvak Section (June 1–July 25) and CMA sockeye salmon harvest and harvest forecast, in numbers of fish, 2002–2016.

	Cape Igvak harvest			Chignik Management Area harvest					
Year	6/1–7/8	7/9–7/25	Total	Forecast	6/1–7/8	7/9–7/25	6/1–7/25	After 7/25	Season Total
2002	143,930	7,723	151,653	1,210,000	565,985	283,995	849,980	190,101	1,040,081
2003	118,777	16,653	135,430	1,770,000	581,773	273,406	855,179	237,125	1,092,304
2004	178,517	0	178,517	1,440,000	593,267	87,872	681,139	15,904	697,043
2005	304,809	0	304,809	1,430,000	818,171	280,547	1,098,718	44,975	1,143,693
2006	25,608	20,874	46,482	703,000	458,333	283,554	741,887	153,914	895,801
2007	58,363	0	58,363	1,080,000	236,104	365,109	601,213	227,897	829,110
2008	0	0	0	907,000	344,160	101,039	445,199	236,905	682,104
2009	0	141,076	141,076	632,000	567,208	304,682	871,890	324,435	1,196,325
2010	175,955	29,815	205,770	1,300,000	799,372	325,763	1,125,135	247,132	1,372,267
2011	549,487	0	549,487	1,402,000	2,128,358	149,323	2,277,681	212,444	2,490,125
2012	269,859	91,135	360,994	1,371,000	1,148,331	492,186	1,640,517	157,002	1,797,519
2013	295,561	97,971	393,532	2,581,000	1,827,252	426,172	2,253,424	146,170	2,399,594
2014	0	0	0	916,000	0	330,302	330,302	286,577	616,879
2015	0	6,595	6,595	1,588,000	317,658	696,892	1,014,550	525,760	1,540,310
2016	154,247	172,422	326,669	1,767,000	705,978	461,348	1,167,326	218,347	1,374,084
2012–2016 avg.	143,933	73,625	217,558	1,644,600	799,844	481,380	1,281,224	266,771	1,545,677
2007–2016 avg.	150,347	53,901	204,249	1,354,400	807,442	365,282	1,172,724	258,267	1,429,832
2002–2016 avg.	151,674	38,951	190,625	1,339,800	739,463	324,146	1,063,609	214,979	1,277,816

Table 51-2.–Percent of sockeye salmon harvested in the Cape Igvak Section compared to the total sockeye salmon harvest during the allocation period June 1–July 25 and the yearly total KMA sockeye salmon harvest.

	Purse seine sockeye harvest June 1–July 25			Purse seine sockeye harvest	
Year	Igvak	Total KMA	Percent in Igvak	Season Total	Percent in Igvak
1997	0	982,428	0.0%	1,470,305	0.0%
1998	11,016	1,876,241	0.6%	2,547,820	0.4%
1999	570,049	2,114,552	27.0%	3,129,348	18.2%
2000	339,180	1,533,478	22.1%	1,866,363	18.2%
2001	269,017	1,446,282	18.6%	1,679,985	16.0%
2002	151,653	937,618	16.2%	1,233,683	12.3%
2003	135,430	1,710,163	7.9%	2,511,993	5.4%
2004	178,517	1,774,518	10.1%	2,422,918	7.4%
2005	304,809	1,299,132	23.5%	1,697,637	18.0%
2006	46,482	575,881	8.1%	932,417	5.0%
2007	58,363	700,163	8.3%	1,236,731	4.7%
2008	0	675,129	0.0%	1,063,568	0.0%
2009	141,076	744,205	19.0%	973,879	14.5%
2010	205,770	917,137	22.4%	1,109,885	18.5%
2011	549,487	1,630,543	33.7%	1,808,056	30.4%
2012	360,994	1,233,059	29.3%	1,610,345	22.4%
2013	393,532	1,285,116	30.6%	1,739,398	22.6%
2014	0	1,238,197	0.0%	2,401,969	0.0%
2015	6,595	1,257,319	0.5%	2,437,792	0.3%
2016	331,633	1,050,858	31.6%	1,547,382	21.4%
2012–2016 avg.	218,551	1,212,910	18.4%	1,947,377	13.3%
2007–2016 avg.	204,745	1,073,173	17.5%	1,592,901	13.5%
1997–2016 avg.	202,680	1,249,101	15.5%	1,771,074	11.8%

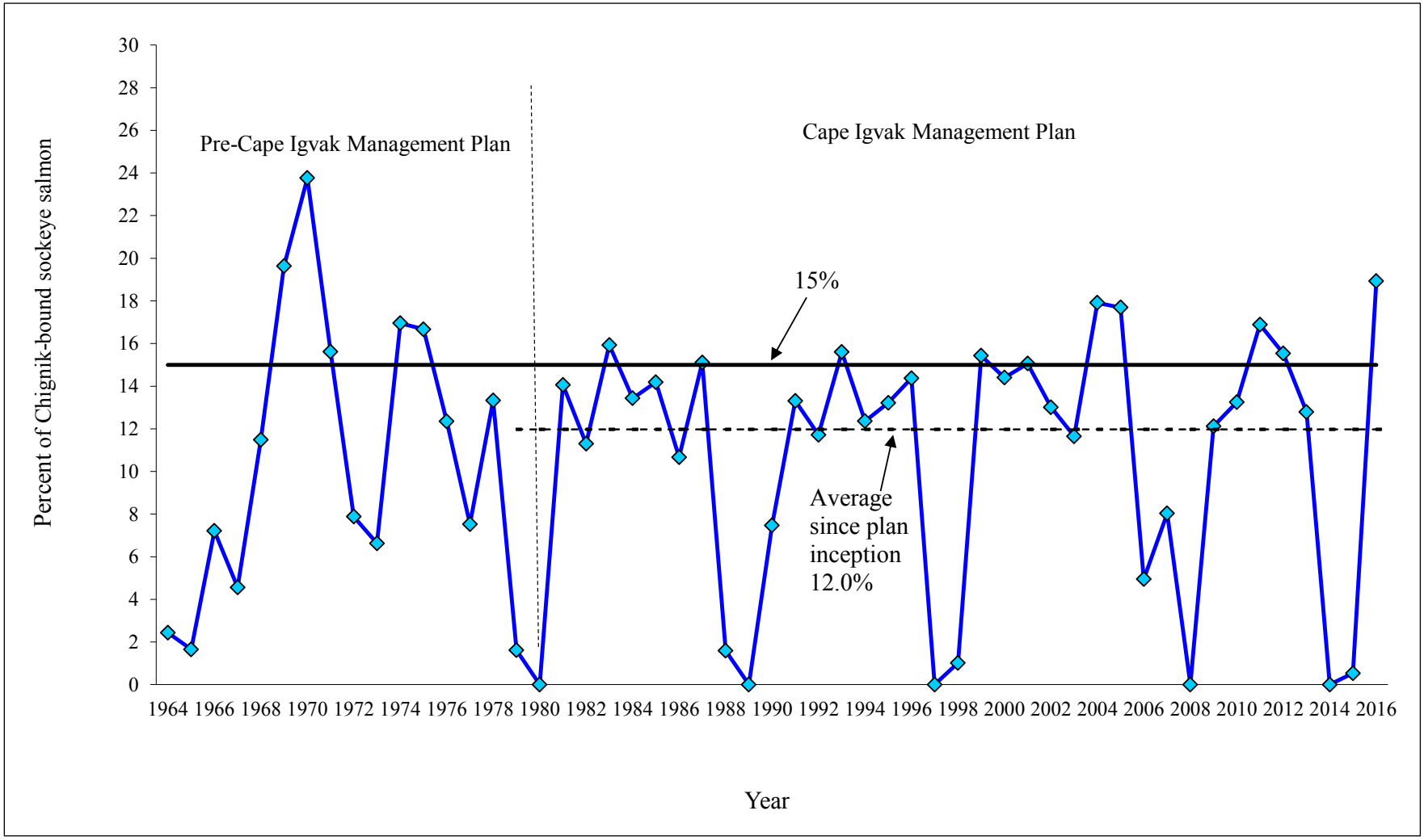

Figure 51-1.–Percent harvest of Chignik-bound sockeye salmon in the Cape Igvak fishery prior to July 25, 1964–2016.

PROPOSAL 52 – 5 AAC 18.360. Cape Igvak Salmon Management Plan.

PROPOSED BY: Axel S. Kopun.

WHAT WOULD THE PROPOSAL DO? This would add two new requirements for commercial salmon fishing within the Cape Igvak Section. The first would require commercial salmon fishing vessels to register with the department prior to fishing in the Cape Igvak Section (Figure 52-1) and notify the department upon leaving the Cape Igvak Section. Additionally, the proposal seeks to add tender reporting requirements in addition to the registration requirements. Tender vessels would be required to report fish ticket harvest data to the department within 12 hours of taking a delivery from a salmon permit holder within the Cape Igvak Section.

WHAT ARE THE CURRENT REGULATIONS? There are currently no registration or reporting requirements specific to the Cape Igvak Section.

Commercial fishermen and processors must complete a department fish ticket at the time of delivery and provide the following information:

- The CFEC permit card information
- Buyer/processor codes and information
- The date of landing
- The nearest headland or bay or statistical area in which the fish were taken, and
- The number and pounds of salmon by species

Under Alaska Statute it is a crime to knowingly enter false information on a fish ticket or supply false information to a person who is recording information on a fish ticket.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? In order to accommodate the registering component of the proposal a department representative would be required to remain on standby duty during all hours of the commercial salmon fishing period before and during a Cape Igvak fishing period in order to register vessels in and out of the Cape Igvak Section.

It is unlikely that the tender reporting requirement would provide for timelier reporting than status quo. Currently the majority of the Cape Igvak Section harvests are reported on a daily basis. This provides the department timely information in order to effectively manage the Cape Igvak fishery allocation.

BACKGROUND: The department collects verbal harvest reports from KMA commercial salmon fishermen and processors several times daily. Estimates of the number of fishing vessels on the grounds in the Cape Igvak Section and the average catch per unit of effort are used to estimate catch and manage the commercial fishery. Verbal catch reports from Southeastern District Mainland and Chignik Area fisheries are also used inseason to determine total catch of sockeye salmon considered to be Chignik-bound. As fish tickets are received, these verbal catch estimates are revised to reflect the more accurate information. Cooperation between the department and Kodiak salmon processors is excellent and significant discrepancies between verbal and fish ticket reports are rare. Kodiak salmon processors strongly discourage holding or travelling with salmon taken in the Cape Igvak Section to ensure the highest quality product.

There are no processing plants located in the Cape Igvak Section. Most Kodiak processors require their fleet to deliver to tenders in the Cape Igvak Section. Two processing plants, located on the

south and west side of Kodiak Island, occasionally take deliveries from fishing vessels that have traveled from the Cape Igvak Section.

The Cape Igvak Section fishery requires a 24-hour advance notice prior to opening, and normally begins at midnight, in order to provide notification and travel time for a fair start. Fishing periods are normally prosecuted in increments of 24 hours (a minimum time fishery would be 24 hours long), and extensions to fishing time are also allowed in 24-hour increments, with the fishery closing at midnight.

DEPARTMENT COMMENTS: The department **OPPOSES** adding registration requirements to the Cape Igvak fishery due to the added costs of implementing this type of registration. This proposal is based on the notion that salmon caught in the Cape Igvak Section are being misreported and not properly counted against the allocation scheme. The department recognizes that harvest data reported inseason and on fish tickets are the best information available and accuracy is protected by current regulations and statutes. The department is **NEUTRAL** to implementing a tender reporting requirement.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

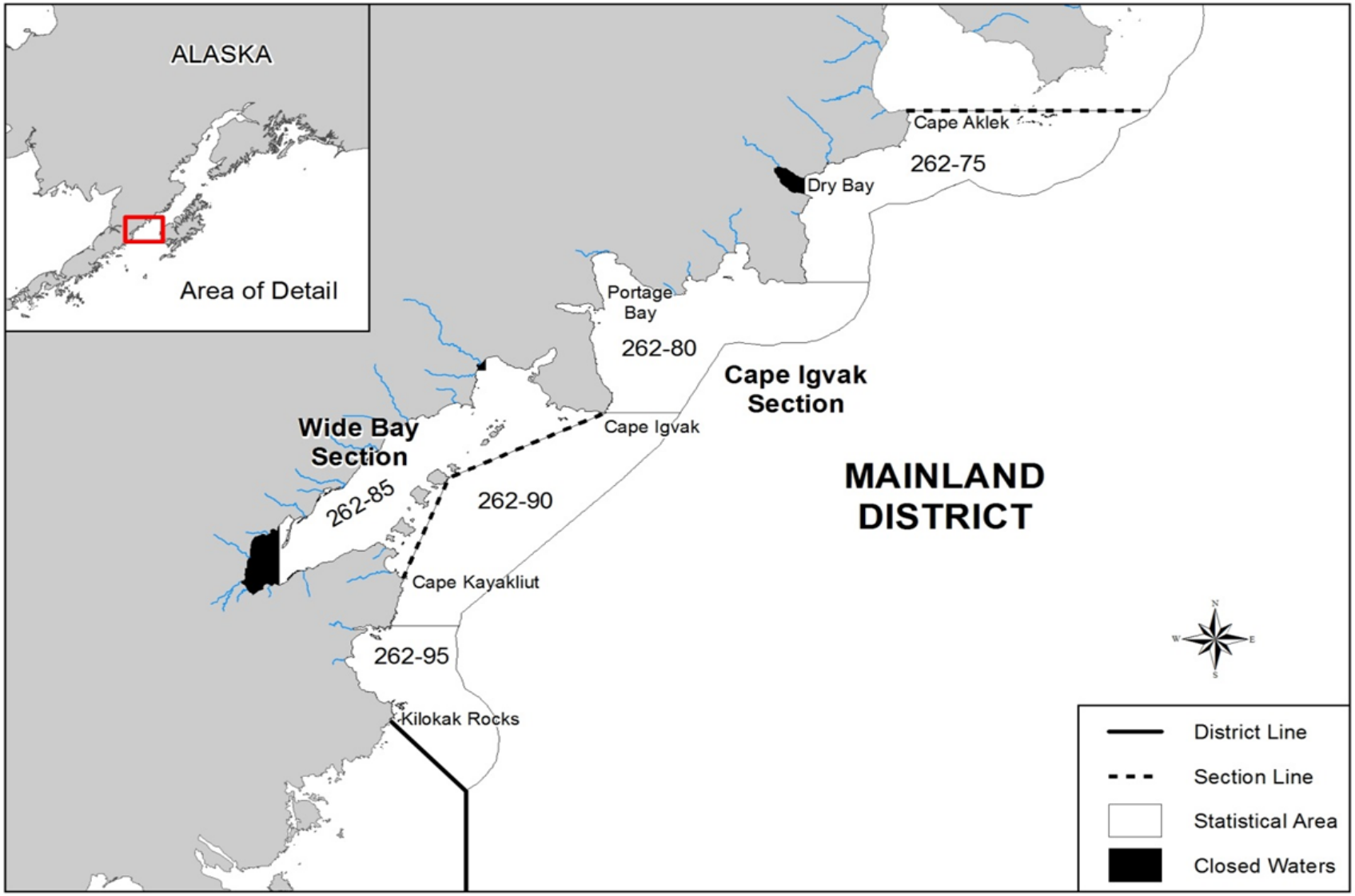

Figure 52-1.–Map of the Cape Igvak Section of the Mainland District.

PROPOSAL 53 – 5 AAC 18.360. Cape Igvak Salmon Management Plan.

PROPOSED BY: Jamie Ross.

WHAT WOULD THE PROPOSAL DO? This would decrease the timeframe used for the allocation calculation of total Chignik-bound sockeye salmon. The Cape Igvak fishery would still be prosecuted through July 25, but the allocation calculation would be limited to 15 percent of the total Chignik-bound harvest (80 percent of most of SEDM sockeye salmon harvest, plus 90 percent of Cape Igvak sockeye salmon harvest, plus Chignik Area sockeye salmon harvest) through July 8 instead of July 25 (Figure 53-1; Table 53-1).

This would also restrict the Cape Igvak fishery from opening until the Chignik Area commercial salmon fishery was open for the first 24-hour fishing period.

WHAT ARE THE CURRENT REGULATIONS? The *Cape Igvak Salmon Management Plan* implements a Chignik-bound sockeye salmon allocation for the Cape Igvak Section of the Mainland District based on the following provisions:

- Harvest in the Cape Igvak Section of the Mainland District will approach as near as possible 15 percent of the total Chignik-bound sockeye salmon harvest.
- The total Chignik-bound sockeye salmon harvest constitutes those sockeye salmon harvested within the Chignik Area plus 80 percent of most of the SEDM sockeye salmon harvest, plus 90 percent of the sockeye salmon harvest in the Cape Igvak Section.
- The allocation timeframe is in effect through July 25.
- During the period from approximately June 26 through July 8, the strength of late-run Chignik River sockeye salmon cannot be evaluated. In order to prevent overharvest of the late-run fish, commercial salmon fishing in the Cape Igvak Section of the Mainland District will be disallowed or severely restricted.
- The first Cape Igvak commercial salmon fishing period will not occur before the first fishing period in the Chignik Area.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would decrease the overall Cape Igvak sockeye salmon allocation from a calculation based on fish harvested through July 25, to fish harvested through July 8. Management of the Cape Igvak Section would become more conservative during the month of June. After the period of transition (June 26–July 8) a Cape Igvak Section fishery could still be allowed to target the pre-July 9 harvest allocation if the 15 percent target had not already been achieved.

In years that a Cape Igvak Section fishery could occur, the department anticipates there would be less fishing time during June/July and the KMA purse seine harvests and exvessel value would decline. Harvest of sockeye salmon in CMA would likely increase. There would likely be little effect on sockeye salmon escapement past the Chignik Weir. Chignik-bound sockeye salmon harvests through July 8 and July 25 are presented in Table 53-1.

BACKGROUND: Beginning in 1964 a purse seine fishery developed in what is now the Cape Igvak Section. Seine fishermen would target sockeye salmon in the Cape Igvak Section before switching in mid- to late July to target local KMA pink salmon.

Tagging and stock identification studies conducted in 1968 and 1969 concluded that up to 80 percent of the sockeye salmon harvest in the Cape Igvak Section in June and early July were of Chignik River origin. After the inception of limited entry, the issue of interception of Chignik River sockeye salmon came before the board frequently and management of the Cape Igvak fishery was modified several times. From 1974 through 1977, this section was managed 'day-for-day' equal fishing time with fisheries in the Chignik Area.

In 1978 the *Cape Igvak Management Plan* was codified in regulation. Based on the long-standing harvest of sockeye salmon in the Cape Igvak Section in June and July, the *Cape Igvak Management Plan* set the annual allocation at 15 percent of the total Chignik-bound sockeye salmon harvest. Based on the traditional fishing times, the allocation timeframe was set through July 25. This management plan stipulated that 80 percent of the sockeye salmon harvest from the Cape Igvak Section prior to July 25 will be considered Chignik-bound. In 2002, the board modified the Cape Igvak fishery such that 90 percent of the Cape Igvak Section sockeye salmon catch is now considered to be Chignik-bound.

Sockeye salmon harvested under the *Cape Igvak Management Plan* have comprised an average of 18.3%, 17.5% and 15.4% of the 5-year, 10-year, and 20-year June 1 through July 25 KMA sockeye salmon purse seine harvest, respectively (Table 53-2). Cape Igvak Section sockeye salmon harvests have averaged approximately 12 percent of the total yearly KMA sockeye salmon purse seine harvest (Table 53-2).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 53-1.–Sockeye salmon harvest considered Chignik-bound June 1–July 8, June 1–July 25, and percent difference (% reduction) in sockeye salmon harvest in number of fish, 2000–2016.

	Chignik-bound sockeye salmon harvest through		
Year	July 8	July 25	% Reduction
2000	1,525,612	1,884,415	19.0%
2001[a]	728,973	1,438,242	49.3%
2002[b]	724,546	1,050,544	31.0%
2003	726,396	1,047,110	30.6%
2004	791,447	897,159	11.8%
2005	1,163,042	1,550,794	25.0%
2006	481,380	845,731	43.1%
2007	288,631	653,740	55.8%
2008[c]	–	–	–
2009	570,517	1,047,180	45.5%
2010	986,365	1,394,263	29.3%
2011	2,740,152	2,928,856	6.4%
2012	1,442,112	2,091,613	31.1%
2013	2,176,539	2,769,547	21.4%
2014[c]	–	–	–
2015	317,658	1,118,958	71.6%
2016	907,882	1,554,706	41.6%
2012–2016 avg.[d]	1,211,048	1,883,706	41.4%
2007–2016 avg.[d]	1,178,732	1,694,858	37.8%
2000–2016 avg.[d]	1,038,083	1,484,857	34.2%

Note: Management decisions and the resulting harvest presented in the July 8 column were made utilizing current allocation criteria and allocation period dates (June 1–July 25).

[a] Through July 25 column includes foregone harvest of 398,887 and forgone harvest in SEDM of 27,896 fish due to a fisherman's strike (June 14–July 2).

[b] In 2002, the board changed the regulation such that 90% (80% prior to 2002) of the sockeye salmon harvested in the Cape Igvak Section through July 25 are considered Chignik-bound.

[c] Allocation criteria not met and Cape Igvak and SEDM fisheries remained closed.

[d] Years in which Cape Igvak and SEDM fisheries remained closed not included in average.

Table 53-2.–Percent of sockeye salmon harvested in the Cape Igvak Section compared to the total sockeye salmon harvest during the allocation period June 1–July 25 and the yearly total KMA sockeye salmon harvest.

	Purse seine sockeye harvest June 1–July 25			Purse seine sockeye harvest	
Year	Igvak	Total KMA	Percent in Igvak	Season Total	Percent in Igvak
1997	0	982,428	0.0%	1,470,305	0.0%
1998	11,016	1,876,241	0.6%	2,547,820	0.4%
1999	570,049	2,114,552	27.0%	3,129,348	18.2%
2000	339,180	1,533,478	22.1%	1,866,363	18.2%
2001	269,017	1,446,282	18.6%	1,679,985	16.0%
2002	151,653	937,618	16.2%	1,233,683	12.3%
2003	135,430	1,710,163	7.9%	2,511,993	5.4%
2004	178,517	1,774,518	10.1%	2,422,918	7.4%
2005	304,809	1,299,132	23.5%	1,697,637	18.0%
2006	46,482	575,881	8.1%	932,417	5.0%
2007	58,363	700,163	8.3%	1,236,731	4.7%
2008	0	675,129	0.0%	1,063,568	0.0%
2009	141,076	744,205	19.0%	973,879	14.5%
2010	205,770	917,137	22.4%	1,109,885	18.5%
2011	549,487	1,630,543	33.7%	1,808,056	30.4%
2012	360,994	1,233,059	29.3%	1,610,345	22.4%
2013	393,532	1,285,116	30.6%	1,739,398	22.6%
2014	0	1,238,197	0.0%	2,401,969	0.0%
2015	6,595	1,257,319	0.5%	2,437,792	0.3%
2016	331,633	1,050,858	31.6%	1,547,382	21.4%
2012–2016 avg.	218,551	1,212,910	18.4%	1,947,377	13.3%
2007–2016 avg.	204,745	1,073,173	17.5%	1,592,901	13.5%
1997–2016 avg.	202,680	1,249,101	15.5%	1,771,074	11.8%

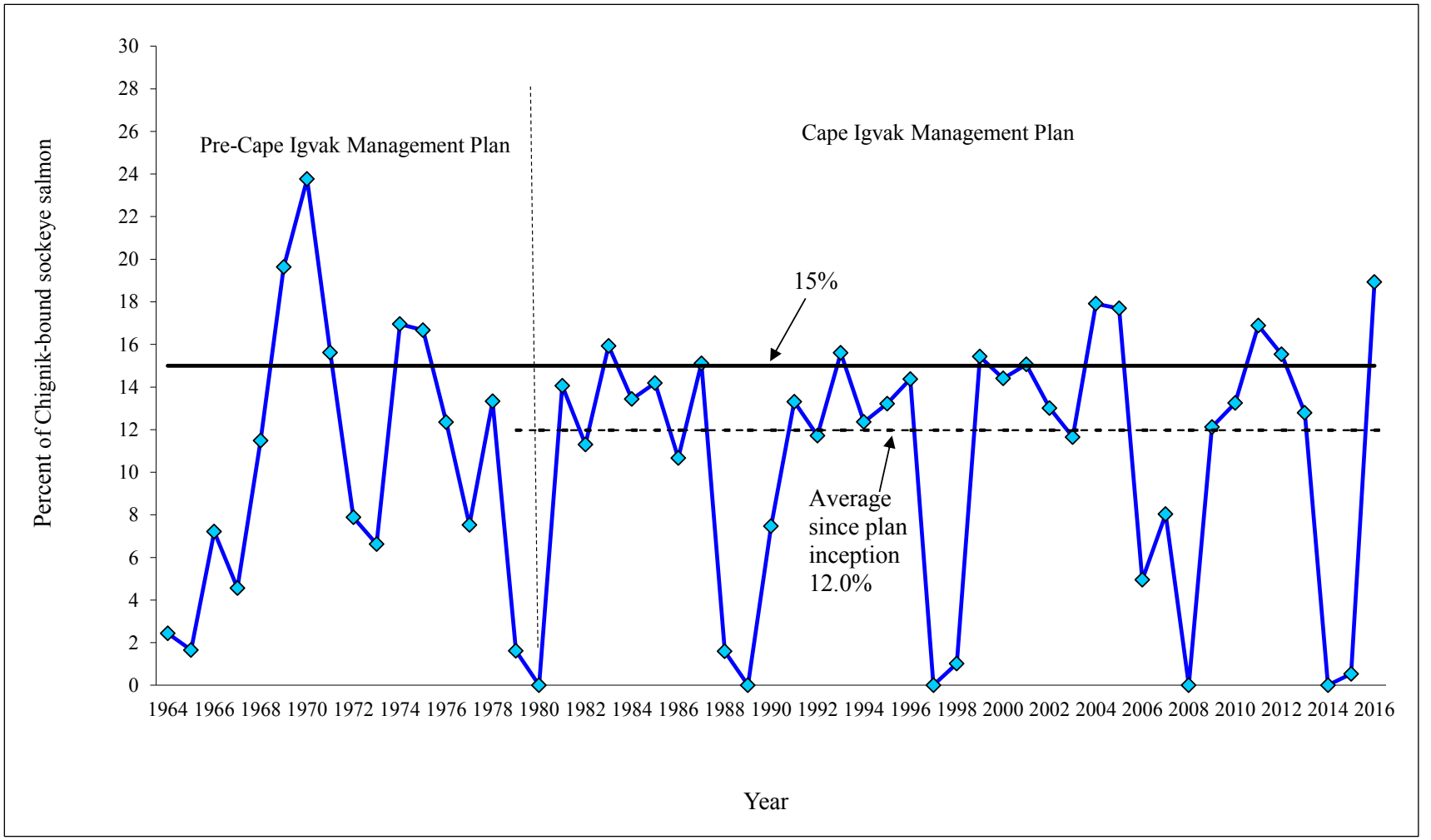

Figure 53-1.–Percent harvest of Chignik-bound sockeye salmon in the Cape Igvak fishery prior to July 25, 1964–2016.

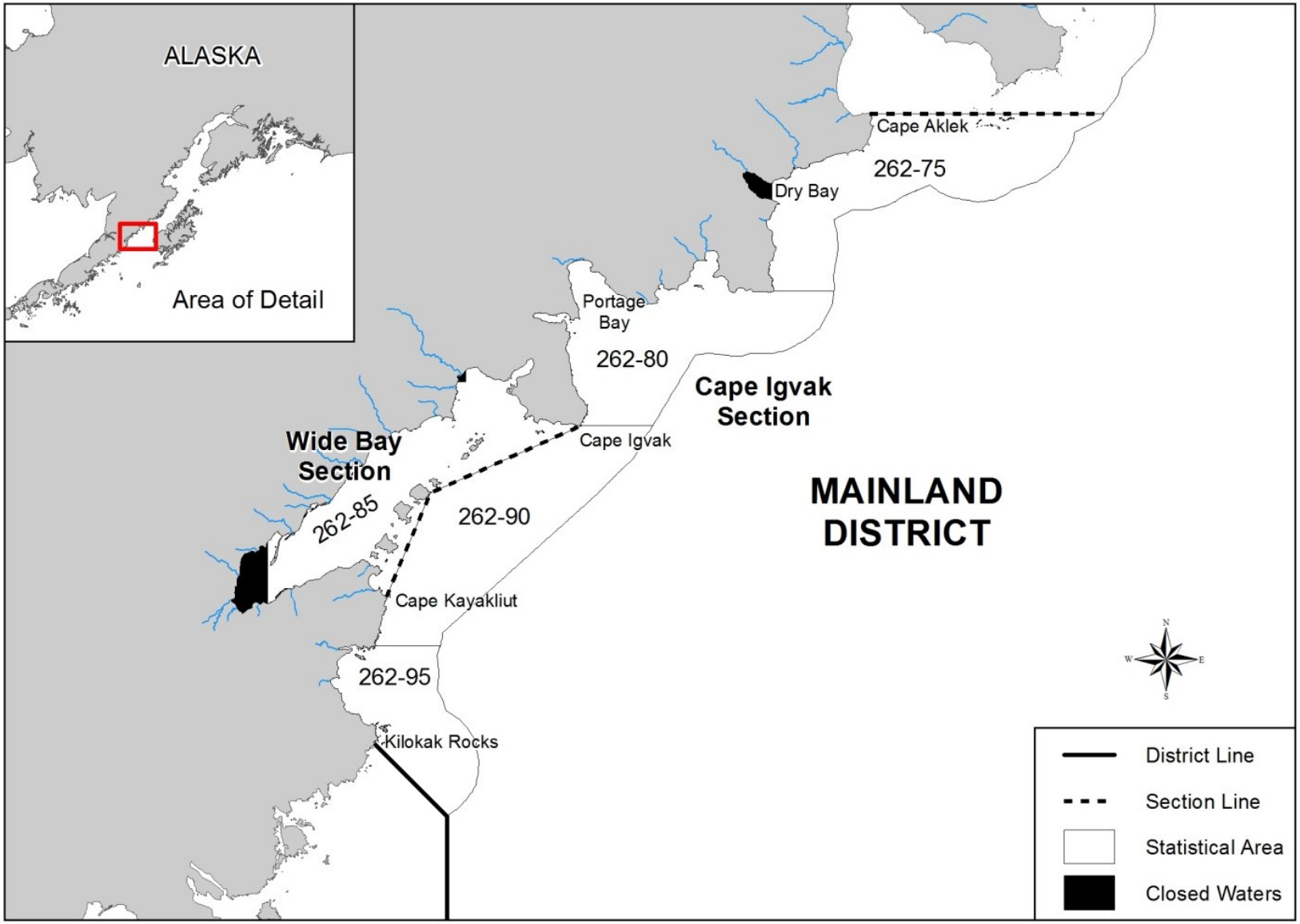

Figure 53-2.–Map of the Cape Igvak Section of the Mainland District.

PROPOSAL 54 – 5 AAC 18.360. Cape Igvak Salmon Management Plan.

PROPOSED BY: Axel Kopun.

WHAT WOULD THE PROPOSAL DO? This would reconfigure the *Cape Igvak Salmon Management Plan* sockeye salmon allocation calculation from 15 percent of the total Chignik-bound harvest (80 percent of most of SEDM sockeye salmon harvest, plus 90 percent of Cape Igvak sockeye salmon harvest, plus Chignik Area sockeye salmon harvest), to 15 percent of only the Chignik Area sockeye salmon harvest.

WHAT ARE THE CURRENT REGULATIONS? The *Cape Igvak Salmon Management Plan* provides the allocation for how the Cape Igvak Section of the Mainland District (Figure 54-1)is to be managed. The current allocation is based on the following:

- Harvest in the Cape Igvak Section of the Mainland District will approach as near as possible 15 percent of the total Chignik-bound sockeye salmon harvest.
- The total Chignik-bound sockeye salmon catch constitutes those sockeye salmon harvested within the Chignik Area plus 80 percent of most of SEDM sockeye salmon catch, plus 90 percent of the sockeye salmon harvest in the Cape Igvak Section.
- The allocation timeframe is in effect through July 25.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would decrease the Cape Igvak sockeye salmon allocation (Table 54-1) and would have little effect on Chignik River sockeye salmon escapements or the fulfillment of escapement objectives because the *Cape Igvak Salmon Management Plan* requires that escapement objectives for Chignik River sockeye salmon must be met prior to the opening of any Cape Igvak fishery. If adopted this proposal would likely increase harvest of sockeye salmon within CMA.

BACKGROUND: Beginning in 1964 a purse seine fishery developed in what is now the Cape Igvak Section. Tagging and stock identification studies conducted in 1968 and 1969 concluded that up to 80 percent of the sockeye salmon harvest in the Cape Igvak Section was of Chignik River origin. After the inception of limited entry, the issue of interception of Chignik River sockeye salmon came before the board frequently and management of the Cape Igvak Section of the Mainland District was modified several times. From 1974 through 1977, this section was managed 'day-for-day' equal fishing time with CMA fisheries.

In 1978 the *Cape Igvak Salmon Management Plan* was adopted into regulation. Based on the long-standing harvest of sockeye salmon in the Cape Igvak Section, the *Cape Igvak Salmon Management Plan* set the annual allocation at 15 percent of the total Chignik-bound sockeye salmon harvest. This management plan stipulated that 80 percent of the sockeye salmon harvest from the Cape Igvak Section prior to July 25 will be considered Chignik-bound. In 2002, the board modified the Cape Igvak fishery such that 90 percent of the Cape Igvak Section sockeye salmon catch is now considered to be Chignik-bound.

Sockeye salmon harvested under the *Cape Igvak Salmon Management Plan* fishery have comprised 18.4%, 17.5%, and 15.5% of the 5-year, 10-year, and 20-year average June 1 through July 25 KMA purse seine sockeye salmon harvest, respectively (Table 54-2). Approximately 12 percent of the

total yearly KMA purse seine sockeye salmon harvest has come from the Cape Igvak Section in the past 20 years (Table 54-2).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 54-1.–Proposed Chignik Area only (15% Chignik) vs. the current (15% Chignik-bound) allocation criteria, in numbers of sockeye salmon, and the percent reduction (% reduction) in sockeye salmon harvest allocated to the Cape Igvak fishery 2002–2016.

Year	15% Chignik	15% Chignik bound	% Reduction
2000	226,447	282,662	19.9%
2001[a,b]	171,599	214,899	20.1%
2002[c]	127,497	155,123	17.8%
2003	128,277	157,067	18.3%
2004	102,171	134,574	24.1%
2005	164,808	232,619	29.2%
2006	111,283	126,860	12.3%
2007	90,182	98,936	8.8%
2008[d]			
2009	130,784	157,077	16.7%
2010	168,770	209,139	19.3%
2011	341,652	439,328	22.2%
2012	246,078	313,742	21.6%
2013	338,014	416,485	18.8%
2014[d]			
2015	152,183	167,844	9.3%
2016	175,098	233,205	24.9%
2012–2016 avg.[e]	227,843	282,819	18.7%
2007–2016 avg.[e]	205,345	254,470	17.7%
2000–2016 avg.[e]	178,323	222,637	18.9%

[a] 15% Chignik column includes foregone harvest of 398,887 fish due to a fisherman's strike (June 14–July 2).
[b] 15% Chignik-bound column includes foregone harvest of 398,887 fish and forgone harvest from SEDM of 27,896 fish due to a fisherman's strike (June 14–July 2).
[c] In 2002, the board changed the regulation such that 90% (80% prior to 2002) of the sockeye salmon harvested in the Cape Igvak Section through July 25 are considered Chignik-bound.
[d] Allocation criteria not met and Cape Igvak fishery remained closed.
[e] Years in which the Cape Igvak fishery remained closed not included in average.

Table 54-2.–Percent of sockeye salmon harvested in the Cape Igvak Section compared to the total sockeye salmon harvest during the allocation period June 1–July 25 and the yearly total KMA sockeye salmon harvest, in numbers of fish, 1997–2016.

	Purse seine sockeye harvest June 1 – July 25			Purse seine sockeye harvest	
Year	Igvak	Total KMA	Percent in Igvak	Season Total	Percent in Igvak
1997	0	982,428	0.0%	1,470,305	0.0%
1998	11,016	1,876,241	0.6%	2,547,820	0.4%
1999	570,049	2,114,552	27.0%	3,129,348	18.2%
2000	339,180	1,533,478	22.1%	1,866,363	18.2%
2001	269,017	1,446,282	18.6%	1,679,985	16.0%
2002	151,653	937,618	16.2%	1,233,683	12.3%
2003	135,430	1,710,163	7.9%	2,511,993	5.4%
2004	178,517	1,774,518	10.1%	2,422,918	7.4%
2005	304,809	1,299,132	23.5%	1,697,637	18.0%
2006	46,482	575,881	8.1%	932,417	5.0%
2007	58,363	700,163	8.3%	1,236,731	4.7%
2008	0	675,129	0.0%	1,063,568	0.0%
2009	141,076	744,205	19.0%	973,879	14.5%
2010	205,770	917,137	22.4%	1,109,885	18.5%
2011	549,487	1,630,543	33.7%	1,808,056	30.4%
2012	360,994	1,233,059	29.3%	1,610,345	22.4%
2013	393,532	1,285,116	30.6%	1,739,398	22.6%
2014	0	1,238,197	0.0%	2,401,969	0.0%
2015	6,595	1,257,319	0.5%	2,437,792	0.3%
2016	331,633	1,050,858	31.6%	1,547,382	21.4%
2012–2016 avg.	218,551	1,212,910	18.4%	1,947,377	13.3%
2007–2016 avg.	204,745	1,073,173	17.5%	1,592,901	13.5%
1997–2016 avg.	202,680	1,249,101	15.5%	1,771,074	11.8%

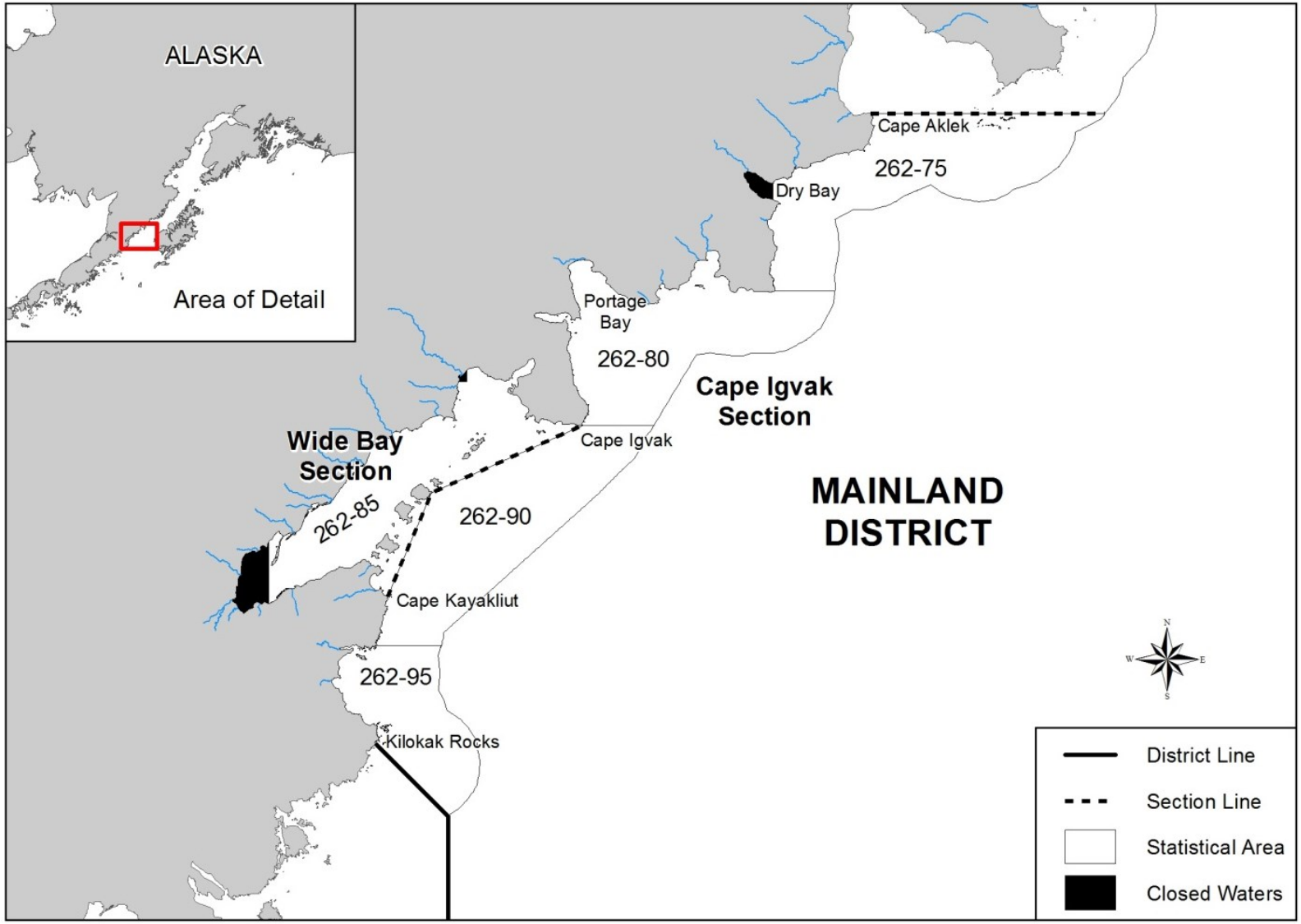

Figure 54-1.–Map of the Cape Igvak and Wide Bay sections of the Mainland District.

PROPOSAL 55 – 5 AAC 18.360. Cape Igvak Salmon Management Plan.

PROPOSED BY: Michael Macaluso.

WHAT WOULD THE PROPOSAL DO? This would repeal the *Cape Igvak Salmon Management Plan* in its entirety and close the Cape Igvak Section of the Mainland District to commercial salmon fishing from June 1 through July 25.

WHAT ARE THE CURRENT REGULATIONS? The *Cape Igvak Salmon Management Plan*, covers the time period from June 1 through July 25. Chignik River sockeye salmon are considered, by regulation, to be the principal stock harvested in the Cape Igvak Section. The management plan stipulates that 90 percent of the sockeye salmon harvested in the Cape Igvak Section through July 25 are considered Chignik-bound. KMA fishermen are allocated 15 percent of the Chignik-bound sockeye salmon harvest. The plan stipulates allocative and biological requirements that must be met prior to any fisheries occurring in the Cape Igvak Section.

The *Mainland District Salmon Management Plan,* 5 AAC 18.369, provides that the Wide Bay Section (Figure 55-1) will remain closed until July 26 in order to provide for maximum protection of sockeye salmon bound for CMA during years of weak returns, and also provides for increased closed water protection for pink and chum salmon bound for streams located in Wide Bay during years when liberal fishing time is allowed in the Cape Igvak Section under the *Cape Igvak Salmon Management Plan*. For the period of July 6 through July 25 the entire Mainland District, except for the Wide Bay and Cape Igvak sections, may open based on local and mixed KMA pink and chum salmon with weekly fishing periods not to exceed 57 hours per week.

After July 25, the Cape Igvak and Wide Bay sections are managed under the *Mainland District Salmon Management Plan* (5 AAC 18.369) based on local and mixed salmon stocks, specifically Mainland District pink and chum salmon. After August 25, these sections are managed based on late-run pink and coho salmon.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? On most years there would be less salmon harvested in the Cape Igvak Section and KMA purse seine exvessel value would decrease; harvests by CMA fishermen would likely increase by an unknown amount. This would not affect sockeye salmon escapement past the Chignik weir.

Repealing the *Cape Igvak Salmon Management Plan* and requiring that the Cape Igvak Section to remain closed until July 26 would make it difficult to manage escapement goals for local salmon that return to the Cape Igvak and Wide Bay sections.

BACKGROUND: Beginning in 1964 a purse seine fishery developed along the capes of the southern Mainland District of the KMA, in what is now the Cape Igvak Section. Tagging studies and stock identification studies using average weight and age composition conducted in 1968 and 1969 concluded that up to 80 percent of the sockeye salmon harvested in the Cape Igvak Section were of Chignik River origin. The issue of interception of Chignik-bound sockeye salmon in the Cape Igvak Section came before the board several times over the next ten years, and management of this section was modified many times. From 1974 through 1977, this area was managed for 'day-for-day' equal fishing time with CMA fisheries.

In 1978, a specific management plan for the Cape Igvak Section was adopted by the board. Based on the long-standing harvest of sockeye salmon in the Cape Igvak Section during June and

July, 80 percent of which could be Chignik-bound, the board chose to create an allocative harvest strategy, the *Cape Igvak Salmon Management Plan,* which remained unchanged until 2002. In 2002 the board increased the percentage of Cape Igvak Section sockeye salmon harvest considered bound for CMA from 80 percent to the current 90 percent.

Sockeye salmon harvested under the *Cape Igvak Salmon Management Plan* fishery have comprised 18.4%, 17.5%, and 15.5% of the 5-year, 10-year, and 20-year average June 1 through July 25 KMA purse seine sockeye salmon harvest, respectively (Table 55-1). Approximately 12 percent of the total yearly KMA purse seine sockeye salmon harvest has come from the Cape Igvak Section in the past 20 years (Table 55-1).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal. If the board chooses to adopt this proposal it may wish to review the *Mainland District Salmon Management Plan* for local and mixed KMA pink and chum salmon management for the July 6 through July 25 period within the Cape Igvak and Wide Bay sections. In years that the return of sockeye salmon to CMA is adequate and local and mixed pink and chum salmon returns within the Wide Bay and Cape Igvak sections are strong, the department would be unable to allow fishing time within these sections.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 55-1.–Percent of sockeye salmon harvested in the Cape Igvak Section compared to the total sockeye salmon purse seine harvest during the allocation period June 1–July 25 and the season total KMA purse seine sockeye salmon harvest, in numbers of fish, 1997–2016.

	Purse seine sockeye harvest June 1–July 25			Purse seine sockeye harvest	
Year	Igvak	Total KMA	Percent in Igvak	Season Total	Percent in Igvak
1997	0	982,428	0.0%	1,470,305	0.0%
1998	11,016	1,876,241	0.6%	2,547,820	0.4%
1999	570,049	2,114,552	27.0%	3,129,348	18.2%
2000	339,180	1,533,478	22.1%	1,866,363	18.2%
2001	269,017	1,446,282	18.6%	1,679,985	16.0%
2002	151,653	937,618	16.2%	1,233,683	12.3%
2003	135,430	1,710,163	7.9%	2,511,993	5.4%
2004	178,517	1,774,518	10.1%	2,422,918	7.4%
2005	304,809	1,299,132	23.5%	1,697,637	18.0%
2006	46,482	575,881	8.1%	932,417	5.0%
2007	58,363	700,163	8.3%	1,236,731	4.7%
2008	0	675,129	0.0%	1,063,568	0.0%
2009	141,076	744,205	19.0%	973,879	14.5%
2010	205,770	917,137	22.4%	1,109,885	18.5%
2011	549,487	1,630,543	33.7%	1,808,056	30.4%
2012	360,994	1,233,059	29.3%	1,610,345	22.4%
2013	393,532	1,285,116	30.6%	1,739,398	22.6%
2014	0	1,238,197	0.0%	2,401,969	0.0%
2015	6,595	1,257,319	0.5%	2,437,792	0.3%
2016	331,633	1,050,858	31.6%	1,547,382	21.4%
2012–2016 avg.	218,551	1,212,910	18.4%	1,947,377	13.3%
2007–2016 avg.	204,745	1,073,173	17.5%	1,592,901	13.5%
1997–2016 avg.	202,680	1,249,101	15.5%	1,771,074	11.8%

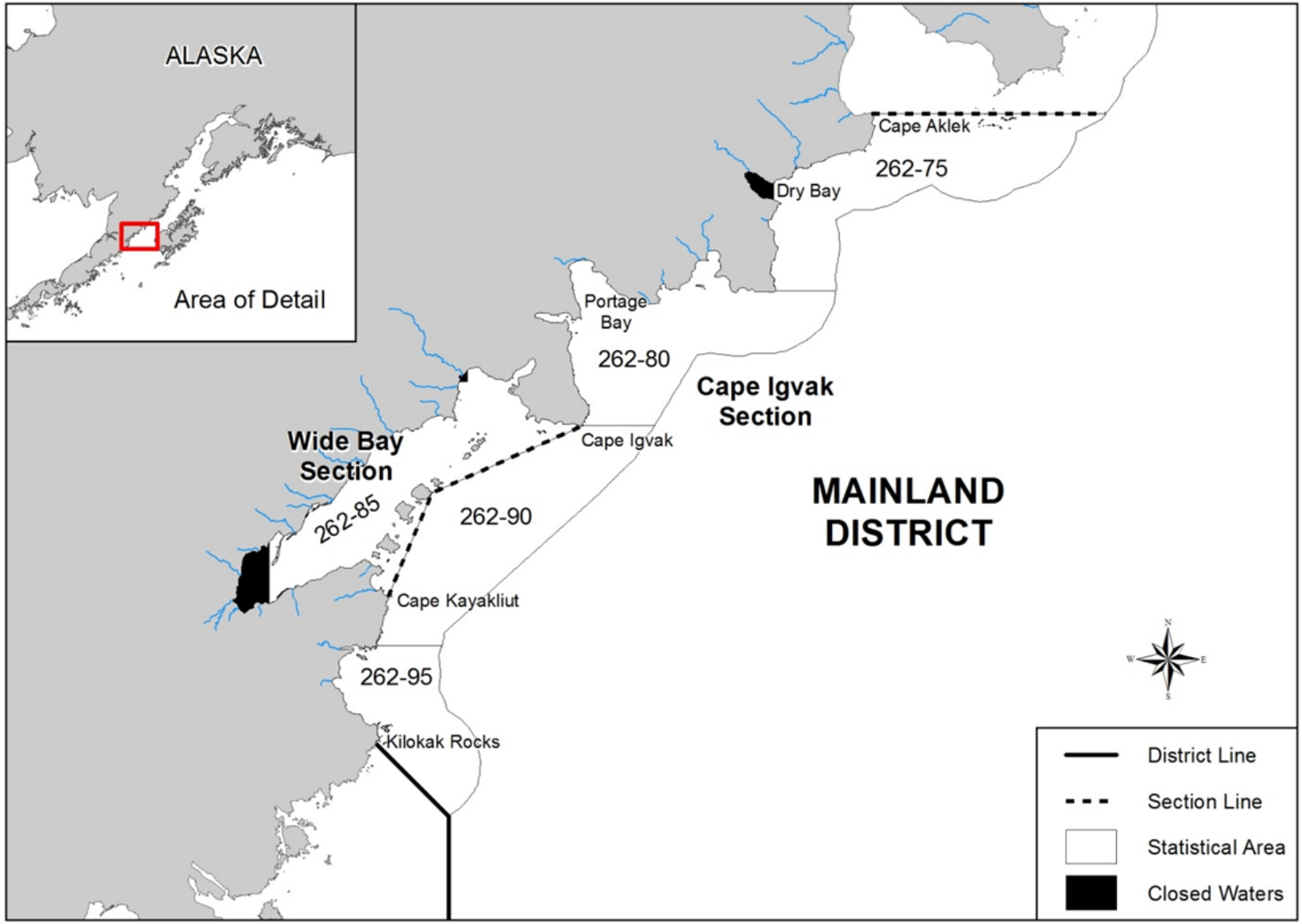

Figure 55-1.–Map of the Cape Igvak and Wide Bay sections of the Mainland District.

PROPOSAL 56 – 5 AAC 18.360. Cape Igvak Salmon Management Plan.

PROPOSED BY: George Anderson.

WHAT WOULD THE PROPOSAL DO? This would change the allocation percentage of sockeye salmon considered to be Chignik-bound from the current 15 percent to 7.5 percent in the Cape Igvak Section of the KMA.

WHAT ARE THE CURRENT REGULATIONS? The *Cape Igvak Salmon Management Plan* covers the time period from June 1 through July 25. Chignik River sockeye salmon are considered, by regulation, to be the principal stock harvested in the Cape Igvak Section. The management plan stipulates that 90 percent of the sockeye salmon harvested in the Cape Igvak Section through July 25 are considered Chignik-bound. KMA fishermen are allocated 15 percent of the Chignik-bound sockeye salmon harvest. The plan stipulates allocative and biological requirements that must be met prior to any fisheries occurring in the Cape Igvak Section (Figure 56-1).

After July 25, the Cape Igvak Section is managed under the *Mainland District Salmon Management Plan* (5 AAC 18.369) based on local and mixed salmon stocks, specifically KMA pink and chum salmon. After August 25, this section is managed based on late-run pink and coho salmon.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? If the KMA allocation of Chignik-bound sockeye salmon was decreased, there would be less fishing time in the Cape Igvak Section during June and July and the KMA purse seine exvessel value and harvest would decrease by an unknown amount; sockeye salmon harvests by the CMA fleet may increase by an unknown amount. There would likely be no effect on escapement of sockeye salmon past the Chignik weir.

BACKGROUND: Beginning in 1964 a purse seine fishery developed along the capes of the southern Mainland District of the KMA, in what is now the Cape Igvak Section (Figure 56-1). Tagging studies and stock identification studies using average weight and age composition conducted in 1968 and 1969 concluded that up to 80 percent of the sockeye salmon harvested in the Cape Igvak Section were of Chignik River origin. The issue of interception of Chignik-bound sockeye salmon in the Cape Igvak Section came before the board several times over the next ten years, and management of this section was modified many times. From 1974 through 1977, this area was managed for 'day-for-day' equal fishing time with CMA fisheries.

In 1978, a specific management plan for the Cape Igvak Section was adopted by the board. Based on the long-standing harvest of sockeye salmon in the Cape Igvak Section during June and July, 80 percent of which could be Chignik-bound, the board chose to create an allocative harvest strategy, the *Cape Igvak Salmon Management Plan,* which remained unchanged until 2002. In 2002 the board increased the percentage of Cape Igvak Section sockeye salmon harvest considered bound for Chignik River from 80 percent to the current 90 percent.

Harvest of sockeye salmon in the Cape Igvak fishery has averaged approximately 200,000 fish per season over the past 20 years and comprises approximately 12 percent of the total KMA areawide purse seine harvest of sockeye salmon on average (Table 56-1).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 56-1.–Percent of sockeye salmon harvested in the Cape Igvak Section compared to the total purse seine sockeye salmon harvest during the allocation period June 1–July 25 and the season total KMA purse seine sockeye salmon harvest, in numbers of fish, 1997–2016.

	Purse seine sockeye harvest June 1–July 25			Purse seine sockeye harvest	
Year	Igvak	Total KMA	Percent in Igvak	Season Total	Percent in Igvak
1997	0	982,428	0.0%	1,470,305	0.0%
1998	11,016	1,876,241	0.6%	2,547,820	0.4%
1999	570,049	2,114,552	27.0%	3,129,348	18.2%
2000	339,180	1,533,478	22.1%	1,866,363	18.2%
2001	269,017	1,446,282	18.6%	1,679,985	16.0%
2002	151,653	937,618	16.2%	1,233,683	12.3%
2003	135,430	1,710,163	7.9%	2,511,993	5.4%
2004	178,517	1,774,518	10.1%	2,422,918	7.4%
2005	304,809	1,299,132	23.5%	1,697,637	18.0%
2006	46,482	575,881	8.1%	932,417	5.0%
2007	58,363	700,163	8.3%	1,236,731	4.7%
2008	0	675,129	0.0%	1,063,568	0.0%
2009	141,076	744,205	19.0%	973,879	14.5%
2010	205,770	917,137	22.4%	1,109,885	18.5%
2011	549,487	1,630,543	33.7%	1,808,056	30.4%
2012	360,994	1,233,059	29.3%	1,610,345	22.4%
2013	393,532	1,285,116	30.6%	1,739,398	22.6%
2014	0	1,238,197	0.0%	2,401,969	0.0%
2015	6,595	1,257,319	0.5%	2,437,792	0.3%
2016	331,633	1,050,858	31.6%	1,547,382	21.4%
2012-2016 avg.	218,551	1,212,910	18.4%	1,947,377	13.3%
2007-2016 avg.	204,745	1,073,173	17.5%	1,592,901	13.5%
1997-2016 avg.	202,680	1,249,101	15.5%	1,771,074	11.8%

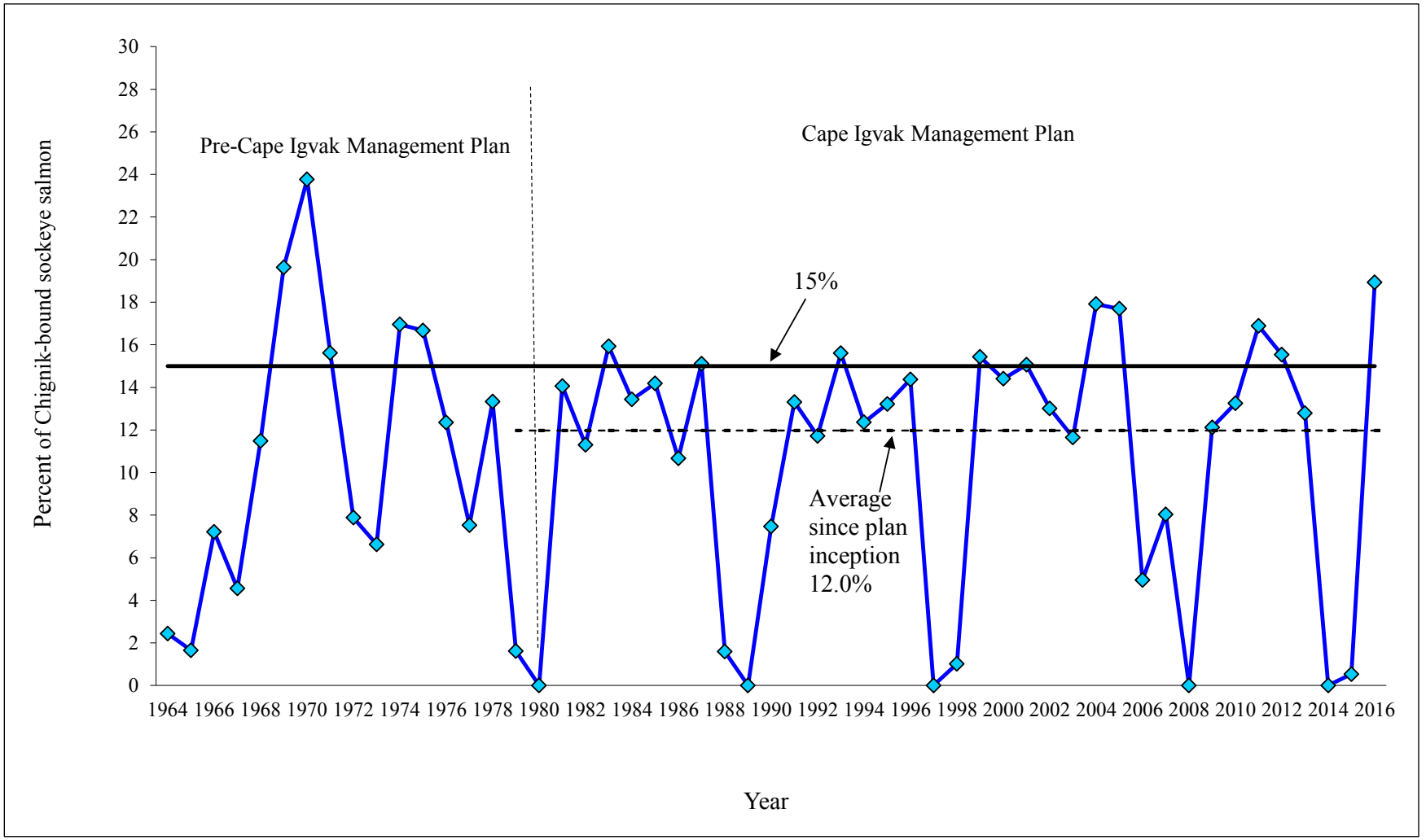

Figure 56-1.–Percent harvest of Chignik-bound sockeye salmon in the Cape Igvak fishery prior to July 25, 1964–2016.

ALITAK DISTRICT, WESTSIDE, AND SPIRIDON BAY SALMON MANAGEMENT PLANS

PROPOSAL 57 – 5 AAC 18.330. Gear.

PROPOSED BY: Rick Metzger, Pete Hannah.

WHAT WOULD THE PROPOSAL DO? This would make set gillnet gear legal in the Humpy-Deadman and Cape Alitak sections of the Alitak District after September 4.

WHAT ARE THE CURRENT REGULATIONS? In the Alitak District, purse seines and beach seines may harvest commercial salmon in the Humpy-Deadman and Cape Alitak sections. Prior to September 4, only set gillnet gear may harvest salmon in the Alitak Bay, Moser Bay, Olga Bay, Dog Salmon Flats, Outer and Inner Upper Station, and Outer and Inner Akalura sections of the Alitak District. After July 15, the Humpy-Deadman Section is managed based on the strength of salmon returns to systems located within the Humpy-Deadman Section.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Set gillnet gear fishermen would have increased opportunity to harvest local coho, pink, and chum salmon stocks within the Cape Alitak and Humpy-Deadman sections. This proposal may allow gear conflicts between fishermen using purse seine and set gillnet gear within these sections to occur (Figure 57-1).

BACKGROUND: The *Alitak District Salmon Management Plan* was formulated as a regulatory management plan and adopted by the board in 1987. The Humpy-Deadman Section is managed after July 15 on the strength of salmon returns to systems located within the Humpy-Deadman Section. From August 26 through the end of the fishing season the Cape Alitak, Alitak Bay, Moser Bay, and Olga Bay sections are managed based on sockeye and coho salmon returns to Olga Bay.

Set gillnet gear is the only legal gear type allowed in the Alitak Bay, Moser Bay, Olga Bay, Dog Salmon Flats, Outer and Inner Upper Station, and Outer and Inner Akalura sections until September 5, when purse seines and beach seines become legal. In the Cape Alitak and Humpy-Deadman sections, purse seines and beach seines are the only legal gear type allowed for commercial harvest for the duration of the season.

In recent years, poor returns of late-run sockeye salmon to Upper Station have led to long closures for the Cape Alitak, Alitak Bay, Moser Bay, and Olga Bay sections. Meanwhile, extended fishing in the Humpy-Deadman Section has occurred due to strong pink salmon returns to systems within the Humpy-Deadman Section (Tables 57-1 and 57-2).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 57-1.–Number of days open to commercial salmon fishing: August 1 through September 15.

Year	Cape Alitak, Alitak, Olga, Moser Bay sections Days Open	Humpy-Deadman Section Days Open
2006	17	46
2007	20	42
2008	31	9
2009	28	46
2010	16	7
2011	10	35
2012	14	16
2013	6	46
2014	9	31
2015	9	34
2016	14	9

Table 57-2.–Upper Station late-run sockeye salmon and Alitak District pink salmon escapement.

Year	Upper Station Late-Run Sockeye[a]	Alitak Pink[b]
2006	153,153	844,236
2007	149,709	243,305
2008	184,856	176,346
2009	161,736	895,853
2010	141,139	323,379
2011	101,893	532,322
2012	149,325	825,167
2013	125,573	599,159
2014	181,411	491,533
2015	132,864	1,742,659
2016	145,013	311,878

[a] Late-run Upper Station sockeye salmon escapement goal of 120,000–200,000 fish

[b] Alitak District pink salmon escapement objectives of 162,000–486,000 fish during even years and 212,000–636,000 fish during odd years.

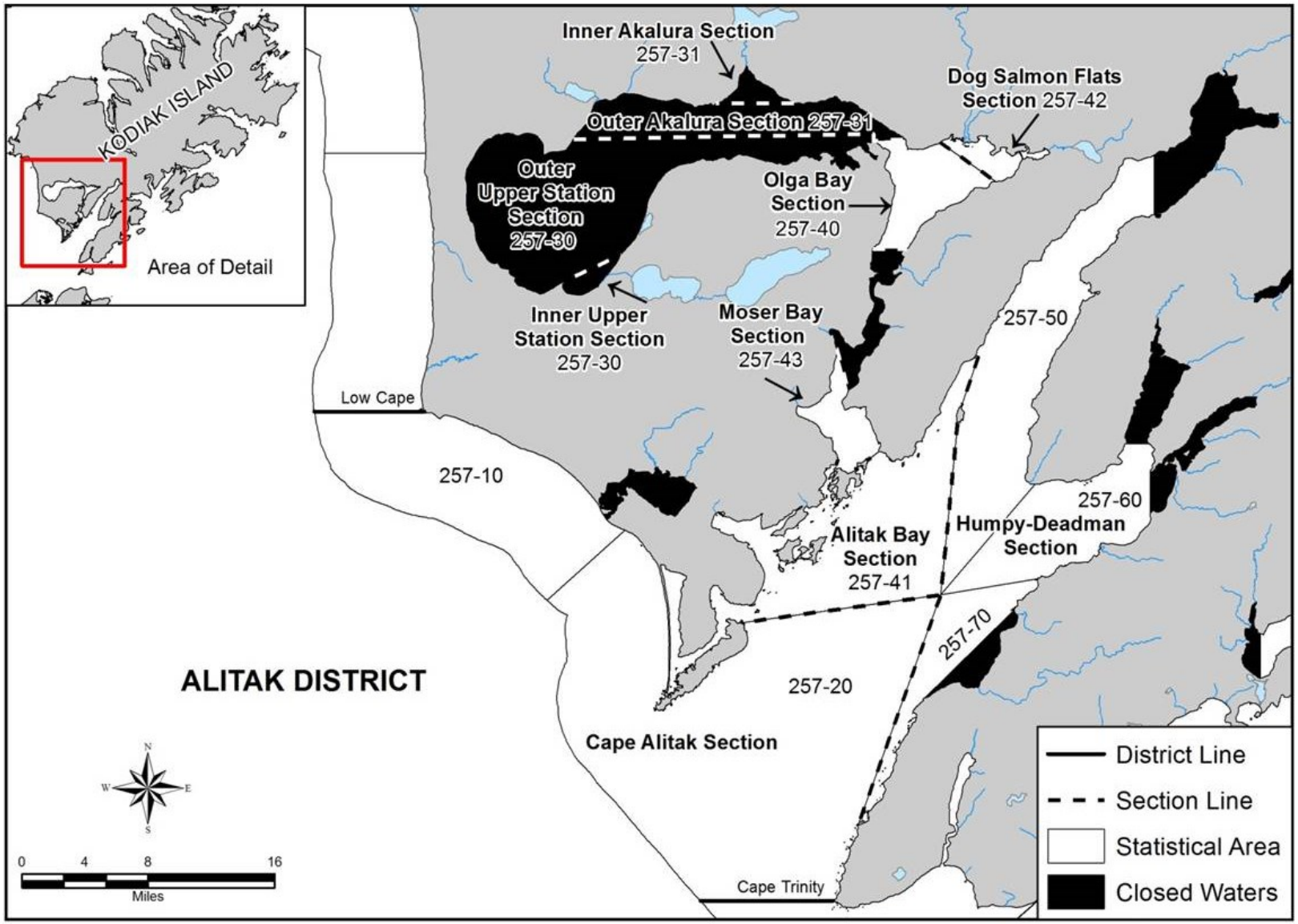

Figure 57-1.–Map of the Alitak District commercial salmon fishing section and statistical areas.

PROPOSAL 58 – 5 AAC 18.361. Alitak District Salmon Management Plan.

PROPOSED BY: Brad Underwood.

WHAT WOULD THE PROPOSAL DO? This would limit the escapement of JSS into Frazer Lake to less than 15 percent of total escapement.

WHAT ARE THE CURRENT REGULATIONS? There currently are no regulations on JSS proportions in Frazer Lake. However, the department only counts JSS up to 10 percent of total escapement towards the escapement goal. This allows the department to manage the escapement such that more large sockeye salmon are allowed to enter the Frazer system. The department also implemented a 25 percent JSS composition threshold in 2016. The department has removed JSS from Frazer Lake escapement in recent years (2014 and 2015) when they have been present in higher proportions.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This could limit total sockeye salmon escapement into Frazer Lake without consideration of sex composition or overall escapement levels.

BACKGROUND: Frazer Lake (Figure 58-1) supports an introduced sockeye salmon run that was started with brood originating from Red Lake (Figure 58-1) and other sources from 1951 to 1971. An increased proportion of the sockeye salmon escapement to Frazer Lake has been attributed to the JSS life history in recent years. A JSS returns to its natal stream after spending only one year in salt water. This has been a cyclical occurrence, with two consecutive years having higher proportions followed by two years of more normal proportions. The first occurrence in recent years of the proportion of JSS exceeding 20 percent of the escapement occurred in 1996. It is unclear why the population composition changed so much around that time, but it appears to have peaked in 2007 when about 49 percent of the escapement was JSS; it has been decreasing across the last two cycles. The department initiated a removal program in 2014, where 6,429 JSS were removed, (31 percent of JSS in the escapement and 2.9 percent of total escapement) and in 2015, where 11,647 JSS (26 percent of JSS in the escapement and 4.9 percent of total escapement) were removed.

The department has developed a plan to monitor JSS proportions which will take into account sex composition and total escapement, as well as JSS proportions in the escapement. This plan will use 20 percent JSS in the escapement through the Dog Salmon weir as the indicator of excess, unless more males are needed for fertilizing eggs. The 20 percent threshold is drawn from the upper five percent of observed JSS proportions at the Frazer lake brood source, the Ayakulik River. This plan is outlined in a department memorandum and is submitted as a RC.

The high proportion of JSS composition is a unique occurrence, and the department is uncertain what impacts removal of JSS will have on overall production. Setting the maximum JSS proportion within the upper end of the range of previously observed proportions will provide low risk of the loss of genetic variation, while potentially reducing egg fertilization effects of JSS.

DEPARTMENT COMMENTS: The department **OPPOSES** adopting a limit on the proportion of Frazer Lake sockeye salmon escapement that may be JSS.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Figure 58-1.–Map of the Map of Olga Bay and Frazer, South Olga, Akalura, and Red Lake sockeye salmon runs.

PROPOSAL 59 – 5 AAC 18.631. Alitak District Salmon Management Plan; and 5 AAC 18.362. Westside Kodiak Salmon Management Plan.

PROPOSED BY: Eric Dieters.

WHAT WOULD THE PROPOSAL DO? This would create a 63-hour closure during every seven day fishing period for both the Westside of Kodiak and the Alitak District.

WHAT ARE THE CURRENT REGULATIONS? 5 AAC 18.361. *Alitak District Salmon Management Plan* (a) The department shall manage the commercial salmon fishery in the Alitak District in accordance with the management plan set out in this section. The goal of the management plan is to achieve escapement and harvest objectives of salmon stocks returning to the Humpy-Deadman Section systems, and the Horse Marine, Frazer, Akalura, and Upper Station systems.

In the Cape Alitak, Humpy-Deadman, Alitak Bay, Moser Bay, and Olga Bay Sections, from June 1 through June 13, the commissioner may open, by EO, a 33-hour commercial test fishing period beginning at 12:00 noon. From the conclusion of the commercial test fishing period through September 15, there shall be a minimum closure of 69 consecutive hours in every 10-day period, to apply to each section individually as each section closes, unless the department determines that the sockeye salmon escapement goals will be achieved for the Frazer and Upper Station sockeye salmon runs.

5 AAC 18.362. *Westside Kodiak Salmon Management Plan* (a) The goal of the Westside Kodiak management plan is to achieve escapement and harvest objectives of sockeye salmon returning to the Karluk, Ayakulik, and other Westside minor sockeye salmon systems, and of pink, chum, and coho salmon returning to systems in the Southwest Afognak, Central, North Cape, Anton Larsen Bay, Sharatin Bay, Kizhuyak Bay, Terror Bay, Inner Uganik Bay, Spiridon Bay, Zachar Bay, Uyak Bay, Outer Karluk, Inner Karluk, Sturgeon Bay, Halibut Bay, Outer Ayakulik, and Inner Ayakulik sections. It is the intent of the board that salmon bound to these systems be harvested to the extent possible by the traditional fisheries located in all 17 sections. The department shall manage the Northwest Kodiak and the Southwest Kodiak districts and the Southwest Afognak Section in accordance with the guidelines set out in this plan.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would decrease the commercial fleet's ability to harvest commercial salmon and also decrease the department's ability to manage for Karluk and Ayakulik river sockeye salmon escapement goals, as well as Northwest Kodiak and Southwest Kodiak districts pink and chum salmon escapement goals. In years when there are strong returns of either Karluk or Ayakulik river sockeye salmon or pink salmon to Westside or Southwest Kodiak systems, continuous fishing on the Westside has been warranted to meet escapement goals. Harvest on the Westside of Kodiak would likely be reduced and fishing effort may shift to other areas during the closed period. The mandatory closure would not apply to terminal harvest areas, but the proposer does not specify where these terminal harvest areas are located.

This would also reduce the time that the Alitak District could remain open to commercial fishing. A mandatory closure would occur during every seven-day period instead of during every 10-day period. This would allow more fish to enter the major and minor systems of Olga Bay, but would also limit the department's ability to manage escapement goals for these systems.

It is unknown how many additional fish would return to the Alitak District by implementing these closures on Westside Kodiak.

BACKGROUND: The major sockeye salmon systems on the Westside of Kodiak (Figure 59-1) are Karluk and Ayakulik lakes. The major sockeye salmon systems of Alitak District (Figure 59-2) are Frazer and Upper Station lakes. Karluk and Ayakulik river sockeye salmon returns are managed under the *Westside Kodiak Salmon Management Plan* (5 AAC 18.362). Frazer and Upper Station lakes sockeye salmon returns are managed under the *Alitak District Salmon Management Plan* (5 AAC 18.361).

The *Westside Kodiak Salmon Management Plan* is the achievement of long-term management strategies which were initially implemented in 1971 and placed into regulation in 1990. Placing the management plan in regulation clarified the management strategy and helped maintain the biological integrity of local salmon stocks while alleviating allocative concerns of local fishermen.

The intent of this management plan is to harvest salmon bound to local systems in traditional commercial fisheries. The plan is complex due to the mixing of various local salmon stocks during inshore migration, but the management plan provides a predictable framework for the major sockeye, pink, chum, and coho salmon stocks from Westside Kodiak. The plan is in effect for the entire salmon season and covers the Southwest and Northwest Kodiak districts, as well as the Southwest Afognak Section (Figure 59-1).

This management plan guides early-run and late-run sockeye salmon fisheries, including those targeting the major systems of Ayakulik and Karluk lakes, and the minor systems of Little River, Uganik, and Malina lakes. The Westside Kodiak management plan also guides local pink, chum, and coho salmon fisheries of the Southwest Afognak Section, Northwest Kodiak, and Southwest Kodiak districts.

The *Alitak District Salmon Management Plan* was adopted by the board in 1987. The goal is to achieve escapement and harvest objectives of salmon stocks returning to the Humpy-Deadman Section systems, and the Horse Marine, Frazer, Akalura, and Upper Station systems (Figure 59-2).

Proposals were submitted to the January 1999 board meeting to modify the *Alitak District Salmon Management Plan* to protect the "genetic diversity" of the district salmon systems and increase the sockeye salmon harvest for Olga Bay fishermen to historical percentages through an allocation plan. Instead, the board amended the management plan to restrict the use of very long or continuous fishing periods. The board mandated that there be a minimum of 2.6 days of commercial fishery closure during every 10-day period. It was hoped that the 2.6-day closure windows would allow for pulses of escapement to reach the major and minor systems in Olga Bay and perhaps increase the Olga Bay fishermen's sockeye salmon harvest percentage without placing a strict allocative plan in regulation. Also in 1999, the board established an OEG for early-run Upper Station sockeye salmon of 25,000 fish. The OEG was established to provide adequate fishing time to ensure the Frazer Lake sockeye salmon escapement goal was not exceeded while ensuring sufficient early-run Upper Station sockeye salmon escapement.

At the January 2002 board meeting, changes to the management plan included a combination of allocation percentages with additional fishing time for Olga and Moser bays. The gillnet-only Olga-Moser Bay Section was divided into the Alitak Bay, Moser Bay, and Olga Bay sections

(Figure 59-2). Differential opening times for fishing periods were established for these three gillnet areas and the seine-only Cape Alitak Section. Allocation guidelines for the sockeye salmon harvest from these four areas through September 15 were specified in regulation for determining the effectiveness of the differential opening times in allocating harvest opportunities; these guidelines were expressly not an inseason management requirement. These allocation guidelines were presented as ranges for the season total harvest of early- and late-run sockeye salmon by each of the four groups: Olga Bay gillnet, Moser Bay gillnet, Alitak Bay gillnet, and Cape Alitak purse seine fishermen. Different fishery opening times for each section were placed in regulation to give additional fishing time to the Olga and Moser Bay gillnet fishermen.

At the March 2003 board meeting some modifications of the *Alitak District Salmon Management Plan* were adopted, which reduced the amount of additional fishing time given to Olga Bay and Moser Bay fishermen, and provided the Cape Alitak Section seine fisheries the same opening times as those for Alitak Bay Section set gillnet fisheries.

The *Alitak District Salmon Management Plan* was modified again during the January 2005 board meeting by rescinding the allocative objectives and reinstating equal fishing time between sections and gear type. Staggered openings between sections remained in effect, except that the Cape Alitak Section (seine only area) now opened 24 hours after the Olga Bay Section. This version of the *Alitak District Salmon Management Plan* remained in effect until the January 2014 board meeting. Due to concerns that the early-run Upper Station sockeye salmon OEG was not allowing enough fish into Upper Station, several changes were made for the 2014–2016 seasons. The OEG was increased from 25,000 to 30,000 fish, but would only be in effect if the department determined the Frazer system sockeye salmon escapement goal would be exceeded. The board also liberalized the criteria for opening the terminal Dog Salmon Flats Section to provide additional harvest opportunities targeting Frazer system sockeye salmon by allowing for longer commercial salmon closures in the Alitak District when Upper Station sockeye salmon were not meeting escapement objectives. To make the longer closures more effective at pulsing more fish to Upper Station, the board rescinded the staggered opening and closing times. These changes were only in effect for the 2014–2016 seasons.

It is commonly believed the principal migration route for Karluk and Ayakulik river, Frazer Lake, and Upper Station Lake sockeye salmon stocks is south along the Westside of Kodiak.

DEPARTMENT COMMENTS: The department **OPPOSES** changes to these management plans inhibiting the department's ability to manage for Westside Kodiak and Alitak District escapement goals. The department is **NEUTRAL** on the allocative aspects of this proposal.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

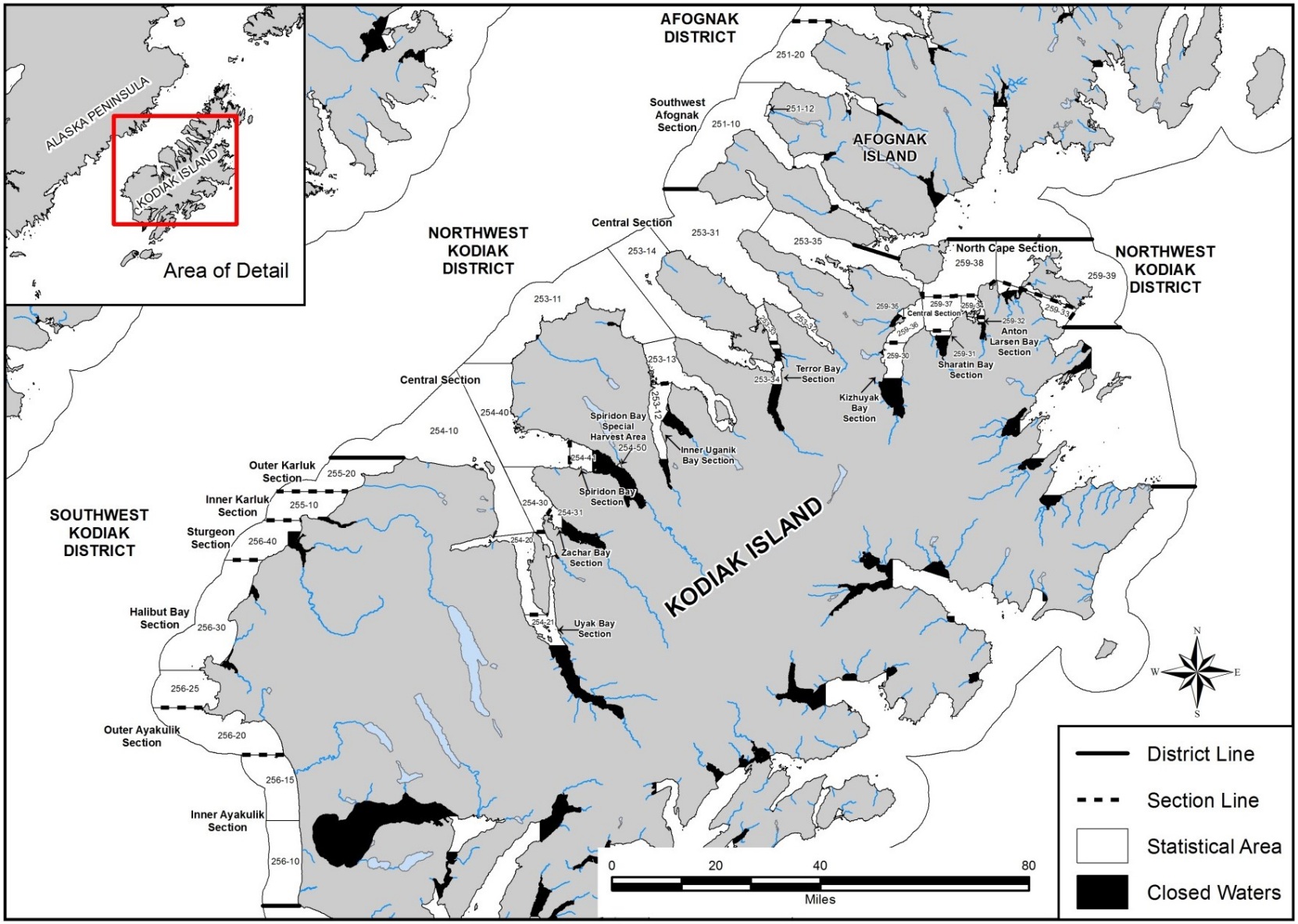

Figure 59-1.–Map of the *Westside Kodiak Salmon Management Plan* identifying commercial salmon fishing sections and statistical areas.

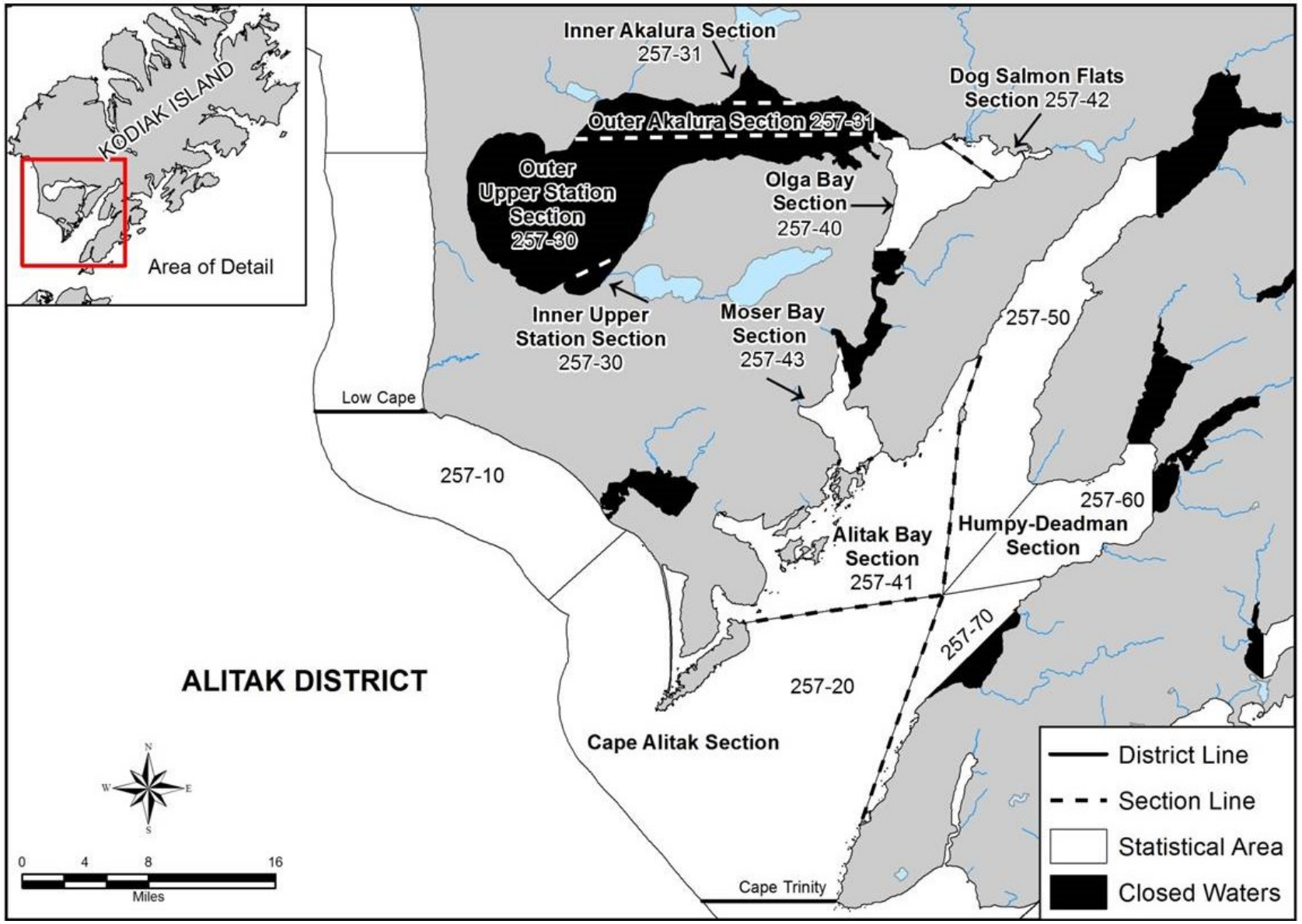

Figure 59-2.–Map of the Alitak District commercial salmon fishing sections and statistical areas.

PROPOSAL 60 – 5 AAC 18.XXX. Karluk River Special Harvest Area Salmon Management Plan; and 5 AAC 18.362. Westside Kodiak Salmon Management Plan.

PROPOSED BY: Duncan Fields.

WHAT WOULD THE PROPOSAL DO? This would create an SHA within the Inner Karluk Section of the Southwest Kodiak District (Figure 60-1) to allow KRAA to harvest Karluk River sockeye salmon in excess of escapement needs. If the department determines that the upper end of either the early- and/or late-run escapement goals would be exceeded, a cost-recovery fishery would be initiated when escapement is within 10 percent or reaching the upper bound of the escapement goal. Additionally, the proposer requests that revenue from the fishery would be used for research, enhancement and/or monitoring of the Karluk River to the extent practicable. The proposal also suggests limiting participation to one vessel and limiting the gear to no more than 100 fathoms in length.

WHAT ARE THE CURRENT REGULATIONS? An SHA may only be designated where hatchery returns enter a segregated location near the release site and can be harvested without significantly affecting wild stocks.

The *Policy for the management of sustainable salmon fisheries* (5 AAC 39.222) defines a wild salmon stock as a stock of salmon that originates in a specific location under natural conditions. This may include an enhanced or rehabilitated stock if its productivity is augmented by supplemental means such as lake fertilization or rehabilitative stocking. All the salmon runs to the Karluk River system are currently considered wild salmon stocks.

Currently, the Inner Karluk Section of the Southwest Kodiak District (Figure 60-1) is managed throughout the season based on local sockeye, pink, and coho salmon returning to the Karluk system. From June 1 through July 15 the Inner Karluk Section may only open to commercial salmon fishing if the department determines that the upper bound of the early-run escapement goal will be exceeded. For the majority of the fishing season after July 16, fishing opportunities are based not only on late-run sockeye salmon escapement, but also on pink salmon returning to the Karluk River in even years from July 16 to August 24, and coho salmon returning to the Karluk River after approximately September 5.

Legal gear for the Inner Karluk Section includes purse seines and beach seines. The aggregate length of a purse seine and lead may not exceed 250 fathoms. The maximum length of a beach seine is 225 fathoms.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The effects of this proposal are unclear. The area of the SHA is not defined and the size of the SHA would have significant implications to the effectiveness of the proposal. If the SHA included the Inner Karluk Section, then limiting effort to one vessel and shorter-length gear would be very inefficient and would likely allow over escapement of Karluk River sockeye salmon. If the SHA is within the Karluk Lagoon, there would likely be an increase in catch of king salmon during the early sockeye salmon returns. Late season lagoon fisheries would likely create gear conflicts with subsistence and sport fishermen and result in increased coho salmon and steelhead catch.

BACKGROUND: The Inner Karluk Section of the Southwest Kodiak District is managed under the *Westside Kodiak Salmon Management Plan* (5 AAC 18.362). Fishing periods in the Inner Karluk Section are based on Karluk system salmon abundance and announced inseason by EO.

Currently from June 1 through July 15, the Inner Karluk Section is not opened unless the department determines that the desired early-run sockeye salmon escapement goal will be exceeded.

From 1999 to 2005 the Karluk system early-run sockeye salmon routinely exceeded its escapement goal (SEG) of 110,000–250,000 fish because the department was unable to open the Inner Karluk Section (Figure 60-2). This produced a highly competitive rearing environment, taxing the forage base of Karluk Lake and led to the poor Karluk Lake sockeye salmon runs in 2008 through 2011. Despite management actions, in both 2014 and 2015, the Karluk late-run exceeded its SEG of 170,000–380,000 (Figure 60-3).

DEPARTMENT COMMENTS: The department **OPPOSES** creating an SHA in the Inner Karluk Section because all Karluk River salmon runs are wild stocks. The department **SUPPORTS** changes to the *Westside Kodiak Salmon Management Plan* that would provide the department greater flexibility to open the Inner Karluk Section to commercial salmon permit holders in order to harvest surplus Karluk system sockeye salmon escapement. In addition, provisions of this proposal allowing an exclusive harvest opportunity of wild salmon in the SHA for a single vessel are likely not in accordance with the Constitution of the State of Alaska and may be inconsistent with the Limited Entry Act, thereby exceeding the board's authority.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

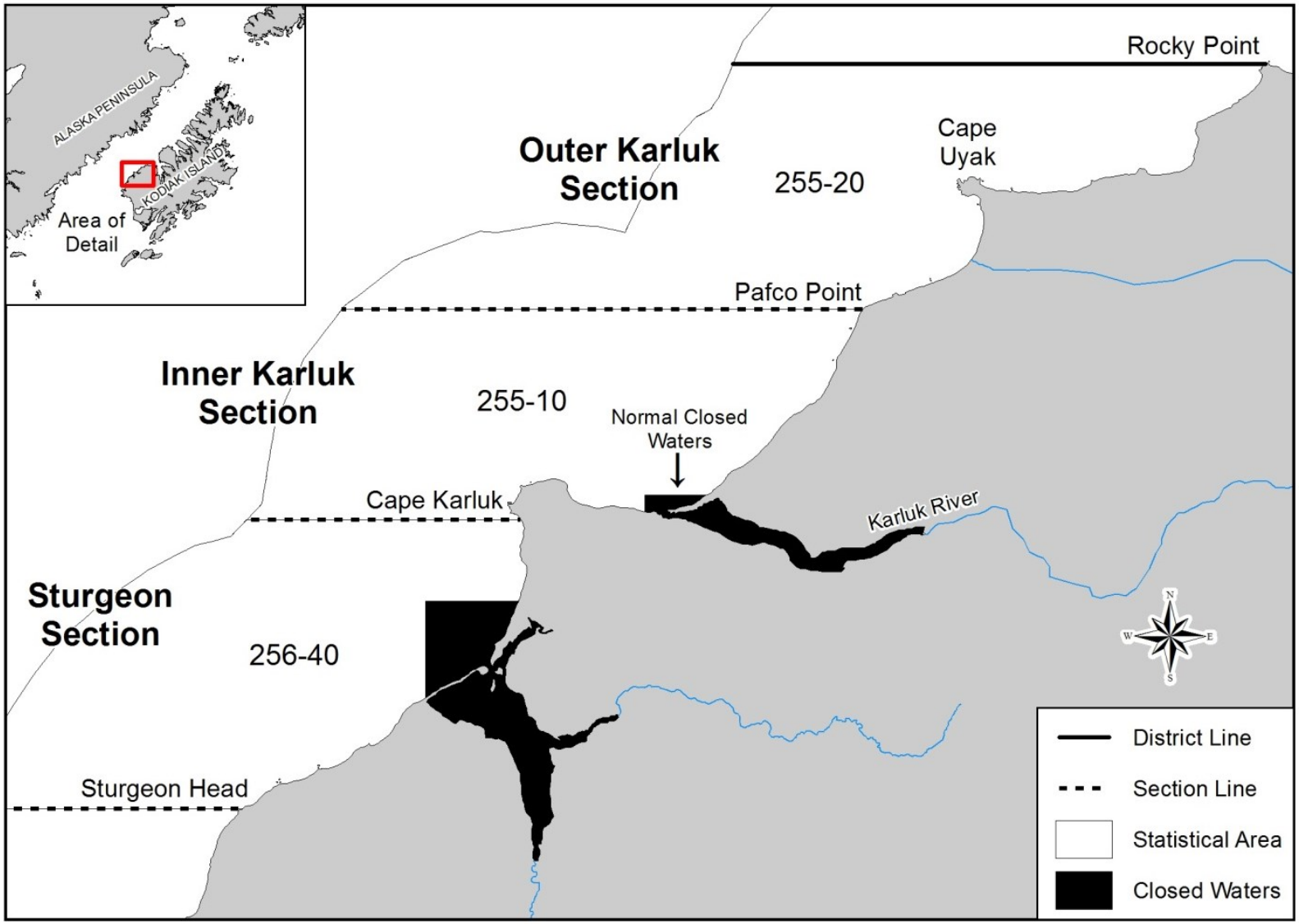

Figure 60-1.–Map of the Southwest Kodiak District commercial salmon fishing district and sections.

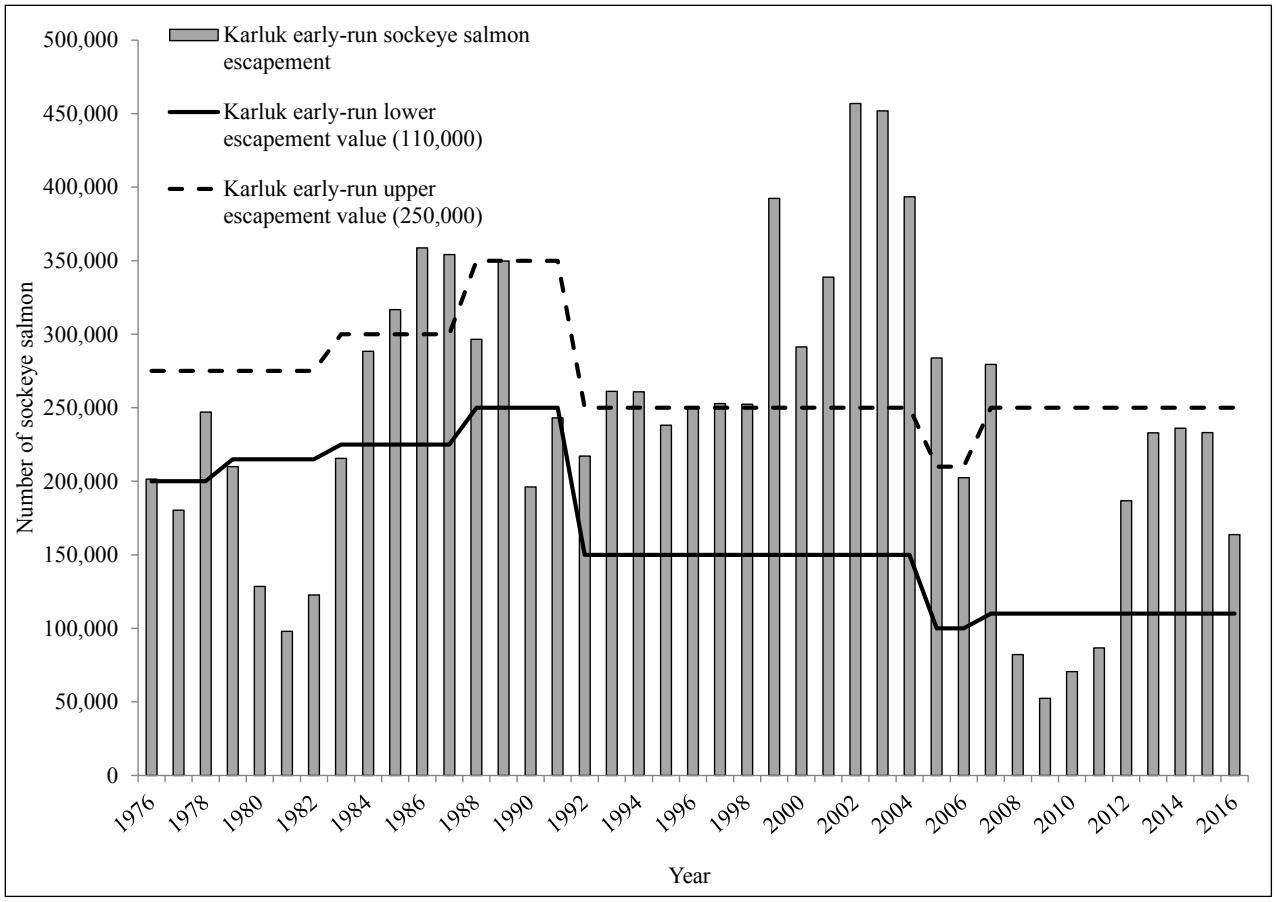

Figure 60-2.–Karluk early-run sockeye salmon escapement compared to the escapement goals, 1976–2016.

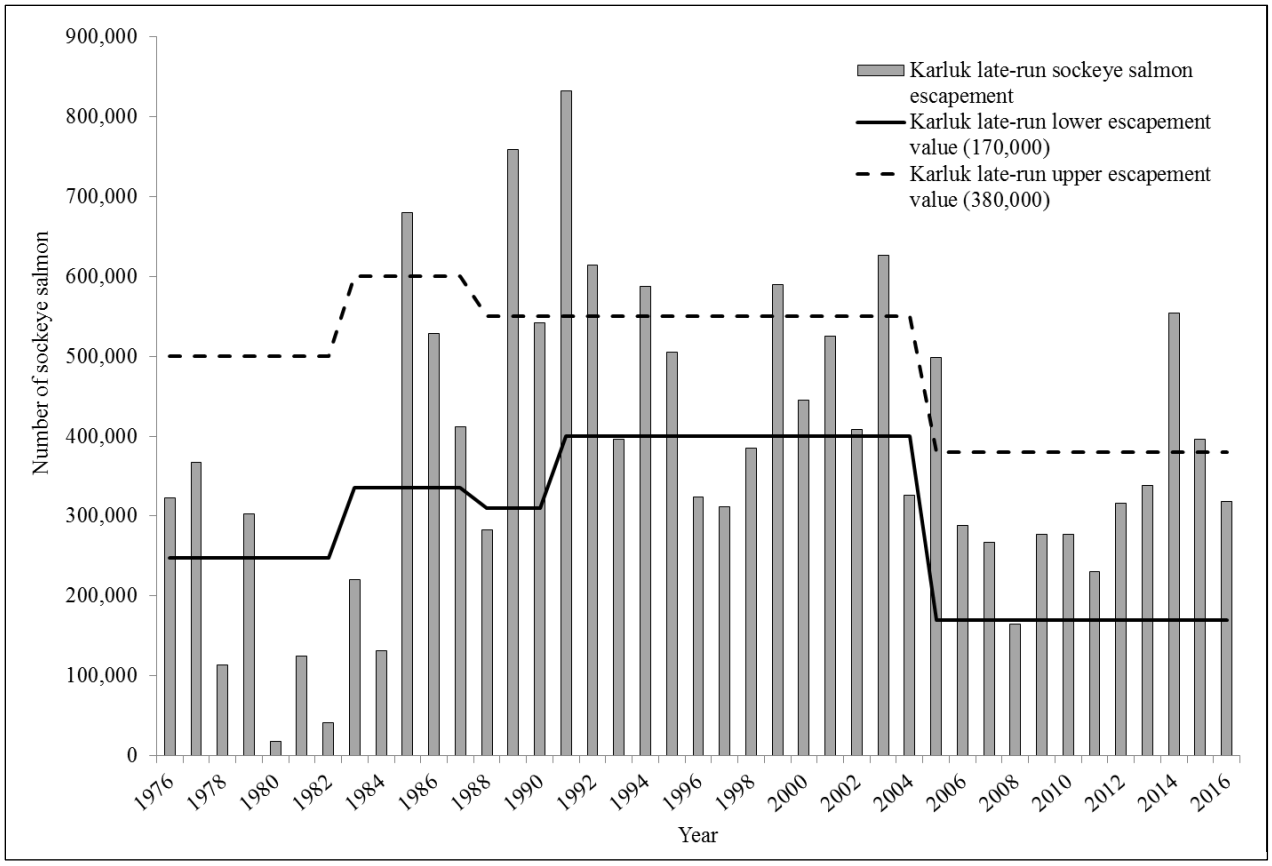

Figure 60-3.–Karluk late-run sockeye salmon escapement compared to the escapement goals, 1976–2016.

PROPOSAL 61 – 5 AAC 18.366. Spiridon Bay Sockeye Salmon Management Plan.

PROPOSED BY: Kodiak Regional Aquaculture Association.

WHAT WOULD THE PROPOSAL DO? This would put into regulation language allowing the department to restrict fishing in SBSHA to meet KRAA cost-recovery goals.

WHAT ARE THE CURRENT REGULATIONS? The purpose of the Spiridon Bay harvest strategy is to allow the orderly harvest of sockeye salmon returning to Telrod Cove from the Spiridon Lake enhancement project, while providing adequate protection for local natural salmon stocks returning to other streams of the bay. The intent of the enhancement project is for the harvest of returning enhanced salmon to occur in traditional commercial fishing areas of the Northwest Kodiak District during openings directed at harvesting Karluk system sockeye salmon and Westside pink and chum salmon stocks.

Since 2010, the department has restricted common property fishing in SBSHA to allow KRAA to harvest sockeye salmon for cost-recovery purposes.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL IS ADOPTED? This would make regulations consistent with current inseason management practices and would make regulations consistent with other SHAs in the KMA.

BACKGROUND: The Spiridon Lake Enhancement Project on the Westside of Kodiak began in 1991 in cooperation between the department and KRAA and is one of the most successful stocking projects in the state. Broodstock from Saltery Lake are reared at Pillar Creek Hatchery and released in Spiridon Lake or into net pens in Telrod Cove. The intent of the project is to provide a harvest opportunity for these sockeye salmon in traditional fisheries in the Northwest Kodiak District (Figure 61-1). The SBSHA (Figure 61-2) was created to harvest excess fish not harvested in traditional areas as they return to Telrod Cove. Since 2010, KRAA has been conducting cost-recovery fisheries prior to the opening of the SBSHA to common property fishing (Table 61-1).

DEPARTMENT COMMENTS: The department **SUPPORTS** this proposal.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 61-1.–Number of common property and cost-recovery sockeye salmon harvested in the Spiridon Bay Special Harvest Area, 2007–2016.

Year	Common Property	Cost Recovery
2007	70,250	0
2008	156,093	0
2009	81,725	0
2010	89,685	10,840
2011	91,248	20,241
2012	56,896	21,038
2013	33,299	95,725
2014	42,951	62,213
2015	57,884	34,338
2016	31,766	50,883

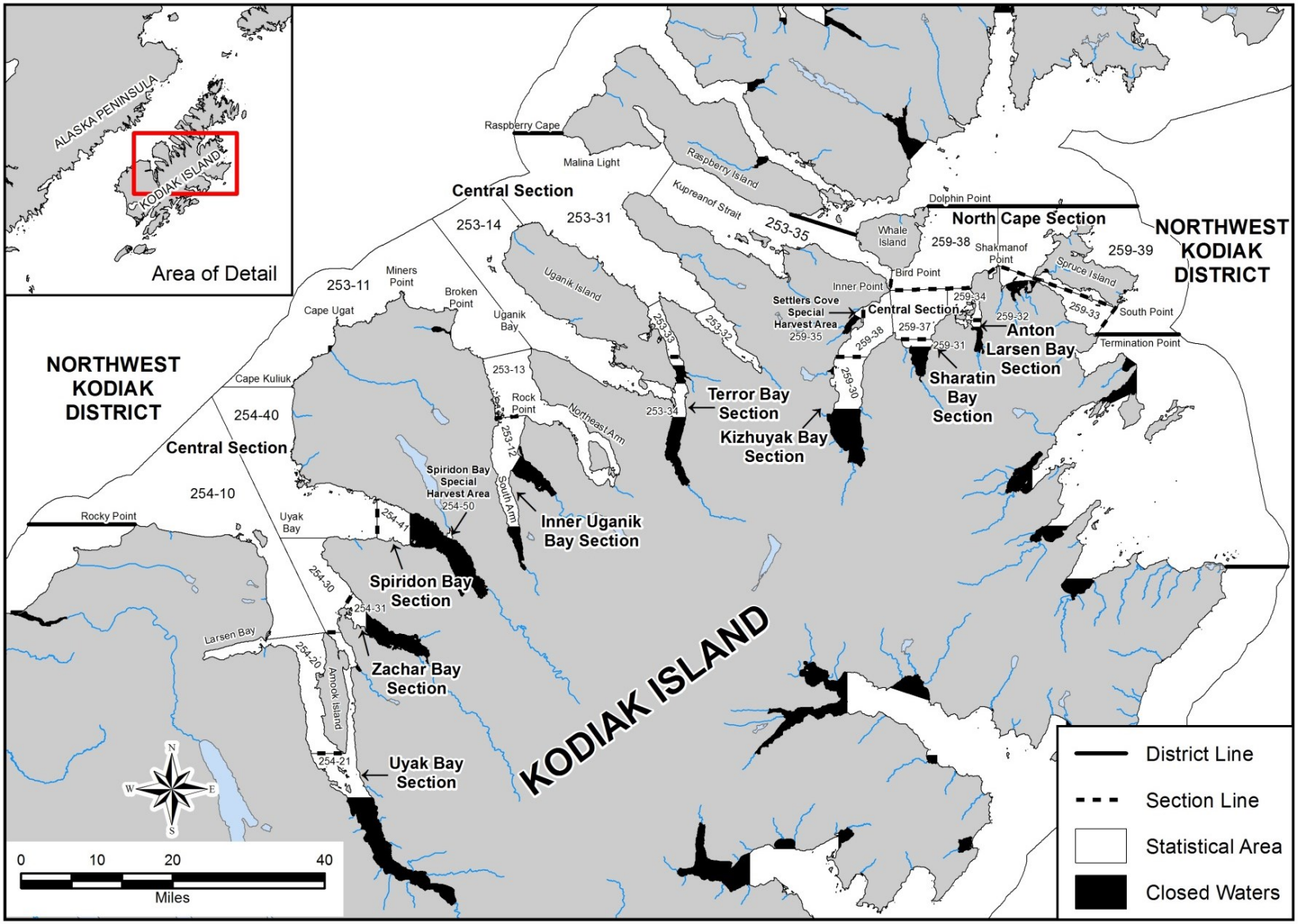

Figure 61-1.–Map of the Northwest Kodiak District identifying commercial salmon fishing section and statistical areas.

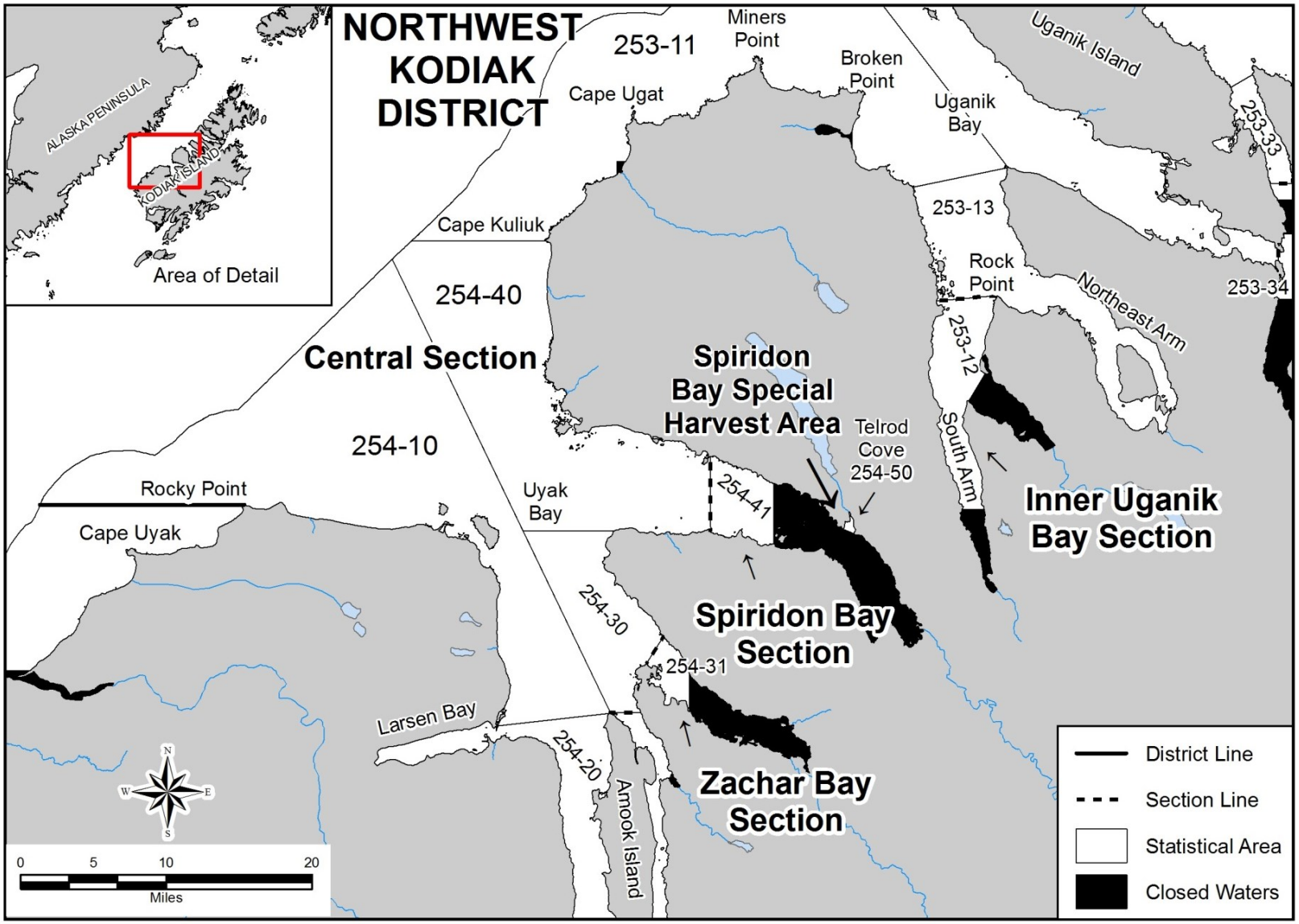

Figure 61-2.–Map of the Spiridon Bay Special Harvest Area in the Northwest Kodiak District.

CLOSED WATERS AND SEINE SPECIFICATIONS

PROPOSAL 62 – 5 AAC 18.350. Closed waters.

PROPOSED BY: Stig Yngve.

WHAT WOULD THE PROPOSAL DO? This would amend the closed waters description for the Ayakulik River in the Inner Ayakulik Section of the Southwest Kodiak District (Figure 62-1) to include those waters within 1,000 yards of the stream terminus from June 1 through July 15.

WHAT ARE THE CURRENT REGULATIONS? In the Southwest Kodiak District all waters east of the terminus of the Ayakulik River (Red River) are closed to commercial fishing for salmon.

Currently, there are no closed salt waters described in regulation for the Ayakulik River. The current regulation describes the Ayakulik River lagoon.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Short Inner Ayakulik commercial salmon fisheries with no established closed waters lets the department better control sockeye and pink salmon escapement allowing for longer commercial salmon closures. A larger closed water area around the mouth of Ayakulik River will decrease the commercial fleet's ability to control salmon escapement and could lead to longer commercial salmon openings in the Inner and Outer Ayakulik sections. Longer openings within the Inner Ayakulik Section will likely result in more incidental harvest of king salmon within the section.

BACKGROUND: Prior to 2003, the Ayakulik system sockeye salmon run was robust and enabled sustained commercial salmon openings in both the Inner and Outer Ayakulik sections of the Southwest Kodiak District (Table 62-1). Between 2003 and 2012, the Ayakulik system sockeye salmon run declined to the point that little to no commercial salmon fishing was allowed in June and early July (Table 62-1; Figure 62-2).

Since 2006, the Ayakulik king salmon run also saw a severe decline. Between 2006 and 2009, the Ayakulik king salmon run did not achieve its escapement goal three times despite no commercial salmon fishery prior to July 15 (Table 62-1; Figure 62-3). Prior to July 15, on average the Ayakulik River receives 97% of its king salmon escapement (Table 62-1).

Since the decline in the Ayakulik system sockeye salmon run, the department has used a conservative management approach. The department targets the mid-range of the Ayakulik system sockeye salmon escapement goals (early-run SEG 140,000–280,000 and late-run SEG 60,000–120,000) and establishes the majority of the commercial salmon openings in the Outer Ayakulik Section (Table 62-1 and 62-2; Figure 62-1).

The Inner Ayakulik Section of the Southwest Kodiak District only opens to commercial salmon fishing if the sockeye or pink salmon escapement is above average or there is a large buildup of salmon at the mouth. A short Inner Ayakulik Section opening with no expanded closed waters enables fishermen to mop up large numbers of sockeye and pink salmon in a short period of time. Short fisheries with no established closed waters increases the ability of the commercial fishery to control the sockeye and pink salmon escapement allowing for longer Inner and Outer Ayakulik commercial salmon closed periods (Table 62-1).

In 2014, the board established nonretention of king salmon 28 inches or greater in length in the commercial seine fishery in the KMA prior to July 6. After July 6, if the department determines that the Ayakulik River king salmon biological escapement goal (BEG 4,000–7,000) will not be met, nonretention of king salmon 28 inches or greater is established in the commercial salmon fishery in the Inner Ayakulik and Outer Ayakulik sections.

For six of the past 11 years, the Ayakulik River has not met the established king salmon BEG (Figure 62-3). Three of those years, there were no commercial salmon fisheries prior to July 15 in the Inner Ayakulik or Outer Ayakulik sections of the Southwest Kodiak District (Table 62-1; Figure 62-3). From 2013 to 2015, there were limited commercial salmon openings to harvest Ayakulik system sockeye salmon. Most of the openings were concentrated in the Outer Ayakulik Section of the Southwest Kodiak District (Table 62-1 and 62-2).

Sport harvests of Ayakulik River king salmon have been restricted annually to some degree since 2005 (Figure 62-4) to the extent that the fishery has been closed completely 6 times during this period. Harvest estimates are available through 2015 from the department's freshwater logbook program; harvest of Ayakulik king salmon have averaged 28 fish since 2006, ranging from a high of 116 in 2007 to as low as 0 fish in 2009, 2014, and 2015 (Table 62-3). Estimates of harvest are available in some years from the SWHS, though only occasionally in recent years indicating decreased participation rates in the fishery.

DEPARTMENT COMMENTS: The department is **OPPOSED** to this proposal. The department would prefer to continue to manage the Inner Ayakulik Section conservatively by allowing shorter openings. If the department is required to have openings further from the mouth the department will necessarily allow more fishing time. That approach is less protective of king salmon stocks and makes it more difficult to control escapement of other salmon stocks.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 62-1.–Commercial salmon openings in the Ayakulik sections of the Southwest Kodiak District and average % king salmon escapement, 1990–2016.

Date	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	% Ayakulik King Run
5-Jun																									open			5%
6-Jun																									open			6%
7-Jun																									open			7%
8-Jun																									open			8%
9-Jun	open					open	open		open			open	open												open			10%
10-Jun	open					open	open		open			open	open												open			11%
11-Jun	open						open					open	open												open			13%
12-Jun	open	open		open			open					open	open												open			15%
13-Jun	open	open		open			open					open	open												open			18%
14-Jun	open	open		open			open		open			open													open			21%
15-Jun	open	open	open	open		open	open		open	open		open										open			open	open		23%
16-Jun	open	open	open	open		open	open			open		open										open				open		26%
17-Jun	open	open	open	open		open	open		open	open	open	open										open		open		open		28%
18-Jun	open	open	open	open		open	open		open	open	open	open												open		open		30%
19-Jun	open	open	open	open		open	open		open	open	open	open	open											open		open		34%
20-Jun	open	open	open	open		open	open	open	open	open	open	open	open													open		38%
21-Jun	open	open	open	open		open		open	open	open	open	open									open					open		41%
22-Jun	open	open	open	open		open		open	open	open	open	open									open		open			open		44%
23-Jun	open	open	open	open		open		open	open	open	open	open									open		open		open			47%
24-Jun	open	open	open	open		open		open	open	open	open	open											open		open			51%
25-Jun	open					open		open	open	open	open	open											open		open			54%
26-Jun	open							open	open	open	open	open											open	open				57%
27-Jun	open			open				open	open	open	open	open												open				61%
28-Jun	open			open				open	open	open	open	open													open	open		66%
29-Jun				open		open		open	open	open		open													open	open		70%
30-Jun				open		open		open	open	open		open			open										open	open		74%
1-Jul		open		open		open		open	open	open		open			open										open	open		77%
2-Jul		open		open		open		open	open	open		open			open													79%
3-Jul	open	open		open		open		open	open	open		open			open													82%
4-Jul	open	open		open		open		open	open	open					open													85%
5-Jul	open	open				open		open	open	open					open													87%
6-Jul	open	open				open	open	open	open	open					open											open		89%
7-Jul	open	open				open	open	open	open	open					open											open		90%
8-Jul	open	open				open	open		open	open					open											open		91%
9-Jul	open	open	open			open	open		open	open					open											open		92%
10-Jul	open	open	open			open	open		open	open					open													93%

-continued-

Table 62-1. Page 2 of 2.

Date	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	% Ayakulik King Run
11-Jul	open	open	open			open	open		open	open																		94%
12-Jul	open	open				open	open		open	open																		95%
13-Jul	open	open					open		open	open											open		open	open	open	open		96%
14-Jul	open	open					open	open	open	open											open		open	open	open	open	open	96%
15-Jul	open	open					open	open	open	open											open	open	open	open	open	open	open	97%

open Outer Ayakulik open

open Inner and Outer Ayakulik open

Table 62-2.–Inner and Outer Ayakulik king and sockeye salmon commercial harvest, 1990–2016.

Inner & Outer Ayakulik commercial salmon harvest through July 15				
	Inner Ayakulik Harvest		Outer Ayakulik Harvest	
Year	King	Sockeye	King	Sockeye
1990	72	12,063	5,332	1,192,759
1991	103	4,868	4,685	759,024
1992	5	31,906	4,909	531,489
1993	24	13,624	2,708	379,526
1994	0	0	0	0
1995	45	27,063	2,367	397,637
1996	108	14,640	3,615	862,139
1997	4	281	808	149,607
1998	73	6,835	3,649	900,817
1999	642	64,921	2,922	504,599
2000	1,034	67,688	2,382	157,744
2001	3,426	81,675	3,301	301,947
2002	32	1,441	39	2,872
2003	0	0	0	0
2004	0	0	158	130,916
2005	0	0	0	0
2006	0	0	0	0
2007	0	0	0	0
2008	0	0	0	0
2009	0	0	0	0
2010	9	31,945	56	59,971
2011	15	7,262	47	18,606
2012	11	15,561	104	61,865
2013	66	16,259	567	35,214
2014	9	88,703	61	148,778
2015	34	14,044	322	386,399
2016	0	0	177	141,747

Table 62-3.–Ayakulik River king salmon sport harvest and release from the SWHS and guide logbooks, 1990–2016.

		SWHS[c]		Guide Logbook[b]	
Year	Angler Days[a]	King Salmon Harvest	King Salmon Release	King Salmon Harvest	King Salmon Release
1990	815	252	2,306		
1991	1,780	563	2,191		
1992	3,404	776	3,199		
1993	4,625	1,004	4,422		
1994	5,473	948	1,020		
1995	1,382	200	883		
1996	1,524	419	1,972		
1997	3,374	1,190	5,989		
1998	1,314	259	3,245		
1999	2,165	609	2,825		
2000	1,853	805	7,576		
2001	3,173	568	8,135		
2002	1,715	362	5,282		
2003	2,425	344	3,738		
2004	1,792	304	2,876		
2005	2,515	489	7,545	232	2,525
2006	2,807	169	2,914	54	897
2007	1,482	303	3,779	116	1,737
2008	1,905	0	830	2	329
2009	1,210	0	354	0	83
2010	960	104	625	2	185
2011	-	-	-	65	454
2012	-	-	-	23	554
2013	-	-	-	18	299
2014	2,066	0	96	0	59
2015	-	-	-	0	82

[a] Angler effort is not reported for individual species and is representative of all species fished for in the Ayakulik River drainage.
[b] The department's freshwater guided angler logbook program began in 2005.
[c] In 2011–2013 and 2015 insufficient survey responses were received to generate an estimate.

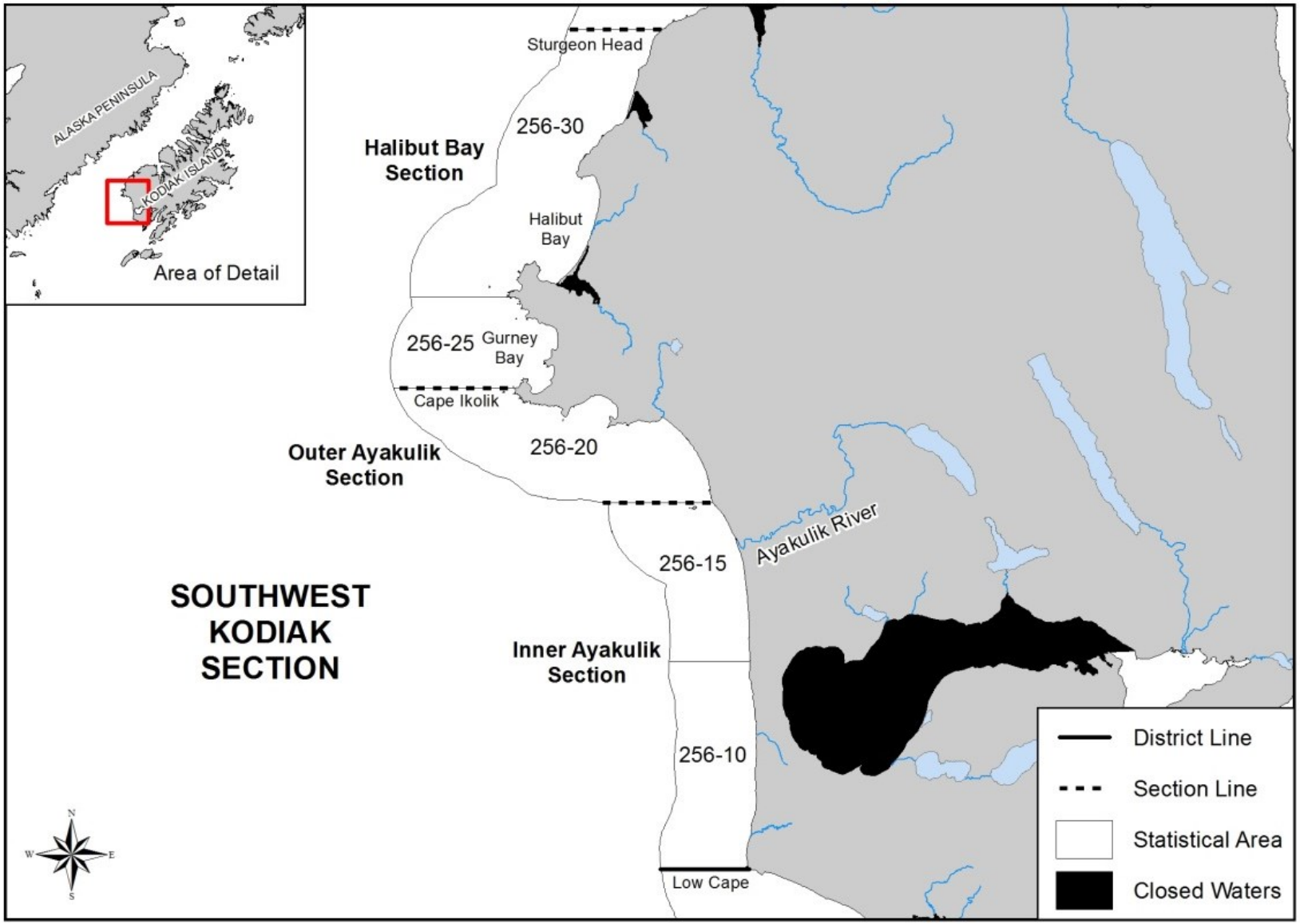

Figure 62-1.–Map of the Southwest Kodiak District commercial salmon fishing district and sections.

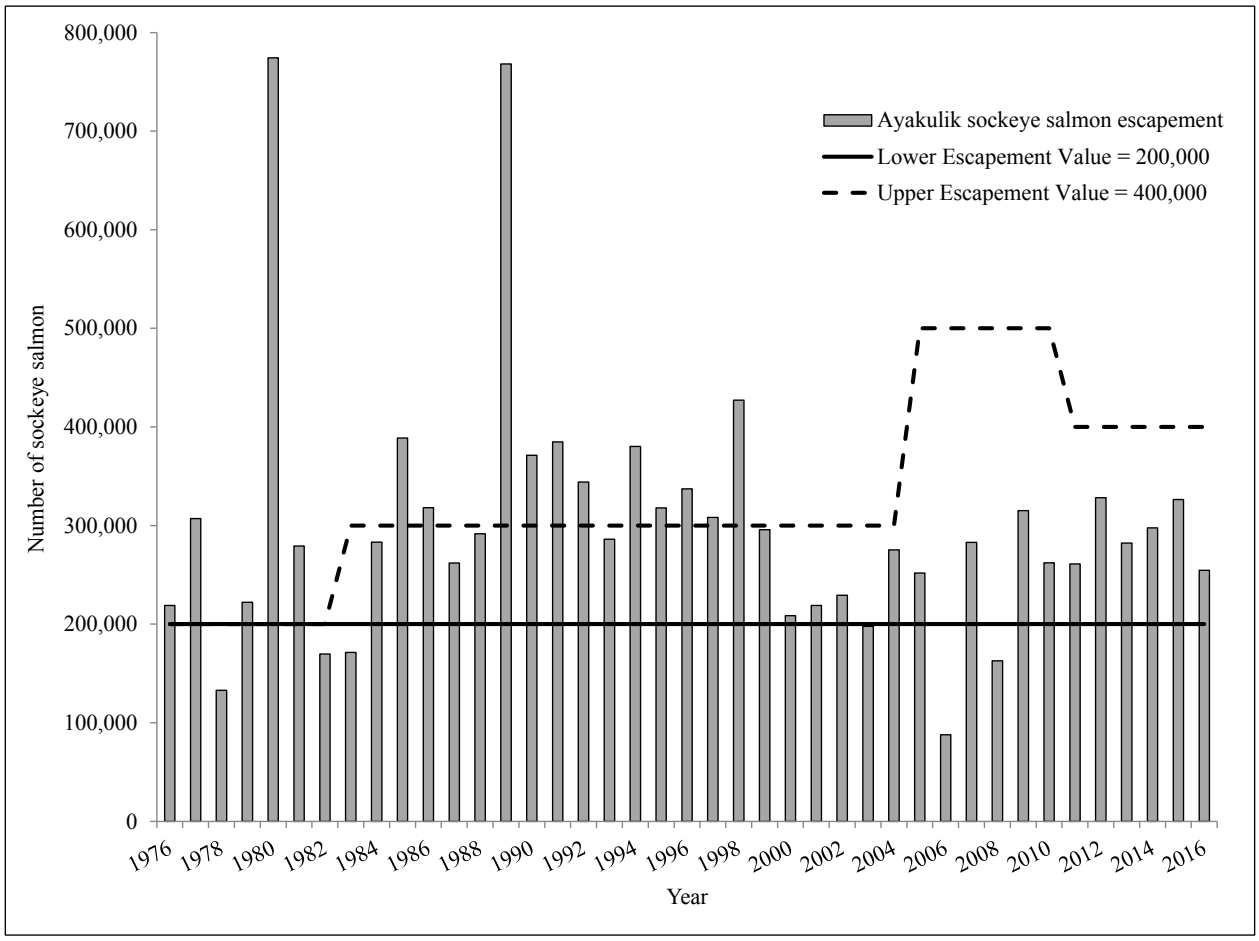

Figure 62-2.–Ayakulik system sockeye salmon escapement compared to the escapement goals, 1976–2016.

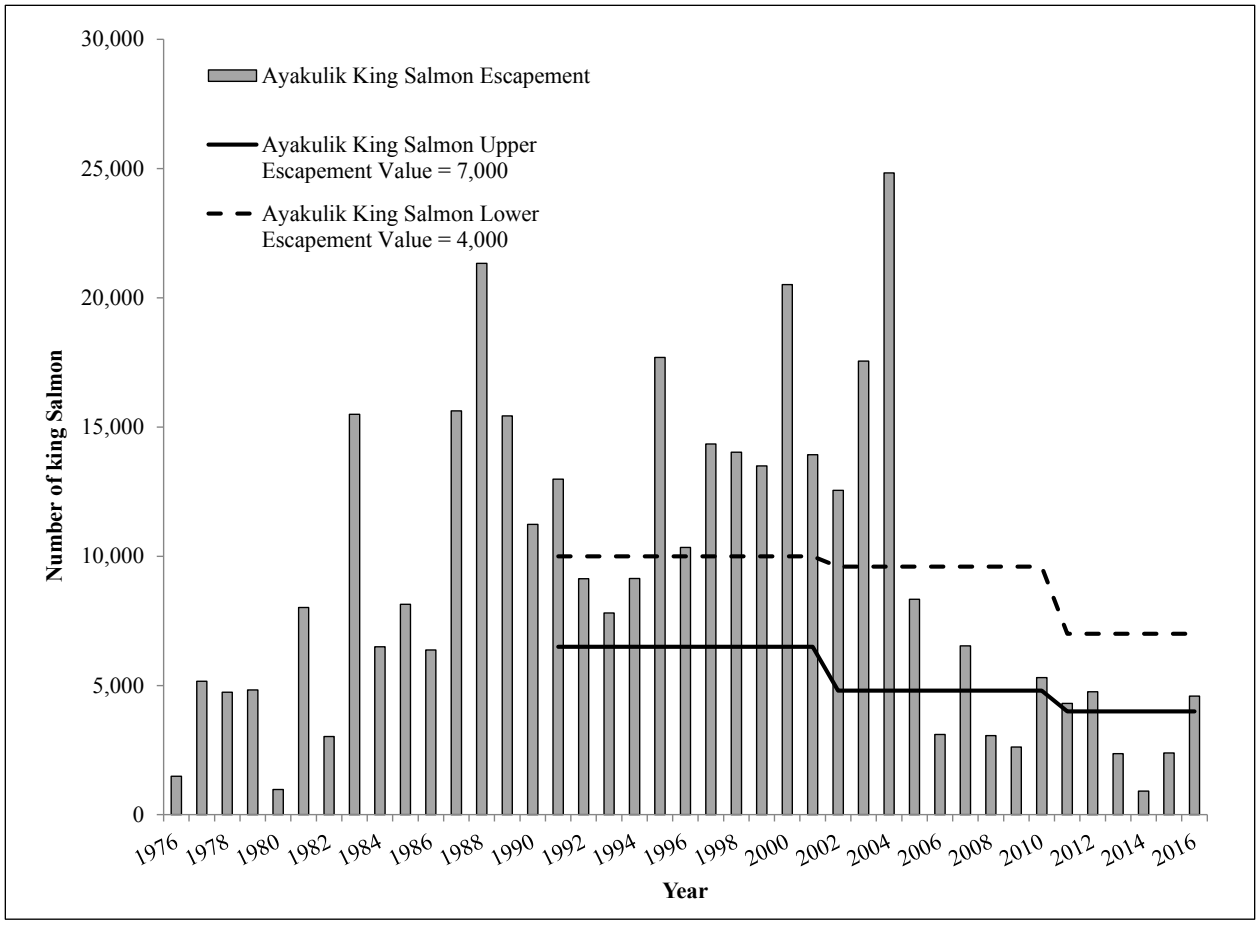

Figure 62-3.–Ayakulik River king salmon escapement compared to the escapement goals, 1976–2016.

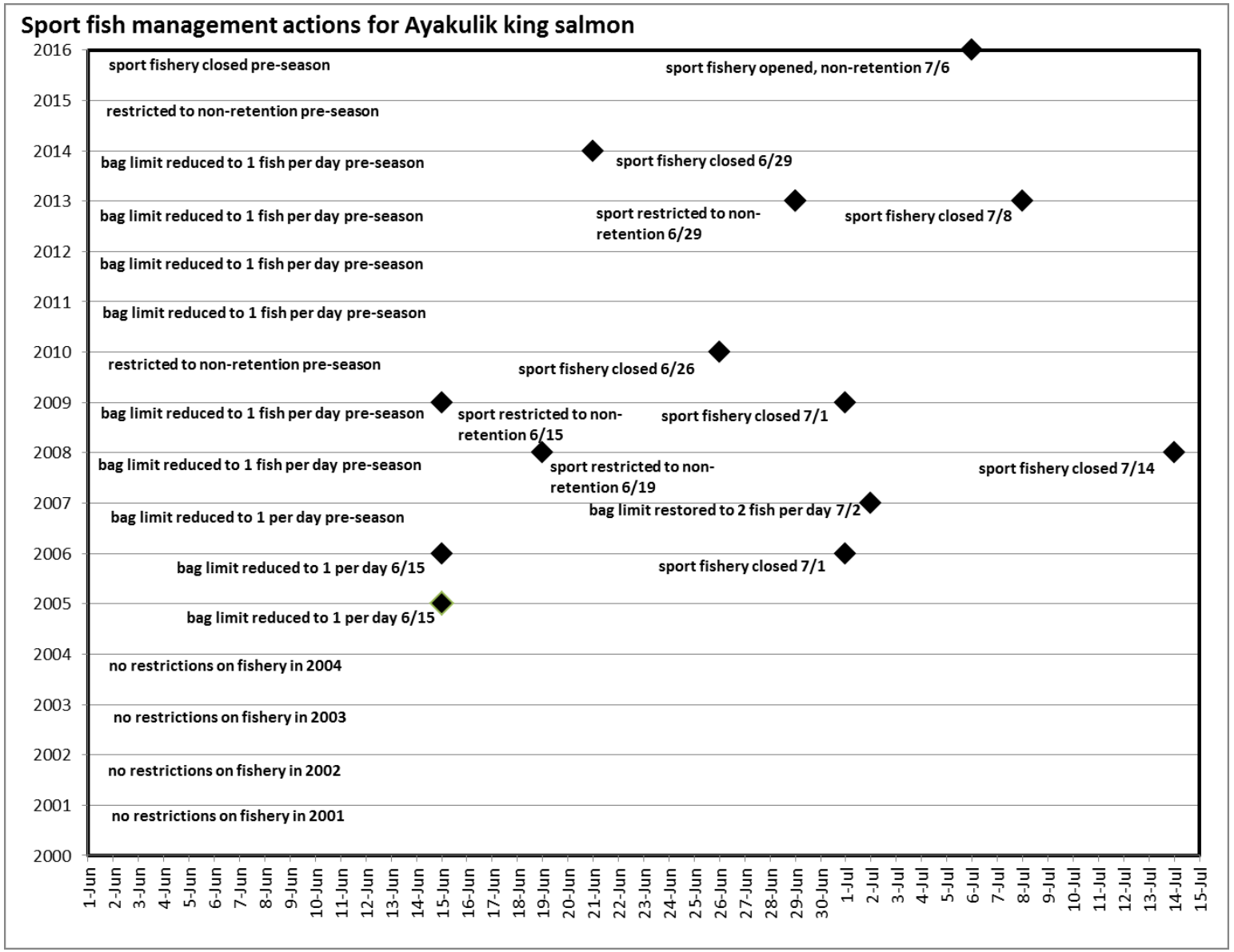

Figure 62-4.–History of management of Ayakulik River king salmon sport fishery, 2000–2016.

PROPOSAL 63 – 5 AAC 18.350. Closed waters.

PROPOSED BY: Kenneth Blackman, Tom Walters, Tom Simkowski, and Amy Freddette.

WHAT WOULD THE PROPOSAL DO? This would amend the closed waters description for the Ayakulik River in the Inner Ayakulik Section of the Southwest Kodiak District (Figure 63-1) to include those waters within 500 yards of the stream terminus from June 1 through July 15.

WHAT ARE THE CURRENT REGULATIONS? In the Southwest Kodiak District all waters east of the terminus of the Ayakulik River (Red River) are closed to commercial fishing for salmon.

Currently, there are no closed salt waters described in regulation for the Ayakulik River. The current regulation closes the Ayakulik River lagoon.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Establishing a closed waters area around the mouth of Ayakulik River will decrease the department's ability to harvest surplus Ayakulik River salmon and result in longer commercial salmon fishing openings in the Inner and Outer Ayakulik sections to prevent overescapement, especially on years with large Ayakulik River sockeye salmon returns. Longer openings within the Inner Ayakulik Section will also result in more incidental harvest of king salmon within the section.

BACKGROUND: Prior to 2003, the Ayakulik River sockeye salmon run was robust and sustained commercial salmon openings in both the Inner and Outer Ayakulik sections of the Southwest Kodiak District (Table 63-1). Between 2003 and 2012, the Ayakulik River sockeye salmon run declined to the point that little to no commercial salmon fishing was allowed in June and early July (Table 63-1; Figure 63-2).

Since 2006, the Ayakulik River king salmon run also saw a severe decline. Between 2006 and 2009, the Ayakulik River king salmon run did not achieve its escapement goal three times despite no commercial salmon fishery prior to July 15 (Table 63-1; Figure 63-3). Prior to July 15, on average the Ayakulik River receives 97% of its king salmon escapement (Table 63-1).

Since the decline in the Ayakulik River sockeye salmon run the department has used a conservative management approach. The department targets the mid-range of the Ayakulik system sockeye salmon escapement goals (early-run SEG 140,000–280,000 and late-run SEG 60,000–120,000) and directs the majority of the commercial fishing effort at the Outer Ayakulik Section (Table 63-1 and 63-2; Figure 63-1).

The Inner Ayakulik Section of the Southwest Kodiak District only opens to commercial salmon fishing if the sockeye or pink salmon escapement is above average or there is a large buildup of salmon near the Ayakulik River mouth. A short Inner Ayakulik Section opening with no closed waters enables fishermen to harvest relatively large numbers of sockeye and pink salmon in a short period of time. Short Inner Ayakulik Section fisheries with no established closed waters increase the department's ability to manage for sockeye and pink salmon escapement goals while allowing for longer Inner and Outer Ayakulik commercial salmon closed periods, which likely reduces incidental harvest of king salmon bound for Ayakulik River which would increase king salmon escapement to Ayakulik River (Table 63-1).

In 2014, the board established nonretention of king salmon 28 inches or greater in length in the commercial seine fishery in the KMA prior to July 6. After July 6, if the department determines

that the Ayakulik River king salmon biological escapement goal (BEG 4,000–7,000) will not be met, nonretention of king salmon 28 inches or greater is established in the commercial salmon fishery in the Inner Ayakulik and Outer Ayakulik sections.

For six of the past 11 years, the Ayakulik River has not met the established king salmon BEG (Figure 63-3). Three of those years, there were no commercial salmon fisheries prior to July 15 in the Inner Ayakulik or Outer Ayakulik sections of the Southwest Kodiak District (Table 63-1; Figure 63-3). From 2013 to 2015, there were limited commercial salmon openings to harvest Ayakulik River sockeye salmon. Most of the openings were concentrated in the Outer Ayakulik Section of the Southwest Kodiak District (Table 63-1 and 63-2).

Sport harvests of Ayakulik River king salmon have been restricted annually to some degree since 2005 (Figure 63-4) to the extent that the fishery has been closed completely 6 times during this period. Harvest estimates are available through 2015 from the department's freshwater logbook program and harvest of Ayakulik River king salmon have averaged 28 fish since 2006 ranging from a high of 116 in 2007 to as low as 0 fish in 2009, 2014 and 2015 (Table 63-3). Estimates of harvest are available in some years from the SWHS, though only occasionally in recent years indicating lower participation rates in the fishery.

DEPARTMENT COMMENTS: The department is **OPPOSED** to this proposal. The department would prefer to continue to manage the Inner Ayakulik Section conservatively by allowing shorter openings. If the department is required to have openings further from the mouth the department will necessarily allow more fishing time. That approach is less protective of king salmon stocks and makes it more difficult to control escapement of other salmon stocks.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 63-1.–Commercial salmon openings in the Ayakulik sections of the Southwest Kodiak District and average % king salmon escapement, 1990–2016.

Date	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	% Ayakulik King Run
5-Jun																									open			5%
6-Jun																									open			6%
7-Jun																									open			7%
8-Jun																									open			8%
9-Jun	open					open	open		open			open	open												open			10%
10-Jun	open					open	open		open			open	open												open			11%
11-Jun	open						open					open	open												open			13%
12-Jun	open	open		open			open					open	open												open			15%
13-Jun	open	open		open			open					open	open												open			18%
14-Jun	open	open		open			open		open			open													open			21%
15-Jun	open	open	open	open		open	open		open	open		open										open			open	open		23%
16-Jun	open	open	open	open		open	open			open		open										open				open		26%
17-Jun	open	open	open	open		open	open		open	open	open	open										open		open		open		28%
18-Jun	open	open	open	open		open	open		open	open	open	open												open		open		30%
19-Jun	open	open	open	open		open	open		open	open	open	open	open											open		open		34%
20-Jun	open	open	open	open		open	open	open	open	open	open	open	open													open		38%
21-Jun	open	open	open	open		open		open	open	open	open	open									open					open		41%
22-Jun	open	open	open	open		open		open	open	open	open	open									open		open			open		44%
23-Jun	open	open	open	open		open		open	open	open	open	open									open		open		open			47%
24-Jun	open	open	open	open		open		open	open	open	open	open											open		open			51%
25-Jun	open					open		open	open	open	open	open											open		open			54%
26-Jun	open							open	open	open	open	open											open	open				57%
27-Jun	open			open				open	open	open	open	open												open				61%
28-Jun	open			open				open	open	open	open	open													open	open		66%
29-Jun				open		open		open	open	open		open													open	open		70%
30-Jun				open		open		open	open	open		open			open										open	open		74%
1-Jul		open		open		open		open	open	open		open			open										open	open		77%
2-Jul		open		open		open		open	open	open		open			open													79%
3-Jul	open	open		open		open		open	open	open		open			open													82%
4-Jul	open	open		open		open		open	open	open					open													85%
5-Jul	open	open				open		open	open	open					open													87%
6-Jul	open	open				open	open	open	open	open					open											open		89%
7-Jul	open	open				open	open	open	open	open					open											open		90%
8-Jul	open	open				open	open		open	open					open											open		91%
9-Jul	open	open	open			open	open		open	open					open											open		92%
10-Jul	open	open	open			open	open		open	open					open													93%

-continued-

Table 63-1. Page 2 of 2.

Date	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	% Ayakulik King Run
11-Jul	open	open	open			open	open		open	open																		94%
12-Jul	open	open				open	open		open	open																		95%
13-Jul	open	open					open		open	open											open		open	open	open	open		96%
14-Jul	open	open					open	open	open	open											open		open	open	open	open	open	96%
15-Jul	open	open					open	open	open	open											open	open	open	open	open	open	open	97%

open Outer Ayakulik open

open Inner and Outer Ayakulik open

Table 63-2.–Inner and Outer Ayakulik king and sockeye salmon commercial harvest, 1990–2016.

Inner & Outer Ayakulik commercial salmon harvest through July 15				
	Inner Ayakulik Harvest		Outer Ayakulik Harvest	
Year	King	Sockeye	King	Sockeye
1990	72	12,063	5,332	1,192,759
1991	103	4,868	4,685	759,024
1992	5	31,906	4,909	531,489
1993	24	13,624	2,708	379,526
1994	0	0	0	0
1995	45	27,063	2,367	397,637
1996	108	14,640	3,615	862,139
1997	4	281	808	149,607
1998	73	6,835	3,649	900,817
1999	642	64,921	2,922	504,599
2000	1,034	67,688	2,382	157,744
2001	3,426	81,675	3,301	301,947
2002	32	1,441	39	2,872
2003	0	0	0	0
2004	0	0	158	130,916
2005	0	0	0	0
2006	0	0	0	0
2007	0	0	0	0
2008	0	0	0	0
2009	0	0	0	0
2010	9	31,945	56	59,971
2011	15	7,262	47	18,606
2012	11	15,561	104	61,865
2013	66	16,259	567	35,214
2014	9	88,703	61	148,778
2015	34	14,044	322	386,399
2016	0	0	177	141,747

Table 63-3.–Ayakulik River king salmon sport harvest and release from the SWHS and guide logbooks, 1990–2016.

		SWHS[c]		Guide Logbook[b]	
Year	Angler Days[a]	King Salmon Harvest	King Salmon Release	King Salmon Harvest	King Salmon Release
1990	815	252	2,306		
1991	1,780	563	2,191		
1992	3,404	776	3,199		
1993	4,625	1,004	4,422		
1994	5,473	948	1,020		
1995	1,382	200	883		
1996	1,524	419	1,972		
1997	3,374	1,190	5,989		
1998	1,314	259	3,245		
1999	2,165	609	2,825		
2000	1,853	805	7,576		
2001	3,173	568	8,135		
2002	1,715	362	5,282		
2003	2,425	344	3,738		
2004	1,792	304	2,876		
2005	2,515	489	7,545	232	2,525
2006	2,807	169	2,914	54	897
2007	1,482	303	3,779	116	1,737
2008	1,905	0	830	2	329
2009	1,210	0	354	0	83
2010	960	104	625	2	185
2011	-	-	-	65	454
2012	-	-	-	23	554
2013	-	-	-	18	299
2014	2,066	0	96	0	59
2015	-	-	-	0	82

[a] Angler effort is not reported for individual species and is representative of all species fished for in the Ayakulik River drainage.
[b] The department's freshwater guided angler logbook program began in 2005.
[c] In 2011–2013 and 2015 insufficient survey responses were received to generate an estimate.

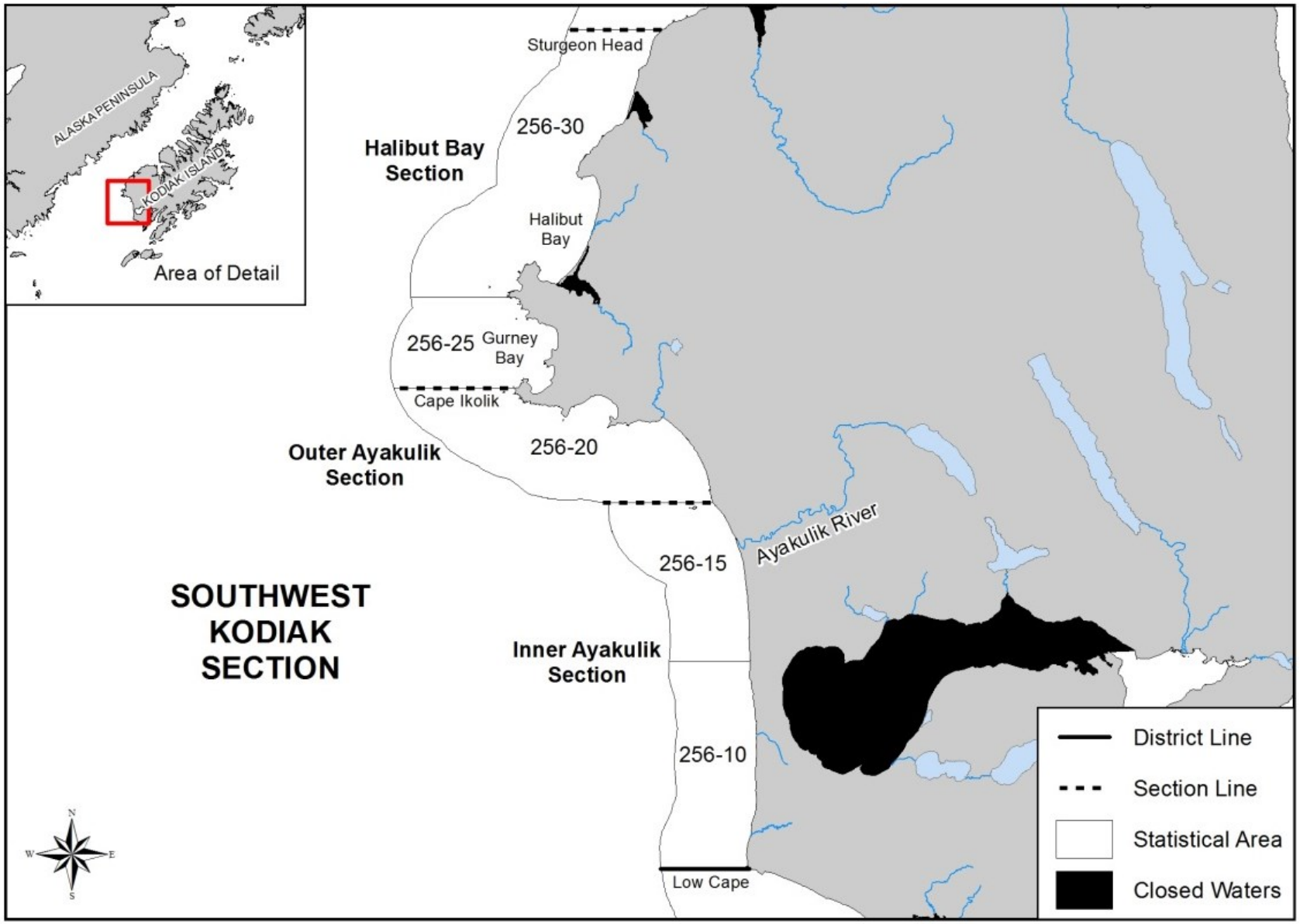

Figure 63-1.–Map of the Southwest Kodiak District commercial salmon fishing district and sections.

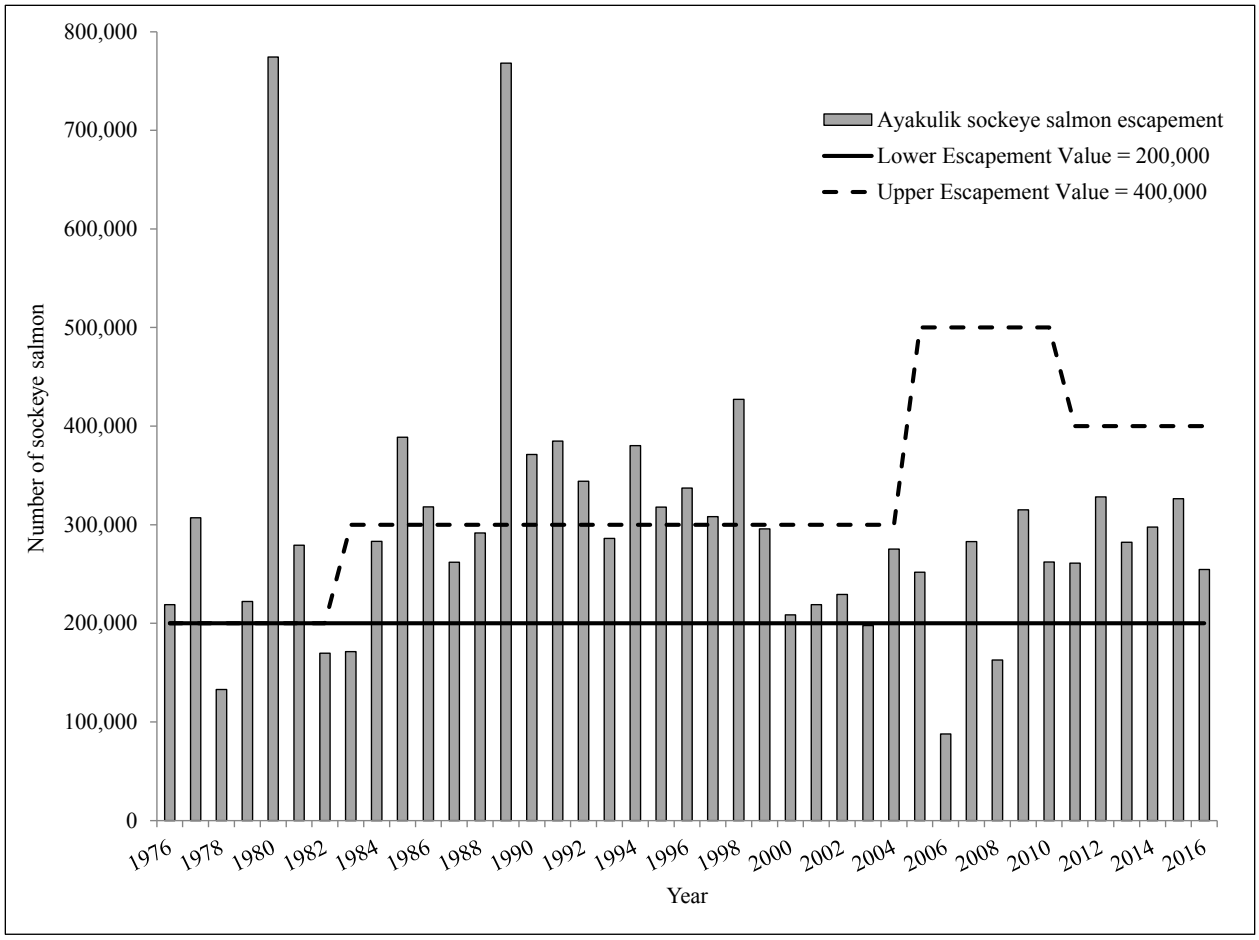

Figure 63-2.–Ayakulik system sockeye salmon escapement compared to the escapement goals, 1976–2016.

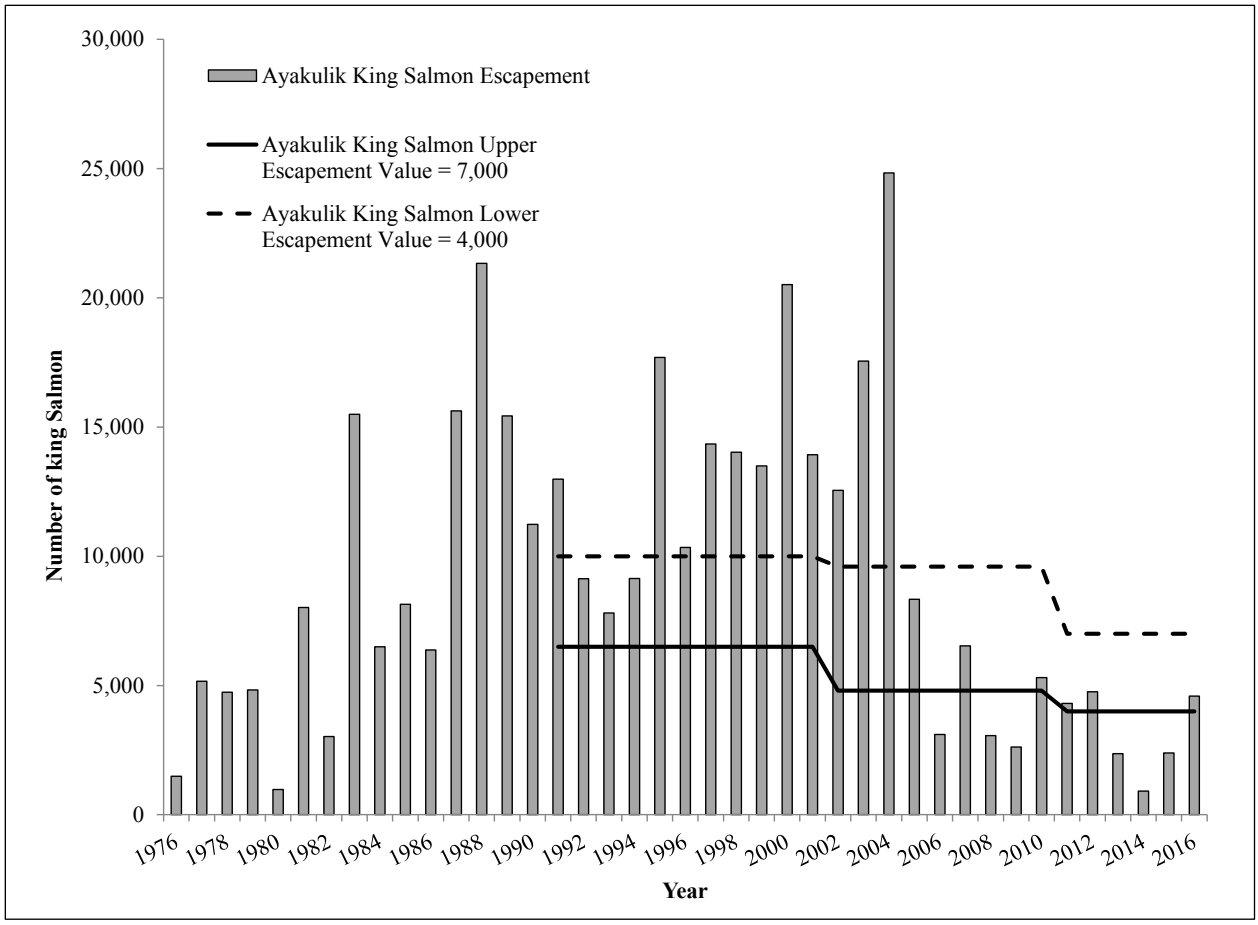

Figure 63-3.–Ayakulik River king salmon escapement compared to the escapement goal, 1976–2016.

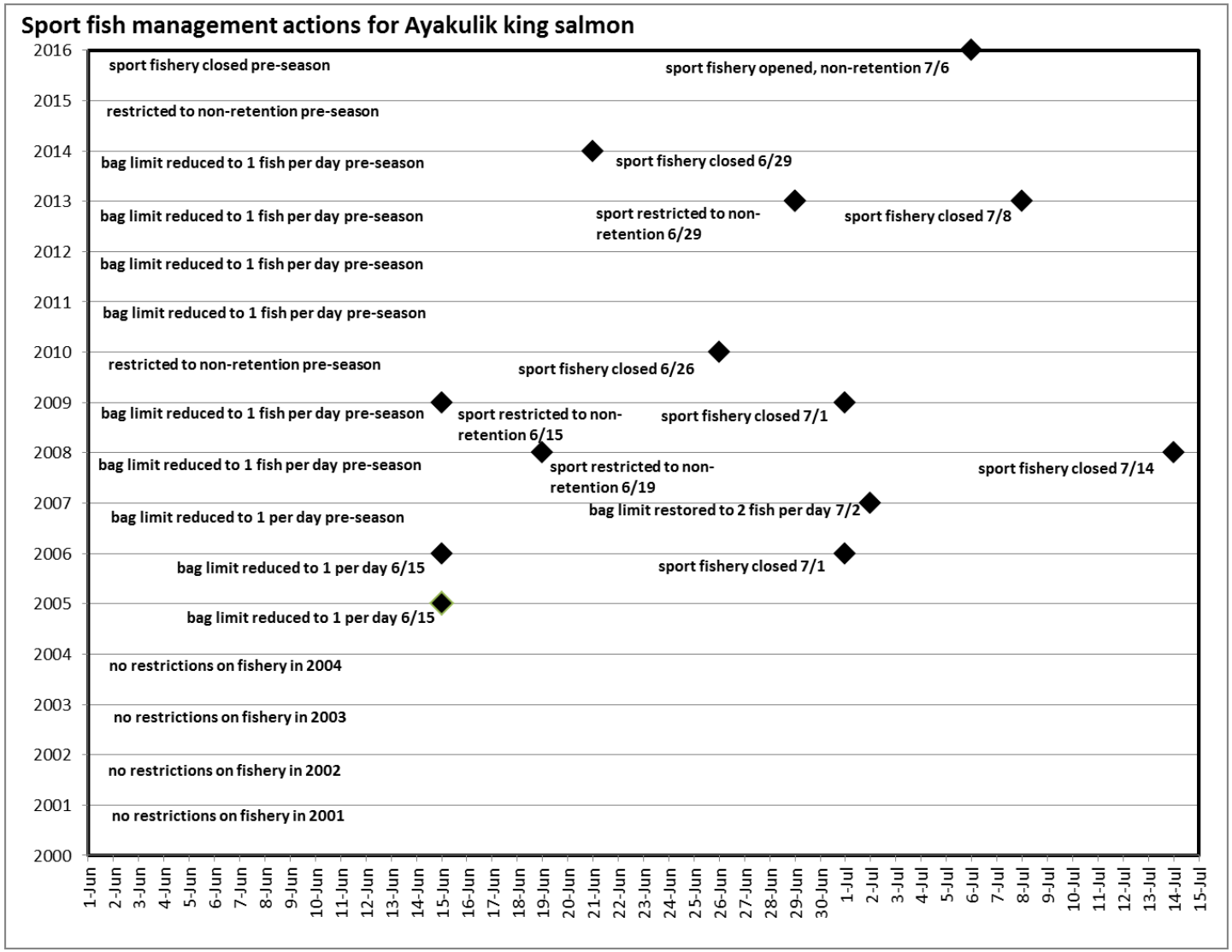

Figure 63-4.–History of management of Ayakulik River king salmon sport fishery, 2000–2016.

PROPOSAL 64 – 5 AAC 18.350. Closed waters.

PROPOSED BY: Ouzinkie Native Corporation.

WHAT WOULD THE PROPOSAL DO? This would create a commercial salmon fishery closed waters area around Ouzinkie Harbor in the North Cape Section of the Northwest Kodiak District (Figure 64-1).

WHAT ARE THE CURRENT REGULATIONS? Waters of Ouzinkie Harbor north of 57° 55.15′ N lat. are closed to commercial fishing for salmon. However, the department uses its EO authority to decrease the subsistence closed waters to the stream terminus of stream number 259-396 (Katmai Creek; Figure 64-1).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL IS ADOPTED? This would likely reduce commercial harvest of hatchery sockeye salmon bound for the Ouzinkie Harbor and potentially increase the number of sockeye salmon available to subsistence fishermen in Ouzinkie Harbor.

BACKGROUND: Beginning in 2014, KRAA began releasing up to 100,000 sockeye salmon smolt annually at the outlet of Katmai Creek (259-396; Figure 64-1) near the village of Ouzinkie. The project was established to provide additional salmon to be harvested incidentally in the commercial fishery of the Northwest Kodiak District in accordance with regulations outlined in the *Westside Kodiak Salmon Management Plan*, and for the fish to be harvested while subsistence fishing by local residents.

To reduce the likelihood of gear conflicts between subsistence and commercial fishermen, beginning in 2015 the department began using EO authority to reduce closed waters for subsistence fishermen to the mouth of Katmai Creek. Reducing the closed waters for subsistence fishermen and maintaining normal commercial closed waters created a buffer zone between the two user groups.

The board has made a positive customary and traditional use finding for salmon and finfish other than salmon (except steelhead and rainbow trout) in the Kodiak Area, and has found that 26,800–44,700 salmon are reasonably necessary for subsistence uses (5 AAC 01.536).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

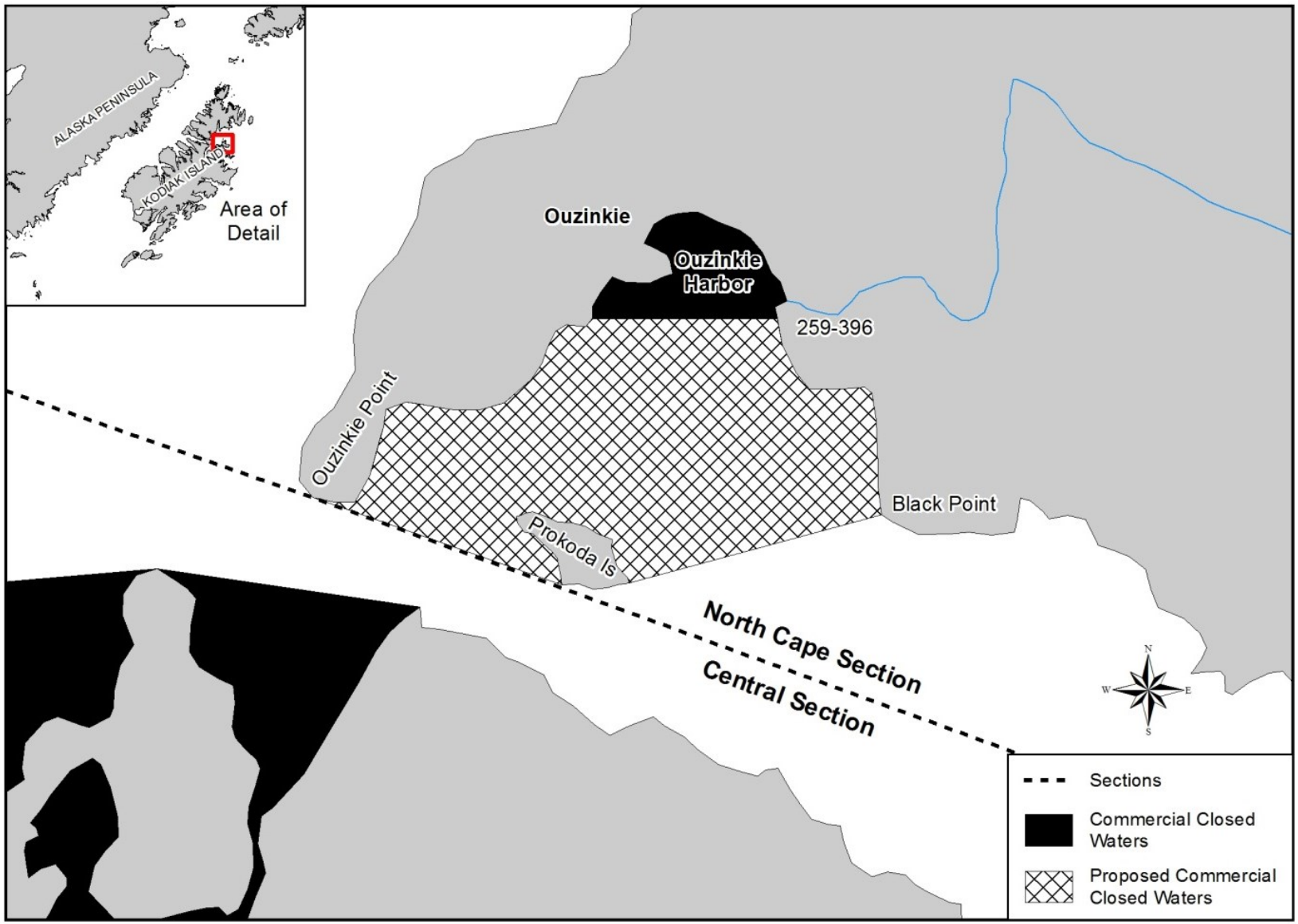

Figure 64-1.–Map of current and proposed commercial salmon closed waters around Ouzinkie Harbor.

PROPOSAL 65 – 5 AAC 18.332. Seine specifications and operations.

PROPOSED BY: Jeff Peterson.

WHAT WOULD THE PROPOSAL DO? This would establish a minimum mesh size of four and one half inches for salmon seines in the KMA from June 1 through July 15.

WHAT ARE THE CURRENT REGULATIONS? Current regulations provide a maximum mesh size of seven inches but do not specify a minimum mesh size in the KMA.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL IS ADOPTED? This may increase the number of smaller adult salmon gilled in seine mesh. Once a purse seine is fully pursed the smaller adult salmon and larger juvenile salmon may be gilled at a higher frequency than with the current standard mesh size. However, requiring use of larger mesh may allow some juvenile salmon that are captured and killed with standard mesh-size nets to escape.

BACKGROUND: Typically purse seines in the KMA use a standard mesh size of three and a quarter to three and a half inches (stretch measure). For comparison, in the KMA, a standard pink salmon set gillnet mesh size is four and a half inches.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal because it may reduce seine permit holders flexibility in selecting the proper seine mesh size to harvest salmon of the highest possible quality. Some sockeye salmon systems on Kodiak Island have relatively small sockeye salmon and those adult salmon would likely become gilled in a larger mesh seine net.

COST ANALYSIS: Approval of this proposal would result in significant direct cost for a private person to participate in this fishery if they do not own a seine with four and one half inch or larger mesh.