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ALASKA DEPARTMENT OF FISH AND GAME

STAFF COMMENTS ON
COMMERCIAL, PERSONAL USE, SPORT, GUIDED SPORT, AND SUBSISTENCE
REGULATORY PROPOSALS
COMMITTEE OF THE WHOLE–GROUPS 1–3 FOR

STATEWIDE DUNGENESS CRAB, SHRIMP, & MISCELLANEOUS SHELLFISH

ALASKA BOARD OF FISHERIES MEETING
ANCHORAGE, ALASKA

March 6–9, 2018

Regional Information Report 5J18-01

The following staff comments were prepared by the Alaska Department of Fish and Game (department) for use at the Alaska Board of Fisheries (board) meeting, March 6–9, 2018 in Anchorage, 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.

Acronyms 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
Amount Necessary for Subsistence	ANS
Adaptive Resolution Imaging Sonar	ARIS
Biological Escapement Goal	BEG
Commercial Fisheries Entry Commission	CFEC
Cook Inlet Aquaculture Association	CIAA
Customary and Traditional	C&T
Dual frequency Identification Sonar	DIDSON
Emergency Order	EO
Upper Subdistrict Set Gillnet Fishery/Eastside Set Gillnet Fishery	ESSN
Fishery Management Plan	FMP
Joint Base Elmendorf-Richardson	JBER
Kasilof River Special Harvest Area	KRSHA
Maximum Sustained Yield	MSY
Northern Cook Inlet	NCI
North Kalifornsky Beach	NKB
Northern District	ND
Optimal Escapement Goal	OEG
Optimum Yield	OY
Private Nonprofit Salmon Hatchery	PNP
River Mile	RM
Sustainable Escapement Goal	SEG
Sustainable Escapement Threshold	SET
Special Harvest Area	SHA
Statewide Harvest Survey	SWHS
Upper Cook Inlet	UCI

REGIONAL INFORMATION REPORT 5J18-01

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STATEWIDE DUNGENESS CRAB, SHRIMP, & MISCELLANEOUS SHELLFISH

ALASKA BOARD OF FISHERIES MEETING ANCHORAGE, ALASKA

March 6–9, 2018

by
Alaska Department of Fish and Game

Alaska Department of Fish and Game
Division of Commercial Fisheries
1255 W. 8th Street, Juneau, AK 99811-5525

February 2018

ABSTRACT

This document contains Alaska Department of Fish and Game (department) staff comments on commercial, personal use, sport, guided sport, and subsistence regulatory proposals for Statewide Dungeness Crab, Shrimp, & Miscellaneous Shellfish. These comments were prepared by the department for use at the Alaska Board of Fisheries (board) meeting, March 6–9, 2018 in Anchorage, 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, personal use, sport, guided sport, subsistence, Upper Cook Inlet, finfish, regulations, management plans, escapement goals, stock of concern, methods, means, bag limits, allocation, herring, salmon

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Proposal No.	Department Position	Issue
206	N	Defines legal gear to target octopus, and suggests an open-end pot style.
217	N	Allow for the harvest of octopus with additional gear while participating in the Prince William Sound noncommercial shrimp fishery.
207	N	Allow retrieval of personal use scallop dredges with 5 horsepower or less line hauler or pot puller.
208	N	Establish pot limits for the Alaska Peninsula District commercial Dungeness crab fishery based on vessel length or history of participation.
209	S	Require vessel operators actively participating in Registration Area J commercial Dungeness crab fisheries to lift their pots at least once every 14 days.
210	N	Open federal waters (3–200 nmi) of the Southeast District of Registration Area K (Kodiak) to commercial weathervane scallop fishing (Figure 210-1).
211	N	Expand the commercial scallop fishing area in the Southwest District of Area K (Kodiak) by approximately 500 sq. nmi, allowing vessels to harvest scallops in an area that has been closed to commercial fishing for scallops since 1969.
212	S	Adopt Kodiak District sea cucumber management measures currently established by commissioner's permit into regulation and establish criteria to delay the opening of Kodiak District sea cucumber fishing periods based on NWS marine forecasts.
213	S	Repeal the Cook Inlet Area personal use clam fishery.
214	S	Require that all razor clams dug be harvested in the Cook Inlet–Resurrection Bay noncommercial razor clam fisheries.
215	N	Allow scallops in the Kamishak Bay District of the Cook Inlet Area to be delivered live.
88	O	Require that a guideline harvest level (GHL) be calculated as 19.2% of the mid-point population estimate.
236	N	Open the Dutch Harbor food and bait herring fishery on July 1 rather than July 15; increase the Dutch Harbor allocation of the Togiak District available harvest from 7% to 10%; repeal the current allocation between gillnet and seine gear in the Dutch Harbor food and bait herring fishery; and repeal the allocation overage deduction provision for the Dutch Harbor food and bait herring fishery.
230	N	Allow the use of drift gillnets to harvest salmon for subsistence purposes in Yukon River subdistricts 4-B and 4-C.
231	N	Repeal the prohibition on subsistence fishing in Yukon River districts 1 and 2 during the first pulse of king salmon.
232	N	Clarify when the sale of Yukon River king salmon caught incidentally during open commercial fishing periods for other salmon species would be allowed.
233	N	Seeks clarification on the board's intent regarding the set gillnet fishery and the new drift gillnet fishery created in the expanded coastal waters of Yukon Area District 1.
237	N	Remove language requiring the Yukon Area District 6 commercial salmon fishing season to close on or before October 1.
238	N	Require all sport fishing anglers in PWS, starting January 1, 2019, to use a deep water release mechanism (DRM) to release a rockfish at the depth it was hooked or 100 feet whichever is shallower. It also defines DRM.
216	O	Require sport and subsistence fishers wishing to participate in the PWS noncommercial shrimp fishery to register with the department prior to May 1.
218	N	Modify the season start date for the PWS noncommercial shrimp pot fishing season to May 1.

Note: N = Neutral; S = Support; O = Oppose; NA = No Action, WS = Withdrawn Support.

Summary of department positions on regulatory proposals for Statewide Dungeness Crab, Shrimp, & Miscellaneous Shellfish, March 6–9, 2018.

Proposal No.	Department Position	Issue
219	N	Modify the season dates for the Prince William Sound Area (PWS) commercial shrimp pot fishing season to open May 1 and close August 15.
220	O	Modify the Prince William Sound Area (PWS) commercial shrimp pot fishery season to open October 1 and close December 31.
221	S	Amend the statistical areas included in 3 management areas triennially rotated in the Prince William Sound Area (PWS) commercial shrimp pot fishery.
222	O	Modify the area rotation system in the Prince William Sound Area (PWS) commercial shrimp pot fishery to progressively open the currently defined areas annually until the guideline harvest level is reached.
223	N	Eliminate the total allowable harvest (TAH) threshold, that when surpassed allows the commercial shrimp pot fishery in the Prince William Sound Area (PWS) to open, therefore the commercial fishery would always be open.
224	O	Reduce the PWS shrimp pot total allowable harvest (TAH) from 110,000 lb to 80,000 lb, and if this is not reached, commercial and noncommercial shrimp pot fisheries would both not open.
225	N	Increase the commercial allocation and decrease the noncommercial allocation of the Total Allowable Harvest (TAH) for the Prince William Sound Area (PWS) shrimp pot fishery: the commercial allocation would increase from 40% to 60% and the noncommercial allocation would decrease from 60% to 40%.
226	O	Remove an area from the list of closed waters for the Prince William Sound Area (PWS) commercial shrimp trawl fishery.
227	O	Eliminate the Prince William Sound Area (PWS) commercial fall/winter shrimp trawl season.

Note: N = Neutral; S = Support; O = Oppose; NA = No Action, WS = Withdrawn Support.

COMMITTEE OF THE WHOLE–GROUP 1: Statewide and Prince William Sound Sport and Personal Use Shellfish, Kodiak, Chignik, Alaska Peninsula and Aleutian Islands Commercial Shellfish, and Cook Inlet Subsistence, Commercial, and Personal Use Shellfish, Southeastern Area Miscellaneous Shellfish (13 Proposals)

Statewide Sport and Personal Use Shellfish (3 Proposals).

PROPOSAL 206–5 AAC 75.035. Sport fishing gear for shellfish.

PROPOSED BY: Greg Trent.

WHAT WOULD THE PROPOSAL DO? This defines legal gear to target octopus, and suggests an open-end pot style.

WHAT ARE THE CURRENT REGULATIONS? Currently under 5 AAC 75.035, unless otherwise specified in 5 AAC 47–5 AAC 75, shellfish, including octopus, may be taken by the use of ring nets, pots, or hook and line. The number of pots is limited to 5 per person, regardless of type, with a maximum of 10 pots per vessel at any given time. All pots are subject to requirements for escape mechanisms set out under 5 AAC 39.145.

The regulations do not specifically define an octopus pot. Under 5 AAC 39.105 (11) a pot is defined as a portable structure designed and constructed to capture and retain fish and shellfish alive in the water.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Clearly describing the specifications of legal gear for the harvest of octopus would provide clarity for anglers who wish to specifically target octopus. Providing gear specifically designed to target octopus may result in increased harvest of octopus.

BACKGROUND: The department does not currently assess octopus populations in the state and the appropriate level of sustainable octopus harvest is unknown. In Alaska waters octopuses are often harvested incidentally in baited shrimp or crab pots. They are also known to prey on trapped crab and shrimp. Octopuses are also occasionally caught via hook and line or retained for home use from commercial catches.

Pots used to target octopus are frequently open-ended, unbaited, and designed to mimic a lair for the octopus (Figure 206-1). These pots can be as simple as wood, earthenware, or plastic pots (Figure 206-2), have a labyrinth of dividers, or have a basic s-shape. Octopus pots are set much like other shellfish pots, with multiple pots attached to single ground line, anchored with a buoy marker. An octopus will find a pot, make it home, and is harvested when the pots are pulled.

Octopuses generally have a life span of less than 5 years. They grow quickly, but life history of the majority of species living in the Gulf of Alaska is largely unknown. The most prominent species in Alaska is the North Pacific Giant Octopus (*Enteroctopus dofleini*) which mates in the spring. They have a protracted reproductive cycle with peak spawning occurring in winter to early spring. Females have the ability to store sperm and fecundity averages more than 100,000 eggs per clutch. Most octopus species reproduce only once during their lifetime and survival of larvae is estimated to be very low.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal. Octopus can currently be harvested when caught in shrimp and crab pots and it is not certain whether the

proposed gear would be more effective than currently-allowed gear. This may provide additional opportunity outside the current shrimp and crab pot seasons, but may increase the harvest of octopus above sustainable levels. Once a pot is defined, the board should consider deciding whether these pots can be fished in conjunction with other pot gear targeting shrimp and crab.

COST ANALYSIS: Approval of this proposal may result in an additional direct cost for a private person to purchase pots and participate in this fishery.

Figure 206-1.–Lair-type octopus pots.

Figure 206-2.–Simple open-ended plastic octopus pot.

PROPOSAL 217–5 AAC 55.055. Prince William Sound noncommercial shrimp fishery management plan.

PROPOSED BY: Greg Trent.

WHAT WOULD THE PROPOSAL DO? This would allow for the harvest of octopus with additional gear while participating in the Prince William Sound (PWS) noncommercial shrimp fishery.

WHAT ARE THE CURRENT REGULATIONS?

Currently under 5 AAC 75.035, unless otherwise specified in 5 AAC 47–5 AAC 75, shellfish, including octopus, may be taken by the use of ring nets, pots, or hook and line. The number of pots is limited to 5 per person, regardless of type, with a maximum of 10 pots per vessel at any given time. All pots are subject to requirements for escape mechanisms set out under 5 AAC 39.145.

There are similar regulations for the subsistence shrimp fishery at 5 AAC 02.210.

There are no sport, personal use, or subsistence area regulations describing gear specifically for harvesting octopus in PWS; however, Proposal 206 seeks to define an octopus pot.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would allow 2 separate sets of gear to be operated from a vessel and deployed on the same longline, to target both octopus and shrimp, while participating in the PWS noncommercial shrimp fishery. This would increase the amount of pot gear in the water by allowing octopus pots to be deployed in addition to the legal limit of shrimp pots.

BACKGROUND: The department does not assess octopus populations in the state and the appropriate level of sustainable octopus harvest and current harvest levels are unknown. Octopuses are often caught incidentally by anglers while targeting other shellfish species with pots, and via hook and line; some octopus are kept for home use by commercial fishermen targeting other species.

Octopuses generally have a life span of less than 5 years. They grow quickly, but life history of the majority of species living in the Gulf of Alaska is largely unknown. The most prominent species in Alaska is the North Pacific Giant Octopus (*Enteroctopus dofleini*) which mates in the spring. They have a protracted reproductive cycle with peak spawning occurring in winter to early spring. Females have the ability to store sperm and fecundity averages more than 100,000 eggs per clutch. Most octopus species reproduce only once during their lifetime and survival of larvae is estimated to be very low.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal. Octopuses are often caught in shrimp pots fishing in the PWS area. Octopus may be retained if caught while shrimping and there is no bag limit. Limited information on current harvest levels and impacts of increased harvest on the PWS octopus population do not warrant liberalizing harvest opportunity for octopus at this time. If a pot is defined, the board should consider octopus bag and possession limits, seasons, and deciding whether these pots can be fished in conjunction with other pot gear targeting shrimp and crab, and if so, clarifying in regulation.

COST ANALYSIS: Approval of this proposal may result in an additional direct cost for a private person to purchase pots and participate in this fishery.

SUBSISTENCE REGULATION REVIEW:

1. Is this stock in a nonsubsistence area? The majority of the stock is located outside the boundaries of the Valdez Nonsubsistence Area, which is described as Unit 6D, as defined by 5 AAC 92.450(6)(D), and all waters of Alaska in the Prince William Sound Area as defined by 5 AAC 24.100, within the March 1993 Valdez City limits.
2. Is this stock customarily and traditionally taken or used for subsistence? Yes. The board has found that shrimp, Dungeness crab, Tanner crab, king crab, and miscellaneous shellfish are customary and traditionally used for subsistence in the Prince William Sound Area (5 AAC 02.208).
3. Can a portion of the stock be harvested consistent with sustained yield? Yes.
4. What amount is reasonably necessary for subsistence uses? The board has established a range of 9,000–15,000 pounds of useable weight of shrimp are reasonably necessary for subsistence uses in the Prince William Sound Area (5 AAC 02.208).
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.

PROPOSAL 207–5 AAC 77.010. Methods, means and general restrictions.

PROPOSED BY: Matanuska Valley Advisory Committee.

WHAT WOULD THE PROPOSAL DO? Allow retrieval of personal use scallop dredges with 5 horsepower or less line hauler or pot puller.

WHAT ARE THE CURRENT REGULATIONS? Scallops may not be taken in a personal use (PU) fishery under current provisions of statewide regulation 5 AAC 77.010 (l), unless specified in area regulations. There are 2 PU scallop fisheries in the state with provisions including possession limits under area regulations, 1 in Yakutat (5 AAC 77.617; 5 rock scallops and 50 weathervane scallops per day) and the second in Southeastern Alaska (5 AAC 77.667; 5 rock scallops and 10 weathervane scallops per day); both fisheries allow use of gear specified for clams, which includes harvest only by hand or with rakes, shovels, and manually operated clam guns, and does not include hand-operated or power dredges (5 AAC 77.010 (k)(3)).

Sport fishing regulations in Southeast Alaska Area allow scallops to be taken all year by diving gear, dip nets, or by hand (5 AAC 47.035) and provide for the same bag and possession limits as the Southeastern Alaska PU fishery (5 AAC 47.020 (15); 5 rock scallops and 10 weathervane scallops per day). There is no special provision for sport fishing for scallops in the area corresponding to the Yakutat PU fishery (5 AAC 77.600), although the PU fishery has a higher daily possession limit for weathervane scallops. There are no provisions for sport fishing of scallops in other areas.

Statewide subsistence shellfish fishery regulations do not specifically address scallops; however, unless otherwise provided, all gear specified for commercial fishing (5 AAC 39.105) is legal gear for subsistence fishing (5 AAC 02.010) including a scallop dredge. The only area restriction for subsistence scallop fishing is in the Southeastern Alaska-Yakutat Area (5 AAC 02.140), which sets the bag and possession limit to 5 rock scallops and 10 weathervane scallops, which mirrors the sport fishery.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Scallops would be allowed to be harvested in a PU fishery using a scallop dredge that may be retrieved with a 5 horsepower or less line hauler or pot puller. This could increase scallop harvest by an unknown amount. Currently, hand-operated dredges may not be used to harvest scallops in a PU fishery. By allowing a dredge to be hauled with mechanical assistance, there is a possibility that large dredges, at least larger than those that could be hauled by hand, for example, may be employed in the fishery, and potentially cause damage to scallops and other shellfish and their habitats when the dredge is dragged across the ocean floor.

BACKGROUND: Prior to 2016, statewide regulation 5 AAC 77.010 (l)(3) allowed for a PU fishery using a hand-operated dredge for "shellfish not otherwise specified in this chapter." For the personal use taking of scallops, regulations were specified for the Southeastern and Yakutat Areas. A clarifying change to the regulations was made in 2016 that continued to allow for the personal use taking of scallops only in the Southeastern and Yakutat areas. However, beginning in 2012, PU permits were issued in the Cook Inlet Area allowing the harvest of scallops by hand-operated dredge, trawl, or dive gear; the regulatory language prior to 2016 was unclear and may have been misinterpreted, therefore, that permit may not have been authorized. Although a few permits have been issued since 2012, none were fished. The new language under 5 AAC 77.010 (l) which became effective in 2016, clearly states that the legal gear listed under (l) is only

allowed for miscellaneous shellfish, except for clams, scallops, abalone, and sea cucumbers. The statewide personal use regulations do not specify legal gear for scallops; gear provisions for the personal use taking of scallops are found in the area-specific regulations for Southeastern and Yakutat areas, and legal gear includes only by hand, rakes, shovels, or manually operated clam guns.

There are commercial scallop fisheries in the state where there may also be overlapping subsistence fisheries, both of which may employ scallop dredge gear hauled mechanically. There are waters closed to the commercial harvest of scallops, either to protect crab habitat or to conserve areas of low scallop abundance (Figure 207-1). Subsistence fisheries may not be prosecuted in nonsubsistence use areas, which include most waters of Cook Inlet and outer Kenai Peninsula, as well as waters around Seward, Valdez, Juneau, and Ketchikan (Figure 207-2).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal, although the department has concerns about the impacts of mechanically-operated dredges on the scallop resource and habitat, as well as crab bycatch, particularly in nonsubsistence use areas and those areas closed to commercial scallop fishing.

COST ANALYSIS: Approval of this proposal could result in an additional direct cost for a private person to participate in this fishery because there currently is no PU scallop fishery outside of Southeastern Alaska and Yakutat areas. Therefore, PU scallop fishermen outside of those areas and under jurisdiction of a statewide regulatory change may choose to obtain some form of legal gear in order to participate.

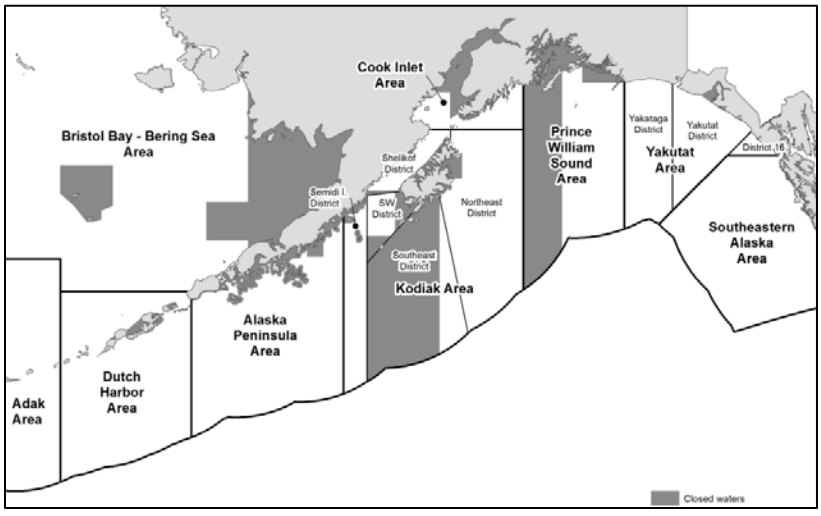

Figure 207-1.–Commercial scallop fishery areas and waters closed to scallop fishing.

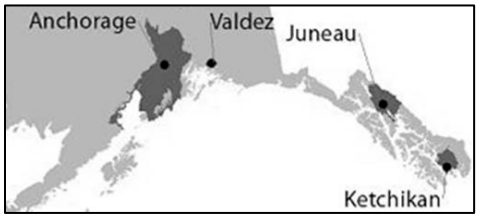

Figure 207-2.–Nonsubsistence use areas in marine waters of Alaska.

Kodiak, Chignik, Alaska Peninsula and Aleutian Islands Commercial Shellfish (6 Proposals).

PROPOSAL 208–5 AAC 32.425. Lawful gear for registration Area J.

PROPOSED BY: Kiley Thompson.

WHAT WOULD THE PROPOSAL DO? This would establish pot limits for the Alaska Peninsula District commercial Dungeness crab fishery based on vessel length or history of participation as follows; vessels ≤40 feet in length would be limited to 50 pots, vessels 41–50 feet in length would be limited to 75 pots, vessels >50 feet in length would be limited to 100 pots, or vessels with 5 or more consecutive years of participation in the fishery would be limited to 100 pots regardless of vessel length.

WHAT ARE THE CURRENT REGULATIONS? The Alaska Peninsula District is an open access fishery for Dungeness crab. There are no vessel length restrictions or limits on the amount of pot gear that can be operated by a vessel. Due to the lack of assessment and stock specific data for Area J Dungeness crab, there are no guideline harvest levels (GHL) or other control rules established to limit harvest. The fishery is managed exclusively by regulating sex, size, and season ("3-S" management). Only male crab 6.5 in carapace width or greater may be retained from May 1 through October 31 (5 AAC 32.055 and 5 AAC 32.410).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Lower pot limits would probably reduce annual harvest and some vessel operators may opt out of the Alaska Peninsula District Dungeness crab fishery and choose to participate in adjacent Dungeness crab fisheries that do not limit gear, increasing competition in those fisheries. The magnitude of these effects is largely unknown.

BACKGROUND: Commercial harvest of Dungeness crab in the Alaska Peninsula District first occurred in 1968. Harvest has occurred annually since 1981. Prior to the 2002 season, the board divided the Alaska Peninsula District into 2 separate management districts, the Alaska Peninsula and Chignik districts.

From 2002 through 2017, participation in the Alaska Peninsula District fishery ranged from 2 to 6 vessels with an average of 4 vessels annually. Catch per unit effort (CPUE; legal crab retained per pot lift) ranged from 3 to 11 crab with an average of 7 crab per pot (Table 208-1). The fishery is generally characterized by low effort, high volumes of gear, and long soak times. Most harvest occurs between July and October with vessels making 7 landings per season on average. From 2002 through 2017, the number of pots registered per vessel ranged from 355 to 940 with an average of 572 pots per vessel, nearly six times the maximum number of pots allowed under this proposal (Table 208-1). Alaska Peninsula District Dungeness crab fishery participants often participate in other Alaska Peninsula salmon or groundfish/halibut fisheries during the open Dungeness crab season.

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 208-1.–Alaska Peninsula District commercial Dungeness crab effort, harvest in pounds, CPUE, and exvessel value, by year, 2002–2017.

	Number					Avg.	Exvessel
Year	Vessels	Pots/vessel	Total pots[a]	Pot lifts	Pounds	CPUE[b]	value
2002	2	500	1,000		Confidential		
2003	4	388	1,550	12,767	269,107	11	$351,699
2004	4	441	1,765	17,896	215,632	6	$294,754
2005	5	355	1,775	13,605	274,879	10	$332,756
2006	2	425	850		Confidential		
2007	2	825	1,650		Confidential		
2008	4	618	2,470	23,965	462,989	10	$927,739
2009	6	526	3,155	40,938	500,514	6	$716,011
2010	4	515	2,060	27,497	247,221	4	$438,386
2011	4	605	2,420	17,609	174,940	5	$379,019
2012	5	779	3,895	18,405	126,630	3	$288,506
2013	3	868	2,605	6,947	75,679	5	$169,995
2014	3	567	1,700	10,936	76,813	3	$206,928
2015	4	600	2,400	6,175	98,373	8	$275,355
2016	4	505	2,018	10,241	118,107	5	$353,417
2017	2	940	1,880		Confidential		
Average[c]	4	572	2,075	15,268	213,865	7	$375,865

Notes: Data are confidential when fewer than 3 vessels participated.

[a] Number of pots registered by vessels that made landings.

[b] Catch per unit effort (number of legal crab retained per pot lift).

[c] 2002–2017; includes confidential data.

PROPOSAL 209–5 AAC 32.4XX. Operation of pot gear for Registration Area J.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This would require vessel operators actively participating in Registration Area J commercial Dungeness crab fisheries to lift their pots at least once every 14 days.

WHAT ARE THE CURRENT REGULATIONS? All Registration Area J commercial Dungeness crab fisheries are open access fisheries. There are no vessel length restrictions or limits on the amount of pot gear. Fisheries are managed by regulating sex, size, and season ("3-S" management). Only male crab 6.5 inch carapace width or greater may be retained (5 AAC 32.055). In the Chignik, Alaska Peninsula, and Aleutian districts, as well as the northern portion of the Kodiak District, the commercial Dungeness crab season is open from May 1 through October 31; the southern portion of the Kodiak District is open from June 15 through October 31. The North Peninsula District is open from May 1 through October 18 (5 AAC 32.410). All commercial Dungeness crab pots must include a biodegradable escape mechanism as described in 5 AAC 39.145.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Requiring vessel operators to regularly tend their gear or leave it open and unbaited after 14 days is intended to reduce gear loss, ghost fishing mortality, and gear conflicts.

BACKGROUND: From 2008 to 2017, the total number of registered crab pots in the Kodiak District averaged 8,089 pots per year (642 pots per vessel per year). South Peninsula District vessels registered an average total of 2,420 pots per year (621 pots per vessel per year). Dungeness crab fishing effort in Chignik, North Peninsula, and Aleutian districts is sporadic and harvests are generally small.

From 2008 to 2017, participation in the Kodiak District fishery ranged from 3 to 19 vessels with an average of 10 vessels annually. Catch per unit effort (CPUE; legal crab retained per pot lift) has ranged from 2 to 6 with an average of 4 (Table 209-1). This fishery is generally characterized by low effort, high volumes of gear, and long soak times. Vessel operators frequently register large compliments of gear: from 2008 through 2017, the average total number of pots registered for the fishery ranged from 2,160 to 13,060 pots (Table 209-1). Most fishery participants also participate in other commercial salmon or groundfish/halibut fisheries during open Dungeness crab fishing seasons.

Pots that are not regularly lifted, inspected, and maintained have a greater likelihood of becoming lost. Pot loss is a function of gear conflicts and environmental conditions. Gear conflicts occur when more than one fishery is prosecuted in the same area during the same time and can result in pots being dragged out of the area or buoy lines purposefully or accidentally cut. Environmental conditions resulting in pot loss include storms; pots becoming buried in sediment; and buoys/buoy lines becoming degraded, entangled, or sinking due to extensive algal growth. Unattended pots with long soak periods are more likely to be lost due to environmental factors and although all pots must be equipped with biodegradable escape mechanisms, these mechanisms often only perform as intended when pots are well maintained and have lids that spring open when the escape mechanism (generally cotton twine) releases.

From 2008 to 2017, more than 68% of Kodiak District Dungeness crab harvest was taken from 3 statistical areas, Trinity Islands (545601), Ugak Bay (525701), and Alitak Bay (545632),

resulting in highly localized fishing effort and dense aggregations of gear (Table 209-2). Although there are no estimates of Dungeness crab gear loss rates specific to Registration Area J, gear loss estimates from other west coast Dungeness crab fisheries range from 3 to 23%. Given the average number of pots registered annually for the Kodiak District fishery that equates to an estimated minimum of 200 pots lost per year. Lost or irretrievable pots may increase Dungeness, Tanner, and king crab mortality through ghost fishing, particularly when pots are concentrated in a small area.

Studies from SE Alaska, British Columbia, and Puget Sound estimated Dungeness crab ghost-fishing mortality at 2–7% of annual Dungeness crab harvest. Using the average harvest for the Kodiak District (230,000 crab), that equates to an estimated annual ghost-fishing mortality of 4,600–16,100 Dungeness crab (Table 209-1). A study in Women's Bay near the City of Kodiak published in 2014 estimated 16–37% of smaller sized red king crab (60 mm) present in the study area were killed annually due to ghost fishing during the study period (1991–2008).

The department has received and confirmed reports of vessels deploying baited Dungeness crab gear in the Kodiak District then leaving the district to participate in other fisheries, such as the Bristol Bay salmon fishery. Following closure of the 2017 season, Alaska Wildlife Troopers (AWT) removed 170 derelict commercial Dungeness crab pots from the waters of Kodiak District in a 1-week period. Observations from AWT indicate many of the recovered pots contained crabs or were in fishing condition despite signs that the gear had been in the water for long periods of time. The issue of lost Dungeness crab gear is most acute in the Kodiak District due to large volume of gear being deployed annually. The extent of untended gear in other Registration Area J districts is largely unknown but the potential exists for gear loss and ghost fishing mortality.

Current Kodiak District commercial Dungeness regulations are less restrictive than subsistence king crab regulations even though these 2 fisheries generally occur in the same areas. Subsistence king crab pots may not be left unattended for longer than 14 days (5 AAC 02.420(a)(2) and (3)).

DEPARTMENT COMMENTS: The department submitted and **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 209-1.–Kodiak District commercial Dungeness crab effort, harvest in pounds, CPUE, and exvessel value, by year, 2008–2017.

	Number						Avg.	Exvessel
Year	Vessels	Pots/vessel	Pots[a]	Pot lifts	Pounds	Crab	CPUE[b]	value
2008	15	724	10,854	93,414	1,030,498	517,567	6	$1,459,144
2009	17	674	11,460	129,003	1,335,503	614,793	5	$1,495,098
2010	19	687	13,060	101,341	1,002,576	473,708	5	$1,063,158
2011	11	764	8,400	60,248	389,270	186,179	3	$657,014
2012	7	703	4,922	24,645	97,001	46,101	2	$133,769
2013	3	720	2,160	19,597	69,001	33,226	2	$75,561
2014	6	664	3,985	35,960	223,773	108,406	3	$245,116
2015	7	664	4,650	36,660	193,223	92,285	3	$292,687
2016	8	636	5,087	47,797	273,617	132,433	3	$607,081
2017	5	740	3,700	29,078	183,769	91,578	3	$370,018
Average[c]	10	697	6,828	57,774	479,823	229,628	4	$639,864

[a] Number of pots registered by vessels that made landings.

[b] Catch per unit effort (number of legal crab retained per pot lift).

[c] 2008–2017.

Table 209-2.–Kodiak District commercial Dungeness crab harvest in pounds, by statistical area, 2008–2017.

Statistical area	Pounds	Percent of total harvest
545601	1,983,684	41.3%
525701	650,896	13.6%
545632	648,248	13.5%
545602	323,748	6.7%
535701	287,741	6.0%
525703	214,252	4.5%
535705	182,813	3.8%
535707	122,902	2.6%
535703	89,530	1.9%
535706	77,036	1.6%
Other[a]	217,381	4.5%
Total	4,798,231	100%

[a] 14 statistical areas combined, each with <1% of total harvest.

PROPOSAL 210–5 AAC 38.420. Fishing seasons for scallops in Registration Area J.

PROPOSED BY: Alaska Scallop Association.

WHAT WOULD THE PROPOSAL DO? This would open federal waters (3–200 nmi) of the Southeast District of Registration Area K (Kodiak) to commercial weathervane scallop fishing (Figure 210-1).

WHAT ARE THE CURRENT REGULATIONS? The majority of Southeast District is closed to commercial weathervane scallop fishing under 5 AAC 38.425(1). The current guideline harvest range (GHR) for scallops in the Kodiak Area is 0–300,000 lb of shucked meats. Scallops may be taken in the Kodiak Area from July 1 through February 15 unless superseded by emergency order. Commercial scallop vessels fishing in the Kodiak Area are required to carry an onboard observer at all times while fishing.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Kodiak Area weathervane scallop harvest and Tanner crab bycatch would probably increase. Given the lack of scallop population assessment data in the proposed area, the extent of scallop harvest potential and crab bycatch is unknown.

BACKGROUND: Weathervane scallops in waters of the Exclusive Economic Zone off Alaska are managed by the State of Alaska and the federal government. The scallop Fishery Management Plan developed by the North Pacific Fishery Management Council defers most management to the state, although a License Limitation Program implemented by the federal government restricts fleet size. The statewide fleet is limited to a total of 9 vessels: 7 vessels using two 15-foot dredges and 2 vessels using a single 6-foot dredge. In recent years a total of 2 vessels have participated in the statewide scallop fishery.

Prior to each season opening, the department annually establishes scallop GHLs and crab bycatch limits in the Kodiak Area based on available fishery independent (survey) and dependent (observer) data. When information is insufficient to effectively establish harvest limits, a precautionary approach is used where the department sets a small exploratory GHL. Exploratory GHLs are structured to encourage limited commercial effort in order to identify if commercial quantities of scallops are present, delineate scallop beds, and provide initial estimates of crab bycatch. Should exploratory fishing data suggest sufficient evidence for a commercial fishery, staff will continue exploratory fishing the following season under provisions of a Commissioner's permit or allocate survey resources for independent stock assessment.

When a scallop fishery is open in Area J, a Tanner crab bycatch cap is typically set at 1% of the estimated crab abundance if a commercial crab fishery occurred in the same area during the same year. If commercial crab fishery is not open during the same year due to low abundance, the Tanner crab bycatch cap is set at 0.5% of the estimated crab population. Scallop fishing seasons are closed when the GHLs are achieved, crab bycatch caps are exceeded, or inseason scallop fishery performance fails to meet preseason expectations.

All state waters and most federal waters of the Southeast District were closed to commercial scallop fishing in 1969 due to concerns about king and Tanner crab bycatch. Waters within the Southeast District supports a known abundance of Tanner crab that have provided opportunity for commercial fisheries as recently as 2013. Since that time, Tanner crab abundance in Southeast District has been below the regulatory thresholds required to open a commercial Tanner crab fishery. The 2017 department trawl survey Tanner crab abundance estimate for

Southeast District was 21.4 million crab, 74% (15.9 million) of those crab were located within the proposed area.

Commercial bottom trawl vessels target groundfish in the proposed area, typically from March through July. During the 2017 season, 27 bottom trawl vessels made 202 deliveries from waters within or adjacent to the proposed area. Arrowtooth flounder, Pacific cod, Pacific Ocean perch, rex sole, and rock sole were the primary species harvested. The majority of nonpelagic trawl harvest in the Southeast District occurs in the northern portion of the district (Figure 210-2).

The proposed area extends into an existing federal nonpelagic trawl closure area around the Trinity Islands (Figure 210-1). This closure was established to address concerns about trawl gear interactions with king and Tanner crab. The majority of surveyed red king crab abundance in the Kodiak Area occurs within this closure area.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal, but **OPPOSES** opening waters within the federal bottom trawl closure area described in CFR 679.22(b) (Figure 210-1). Should the board choose to adopt this proposal, the department recommends the board coordinate state and federal crab protection closure areas.

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.

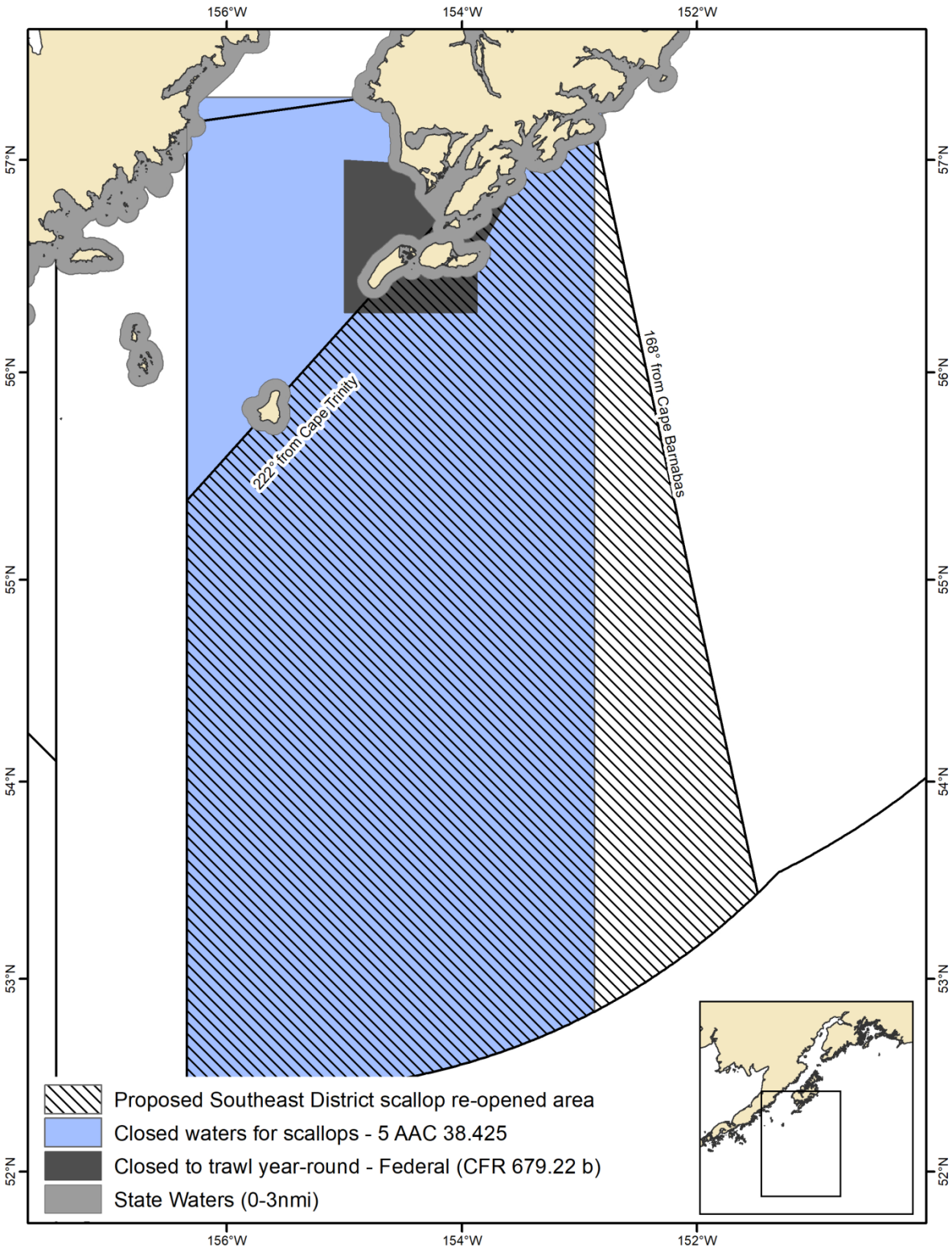

Figure 210-1.–Closed waters in Southeast District of Registration Area K (Kodiak).

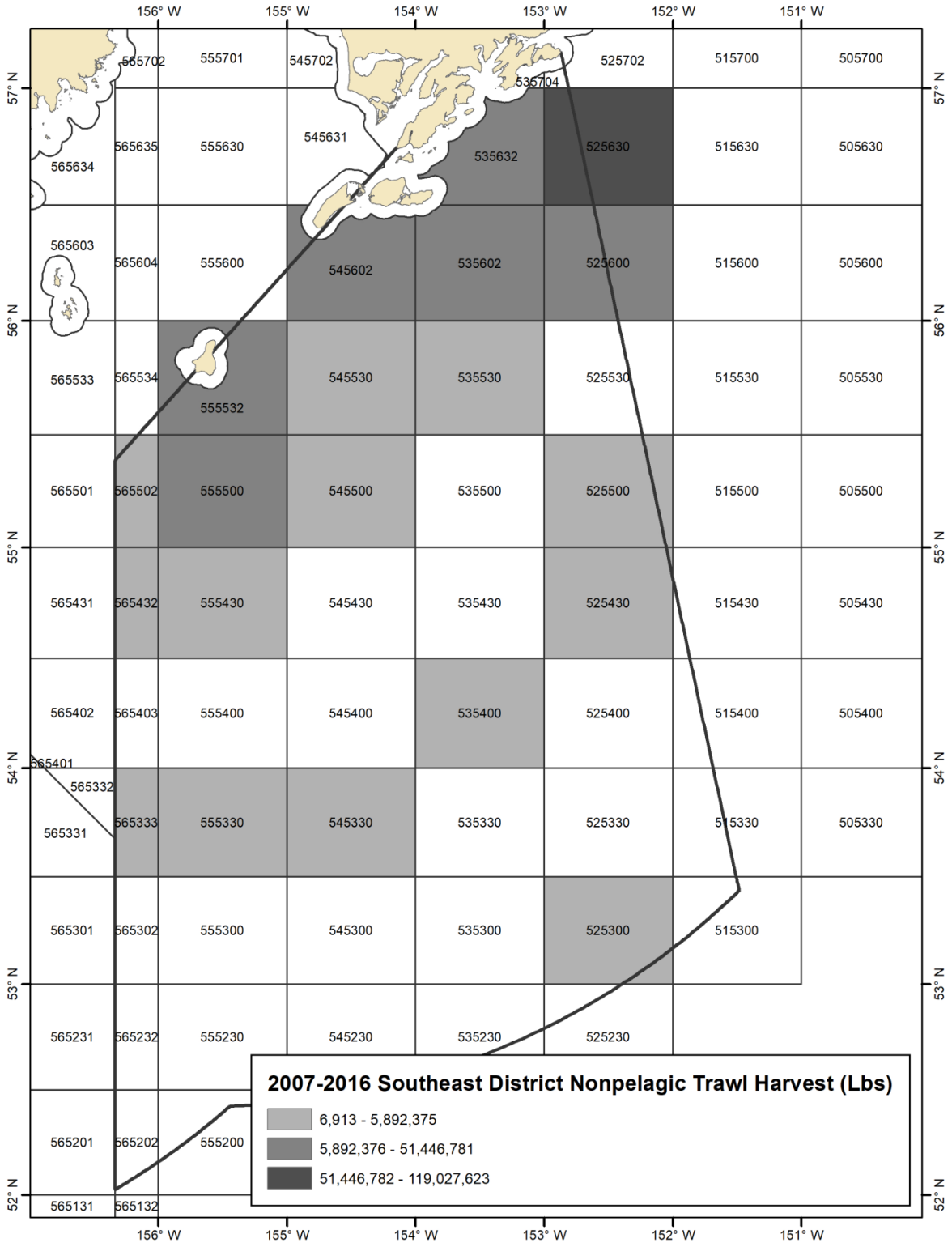

Figure 210-2.–Southeast District of Registration Area K (Kodiak) bottom trawl harvest, all species combined, 2007–2016.

PROPOSAL 211–5 AAC 38.420. Fishing seasons for scallops in Registration Area J.

PROPOSED BY: Alaska Scallop Association.

WHAT WOULD THE PROPOSAL DO? This would expand the commercial scallop fishing area in the Southwest District of Area K (Kodiak) by approximately 500 sq. nmi, allowing vessels to harvest scallops in an area that has been closed to commercial fishing for scallops since 1969.

WHAT ARE THE CURRENT REGULATIONS? Waters south and west of Kodiak Island are closed to weathervane scallop fishing, with the exception of the area described in 5 AAC 28.420(b)(2) which opens under the authority of a commissioner's permit (Figure 211-1). The current guideline harvest range (GHR) for scallops in the Kodiak Area is 0–300,000 lb of shucked meats. Scallops may be taken in the Kodiak Area from July 1 through February 15 unless superseded by emergency order. Commercial scallop fishing vessels are required to carry an onboard observer at all times while fishing in the Kodiak Area.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Due to the lack of scallop population assessment data in the proposed area, the extent of scallop harvest potential and crab bycatch is unknown. A 25,000 lb scallop GHL and 12,000 Tanner crab bycatch cap have been annually established for the Southwest District since 2009. If adopted, the department would probably maintain status quo on both the GHL and crab bycatch cap in Southwest District until additional survey or fishery data indicates change in harvest rate is warranted.

BACKGROUND: Weathervane scallops in waters of the Exclusive Economic Zone off Alaska are managed by the State of Alaska and the federal government. The scallop Fishery Management Plan developed by the North Pacific Fishery Management Council defers most management to the state, although a License Limitation Program implemented by the federal government restricts fleet size. The statewide fishery is limited to a total of 9 vessels: 7 vessels using two 15-foot dredges and 2 vessels using a single 6-foot dredge. In recent years a total of 2 vessels have participated in the statewide scallop fishery.

When a scallop fishery is open in Area J, a Tanner crab bycatch cap is set at 1% of the estimated crab population if a commercial crab fishery occurred in the area during the same year. If an area has not opened to commercial crab fishing during the same year, the Tanner crab bycatch cap is set at 0.5% of the estimated crab population. Scallop fishing seasons are closed when the GHLs are achieved, crab bycatch caps are exceeded, or inseason scallop fishery performance fails to meet preseason expectations.

The Southwest District of the Kodiak Area was closed to commercial scallop fishing in 1969 due to concerns about crab bycatch. In March 2009, the board opened a portion of the Southwest District to commercial weathervane scallop fishing under the authority of a commissioner's permit. Since that time, the department has established an annual GHL of 25,000 pounds of shucked meat. The area where scallop fishing occurs in Southwest District is not regularly surveyed for Tanner crab abundance; therefore, when the Southwest District was reopened to scallop fishing the department established a fixed Tanner crab bycatch cap of 12,000 Tanner crabs. The GHL has been achieved every season since 2011/12, except for 2015/16 when the fishery was closed due to high Tanner crab bycatch (Table 211-1).

The proposal would open waters currently within a federal bottom trawl closure area described in CFR 679.22(b) (Figure 2011-1). This closure was established to address trawl gear interactions with king and Tanner crab. In 2017 over 90% of all red king crab observed in the department's crab assessment survey occurred within this closure area and adjacent Alitak Bay.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal, but **OPPOSES** opening waters within the federal bottom trawl closure area described in CFR 679.22(b) (Figure 211-1). Should the board choose to adopt this proposal, the department recommends the board coordinate state and federal crab protection areas.

Additionally, the department recommends transitioning the Southwest District scallop fishery from commissioner's permit fishery to a fishery guided by the authority of 5 AAC 38.076. *Alaska Scallop Fishery Management Plan*. Commissioner's permits are used in the absence of regulation to guide exploratory and developing fisheries. After 8 consecutive seasons with relatively stable effort, harvest, and fishery performance, the Southwest District is no longer an exploratory or developing fishery, and thus no longer requires the additional regulatory oversight consistent with a commissioner's permit fishery. Absent the commissioner's permit requirement, management of the Southwest District would be consistent with management practices used for the other developed scallop fishing districts (Shelikof and Northeast) in the Kodiak Area.

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 211-1.–Southwest District scallop effort, GHL, harvest, and crab bycatch, by year, 2009/10–2017/18.

Season	Vessels	GHL[a]	Harvest (lb)	Tanner crab bycatch cap[b]	Tanner crab bycatch[b]	King crab bycatch cap[b]	King crab bycatch[b]
2009/10	1	25,000	3,480	12,000	7,585	50	15
2010/11[d]	0	25,000	0	12,000	0	50	0
2011/12	1	25,000	25,110	12,000	8,894	50	14
2012/13	2	25,000	25,014	12,000	8,198	50	12
2013/14	2	25,000	20,340	12,000	8,354	50	11
2014/15	2	25,000	24,993	12,000	12,235	50	9
2015/16[c]	1	25,000	10,950	12,000	15,879	50	0
2016/17	1	25,000	25,110	12,000	7,868	50	7
2017/18	1	25,000	25,020	12,000	6,819	50	2
Average[d]	1		20,002		9,479		9

[a] Guideline harvest level (pounds of shucked scallop meat).

[b] Number of crab.

[c] Season closed prior to achieving GHL due to Tanner crab bycatch.

[d] Does not include 2010/11.

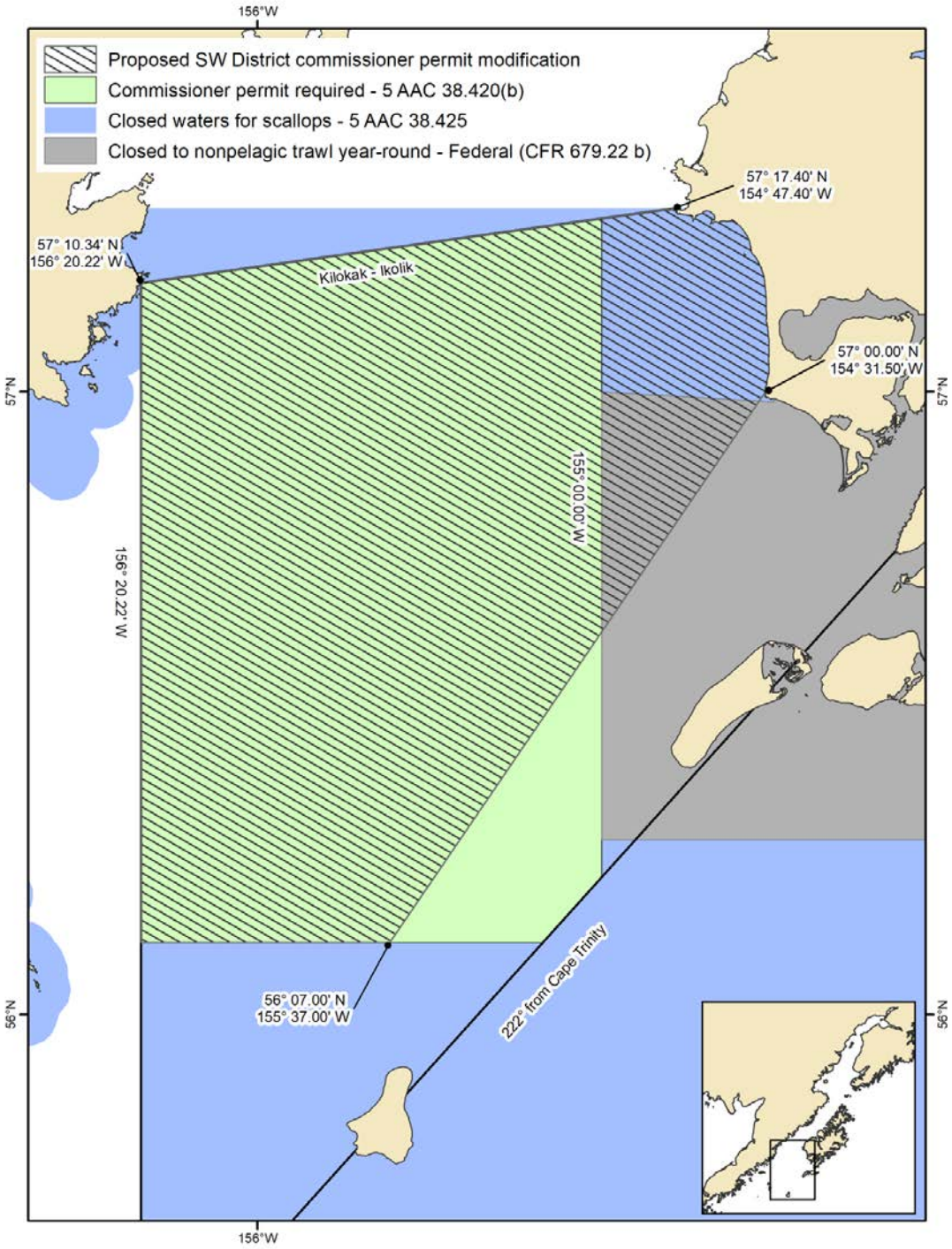

Figure 211-1.–Proposed expansion of area open to commercial scallop fishing in Southwest District of Area K (Kodiak).

PROPOSAL 212–5 AAC 38.4XX. Registration Area J Sea Cucumber Management Plan and 5 AAC 38.411. Fishing seasons for sea cucumbers in Registration Area J.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This proposal would adopt Kodiak District sea cucumber management measures currently established by commissioner's permit into regulation and establish criteria to delay the opening of Kodiak District sea cucumber fishing periods based on NWS marine forecasts.

WHAT ARE THE CURRENT REGULATIONS? The Kodiak District sea cucumber fishery is prosecuted under provisions of a commissioner's permit. Absent formal regulations, commissioner's permit authority allows department staff to specify and implement management measures needed to effectively regulate regional sea cucumber fisheries. Currently, only sea cucumber season dates and restrictions on the operation of dive gear are specified in regulation for Registration Area J (5 AAC 38.411 and 5 AAC 38.054). All other management measures including legal gear, registration, and logbook requirements are specified in a commissioner's permit developed and issued by the department.

The Kodiak District sea cucumber fishery opens October 1. During the open fishing season, weekly fishing periods are established by emergency order based on effort and available sea cucumber guideline harvest level (GHL). The fishery closes when GHLs are achieved or on April 30, whichever occurs first. Currently, there are no regulatory provisions for delaying sea cucumber weekly fishing periods based on weather.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Codifying Kodiak District sea cucumber management measures into a regulatory management plan will allow for more effective communication and provide stakeholders better opportunity to address Kodiak District specific management measures. The weather delay provision may improve vessel safety and provide more opportunity for small vessels to transport divers to the fishing grounds. Water clarity and sea state generally improve during periods of calmer weather which may improve catch rates. Additionally, a weather delay may aid management by reducing the likelihood of effort being concentrated in a single section due to weather conditions. Weather delays would occur as long as gale warnings persist in the marine forecast, which could potentially extend the season length beyond the typical conclusion of the fishery by early-November.

Management for all other Registration Area J sea cucumber fisheries outside of the Kodiak District will continue to be regulated using commissioner's permit authority.

BACKGROUND: Sea cucumbers have been annually harvested in Kodiak District since 1991. Since that time, provisions in the Kodiak District commissioner's permit have been adapted to meet management needs as the fishery developed. Provisions within the current permit have remained unchanged for the past several years and provide adequate tools and flexibility for department staff to manage the fishery.

The Kodiak District is divided into 8 sections for sea cucumber management and GHLs are established for each section (Figure 212-1 and Table 212-1). Since the 2007/08 season, the district-wide annual sea cucumber GHL has totaled 140,000 lb. Weekly fishing periods are established by section and are typically 12–48 hours in duration.

From 2008/09–2017/18, an average of 21 divers on 8 vessels participated each season (Table 212-2). During that time, vessel size ranged from less than 40 feet to over 80 feet in length. Most sea cucumber fishing in Kodiak occurs from October through early-November.

Most productive sea cucumber fishing grounds are located south and west of the Port of Kodiak where processing occurs. Larger vessels are generally better able to travel to the fishing grounds in poor weather prior to fishery openings compared to smaller vessels. Weather delay provisions exist in several other Westward Region commercial shellfish and groundfish fisheries management plans; however, existing regulatory weather delays have fixed durations and are not open-ended if weather delay criteria persists. The Kodiak Area Diver's Marketing Association submitted a similar proposal in 2015 (Proposal 234), but some details on how the weather delay criteria would be implemented were unclear and the proposal was not adopted. In coordination with the sea cucumber industry, this proposal provides better direction on those implementation issues.

As proposed, a fishing period would be delayed if the NWS marine forecast for either Shelikof Strait (PKZ138; Figure 212-1) or Shuyak Island to Sitkinak (PKZ132), issued at 4:00 a.m. on the day before the scheduled opening, contains a gale warning for the current day; the fishing period in all Kodiak District sections will be delayed for 24 hours. If after the initial delay, the next day's 4:00 a.m. forecast for the current day again contains a gale warning, the fishing period will be delayed an additional 24 hours. Delays may continue on a rolling 24-hour basis until marine forecasts do not contain a gale warning for the day before the scheduled opening.

If a fishing period is not scheduled for the Westside Section, a gale warning in the Shelikof Strait forecast will not delay the fishing period; conversely, if a fishing period is not scheduled for the Eastside or Southeast sections, a gale warning in the Shuyak Island to Sitkinak forecast will not delay the fishing period.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal to transition from commissioner's permit authority to a regulatory management plan for Kodiak District sea cucumbers. The department is **NEUTRAL** on any allocative aspects of this proposal related to the weather delay provision.

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 212-1.–Kodiak District sea cucumber guideline harvest levels (GHLs), by section, 2017/18.

Section	GHL (lb)
Northeast	5,000
Eastside	40,000
Southeast	30,000
Southwest	20,000
Westside	30,000
North Mainland	5,000
South Mainland	5,000
Semidi Island Overlap	5,000
Total	140,000

Table 212-2.–Kodiak District sea cucumber GHL, effort, harvest, and exvessel value, by year, 1994/95–2017/18.

		Number				Avg. lb	Avg. price	Exvessel
Season	GHL[a]	Permits	Vessels	Landings	lb	per landing	per pound	value
1994/95	135,000	42	19	106				Confidential
1995/96	135,000	18	8	52				Confidential
1996/97	135,000	31	16	85	147,843	1,739	$0.82	$121,863
1997/98	125,000	26	14	61	118,910	1,949	$0.83	$98,309
1998/99	125,000	16	7	44				Confidential
1999/00	125,000	18	7	56				Confidential
2000/01	135,000	19	7	50				Confidential
2001/02	140,000	18	7	51				Confidential
2002/03	140,000	24	8	62				Confidential
2003/04	150,000	21	7	80				Confidential
2004/05	150,000	12	4	47				Confidential
2005/06	145,000	17	5	61				Confidential
2006/07	145,000	19	6	58				Confidential
2007/08	140,000	16	5	46				Confidential
2008/09	140,000	16	5	51				Confidential
2009/10	140,000	16	6	45				Confidential
2010/11	140,000	21	6	64				Confidential
2011/12	140,000	20	6	59	121,274	2,055	$4.97	$602,789
2012/13	140,000	23	8	85	121,364	1,428	$4.66	$565,811
2013/14	140,000	22	8	61	107,320	1,759	$3.39	$364,040
2014/15	140,000	20	8	57	130,532	2,290	$4.01	$522,900
2015/16	140,000	28	11	69	134,370	1,947	$3.62	$486,534
2016/17	140,000	24	9	66				Confidential
2017/18[b]	140,000	19	9	49				Confidential
Average[c]		21	8	61	124,761	2,059	$3.57	$445,420

Note: Confidential is less than 3 processors purchased product.

[a] Guideline harvest level (pounds of eviscerated sea cucumber).

[b] Through December 8, 2017.

[c] 2008/09–2017/18; includes confidential data.

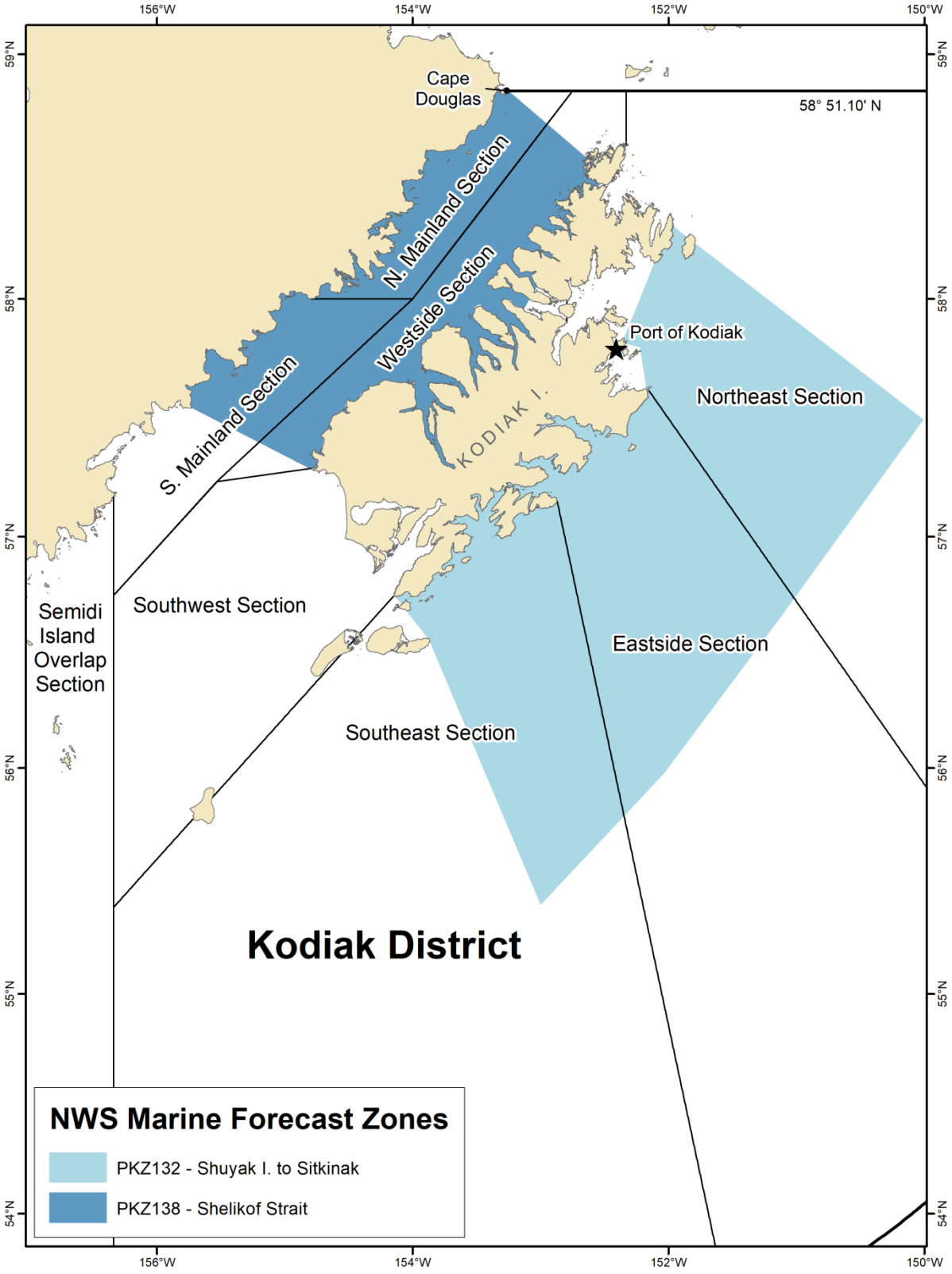

Figure 212-1.–Kodiak District sea cucumber management sections and National Weather Service marine forecast areas.

PROPOSAL 229–5 AAC 34.612. Harvest levels for golden king crab in Registration Area O.

PROPOSED BY: Aleutian King Crab Research Foundation.

WHAT WOULD THE PROPOSAL DO? This would establish a new harvest strategy to set annual harvest limits for Aleutian Islands gold king crab (AIG) based on stock assessment model results.

WHAT ARE THE CURRENT REGULATIONS? The AIG fisheries were rationalized by the NPFMC prior to the 2005/06 season and the stock is managed as 2 separate fisheries, east and west of 174° W long, with a TAC set for each fishery. The TAC is further allocated by NMFS as 90% to IFQ and 10% to CDQ.

Currently, TACs are fixed in regulation at 3.31 million pounds for the eastern Aleutian Islands (EAG) and 2.98 million pounds for the western Aleutian Islands (WAG). The AIG fisheries open by regulation on August 1 and close by regulation on May 1.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would establish annual harvest limits for golden king crab based on stock abundance to provide for long term stability of the stock and consistency with state and federal crab management principles.

BACKGROUND: Starting in 1996, the AIG fishery has been managed under a constant-catch harvest strategy. Under this approach, the TACs are fixed in regulation but the department may reduce regulatory harvest levels based on the best scientific information available, fishery performance measures, reliability of available estimates, uncertainty, and other factors necessary to avoid overfishing and to maintain consistency with sustained yield principles. The department may not increase annual TACs above the regulatory limits.

The Aleutian Islands golden king crab stock assessment model has been in development since the mid-2000s. After substantial review, the NPFMC Crab Plan Team and Scientific and Statistical Committee formally recommended and adopted an AIG stock assessment model for use in management in June of 2017. This action occurred after the board concluded the regular cycle meeting addressing king and Tanner crab in March 2017. Following model adoption, department staff began preliminary investigation of a new harvest control rule that uses outputs from the stock assessment model. The initial framework for a new harvest control rule includes using model derived estimates to set minimum biomass levels necessary for a fishery to occur, establishing a range of annual exploitation rates that are responsive to stock condition, and identifying the proportion of legal crab that could be harvested in any given year (Figure 229-1). The Aleutian King Crab Research Foundation and the department are additionally engaged in a cooperative project to conduct stock assessment surveys during the open fishing season using commercial vessels with department staff on board. The EAG has been surveyed annually since 2015. A survey for the WAG is in development. Survey data will be incorporated into the stock assessment model as they become available.

The Aleutian Islands golden king crab fleet is relatively small (4-6 vessels) and markets are unique compared to other crab fisheries (mix of traditional cooked and live product forms). As such, a common goal for both the department and industry is to develop a harvest control rule that yields long term sustainability of the stock as well as provide industry with flexibility to respond to changes in stock size. In January 2017, the department and industry representatives met to discuss harvest control rule alternatives and identify specific objectives relative to a new harvest strategy. Leading up to this discussion, department and industry sponsored stock

assessment scientists developed a simulation model that projects crab abundance into the future under each of the harvest control rule scenarios. This analysis will ultimately provide the board opportunity to assess risk for each the proposed alternatives and identify which alternative best accomplishes desired objectives. Although this analysis was underway at the time of the January meeting, it was identified that the summary and interpretation of results as well as peer review of the analysis overall would not be complete prior to the March 2017 board meeting. In response, department and industry both acknowledged it would be premature to fully deliberate and adopt a new harvest strategy this board cycle. Final analysis, results, and recommendations will be available prior to the start of the 2018/19 meeting cycle should the board choose to schedule final action next year.

Despite this delay, information and tools available in support of golden king crab management have advanced. Results from the new stock assessment model provide staff opportunity to compare the current fixed harvest limits relative to past abundance levels as well as assess the current condition of the stock. Golden king crab abundance in the EAG has been steadily increasing and stock size in the WAG has rebounded from a recent declining trend (Figure 229-2). The current fixed TACs for both areas have yielded stability; however, the TAC in the EAG appears to be conservative relative to current stock size, resulting in lost opportunity for the fleet. Although strict guidance for future TAC setting has yet to be decided, providing the department interim flexibility to adjust the current fixed TACs up or down based on best available science would be a responsive short term management measure.

Harvest levels are a Category 2 management measure under the *Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs* (FMP; FMP Section 8.2.5 Fishing Seasons). Category 2 management measures should be consistent with the criteria set out in the FMP and the Magnuson–Stevens Fishery Conservation and Management Act National Standards.

DEPARTMENT COMMENTS: The department **SUPPORTS** ongoing harvest strategy development as well as adopting regulatory language providing the department interim flexibility to modify regulatory TACs for the 2018/19 season based on the prevailing condition of the stock. The department will submit substitute regulatory language for this proposal during the March 6-9, 2018 board meeting.

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.

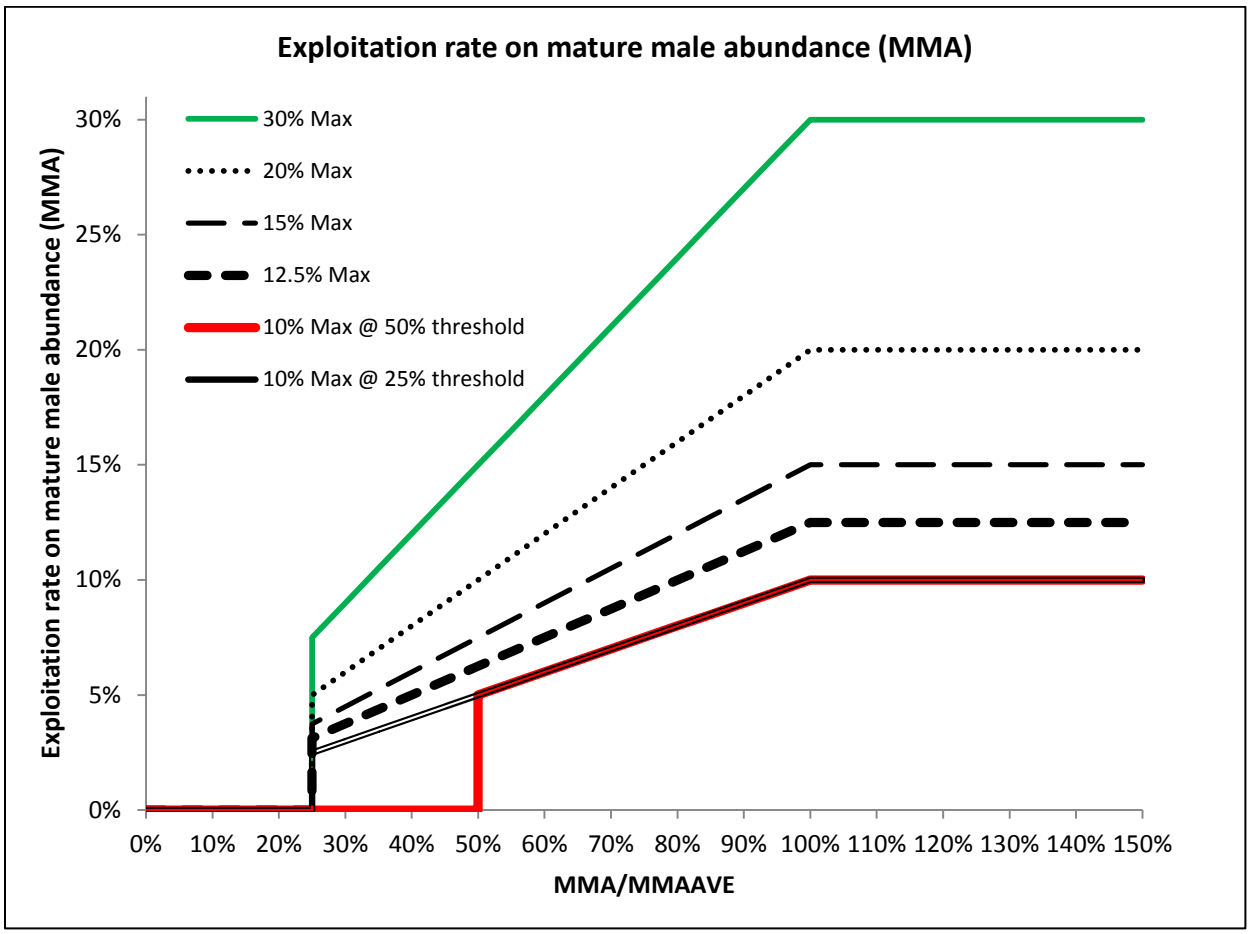

Figure 229-1.–Example of Aleutian Islands golden king crab harvest control rule alternatives.

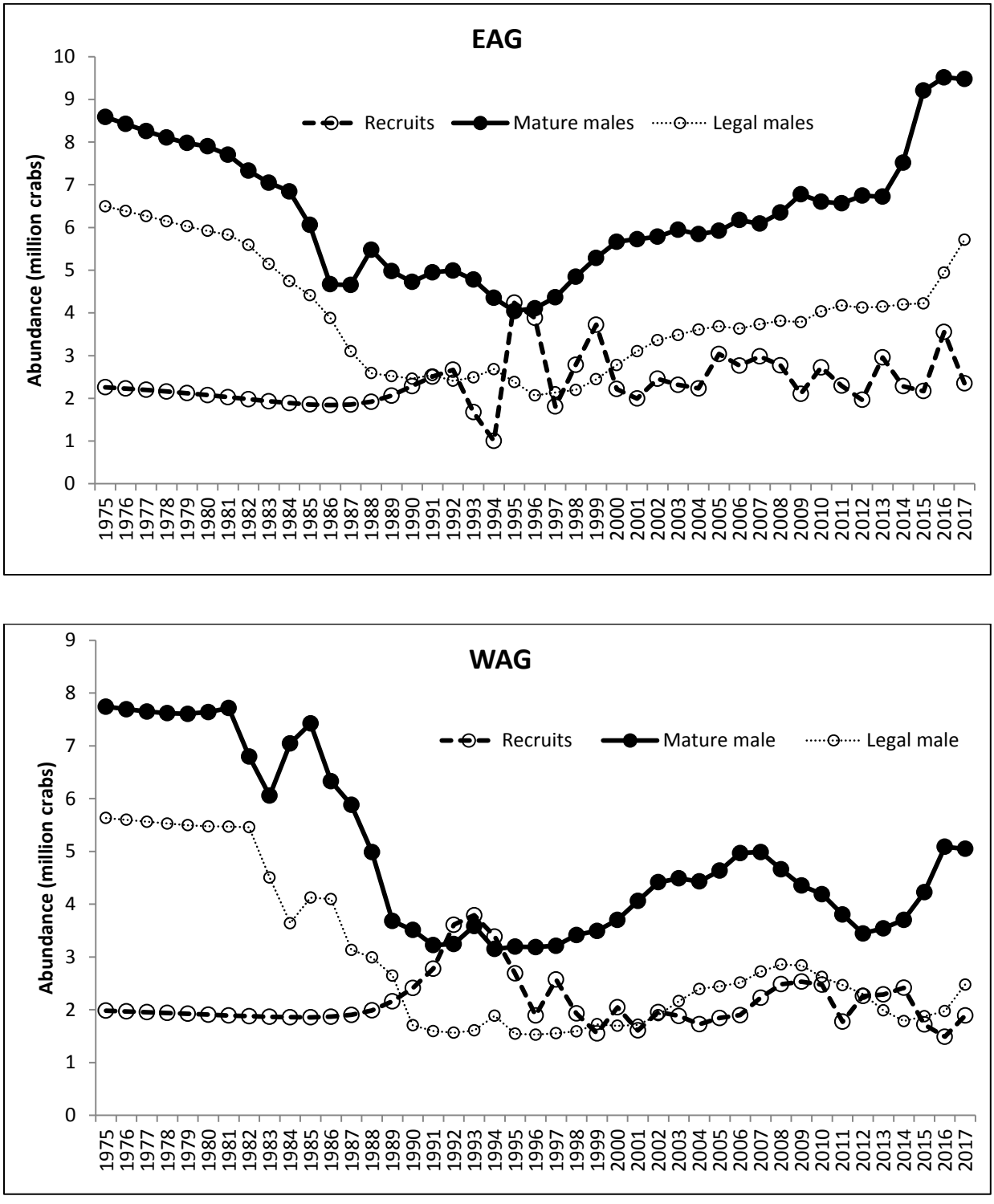

Figure 229-2.–Estimated Aleutian Islands golden king crab abundance for the EAG (top panel) and WAG (bottom panel), by year, 1975–2017.

Cook Inlet Subsistence, Commercial, and Personal Use Shellfish (3 Proposals).

PROPOSAL 213–5 AAC 77.518. Personal use clam fishery.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This would repeal the Cook Inlet Area personal use clam fishery.

WHAT ARE THE CURRENT REGULATIONS? Only Alaska residents may participate in personal use fisheries; each participant 18 years or older must possess a valid resident Alaska sport fishing license. Cook Inlet Area personal use clam fishery regulations governing season, area, bag and possession limits mirror sport fishing regulations.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Repealing the personal use clam fishery regulations would reduce redundancy, simplify the codified regulations, and accurately reflect the management of these fisheries.

BACKGROUND: The Cook Inlet Area razor and hardshell clam personal use regulations are identical to sport fishing regulations with the exception that only residents may participate in personal use fisheries. Historically, management actions applied to the sport clam fisheries are duplicated for the personal use fisheries. Annual harvest and effort in these fisheries has been estimated since 1977 using the Statewide Harvest Survey (SWHS). The SWHS annual estimates do not distinguish between personal use and sport clam diggers; rather, estimates reflect mixed effort and harvest for both fisheries. The 5-year (2012–2016) average annual harvest is 164,000 razor clams and 42,000 hardshell clams, with residents harvesting about 71% of the razor clams and 81% of the hardshell clams.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal. The department has been reviewing regulations and proposing removal of redundant personal use fishery regulations for the board's consideration.

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 214–5 AAC 58.022. Waters; seasons; bag, possession, annual, and size limits; and special provisions for Cook Inlet–Resurrection Bay Saltwater Area; and 5 AAC 02. 310. Subsistence miscellaneous shellfish fishery.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This would require that all razor clams dug be harvested in the Cook Inlet–Resurrection Bay noncommercial razor clam fisheries.

WHAT ARE THE CURRENT REGULATIONS? Sport fishing regulations set razor clam bag and possession limits for eastside Cook Inlet beaches (in the Anchorage-Matsu-Kenai Peninsula Nonsubsistence Area) at the first 60 clams harvested, allowing diggers to discard unwanted clams. In all other areas of Cook Inlet outside the nonsubsistence area, there are no bag and possession limits or harvest requirements for the noncommercial razor clam fisheries.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Requiring retention of all razor clams dug would increase the harvest of unwanted (small or damaged) clams that might otherwise have not been harvested. This would probably reduce wastage because razor clams have fragile shells that are frequently damaged when dug making them susceptible to high mortality if not retained. This would reduce confusion by the public regarding interpretation of regulatory language for clam beaches.

BACKGROUND: There are no bag and possession limits for the razor clam sport or subsistence fisheries, except for the sport fishery on beaches from the mouth of the Kenai River to the tip of the Homer Spit (Eastside Cook Inlet beaches) where the bag limit is the first 60 clams harvested and the possession limit is 120 clams. Bag and possession limits for razor clams were established for the Eastside Cook Inlet sport fishery largely to reduce wastage because razor clams are susceptible to high mortality if reburied.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal. This proposal clarifies regulatory language in the eastside Cook Inlet sport fishery regulations and applies the same regulation to all other razor clam fisheries in the Cook Inlet - Resurrection Bay.

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. Is this stock in a nonsubsistence area? A portion of the stock is in the Anchorage-Matsu-Kenai Peninsula Nonsubsistence Area, as defined at 5 AAC 99.015(a)(3).
2. Is this stock customarily and traditionally taken or used for subsistence? Yes. The board has found that shellfish stocks in that portion of the Cook Inlet Area (which has as its eastern boundary Cape Fairfield) outside the nonsubsistence area are customarily and traditionally taken or used for subsistence (5 AAC 02.311).
3. Can a portion of the stock be harvested consistent with sustained yield? Yes.
4. What amount is reasonably necessary for subsistence uses? The board has established that 4,500–6,500 pounds of usable weight of shellfish, other than hardshell clams, crab, and shrimp, are reasonably necessary for subsistence uses in the Cook Inlet Area outside the nonsubsistence area (5 AAC 02.311(b)(3)).

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.

PROPOSAL 215–5 AAC 38.327. Kamishak Bay District scallop management plan.

PROPOSED BY: Thorne Tasker.

WHAT WOULD THE PROPOSAL DO? Allow scallops in the Kamishak Bay District of the Cook Inlet Area to be delivered live.

WHAT ARE THE CURRENT REGULATIONS? The weathervane scallop fishery in the Kamishak Bay District in the Cook Inlet Area occurs in federal waters and is managed under statewide regulation 5 AAC 38.076 *Alaska Scallop Fishery Management Plan* and 5 AAC 38.327 *Kamishak Bay District Scallop Management Plan*. In the Kamishak Bay District of the Cook Inlet Area, Registration Area H, the guideline harvest range (GHR) is 10,000 to 20,000 pounds of shucked scallop meat (5 AAC 38.330). Under 5 AAC 38.076(p) each department fish ticket corresponding to a scallop fishing trip must document the pounds of scallop meats harvested, by statistical area. Additionally, 5 AAC 38.076(d)(3) states that before checking out of or into a registration area, the scallop onboard observer must verify the total pounds of processed (shucked) or unprocessed scallops on board the vessel, and that a vessel changing registration areas may not have any unprocessed scallops on board the vessel; (d)(5) further requires that a CFEC permit holder shall ensure that all harvest from a registration area is reported on a fish ticket before checking out of a registration area and provide the fish ticket number and harvest reported on each fish ticket to the department office responsible for management of the registration area.

For the Kamishak Bay District, 5 AAC 38.327 provides further guidance and requires that 100 scallop top valves (shells) are collected from each trip and delivered to the department, and also requires that a department onboard observer must be accommodated upon request.

In the Cook Inlet Area, scallops may be taken only with a single dredge and the opening of the dredge may not be more than 6 feet in width (5 AAC 38.322).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Scallops would be allowed to be delivered in live condition, which would require coordination with department staff and additional data collection to convert whole scallop weight to meat weight for reporting on fish tickets. Also, the exvessel value of landed scallop harvest may increase and more vessels may enter the fishery.

BACKGROUND: In the Cook Inlet Area (Registration Area H; Figure 215-1), the Kamishak Bay District scallop season opens August 15 and closes October 31, unless closed earlier by emergency order. Although fewer than 3 vessels have often participated in this fishery in recent years, confidential data have been voluntarily released by vessel operators. Since 1997, harvest has ranged from 0 to 20,516 lb (Table 215-1). The Kamishak Bay District fishery was closed in 2013 and 2014 due to low abundance; there was no effort in 2017. In all other districts, except for the Kamishak Bay District, scallop fishing may only occur under a commissioner's permit; none have been issued since 1987.

The Kamishak Bay District fishery occurs exclusively in federal waters of the exclusive economic zone (EEZ) located 3 to 200 nautical miles offshore. Management of weathervane scallops *Patinopecten caurinus* in EEZ waters is delegated to the department under authority of the federal Fisheries Management Plan (FMP) for the Scallop Fishery off Alaska.

The scallop fishery in the Cook Inlet Area differs from other registration areas in the state by gear and onboard observer requirements. Allowable gear for the scallop fishery in the Cook Inlet

Area is a single, 6-foot dredge; in the remaining registration areas in the state, two 15-foot dredges are allowed. The state requires 100% observer coverage in all registration areas, except for the Cook Inlet Area, where an onboard department observer must be accommodated by the vessel operator upon request (unless an observer is already required to be onboard under 5 AAC 38.076 if fishing in multiple registration areas).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal. Adoption of this proposal would require additional work by department staff to manage the fishery, and may require additional deployment of department observers for the Kamishak Bay District fishery above the current level. Department staff does have the ability to complete data analysis at the time of landing to calculate meat weight for harvest reporting as required on the fish ticket.

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 215-1.–Cook Inlet Area, Kamishak Bay District, number of vessels, GHL, harvest, dredge hours, CPUE (catch per unit effort), 1997–2016.

Season	Number Vessels	GHL (lb meat)	Catch (lb meat)	Dredge hours	CPUE (lb meat per dredge hr)
1997	3	20,000	20,336	395	52
1998	1	20,000	17,246	390	44
1999	3	20,000	20,315	325	63
2000	3	20,000	20,516	275	75
2001	2	20,000	20,097	325	62
2002	3	20,000	8,591	311	28
2003	2	20,000	15,843	896	18
2004	3	20,000	6,117	364	17
2005	2	7,000	7,378	372	20
2006	1	7,000	50	10	5
2007	0	12,000	0		
2008	0	12,000	0		
2009	0	14,000	0		
2010	1	14,000	9,460	365	26
2011	1	12,500	9,975	324	31
2012	1	12,500	11,739	392	30
2013		Closed			
2014		Closed			
2015	1	10,000	9,485	459	21
2016	1	10,000	3,982	271	15
2017	0	10,000	0		

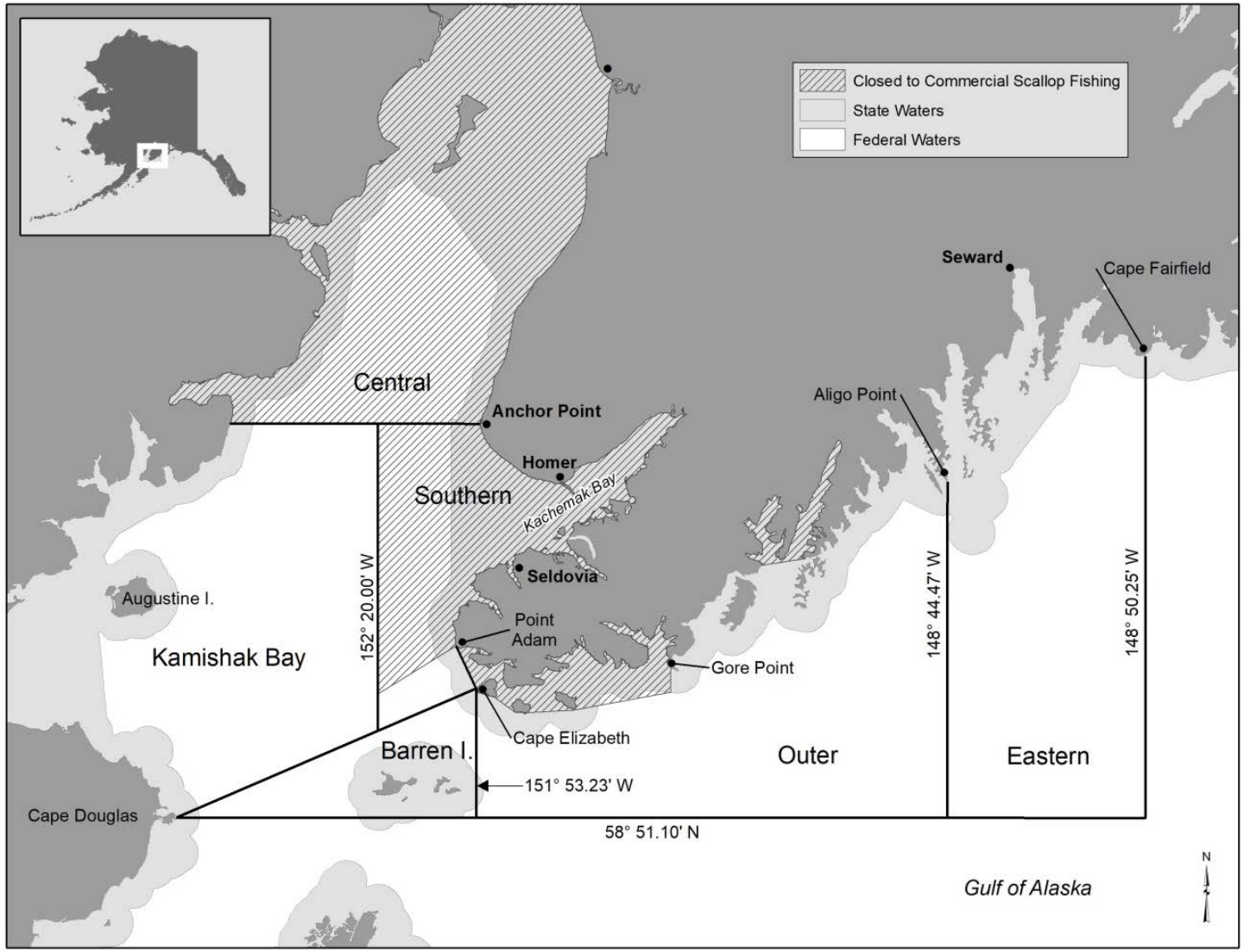

Figure 215-1.–Cook Inlet Area scallop districts and waters closed to scallop fishing.

Southeastern Area Miscellaneous Shellfish Sea Cucumber Management Plan (1 Proposal).

PROPOSAL 88–5 AAC 38.140. Southeastern Alaska Sea Cucumber Management Plan.

PROPOSED BY: Southeast Alaska Regional Dive Fisheries Association (SARDFA).

WHAT WOULD THE PROPOSAL DO? This would require that a guideline harvest level (GHL) be calculated as 19.2% of the mid-point population estimate.

WHAT ARE THE CURRENT REGULATIONS? The GHL is calculated as 19.2% of the lower bound of the 1-sided 90% confidence interval. The 19.2% harvest rate is derived from the product of 0.4 (CF, scaling factor) x 0.5 (GF, correction factor) x 0.32 (M, estimated natural mortality rate) x 3 (number of years).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would eliminate one of the main elements that provide a conservative cushion to offset uncertainty around the department's population estimate, which is directly used to calculate guideline harvest levels. Guideline harvest levels would immediately rise for all fishery areas and the safeguard to protect against erroneous estimates would be removed.

BACKGROUND: The *Southeastern Alaska Sea Cucumber Management Plan* describes in detail how guideline harvest levels shall be calculated. The calculation is based on a simple surplus production model, which assumes that sustainable harvest rates may be set equal to some fraction of the natural mortality rate. The natural mortality rate is not known for sea cucumbers, and so it is roughly estimated using data from other species. The current allowable annual harvest rate is 6.4%; however due to the 3-year rotational fishery, annual harvest rates are tripled to 19.2% and fisheries are opened once every 3 years. Guideline harvest levels are calculated as the product of the harvest rate and the lower bound of the confidence interval surrounding the department's estimate of biomass.

The use of the lower bound of a biomass estimate is a way to reduce risk of overharvest due to uncertainty in the estimate. The department's estimated biomass for each fishery area is calculated using sea cucumber density data collected during dive surveys of transects systematically spaced out along the shoreline. Typically about 20 transects may be positioned along a shoreline of 100 miles or more. Because sea cucumber distribution is often patchy along the shoreline, transects might land on a variety of density zones, ranging from very high to very low. However, because no data are collected for large areas between transects, an assumption is made that the transect data are representative of these areas. A "midpoint" (i.e. mean estimate) can easily be calculated as the product of density and shoreline length, but this does not reflect the uncertainty of the estimate that arises from a highly patchy distribution of sea cucumbers, or from transects landing disproportionately in areas that do not necessarily well represent the true density, simply due to chance. To express that uncertainty, a 1-sided confidence interval is calculated with a lower bound (lower end of range) such that we would be 90% sure that true mean value of the population is greater than what is used to calculate the GHL.

The effect of using this method is that if a survey produces an estimate with low certainty (e.g. highly patchy or unpredictable density), then the confidence interval would be wide, reducing the lower bound value and thereby lowering the GHL; however if there is high certainty (e.g. very evenly distributed or predictable density), then the confidence interval would be narrow, raising the lower bound closer to the midpoint, and thereby raising the GHL. This approach is designed

to protect against setting harvest levels too high unknowingly due to uncertainty of the true population size.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. Uncertainty in biomass estimates will always be present and sometimes high, and the current approach is an effective way to protect against setting unsustainable harvest levels. The department does not support more liberal management in areas where sea otters have recolonized, because sea cucumber populations in those areas are considered to be at greater risk of depletion and additional harvest pressure could reduce chances of or prolong population recovery.

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.

COMMITTEE OF THE WHOLE–GROUP 2: Alaska Peninsula-Aleutian Islands Area Commercial Herring Fishery, Aleutian Islands Area King Crab Fishery, Yukon Area Subsistence and Commercial Fisheries, Prince William Sound Area Sport Fishery (7 Proposals).

Alaska Peninsula-Aleutian Islands Area Commercial Herring Fishery (1 Proposal).

PROPOSAL 236–5 AAC 27.060. Bering Sea Herring Fishery Management Plan; 5 AAC 27.610. Fishing seasons and periods for Alaska Peninsula-Aleutian Islands Area; 5 AAC 27.655. Dutch Harbor Food and Bait Herring Fishery Allocation Plan; 5 AAC 27.865. Bristol Bay Herring Management Plan.

PROPOSED BY: Alaska Board of Fisheries.

WHAT WOULD THE PROPOSAL DO? This would open the Dutch Harbor food and bait herring fishery on July 1 rather than July 15; increase the Dutch Harbor allocation of the Togiak District available harvest from 7% to 10%; repeal the current allocation between gillnet and seine gear in the Dutch Harbor food and bait herring fishery; and repeal the allocation overage deduction provision for the Dutch Harbor food and bait herring fishery.

WHAT ARE THE CURRENT REGULATIONS? The Dutch Harbor food and bait herring fishery, by regulation, may open for gillnet gear on June 24 and open for seine gear on July 15. Currently the Dutch Harbor food and bait herring fishery allocation is based on the *Bristol Bay Herring Management Plan* such that the allocation is 7% of the total allowable Togiak District herring harvest. The total allowable harvest is based on a 20% exploitation rate on the total estimated biomass in the Togiak District, the removal of 1,500 tons for the Togiak spawn-on-kelp fishery, and then 7% of the remaining available harvest is allocated to the Dutch Harbor food and bait fishery. The *Dutch Harbor Food and Bait Herring Fishery Allocation Plan* provides 14% of the allocation to fishermen using gillnet gear and 86% of the allocation to fishermen using purse seine gear. The *Dutch Harbor Food and Bait Herring Fishery Allocation Plan* also states that if the harvest by the fishery in a given year is greater than the amount allocated to that fishery, the excess tonnage is subtracted from the following year's allocation to that fishery.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Allowing the food and bait fishery to be opened on July 1 could provide the department additional flexibility to open the fishery when herring are present. The Togiak herring population is harvested in both the Dutch Harbor food and bait fishery and the Togiak sac roe and spawn-on-kelp fisheries. This fishery is fully allocated and this proposal would reduce the Togiak sac roe allocation while increasing the Dutch Harbor food and bait allocation. Removing the allocation between gillnet and seine gear may allow purse seine gear to harvest the allocation without waiting for the July 20 rollover date, and potentially reduces the risk of herring leaving the area, and the potential of subsequent lost harvest, during that waiting period. It also removes the deterrent from harvesting more than the allocation set each year.

BACKGROUND: In the past few years, anecdotal reports suggested that Pacific herring were present in the eastern Aleutian Islands well before July 15. The department does not conduct surveys to assess herring biomass in the eastern Aleutian Islands and is unable to independently verify reports of herring biomass, timing, or distribution in this area. In 2016, only 208 tons of

herring were harvested in the Dutch Harbor food and bait herring fishery, probably because the herring moved through the area prior to July 15. The total allocation in 2016 was 2,166 tons, with 1,863 tons allocated to the purse seine fleet. In 2017, by request from the industry, the department opened the fishery by emergency order on July 13 after reports of early herring presence around Akutan. The total harvest of herring in 2017 was 1,270 tons, with a total allocation of 1,727 tons and a purse seine allocation of 1,485 tons.

The Dutch Harbor food and bait herring fishery is somewhat limited by processor capacity and cold storage in Dutch Harbor and Akutan. Herring processors can handle roughly 400 tons per day inseason and so the pace of daily harvest is set by processing capacity. Herring cannot be stored for more than a year without losing its viability to be used as bait and yearly harvest is somewhat dictated by processor storage and need for bait in the upcoming winter fisheries.

Herring have not been harvested by gillnet fishermen since 2008. Since 2003, the purse seine fleet has formed a combine that typically uses 3 vessels to harvest the purse seine herring allocation.

The allocation plan that provides 7% of the remaining harvest for the Dutch Harbor food and bait fishery has been in place since 1988.

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 236-1.–Dutch Harbor food and bait herring fishery harvest by gear type.

Year	Gillnet harvest in tons	Purse seine harvest in tons	Allocation total
1986	–	2,394	2,453 [a]
1987	–	2,485	2,332 [a]
1988	–	1,987	3,100 [c]
1989	[b]	3,079	3,100 [c]
1990	–	820	903 [c]
1991	–	1,794	931 [c]
1992	–	2,802	1,940 [d]
1993	–	2,824	2,193
1994	–	3,350	2,215 [e]
1995	–	1,705	1,982
1996	–	2,278	1,793
1997	–	1,950	1,645
1998	–	2,025	1,590
1999	–	2,437	2,082
2000	–	2,014	1,728
2001	107	1,332	1,572
2002	134	2,664	1,578
2003 [f]	108	1,379	1,662
2004	216	1,038	1,899
2005	0	1,154	1,365
2006	[b]	952	1,715
2007	[b]	1,248	1,779
2008	[b]	1,534	1,722
2009	–	1,310	1,600
2010	–	1,941	1,950
2011	–	1,795	1,867
2012	–	1,807	1,627
2013	–	1,764	2,262
2014	–	1,645	2,099
2015	–	1,972	2,184
2016	–	208	2,166
2017	–	1,270	1,727

[a] Harvest quota set by the department. Reduced proportionately with the drop from the 1985 Togiak spawning biomass level.

[b] Number cannot be released due to state confidentiality requirements.

[c] Harvest quota set under provisions of the Bering Sea Herring Fisheries Management Plan.

[d] The preseason forecasted biomass was adjusted by the department: the final biomass estimate for Togiak was 146,037 tons and the harvest quota was adjusted to 1,940 tons.

[e] The preseason forecasted biomass was adjusted by the department (Kathy Rowell, personal communication, May 25, 1994).

[f] Since 2003, several purse seine permit holders have formed a combine and used 1 - 3 vessels.

Yukon Area Subsistence and Commercial Finfish Fisheries (5 Proposals).

PROPOSAL 230–5 AAC 01.220. Lawful gear and specifications.

PROPOSED BY: Louden, Nulato, and Koyukuk Tribes.

WHAT WOULD THE PROPOSAL DO? This seeks to allow the use of drift gillnets to harvest salmon for subsistence purposes in Yukon River subdistricts 4-B and 4-C (Figure 230-1).

WHAT ARE THE CURRENT REGULATIONS? Subsistence salmon fishing in Yukon River subdistricts 4-B and 4-C with drift gillnets is currently prohibited in state waters (5 AAC 01.220 (e)). However, federal regulation allows the use of drift gillnets in a subsection of subdistricts 4-B and 4-C in federal waters between Ruby and Galena during the summer when king salmon are present.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Fishermen in subdistricts 4-B and 4-C would be allowed to use drift gillnets in state waters near their own communities and competition for fishing sites in Subdistrict 4-A may decrease. Salmon harvest could increase because of the efficiency of drift gillnets; however, it is likely that most families, who have a certain amount of salmon they typically need or use, will be able to reach those goals more efficiently, with less competition for fishing sites, and reduced expenses. Allowing use of drift gillnets in state waters of 4-B and 4C is unlikely to compromise the department's ability to achieve escapement goals.

BACKGROUND: Though drift gillnets have not been legal gear in the upper Yukon Area since 1976, they have historically been an important gear type for subsistence salmon fishing. Currently, fishermen living in the communities of Galena and Ruby report travelling downriver to Koyukuk to fish legally with drift gillnet gear. Though they are able to harvest salmon with this gear much more efficiently, traveling long distances to do so can be cost prohibitive for some. Increased fishing near the community of Koyukuk by upriver residents is causing increased competition for fishing sites. Subsistence fishermen from many communities have been informing the department about the loss of suitable set gillnet fishing sites due to bank erosion causing changes to the efficacy or loss of the eddies. This is causing more competition in subdistricts 4-B and 4-C for viable sites for setting stationary gillnets.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal. However, the department **SUPPORTS** providing additional salmon subsistence harvest opportunity when returns are adequate. King salmon conservation continues to be a concern in the Yukon River, requiring time, gear, and area restrictions since 2011 to ensure escapement goals are met.

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. Is this stock in a nonsubsistence area? No.
2. Is the stock customarily and traditionally taken or used for subsistence? Yes: the board has found that king, summer chum, fall chum, coho, and pink salmon in the Yukon Area are customarily and traditional taken or used for subsistence (5 AAC 01.236).
3. Can a portion of the stock be harvested consistent with sustained yield? Yes.

4. What amount is reasonably necessary for subsistence use? The board has found that 45,500 to 66,704 king salmon; 83,500 to 142,192 summer chum salmon; 89,500 to 167,900 fall chum salmon; 20,500 to 51,980 coho salmon; and 2,100 to 9,700 pink salmon are reasonably necessary for subsistence uses in the Yukon Area (5 AAC 01.236.(b)(1-5)).
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.

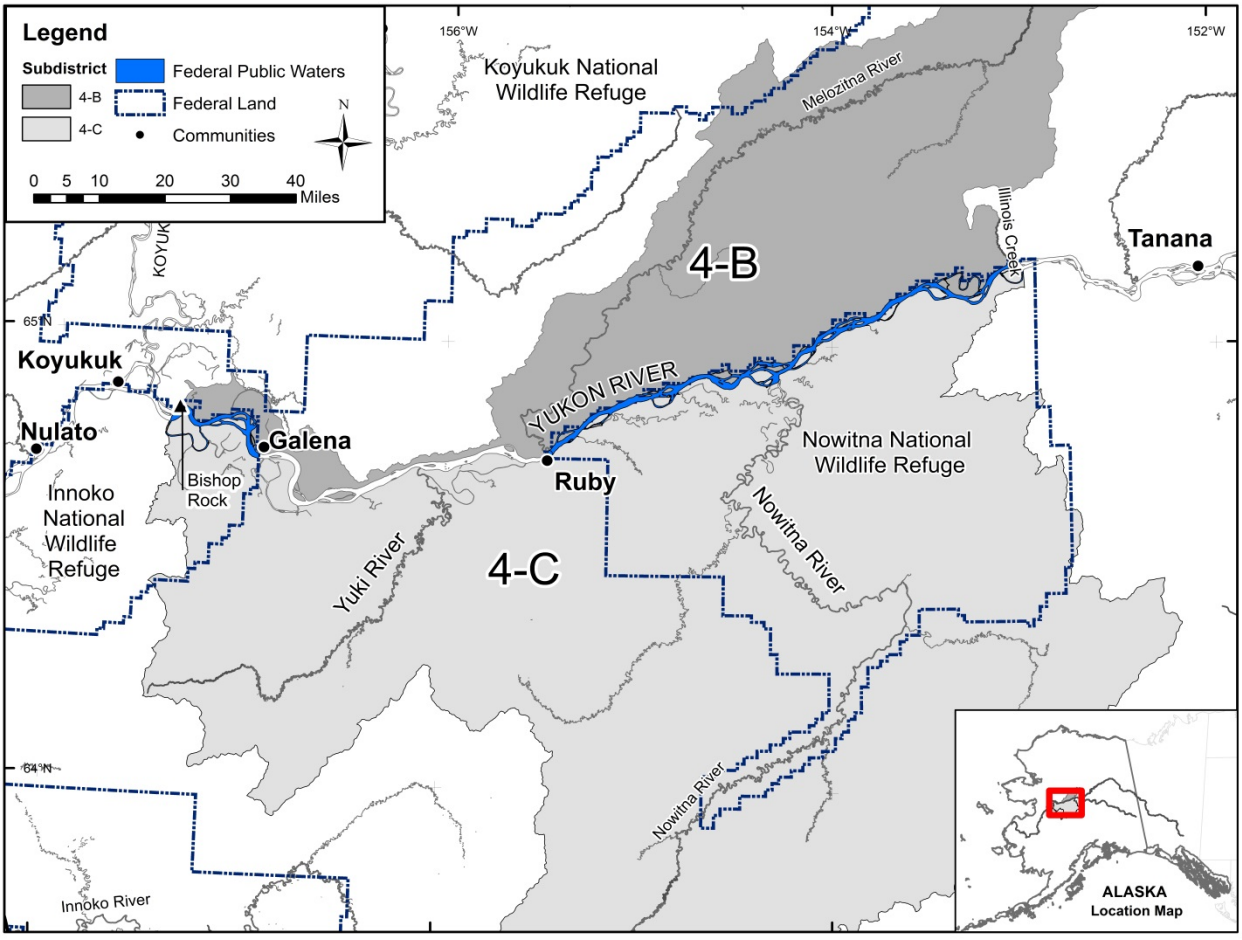

Figure 230-1.–Map showing Yukon River Area subdistricts 4-B and 4-C.

PROPOSAL 231–5 AAC 05.360. Yukon River King Salmon Management Plan.

PROPOSED BY: Kwik'pak Fisheries, LLC.

WHAT WOULD THE PROPOSAL DO? This would repeal the prohibition on subsistence fishing in Yukon River districts 1 and 2 during the first pulse of king salmon.

WHAT ARE THE CURRENT REGULATIONS? Current regulation prohibits king salmon subsistence fishing during the first pulse in districts 1 and 2 to account for the uncertainty in the preseason king salmon run projection (5 AAC 05.360 (j)(1)).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED?

If the preseason outlook suggested a harvestable surplus of king salmon was available, this would allow subsistence fishing on the first pulse of king salmon in Yukon River districts 1 and 2. This could increase the harvest of early king salmon when fish drying weather is better, and there are fewer summer chum salmon present. However, if inseason run strength indicated that escapement goals may not be achieved, restrictions to all fisheries could be warranted.

BACKGROUND: Mandatory first pulse closure in Yukon River districts 1 and 2 was adopted by the Alaska Board of Fisheries in 2013 as an additional conservation measure during times of low Yukon River king salmon abundance. This conservative management approach was intended to assist in meeting treaty objectives with Canada, meet escapement goals in Alaska, and to share conservation responsibility along the entire Yukon River.

Initial run strength assessment in the lower Yukon River is critical to implementing an inseason management plan to operate an orderly fishery throughout the drainage. The department monitors a suite of assessment projects in the lower Yukon River that provide critical king salmon run timing, relative abundance, and stock composition information. Primary inseason run assessment projects that inform management include the Lower Yukon Test Fishery (LYTF), Pilot Station sonar passage estimates, and age-sex-length data. In addition, genetic samples are collected and analyzed inseason utilizing mixed stock analysis to determine stock-specific contribution of king salmon.

Pulses of king salmon entering the Yukon River exhibit annual variability in run timing and can be very difficult to detect at the Lower Yukon Test Fishery (LYTF) near Emmonak. In some years, the first pulse is not detected until it passes Pilot Station sonar in District 2 (located at river mile 123). Estimates of daily passage obtained at Pilot Station sonar provide a clearer indication of abundance and the presence of a large group of fish migrating upriver, than Catch-Per-Unit-Effort (CPUE) generated at LYTF. Because of annual variation in the ability to detect and identify the first pulse entering the lower Yukon River at LYTF, and because run projections prior to the season have been below the long term average, the department has taken a very conservative approach in recent years. However, since 2015 Yukon River king salmon returns have improved and the department has eased some restrictions on the subsistence fishery.

The Canadian-origin component of king salmon entering the Yukon River is highly variable. Based on genetic stock analysis since 2005, the weighted season total estimate of Canadian-origin king salmon sampled at Pilot Station has ranged from 34% in 2011 to 52% in 2013, with an average of approximately 40% of the total run consisting of Canadian-origin king salmon. How the Canadian origin stock enters the river is also quite variable. In many years, particularly odd-numbered years, the Canadian-origin stock proportion was higher in the first pulse, but in terms of the overall Canadian-origin run, the first pulse does not make up the bulk of the run.

The first pulse only makes up about 25% of the Canadian-origin run in most years. However, Canadian-origin king salmon continue to enter the river during the middle of the run when passage abundance estimates increase significantly, as well as throughout the remainder of the return.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal. The department **SUPPORTS** providing additional king salmon subsistence harvest opportunity while retaining the ability to manage the king salmon subsistence fishery conservatively to account for uncertainty in preseason projections and inseason run assessment during the first pulse.

While addressing this proposal, the board should evaluate and consider whether changes to the management plan still provide an opportunity that allows a subsistence user to participate in the subsistence fishery that provides a normally diligent participant with a reasonable expectation of success of taking fish.

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

SUBSISTENCE REGULATION REVIEW:

1. Is this stock in a nonsubsistence area? No.
2. Is the stock customarily and traditionally taken or used for subsistence? Yes: the board has found that king, summer chum, fall chum, coho, and pink salmon in the Yukon Area are customarily and traditional taken or used for subsistence (5 AAC 01.236).
3. Can a portion of the stock be harvested consistent with sustained yield? Yes.
4. What amount is reasonably necessary for subsistence use? The board has found that 45,500 to 66,704 king salmon; 83,500–142,192 summer chum salmon; 89,500–167,900 fall chum salmon; 20,500–51,980 coho salmon; and 2,100–9,700 pink salmon are reasonably necessary for subsistence uses in the Yukon Area (5 AAC 01.236.(b)(1-5)).
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.

PROPOSAL 232–5 AAC 05.360. Yukon River King Salmon Management Plan.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This seeks to clarify when the sale of Yukon River king salmon caught incidentally during open commercial fishing periods for other salmon species would be allowed.

WHAT ARE THE CURRENT REGULATIONS? If the department projects that Yukon River king salmon escapements are below escapement goals or king salmon subsistence fishing is restricted in more than one district, or portion of a district, sale of king salmon caught incidentally in commercial fisheries targeting other species of salmon is prohibited (5 AAC 05.360 (i)).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would provide the department with clear regulatory direction on when to allow sale of king salmon during a season when runs are large enough to provide a surplus beyond escapement and subsistence needs but when sale has been prohibited because of early-season uncertainty and/or subsistence restrictions earlier in the season.

BACKGROUND: The *Yukon River King Salmon Management Plan* (plan) provides triggers for prohibiting the sale of king salmon caught incidentally in commercial fishing periods targeting other species of salmon, but the plan is ambiguous as to criteria for allowing sale of incidentally caught king salmon after a prohibition is put in place but then relaxed because it is no longer needed. This ambiguity appears to be partly the result of an unforeseen effect of adopting king salmon conservation measures without anticipating whether conservation measures should be retained during times when the department projects inseason that king salmon runs are improving and that escapements will meet or exceed goals.

In 2017 the king salmon run was assessed as average to above average. The prohibition on sale of incidentally caught king salmon was temporarily lifted at the start of the Fall Season commercial fishery in District 1 during a single commercial fishing period, because approximately 99% or more of the king salmon run had passed through District 1, escapement goals were projected to be met, and subsistence fisheries were not being restricted. However, after review of the plan the department concluded that it was unclear whether the Alaska Board of Fisheries intended the prohibition on sale of incidentally caught king salmon to be maintained during the Summer and/or Fall Season commercial fisheries once king salmon subsistence fishing is no longer restricted in more than one district or portion of a district. Applying precaution, and attempting to implement the intent of the board despite ambiguous regulations, the department concluded that the prohibition on sale of incidentally caught king salmon for 2017 would remain in place.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal. The department **SUPPORTS** having clear regulatory direction and criteria in place describing when to allow sale of incidentally caught king salmon during Yukon River commercial fishing periods when runs are large enough to provide a surplus beyond escapement and subsistence needs. The inability to sell incidentally caught king salmon could continue to result in foregone economic opportunity to an already depressed economic area when runs are large enough to provide a surplus beyond escapement and subsistence needs.

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

PROPOSAL 233–5 AAC 05.200. Fishing districts and subdistricts; 5 AAC 05.330. Gear; and 5 AAC 05.350. Closed waters.

PROPOSED BY: Kwik'pak Fisheries LLC.

WHAT WOULD THE PROPOSAL DO? This seeks clarification on the board's intent regarding the set gillnet fishery and the new drift gillnet fishery created in the expanded coastal waters of Yukon Area District 1.

WHAT ARE THE CURRENT REGULATIONS? The use of both drift gillnet and set gillnet gear is allowed during commercial salmon fishing in all waters of Yukon Area District 1 through July 15. After July 15, only set gillnet gear can be used in the portions of Yukon Area District 1 described in 5 AAC 05.330, while both gear types can be used in the remainder of the district (Figure 233-1).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would clarify the board's intent regarding the existing set gillnet fishery and the new drift gillnet fishery created in the expanded coastal waters of Yukon Area District 1.

BACKGROUND: In 2016 the commercial fishing area of Yukon Area District 1 was expanded seaward from 1 mile of any grassland bank to 3 miles of a grassland bank, and from the previous terminus at Apoon Pass up to Point Romanof (Figure 233-1). When the boundaries of District 1 were modified, a new drift gillnet fishery was created in the expanded area. The intent of the original proposal that lead to the expansion was to maintain the set gillnet fishery in coastal waters of District 1 after July 15, and not to create a new drift gillnet fishery in those waters. It is unclear if the board was aware of this unforeseen effect/error when the regulation was adopted.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on allocative aspects of this proposal. The department **SUPPORTS** clarifying regulations regarding the commercial salmon gillnet fishery in coastal waters of District 1 after July 15.

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.

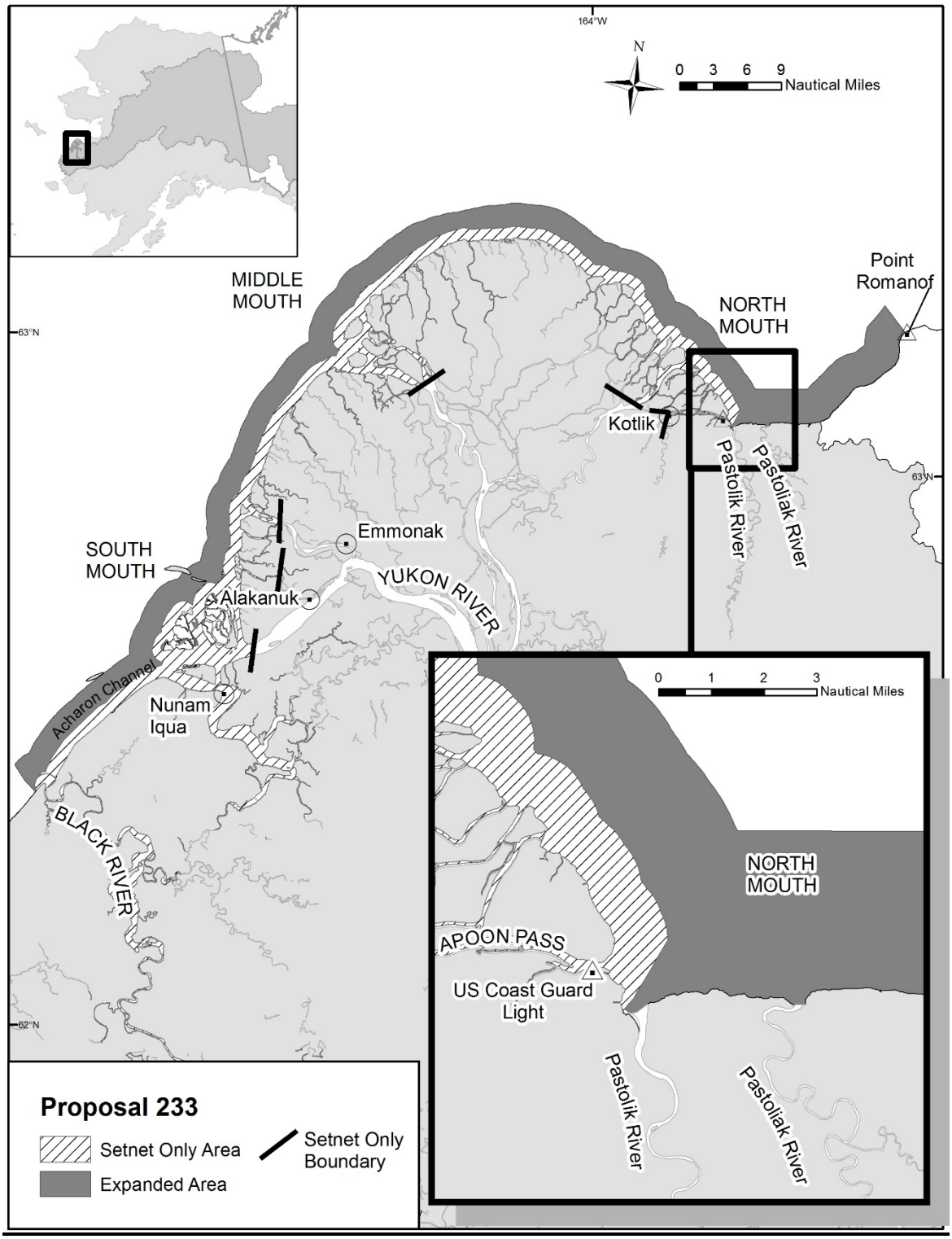

Figure 233-1.–Map showing Yukon Area District 1. The shaded area is the area of the district expanded after the board adopted proposals submitted at the 2016 AYK Finfish meeting. The hatched area is the current setnet-only area portion of the district.

PROPOSAL 237–5 AAC 05.310. Fishing seasons; 5 AAC 05.367. Tanana River Salmon Management Plan.

PROPOSED BY: Alaska Board of Fisheries.

WHAT WOULD THE PROPOSAL DO? This would remove language requiring the Yukon Area District 6 commercial salmon fishing season to close on or before October 1.

WHAT ARE THE CURRENT REGULATIONS? In District 6 the commercial salmon fishing season closes on or before October 1.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would provide management with flexibility on the date the District 6 commercial salmon fishing season would close.

BACKGROUND: The market for commercially harvested fall chum salmon in the Tanana River Drainage has shifted from primarily a roe market to a dog food market. Buyers of fall chum salmon for dog food do not buy the fish until weather cools down to prevent spoiling. In recent years, Interior Alaska has seen warmer fall temperatures extending later into October. Commercial fishermen in District 6 of the Tanana River do not begin fishing until mid-September. Currently the commercial fishery closes by regulation on or before October 1; however, there is a high market demand for fish beyond October 1.

By September 15, much of the Tanana River fall chum salmon run has entered the drainage and escapement goals have been assessed. When the fall chum salmon commercial roe fishery was more popular, there were many more fish wheels operating in District 6 than there are currently and commercial fishing activity started in August. The current commercial closure date for District 6 was established based on timing of the previous roe-based fishery. Now that fishery dynamics have changed, there are only 4 fish wheels operating in the district and fishery timing has shifted later. This proposal seeks to repeal the fixed season closure date and replace it with a closure date established by emergency order so that commercial salmon fishermen in District 6 can meet market demands.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal. However, the department **SUPPORTS** having the ability to provide additional opportunity to harvest surplus salmon when warranted.

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.

Prince William Sound Area Sport Fishery (1 Proposal).

PROPOSAL 238–5 AAC 55.022. General provisions for seasons, bag, possession, and size limits, and methods and means for the Prince William Sound Area.

PROPOSED BY: Alaska Board of Fisheries.

WHAT WOULD THE PROPOSAL DO? This would require all sport fishing anglers in PWS, starting January 1, 2019, to use a deep water release mechanism (DRM) to release a rockfish at the depth it was hooked or 100 feet whichever is shallower. It also defines DRM.

WHAT ARE THE CURRENT REGULATIONS? The bag limit for rockfish is 4 fish; possession limit is 8 fish, of which 1 per day and in possession may be nonpelagic rockfish as defined in 5 AAC 75.995. Anglers, outside of charter anglers in Southeast Alaska, may use a DRM to release rockfish but are not required by regulation to release rockfish at depth.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This will significantly reduce the discard mortality of all species of rockfish. The proper use of DRMs improves survival of released rockfish. By requiring anglers to use a DRM, this proposal would be expected to increase use rates of the DRMs among anglers, compared to the current voluntary use by private anglers, which ranges from 0 to 70% for pelagic and 20 to 75% for nonpelagic rockfish, depending on port and year. The actual conservation benefit of this proposal will depend on use rates, as well as angler skill in the proper use of the DRM, and handling of fish released. The proposal will require anglers to release some rockfish at depth unnecessarily. It will also probably reduce the department's ability to measure the use of DRMs at ports in PWS.

BACKGROUND: Rockfish are caught throughout the Prince William Sound Area.

Nonpelagic rockfish live in deep water, high-pressure environments. These species are subject to high mortality rates when released at the surface due to the injuries (barotrauma) and positive buoyancy caused by expansion of swim bladder gasses when the fish is brought to the surface. Barotrauma injuries include crushed, displaced, or ruptured internal organs, everted esophagus and stomach, embolisms (air bubbles in blood), exophthalmia (bulging eye), ocular emphysemas (air bubbles inside eye), and detached retinas. Often, fish released at the surface are too buoyant to return to depth. Pelagic species also incur these injuries, but to a lesser extent, due to physiological and behavioral differences in depth regulation and their preference for shallower water.

Studies in Oregon and Alaska indicate that some portion of rockfish released at the surface are able to submerge on their own, but that this ability varies by species and depth of capture. Recent research has focused on ways to reduce the effects of barotrauma by lowering the fish back to deep water quickly after capture. Various recompression devices have been marketed to release fish at the depth of capture as quickly as possible. Research by the department suggests survival of released yelloweye rockfish could be increased from about 20% to over 90% by using these simple devices. Studies in the scientific literature demonstrate substantial increases in survival following deep water release for numerous rockfish species.

Outreach and education efforts, which began in 2012, have been aimed at promoting the use of DRMs when releasing rockfish and are ongoing in Southeast and in Southcentral.

In spring 2017, the department developed an outreach plan for Gulf of Alaska fisheries specifically to increase awareness and voluntary use of DRMs when releasing rockfish. In

accordance with that plan, the department will sponsor educational events in 2018 at major ports or coastal communities throughout the Gulf. Printed and online materials are also being developed for distribution to the public that detail rockfish identification and release methods. All efforts are being tracked and recorded for future analysis.

Under recent regulations, anglers could use a DRM to release rockfish, but only after mandatory retention of the first 2 nonpelagic rockfish caught (the bag limit was reduced to 1 nonpelagic rockfish, and mandatory retention was removed at the December 2017 PWS board meeting). The use of DRMs to release rockfish is highly encouraged in both PWS and the NGC. Anglers appear to be more aware of this option based on port sampling interviews. Although not all anglers utilize a DRM, many are taking it upon themselves to use this effective tool when releasing rockfish.

Catch and harvest of rockfish in PWS decreased from 2009 to 2012, possibly a result of the economic recession. Total rockfish catch and harvest in PWS has been increasing since 2012 (Figure 238-1). In 2016, catch and harvest of all rockfish species in PWS reached an all-time high of 72,303 and 55,771 rockfish, respectively (Figure 238-1), but effort was down. The assumed survival rate for rockfish released with a DRM in the PWS sport fishery is 94% or 15,540 fish saved in 2016. At the recent PWS board meeting, the board rescinded the mandatory retention of the first nonpelagic rockfish caught provision, which could increase catch-and-release of rockfish and, conversely, decrease harvest.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal. The department strongly supports the use of DRM as a means to reduce release mortality of rockfish. We promote effective release of rockfish through outreach efforts and have developed a comprehensive outreach strategy to increase the use of DRMs voluntarily. The department has documented increased voluntary use of DRMs. Although requiring the use of DRMs by regulation would also help increase use, it would complicate regulations. It may burden anglers by, in some cases, requiring rockfish to be released at depth unnecessarily. It may also pose enforcement difficulties. For these reasons, the department prefers the use of DRM continue to be promoted through outreach methods, rather than be required by regulation.

COST ANALYSIS: Approval of this proposal will result in an additional direct cost for a private person to participate in this fishery. All anglers would need to purchase or manufacture a DRM if they are angling in salt waters of PWS regardless of their target species.

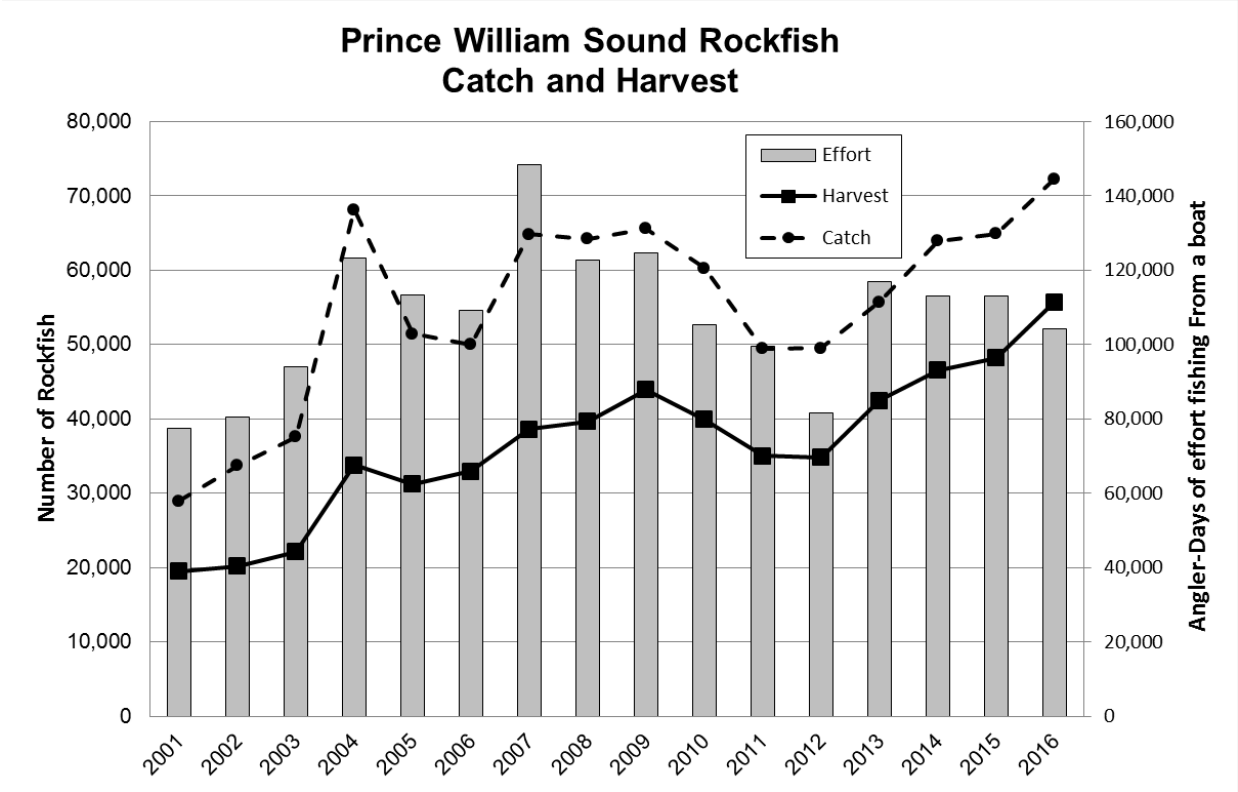

Figure 238-1.–Catch, harvest, and effort (angler-days) of rockfish, PWSMA, 2001–2016. Data from SWHS and apportioned using creel survey interviews.

Note: Angler-days of effort does not include effort from Seward originated trips and effort is for all species.

COMMITTEE OF THE WHOLE–GROUP 3: Prince William Sound Shrimp Noncommercial and Commercial (11 Proposals).

Noncommercial (2 Proposals).

PROPOSAL 216–5 AAC 55.055. Prince William Sound noncommercial shrimp fishery management plan.

PROPOSED BY: Richard Person.

WHAT WOULD THE PROPOSAL DO? This would require sport and subsistence fishers wishing to participate in the PWS noncommercial shrimp fishery to register with the department prior to May 1.

WHAT ARE THE CURRENT REGULATIONS? People who want to participate in the PWS noncommercial shrimp fishery must obtain a household harvest record form (permit) before fishing. Household permits may be obtained from approximately 1 month prior to the start of the fishery until the fishery closes at the end of the day on September 15. More than 1 person in a household may obtain a permit.

Shrimp fisheries in PWS open April 15. The noncommercial shrimp fishery closes September 15, has no bag limit, and the maximum number of pots allowed is 5 per person and 5 per vessel; this pot limit may be reduced by EO to manage the fishery. The commercial shrimp season may open on April 15 if there is a TAH of more than 110,000 lb. The noncommercial fishery is allocated 60% of the TAH and the commercial fishery has a GHL of 40% of the TAH. The commercial fishery closes when the GHL is met or September 15, the regulatory closure date.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This will reduce participation and harvest in the noncommercial pot shrimp fishery if participants forget, or cannot register before May 1. This would be the only noncommercial fishery in Alaska requiring the registration of individuals. The department would need to create and administer a registration system and verify that permit applicants had registered prior to issuing a harvest record form.

BACKGROUND: In order to streamline the permitting process and reduce printing costs, the department began to offer PWS noncommercial shrimp fishing permits online in 2016. In 2017, the majority of permits were issued online. Between March 20 and April 30, 2017, approximately 39% (1,311) of PWS noncommercial shrimp permit holders received their shrimp permit online. During the months of May and June, 27% and 20%, respectively, of shrimp permit holders received an online permit. In total, by the end of June, 86% (2,897) of permit holders in 2017 had a permit. In 2016, 59% of the PWS shrimp permits were obtained online, and that increased to 69% in 2017. All noncommercial shellfish permits in the state of Alaska are available throughout the time frame the fishery is open.

Due to a lower GHL for the sport and subsistence shrimp fishery in 2016 and 2017, an EO was issued preseason each year to reduce the number of pots allowed from 5 to 4 pots. This strategy to reduce effort (pot days) was successful and in 2016 the noncommercial effort was the lowest on record since 2005 (Table 216-1). However, there was a considerable rise in the noncommercial fishery CPUE and the harvest exceeded the GHL (Table 216-1). Similar strategies were in place in 2017 and the noncommercial harvest did not exceed the GHL. Since 2010, the GHL has only been exceeded 2 out of 8 years. Current management strategies have

been successful in reducing harvest when needed in the noncommercial fishery through gear reduction.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. No sport or subsistence fishery in Alaska requires anglers or subsistence users to register. Registration would not provide on-time harvest reporting and would not benefit the management of this fishery. There would also be additional costs to the department to administer a registration program, and additional burden on fishermen to register. If adopted, the board should consider whether reasonable opportunity would continue to be provided for subsistence users participating in the subsistence fishery that provides a normally diligent participant with a reasonable expectation of success of taking fish. To address reasonable opportunity for subsistence users, appeal provisions are recommended to be in place for subsistence fishermen who fail to complete registration prior to accessing the fishery.

COST ANALYSIS: Approval of this proposal may result in an additional direct cost for a private person to participate in this fishery. Fishermen may have to travel in order to complete in-person registration, or pay for Internet access to complete electronic registration.

Table 216-1.–Permit and harvest data for the sport and subsistence shrimp pot fishery in PWS. The harvest of shrimp is reported in gallons and then converted to weight (lb).

Noncommercial PWS shrimp permit data								
Year	Issued	Response rate	Reported Harvesting Shrimp	Effort (pot-days)	Catch per unit effort	Total Harvest (lb)[a]	GHL	GHL Goal
2009	2,733	89.00%	1,719	47,631	1.91	56,120	57,900	Under
2010	3,181	90.00%	2,007	78,083	1.82	87,699	82,200	Over
2011	3,309	88.00%	1,972	56,543	1.7	59,182	79,200	Under
2012	3,098	87.00%	1,829	52,620	1.72	55,765	76,860	Under
2013	3,101	89.00%	1,895	48,967	1.76	85,988	99,500	Under
2014	3,134	86.00%	1,903	48,283	1.85	89,155	100,000	Under
2015	3,033	86.70%	1,847	48,521	1.9	92,072	100,000	Under
2016	3,592	90.70%	2,107	45,012	2.28	102,785	70,500	Over
2017	3,441	92.00%	2,149	45,606	2.01	91,827	100,000	Under

Note: Between 2009 and 2012 the conversion factor for a gallon of shrimp was 2.4 lb. In 2013 the conversion factor was reevaluated. A new conversion factor was measured and determined to be 3.89 lb per gallon of shrimp, and has been used since 2013.

[a] Harvest is estimated for non-respondents to determine total harvest for the noncommercial fishery.

SUBSISTENCE REGULATION REVIEW:

1. Is this stock in a nonsubsistence area? The majority of the stock is located outside the boundaries of the Valdez Nonsubsistence Area, which is described as Unit 6D, as defined by 5 AAC 92.450(6)(D), and all waters of Alaska in the Prince William Sound Area as defined by 5 AAC 24.100, within the March 1993 Valdez City limits.
2. Is this stock customarily and traditionally taken or used for subsistence? Yes. The board has found that shrimp, Dungeness crab, Tanner crab, king crab, and miscellaneous shellfish are customary and traditionally used for subsistence in the Prince William Sound Area (5 AAC 02.208).
3. Can a portion of the stock be harvested consistent with sustained yield? Yes.
4. What amount is reasonably necessary for subsistence uses? The board has established a range of 9,000–15,000 pounds of useable weight of shrimp are reasonably necessary for subsistence uses in the Prince William Sound Area (5 AAC 02.208).
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.

PROPOSAL 218–5 AAC 55.022. General provisions for seasons, bag, possession, and size limits, and methods and means for the Prince William Sound Area., 5 AAC 55.055. Prince William Sound noncommercial shrimp fishery management plan., and 5 AAC 02.210. Subsistence shrimp fishery.

PROPOSED BY: Whittier Fish and Game Advisory Committee.

WHAT WOULD THE PROPOSAL DO? Modify the season start date for the PWS noncommercial shrimp pot fishing season to May 1.

WHAT ARE THE CURRENT REGULATIONS? In PWS, under 5 AAC 55.022 (b)(5)(A), 5 AAC 55.055 (a)(3)(A), and 5 AAC 02.210 (5) shrimp may be taken in the noncommercial fishery by pot gear from April 15 through September 15.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would delay the fishery by 2 weeks from the present opening date, while maintaining the current regulatory closure date of September 15. A shorter season could reduce harvest opportunity for sport and subsistence shrimp fishermen.

BACKGROUND: Before 2001, there were no regulatory restrictions on the noncommercial shrimp fishery in PWS. In March 2000, the board adopted regulations to restrict the noncommercial fishery (effective January 2001). The new regulations required a shrimp permit for all users (sport, personal use, and subsistence, effective during the 2002–2005 seasons), established maximum pot limits of no more than 5 pots per person, with a maximum of 5 pots per vessel, and established a fishing season from April 15 through September 15. In March 2009, the board adopted a *PWS Noncommercial Shrimp Fishery Management Plan* (5 AAC 55.055) allowing for the possibility of a commercial shrimp pot fishery if the total allowable harvest (TAH) exceeds 110,000 lb (5 AAC 31.214). Data collected during the annual department shrimp pot survey, and also commercial and noncommercial harvest information, are used in a surplus production model to estimate the TAH and GHLs. As part of the management plan 40% of the TAH is allocated to commercial users and 60% to noncommercial users. In order to manage the noncommercial fishery allocation for a given year, it became necessary to reinstitute the noncommercial fishery shrimp permit beginning in 2009.

In 2010, an EO was issued in the noncommercial shrimp fishery to increase the maximum pot limit from 5 to 8 pots per vessel and, as a result, effort and harvest increased that year (Hochhalter et al. 2011; Table 218-1). Since 2010, the pot limit per vessel has not been liberalized. In 2016 and 2017, due to high anticipated effort (pot days), and a lower GHL, EOs were issued to reduce effort by decreasing the legal number of pots allowed per person and per vessel to 4.

There has not been a lot of research done in PWS on the prevalence of females with eggs throughout the year, except information from the department's fall survey. There has been anecdotal evidence from commercial and noncommercial participants that by April 15, there is a low frequency of females with egg clutches. Department staff queried the PWS commercial shrimp pot fishery participants after the first 2017 opening, from April 15 through April 25, and participants interviewed had observed less than 5% females with eggs.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal, but **OPPOSES** limiting harvest opportunity when there are no supporting biological data or conservation concerns.

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. Is this stock in a nonsubsistence area? The majority of the stock is located outside the boundaries of the Valdez Nonsubsistence Area, which is described as Unit 6D, as defined by 5 AAC 92.450(6)(D), and all waters of Alaska in the Prince William Sound Area as defined by 5 AAC 24.100, within the March 1993 Valdez City limits.
2. Is this stock customarily and traditionally taken or used for subsistence? Yes. The board has found that shrimp, Dungeness crab, Tanner crab, king crab, and miscellaneous shellfish are customary and traditionally used for subsistence in the Prince William Sound Area (5 AAC 02.208).
3. Can a portion of the stock be harvested consistent with sustained yield? Yes.
4. What amount is reasonably necessary for subsistence uses? The board has established a range of 9,000–15,000 pounds of useable weight of shrimp are reasonably necessary for subsistence uses in the Prince William Sound Area (5 AAC 02.208).
5. Do the regulations provide a reasonable opportunity for subsistence uses? This is a board determination: if adopted, the board should consider whether reasonable opportunity for subsistence uses of shrimp continue to be provided.
6. Is it necessary to reduce or eliminate other uses to provide a reasonable opportunity for subsistence uses? This is a board determination.

Table 218-1.–Number of permits issued, guideline harvest level (GHL), lb of whole shrimp and percentage of GHL harvested, pot-days of effort, catch-per-unit-effort (CPUE), lb of harvested whole shrimp, and percentage of GHL harvested by year in the noncommercial Prince William Sound shrimp pot fishery, 2002-2017.

Noncommercial PWS shrimp permit data								
Year	Permits issued	Response rate	Permits fished	% of permits fished	Effort (pot-days)	Catch-per-unit-effort	Harvest (lb)	GHL
2002	717	84.0%	385	53.7%	19,387	0.78	9,288	–
2003	1,061	91.0%	614	57.9%	24,094	0.94	13,965	–
2004	1,649	90.0%	902	54.7%	30,694	1.36	25,694	–
2005	2,112	90.0%	1,202	56.9%	37,271	1.39	31,950	–
2006	–	–	–	–	–	–	–	–
2007	–	–	–	–	–	–	–	–
2008	–	–	–	–	–	–	–	–
2009	2,733	89.0%	1,719	62.9%	47,631	1.91	56,120	57,900
2010	3,181	90.0%	2,007	63.1%	78,083	1.82	87,699	82,200
2011	3,309	88.0%	1,972	59.6%	56,543	1.70	59,182	79,200
2012	3,098	87.0%	1,829	59.0%	52,620	1.72	55,765	76,860
2013	3,101	89.0%	1,895	61.1%	48,967	1.76	85,988	99,500
2014	3,134	86.0%	1,903	60.7%	48,283	1.85	89,155	100,000
2015	3,033	86.7%	1,847	60.9%	48,521	1.90	92,072	100,000
2016	3,592	90.7%	2,107	58.7%	45,012	2.28	102,785	70,500
2017	3,441	92.0%	2,149	62.5%	45,606	2.01	91,827	100,000
Avg 2010–2014	3,165	88.0%	1,921	60.7%	56,899	1.77	100,720	
Avg 2015–2017	3,355	89.8%	2,034	60.6%	46,380	2.1	95,561	

Note: Permits were first offered online in 2016. Between 2002 and 2012, the conversion factor for a gallon of shrimp was 2.4 lb. In 2013, this was reevaluated and updated to a conversion factor of 3.89 lb per gallon of shrimp

Source: Jay Baumer, Fishery Biologist, ADF&G, Anchorage, unpublished data.

Commercial (9 Proposals).

PROPOSAL 219–5 AAC 31.210. Shrimp pot fishing seasons for Registration Area E.

PROPOSED BY: Whittier Fish and Game Advisory Committee.

WHAT WOULD THE PROPOSAL DO? Modify the season dates for the Prince William Sound Area (PWS) commercial shrimp pot fishing season to open May 1 and close August 15.

WHAT ARE THE CURRENT REGULATIONS? In PWS, Registration Area E, under 5 AAC 31.210(a), in the waters of the Inside District described, shrimp may be taken in a commercial fishery by pot gear from April 15 through September 15, as established by emergency order.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would change the opening date of the commercial shrimp pot fishery from April 15 to May 1, delaying the fishery 2 weeks from the present opening date. It would also change the regulatory closing date of the fishery from September 15 to August 15, which would reduce the season by an additional month if the fishery remained open until the regulatory closure; the total proposed season reduction is 1.5 months. A shorter season could reduce the likelihood of achieving the GHL in some years, primarily in Area 3, and would result in a different opening date from the noncommercial fishery.

BACKGROUND: The following background information, including tables and figures, applies to all 8 PWS shrimp pot proposals for this meeting. In March 2009, the board adopted new regulations for management of the PWS commercial shrimp pot fishery. A commercial fishery may open in years when the estimated total allowable harvest (TAH) is more than 110,000 lb, and the commercial GHL is set at 40% of the TAH. The TAH and the percentages allocated were developed using historical harvest information to provide for the level of noncommercial harvest at that time (2008), and if additional surplus was available, provide for a commercial fishery. The TAH is determined each year by incorporating the department survey results along with noncommercial and commercial harvest removals into a surplus production model. The TAH and the percentages allocated were developed using historical harvest information to provide for the level of noncommercial harvest at that time (2008) and, if additional surplus was available, provide for a commercial fishery. The TAH threshold estimate of 110,000 lb was first met in 2010, and a commercial fishery opened for the first time in 18 years on April 15, 2010. This fishery has been open for a total of 8 seasons from 2010 through 2017. The fishery is rotated on an annual basis between 3 different areas (Area 1, Area 2, and Area 3; Figure 219-1), and commercial harvest from any 1 statistical area to no more than 25% of the GHL. In 2015, the board modified the regulation limiting commercial harvest from any one statistical area by increasing it no more than 50% of the GHL (5 AAC 31.214).

Since 2010, the commercial shrimp pot fishery season has opened on April 15. The length of the season has varied, with the earliest closure occurring on May 19 resulting in the shortest season duration of just over 1 month, and the longest season lasting 5 months until the regulatory closure of September 15. The commercial harvest was within 3% of the GHL 4 years between 2010 and 2017 (Table 219-1); commercial harvest has ranged from 35% to 103% of the GHL. Commercial harvest has been highest in Area 2 with an average 62,970 lb for the 3 seasons it has been open, harvesting between 100 and 103% of the GHL (Table 219-1); Area 1 had an average harvest of 51,774 lb for 3 seasons, harvesting between 82 and 103% of the GHL; and Area 3 has only been open 2 seasons between 2010 and 2017, has had the lowest average seasonal harvest

of 22,350 lb, and harvested 35 and 42% of the GHL. Catch per unit effort (CPUE) in the fishery has ranged from a low of 1.10 lb/pot in Area 3 (2012) to a high of 2.52 lb/pot in Area 1 (2010; Table 219-2).

Prior to 1982 seasons were open year-round. From 1982 to 1984, seasons were shortened to April 1 through November 30. Beginning in 1985, the board established a split season of March 15 through June 30 and August 15 through December 5. The split season was intended to reduce harvests during the egg-bearing periods. In 1990, the spring season was shortened to an opening date of May 1 through June 30. When the commercial fishery reopened in 2010, the season opening date matched the noncommercial date of April 15.

The PWS shrimp pot survey has been conducted annually from 1992 through the present. Currently, 10 areas are surveyed in PWS (Figure 219-1). The shrimp pots used in the survey are designed to catch a wide range of sizes of shrimp in order to evaluate small shrimp and potential recruitment, along with larger more marketable shrimp. These survey pots do not fit the regulatory guidelines of commercial pot gear; therefore survey CPUE cannot be directly compared with that of the commercial fishery (Table 219-3). Since 2010, in the survey, Area 1 and Area 2 both had average CPUEs of 2.5 lb/pot and Area 3 had lower levels with an average CPUE of 0.94 lb/pot. Area 3 is in the southwestern part of PWS has had the lowest values for CPUE during the commercial fishery (Table 219-2). All of the metrics from this survey, which are used to examine the relative abundance and composition of spot shrimp in PWS, indicate stability of the PWS spot shrimp population.

The shrimp pot survey occurs in October and sex composition results indicate there was a shift in 2009. From 1994 to 2008, the percentage of females in the survey catch was 9% or less (Table 219-4). Starting in 2009, the percentage of female shrimp was above 10% in all years except 2015 and an average of 95% of female shrimp had eggs. Department staff queried the PWS pot shrimp fishery participants after the first 2017 opening, from April 15 through April 25, and the participants interviewed had observed less than 5% females with eggs.

The beginning of the fishery occurs in early spring when there is a high incidence of poor weather conditions in PWS, with a potential for gear loss, yet little has been documented. Pot loss does occur in the fishery and is documented with mandatory logbooks. Between 2010 and 2016, examining pot loss in the first 2 weeks of the fishery, between April 15 and April 30, annual pot loss ranged from 24 to 82 pots, an average of less than 1 pot lost per vessel (Table 219-5).

Participation in the PWS shrimp pot fishery has been highest in the beginning of the season when salmon fisheries have not yet opened. From 2010 through 2017, the average number of vessels making landings in April was 36 and dropped to an average of 24 vessels making landings in May (Table 219-6). There have been 2 exceptions, in 2014 and 2015, when the vessels participating increased from April to May, by 3 and 8 vessels, respectively.

There are a variety of season opening and closing dates for shrimp pot fisheries in Alaska. The Southeastern Alaska (Area A) shrimp pot fishing season is open from October 1 through February 28 unless closed by emergency order. There are 3 shrimp pot seasons in Registration Area D (Yakutat): the season is May 1 through February 28 in an area described in 31.160 (1); October 1 through February 28 described in 31.160 (2); and January 1 through December 31 in all other areas in the Yakutat District. According to the Kodiak and Chiniak shrimp pot

management plans, shrimp may be taken from May 1 through February 28, unless closed by emergency order.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal, but **OPPOSES** limiting harvest opportunity when there are no supporting biological data or conservation concerns.

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 219-1.–Prince William Sound total allowable harvest (TAH), guideline harvest level (GHL), harvest, and percent of GHL in commercial and noncommercial shrimp pot fisheries, 2010–2017.

		GHL (lb)		Shrimp Harvest (lb)					
Year	TAH (lb)	Noncommercial	Commercial	Noncommercial	Commercial	Total	% of TAH	Noncommercial % of GHL	Commercial % of GHL
2010	137,500	82,200	55,000	87,699[a]	45,349	133,048	97%	107%	82%
2011	131,900	79,200	52,760	59,182[a]	52,694	111,876	85%	75%	100%
2012	128,100	76,860	51,240	55,765[a]	21,561	77,326	60%	73%	42%
2013	165,750	99,500	66,300	85,988[b]	61,644	147,632	89%	86%	93%
2014	166,500	100,000	66,600	89,155[b]	68,464	157,619	95%	89%	103%
2015	167,000	100,000	67,000	92,071[b]	23,138	115,209	69%	92%	35%
2016	117,653	70,500	47,061	102,785[b]	48,346	151,131	128%	146%	103%
2017	167,000	100,000	67,000	91,827 [b]	67,421	159,248	95%	92%	101%

[a] Calculated with 2.4 lb spot shrimp/gallon conversion.

[b] Calculated with 3.89 lb spot shrimp/gallon conversion.

Table 219-2.–Prince William Sound commercial shrimp pot fishery harvest, number of pot pulls, and catch per unit effort (CPUE, lb/pot) by year in Areas 1, 2, and 3 from 2010–2017.

	Area 1			
Year	2010	2013	2016	Average
Harvest	45,349	61,644	48,329	51,774
# Pot pulls	18,025	34,804	27,360	26,730
CPUE	2.52	1.77	1.77	2.02
				Area 2
Year	2011	2014	2017	Average
Harvest	52,550	68,938	67,421	62,970
# Pot pulls	29,580	41,670	45,261	38,837
CPUE	1.78	1.65	1.49	1.64
				Area 3
Year	2012	2015	2018	Average
Harvest	21,561	23,138	NA	22,350
# Pot pulls	19,644	20,004	NA	19,824
CPUE	1.1	1.16	NA	1.13

Note: NA means- not available.

Table 219-3.–Catch per unit effort (CPUE, lb/pot) of spot shrimp in the Prince William Sound Area shrimp pot survey and commercial shrimp pot fishery, 1992–2016.

	Survey CPUE (lb/pot)*			Commercial CPUE (lb/pot)		
	Area Fished					
Year	1	2	3	1	2	3
1992	0.86	0.62	0.75	ND	ND	ND
1993	0.69	0.48	0.19	ND	ND	ND
1994	0.40	0.41	0.41	ND	ND	ND
1995	0.67	0.61	0.55	ND	ND	ND
1996	0.58	0.53	0.50	ND	ND	ND
1997	0.50	0.40	0.40	ND	ND	ND
1998	0.22	0.38	0.19	ND	ND	ND
1999	0.22	0.73	0.35	ND	ND	ND
2000	0.40	0.77	0.73	ND	ND	ND
2001	1.14	1.19	0.71	ND	ND	ND
2002	0.77	1.99	0.65	ND	ND	ND
2003	0.61	1.75	0.80	ND	ND	ND
2004	3.12	1.82	0.71	ND	ND	ND
2005	1.66	1.92	0.89	ND	ND	ND
2006	2.93	1.84	1.08	ND	ND	ND
2007	3.58	3.23	1.49	ND	ND	ND
2008	3.46	3.17	1.87	ND	ND	ND
2009	2.79	2.67	1.75	ND	ND	ND
2010	1.87	1.63	0.77	2.52	ND	ND
2011	3.67	2.19	0.61	ND	1.78	ND
2012	2.94	2.32	1.12	ND	ND	1.10
2013	1.79	2.55	1.35	1.77	ND	ND
2014	1.98	2.73	1.03	ND	1.65	ND
2015	1.84	2.48	0.46	ND	ND	1.16
2016	3.38	3.61	1.26	1.77	ND	ND
avg. 2010-16	2.50	2.50	0.94	2.02	1.72	1.13

Note: *all size shrimp are included and ND means no data

Table 219-4.–Prince William Sound shrimp pot survey sex composition and percent of females with eggs from 1992–2016; the survey occurs in October.

Year	Percent male	Percent female	Percent of females w/ eggs
1992	88.2	11.8	96.8
1993	80.6	19.4	97.7
1994	95.1	4.9	95.5
1995	95.7	4.3	NA
1996	94.9	5.1	NA
1997	94.1	5.9	NA
1998	94.6	5.4	99.2
1999	94.3	5.7	97.8
2000	95.1	4.9	97.2
2001	92.7	7.3	99.6
2002	91.0	9.0	98.5
2003	92.0	8.0	99.7
2004	91.5	8.5	97.3
2005	95.0	5.0	95.0
2006	91.6	8.4	91.7
2007	94.2	5.8	83.7
2008	93.4	6.6	81.4
2009	86.2	13.8	88.0
2010	81.8	18.2	93.5
2011	74.8	25.2	99.1
2012	84.7	15.3	90.8
2013	85.7	14.3	87.1
2014	89.2	10.8	93.1
2015	91.7	8.3	98.3
2016	86.8	13.2	99.6

Note: NA means- not available.

Table 219-5.–Prince William Sound Area commercial shrimp pot fishery pot loss, 2010–2016.

		Season		April 15-30			
Year	Vessels fished	Pots lost	Pots lost per vessel	Pots lost	Pots lost per vessel	% of total	Available fishing days
2010	75	117	1.56	82	1.09	70%	118
2011	45	108	2.40	61	1.36	56%	96
2012	35	135	3.86	61	1.74	45%	93
2013	45	157	3.49	55	1.22	35%	145
2014	32	140	4.38	38	1.19	27%	111
2015	30	214	7.13	24	0.80	11%	146
2016	57	103	1.81	78	1.37	76%	28
	average 2010-2016		3.52	57	1.25	46%	105

Table 219-6.–Number of vessels that made landings from April through August in the Prince William Sound commercial shrimp pot fishery, 2010–2017.

Year	April	May	June	July	August
2010[a]	72	9	6	2	3
2011[b]	34	18	15	14	closed
2012[c]	27	16	11	5	closed
2013[a]	35	29	13	8	8
2014[b]	22	25	17	7	6
2015[c]	10	18	10	8	5
2016[a]	45	33	closed	closed	closed
2017[b]	43	41	14	closed	closed
average 2010-2017	36	24	12	7	6

[a] Area 1 was open for commercial fishing.

[b] Area 2 was open for commercial fishing.

[c] Area 3 was open for commercial fishing.

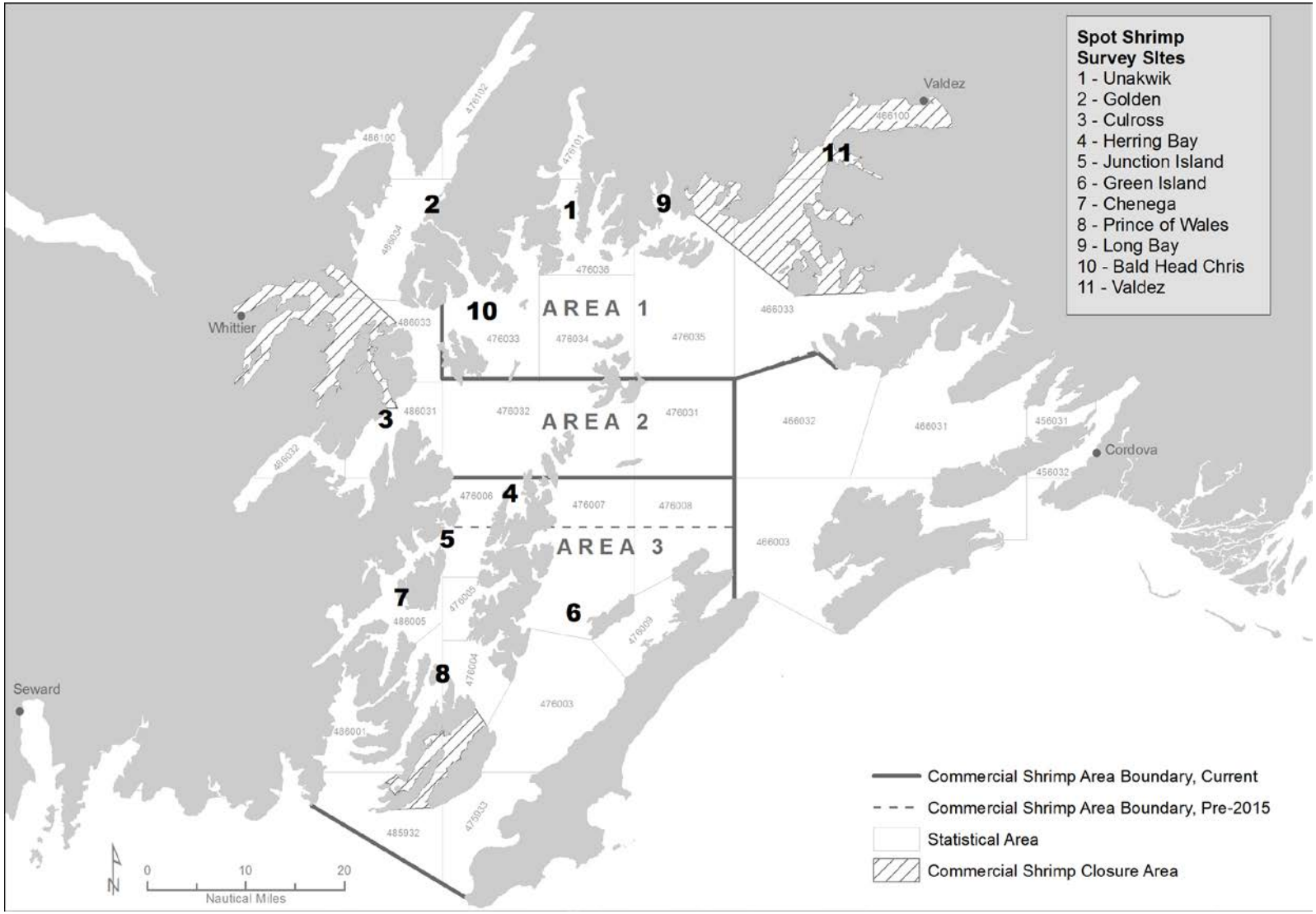

Figure 219-1.–Prince William Sound shrimp pot survey sites and harvest areas.

PROPOSAL 220–5 AAC 31.210. Shrimp pot fishing seasons for Registration Area E.

PROPOSED BY: Kory Blake.

WHAT WOULD THE PROPOSAL DO? Modify the Prince William Sound Area (PWS) commercial shrimp pot fishery season to open October 1 and close December 31.

WHAT ARE THE CURRENT REGULATIONS? In PWS, which is Registration Area E, under 5 AAC 31.210 (a), in the waters of the Inside District described, shrimp may be taken in a commercial fishery by pot gear from April 15 through September 15, as established by emergency order.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would move the season to the fall/winter from the present spring/summer season and would reduce the season length from 5 to 3 months. It may increase participation by fishermen participating in salmon fisheries who do not participate in the current fishery because they are concurrent. In addition, participation by fishermen with smaller vessels may be reduced due to more challenging weather conditions in the fall and winter. Lower participation could result in a lower level of harvest and it could reduce the likelihood of achieving the GHL in some years and/or reduce total overall harvest. It would increase the harvest of female shrimp with eggs (Table 219-4). The commercial season would begin after the noncommercial fishery has closed.

BACKGROUND: See general shrimp pot fishery background, tables and figures found in Proposal 219.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. Department survey information shows the majority of female shrimp have eggs in October; harvesting shrimp during the fall and winter could be detrimental to the overall population by removing a high proportion of egg-bearing females at this sensitive time of year.

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 221–5 AAC 31.210. Shrimp pot fishing seasons for Registration Area E.

PROPOSED BY: Gordon Scott.

WHAT WOULD THE PROPOSAL DO? Amend the statistical areas included in 3 management areas triennially rotated in the Prince William Sound Area (PWS) commercial shrimp pot fishery.

WHAT ARE THE CURRENT REGULATIONS? Commercial shrimp pot fishing in the Prince William Sound Management Area rotates triennially between:

1) the waters north of 60° 40.00′ N. lat. and east of 148° W. long.;
2) the waters south of those waters described in (1) of this subsection and north and west of a line from 60° 30.00′ N. lat., 147° 57.70′ W. long. to 147° W. long.;
3) the waters south of 60° 30.00′ N. lat.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would change the 3 areas that are open for each annual rotation of the PWS commercial shrimp fishery to new areas not yet defined and change harvest distribution between areas. If the shrimp population remains stable, these changes to the areas open to rotation could result in more consistent annual commercial harvest levels.

BACKGROUND: See general shrimp pot fishery background, tables and figures found in Proposal 219. The triennial rotation of the 3 areas in the PWS commercial shrimp pot fishery was first implemented in 2010. This rotation concentrates commercial fishing effort in 1 of the 3 areas each year, which provides a 2 year release from a percentage of the total fishing mortality, which in turn conserves the shrimp resource, promotes recruitment in unfished areas during years with no commercial fishing pressure, and supports sustainability by allowing the population an opportunity to build. The statistical areas in each fishing area were grouped in a contiguous manner to aid in enforcement and provide ease in regulatory interpretation.

In Southeast Alaska, commercial dive fisheries (sea cucumbers, geoducks, and urchins) are managed with statistical area groupings that are rotated triennially: there are 3 groupings, similar to the PWS shrimp pot fishery. There have been adjustments of the areas over the history of the dive fisheries and statistical areas or parts of statistical areas have been shifted to other areas. The statistical areas that form the larger areas for these dive fisheries are not all contiguous.

DEPARTMENT COMMENTS: The department **SUPPORTS** the idea of discussing rotating commercial shrimp areas by statistical area, but cannot fully comment until more information regarding area and rotation are available for review.

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 222–5 AAC 31.210. Shrimp pot fishing seasons for Registration Area E.

PROPOSED BY: Brett Wilbanks.

WHAT WOULD THE PROPOSAL DO? This would modify the area rotation system in the Prince William Sound Area (PWS) commercial shrimp pot fishery to progressively open the currently defined areas annually until the guideline harvest level is reached.

WHAT ARE THE CURRENT REGULATIONS? Commercial shrimp pot fishing in the Prince William Sound Management Area rotates triennially between:

1) the waters north of 60° 40.00′ N. lat. and east of 148° W. long.;
2) the waters south of those waters described in (1) of this subsection and north and west of a line from 60° 30.00′ N. lat., 147° 57.70′ W. long. to 147° W. long.;
3) the waters south of 60° 30.00′ N. lat.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would continue to rotate the PWS commercial shrimp pot fishery in all 3 defined areas in a given year. The area opened at the start of the season would continue to rotate triennially, however, fishing would progress through all 3 areas in a given year, such that the starting area would close and the next area would open and then that area would close and the final area would open until the GHL was achieved. This could result in spreading the harvest out throughout all of PWS each year and may increase the conflict between the commercial and noncommercial fisheries. If the shrimp population remains stable, the changes to the areas open to rotation could result in more consistent annual commercial harvest. This would probably make enforcement more difficult and increase regulatory complexity.

BACKGROUND: See general shrimp pot fishery background, tables and figures found in Proposal 219. The triennial rotation of the 3 areas in the PWS commercial shrimp pot fishery was first implemented in 2010. This rotation concentrates commercial fishing effort in 1 of the 3 areas each year, which provides a 2 year release from a percentage of the total fishing mortality, which in turn conserves the shrimp resource, promotes recruitment in unfished areas during years with no commercial fishing pressure, and supports sustainability by allowing the population an opportunity to build. The statistical areas in each fishing area were grouped in a contiguous manner to aid in enforcement and provide ease in regulatory interpretation.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. The PWS commercial shrimp pot fishery has been managed consistent with the management plan since 2009 and annual commercial harvests have stayed near or below the GHL. Rotating the areas triennially is an important component of the success of the sustainable management of the resource. This proposal would also add another level of management and enforcement complexity to an already closely managed fishery.

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 223–5 AAC 31.214. Shrimp pot guideline harvest level for Registration Area E.

PROPOSED BY: Whittier Fish and Game Advisory Committee.

WHAT WOULD THE PROPOSAL DO? Eliminate the total allowable harvest (TAH) threshold, that when surpassed allows the commercial shrimp pot fishery in the Prince William Sound Area (PWS) to open, therefore the commercial fishery would always be open.

WHAT ARE THE CURRENT REGULATIONS? Current regulations provide a PWS commercial shrimp pot fishery if the estimated TAH in the waters described in 5 AAC 31.210 (a) is more than 110,000 pounds of spot shrimp (5 AAC 31.214). The GHL for the commercial pot gear fishery in these waters is 40% of the total allowable harvest of spot shrimp for the area, and the GHL for the noncommercial (sport and subsistence) pot gear fishery is 60% of the TAH. The commercial fishery is managed so that no more than 50% of the commercial GHL may be taken from any one statistical area.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would eliminate the TAH threshold of 110,000 lb and allow a commercial fishery to be prosecuted at all levels of estimated shrimp abundance, including potentially low levels. This would also reallocate harvest away from the noncommercial fishery during years when the TAH threshold is below 110,000 lb.

BACKGROUND: See general shrimp pot fishery background, tables and figures found in Proposal 219. PWS commercial shrimp landings were first documented in 1960 when approximately 5,000 lb were harvested (Table 223-1). Historically, 97% of the harvest has been spot shrimp and the fishery has been managed for this species. The shrimp pot fishery expanded rapidly during 1978 to 1982 as local Alaska markets were established and major harvest areas located. Despite reduced seasons, harvest and effort continued to increase, with harvest peaking in 1986 at about 291,000 lb and effort peaking in 1987 with 86 vessels participating. By 1988, managers were concerned about shrimp populations due to low harvest and some areas were closed.

Following a limited commercial fishery in 1991, the commercial fishery was closed by EO due to continued low harvest. The noncommercial shrimp fishery continued to be prosecuted throughout this time with a low level of participation. In March 2000, the board adopted a regulation closing the commercial shrimp pot fishery due to low stock abundance. The board also adopted new noncommercial fishery regulations. Season dates were restricted from year-round to April 15 to September 15, gear was restricted from 10 pots per person to 5 pots per person, with a maximum of 5 pots per vessel, and a harvest record/permit was required.

The PWS shrimp pot survey has been conducted annually from 1992 through the present. Data from the department's survey has shown a positive trend of commercially harvestable spot shrimp (≥32 mm carapace length; Figure 223-1) and total shrimp since 1998. Site-specific abundance estimates have been relatively stable over the entire survey area (Figure 223-2).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal and **OPPOSES** aspects of this proposal that affect conservation. The PWS commercial shrimp pot fishery has been managed consistent with the management plan since 2009 and annual commercial harvests have stayed near or below the GHL. The TAH of 110,000 lb provides a conservative component of the plan, allowing for the maintenance of abundance and fishery sustainability of spot shrimp in PWS, and the commercial fishery has been open for just 8 years.

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 223-1.–Prince William Sound Area commercial shrimp pot fishery harvest and effort, 1960–1991.

			Harvest (lb)			
Year	Vessels	Landings	Spot	Coonstripe	Other	Total
1960						4,988
1961						0
1962						3,576
1963						1,101
1964						4,248
1965						4,356
1966						0
1967						749
1968						6,866
1969						5,146
1970						19,776
1971						13,073
1972						6,949
1973						6,370
1974						24,978
1975						4,150
1976						2,410
1977						7,516
1978	9	17				15,466
1979	17	98				52,208
1980	23	155	84,787	5,174	67	90,028
1981	51	509	153,017	20,055	465	173,537
1982	57	397	205,746	7,250	784	213,781
1983	71	646	198,719	14,119	583	213,420
1984	79	513	198,729	7,911	640	207,280
1985	78	528	271,928	3,919	860	276,707
1986	80	540	286,105	3,715	812	290,632
1987	86	498	265,707	3,795	151	269,653
1988	76	433	191,630	764	48	192,442
1989	33	69	28,884	431	0	29,315
1990	23	59	36,378	358	0	36,737
1991	15	45	17,302	278	0	17,580
1992-2009			Fishery Closed			

Note: Blank cells indicate no information available.

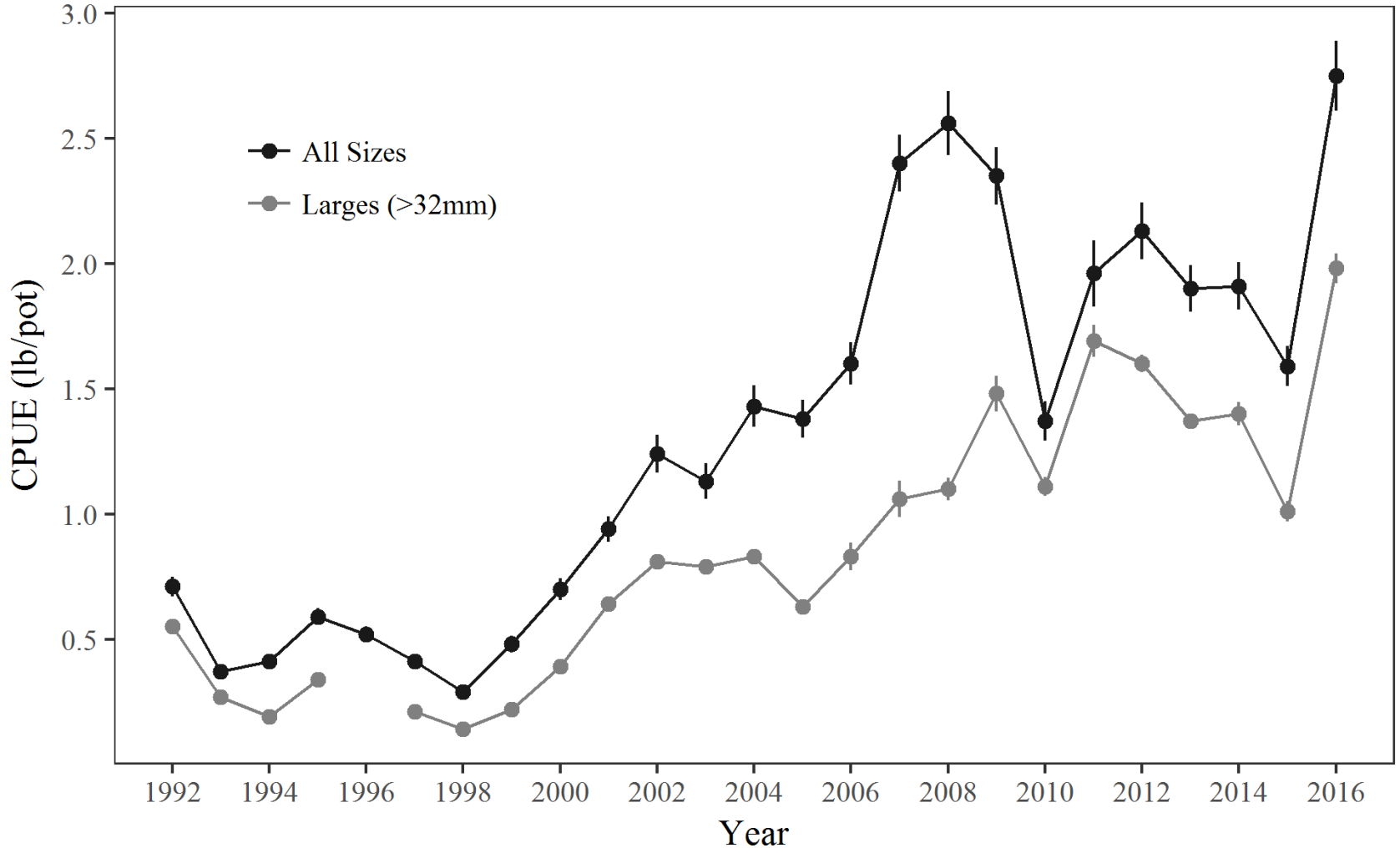

Figure 223-1.–Surveywide CPUE of spot shrimp in the Prince William Sound pot survey.

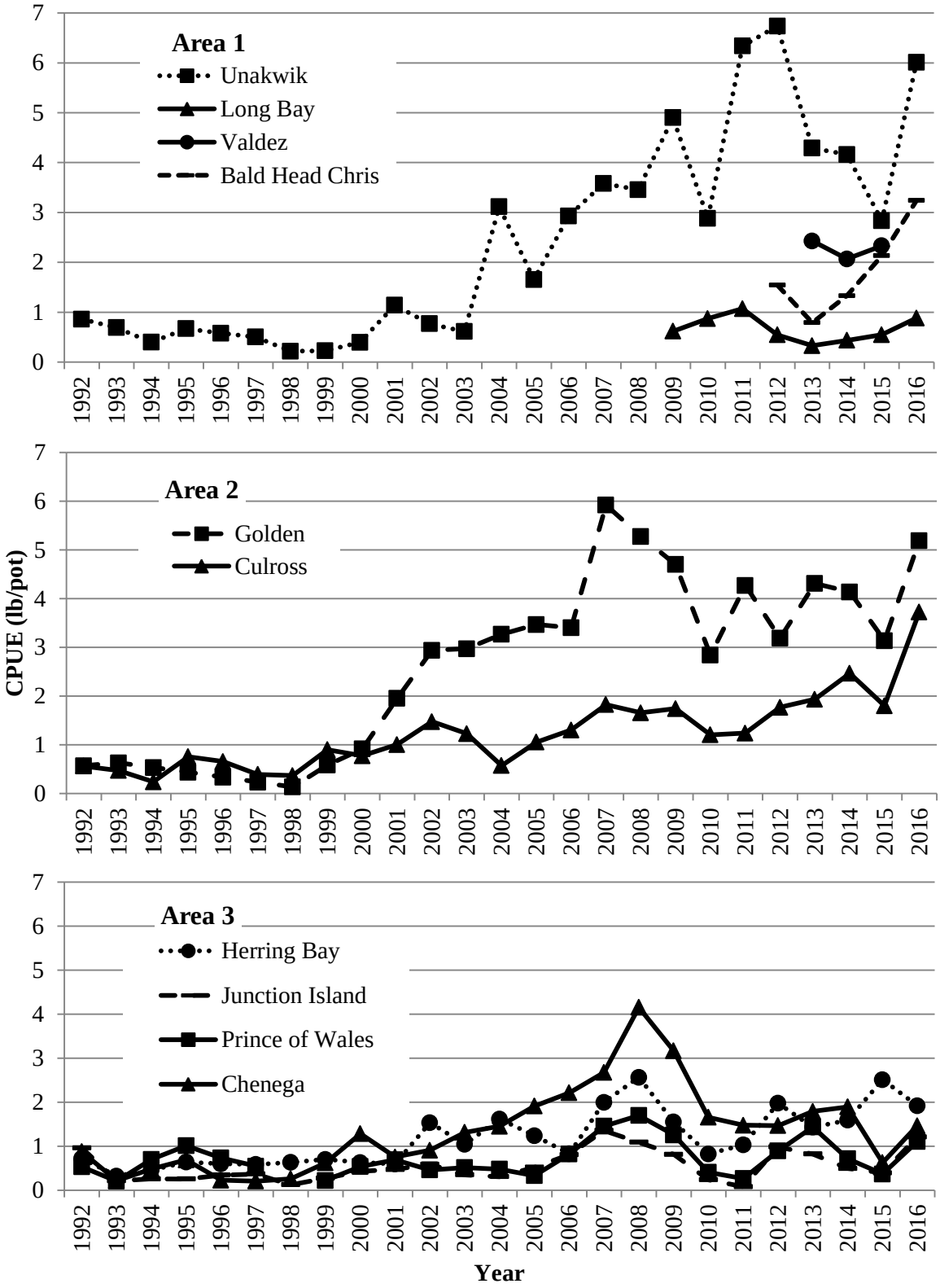

Figure 223-2.–Prince William Sound survey CPUE (lb/pot) of all shrimp for survey sites (Figure 219-1) in the 3 harvest areas, from 1992–2016.

PROPOSAL 224–5 AAC 31.214. Shrimp pot guideline harvest level for Registration Area E.

PROPOSED BY: Joseph Person.

WHAT WOULD THE PROPOSAL DO? Reduce the PWS shrimp pot total allowable harvest (TAH) from 110,000 lb to 80,000 lb, and if this is not reached, commercial and noncommercial shrimp pot fisheries would both not open.

WHAT ARE THE CURRENT REGULATIONS? Current regulations provide a commercial shrimp pot fishery if the estimated TAH in the waters described in 5 AAC 31.210 (a) is more than 110,000 pounds of spot shrimp (5 AAC 31.214). The GHL for the commercial pot gear fishery in these waters is 40% of the total allowable harvest of spot shrimp for the area, and the GHL for the noncommercial (sport and subsistence) pot gear fishery is 60%. If the TAH threshold of 110,000 lb is not met, the noncommercial fishery would open but the commercial fishery would not.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would lower the TAH threshold from 110,000 lb to 80,000 lb and allow a commercial fishery to be prosecuted at lower levels of estimated shrimp abundance. This would also reallocate harvest away from the noncommercial fishery during years when the TAH threshold is below 110,000 lb and eliminate noncommercial harvest if the TAH was below 80,000 lb.

BACKGROUND: See general shrimp fishery background, tables and figures found in Proposal 219.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal and **OPPOSES** the aspects of this proposal that affect conservation. If adopted, the board should consider whether the regulations continue to provide a priority for, as well as reasonable opportunity for, subsistence uses of shrimp. The PWS commercial shrimp pot fishery has been managed consistent with the management plan since 2009 and annual commercial harvests have stayed at or below the GHL. The TAH of 110,000 lb provides a conservative component of the plan, allowing for the maintenance of abundance and fishery sustainability of spot shrimp in PWS, and the commercial fishery has been open for just 8 years.

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 225–5 AAC 31.214. Shrimp pot guideline harvest level for Registration Area E.

PROPOSED BY: Brett Wilbanks.

WHAT WOULD THE PROPOSAL DO? Increase the commercial allocation and decrease the noncommercial allocation of the Total Allowable Harvest (TAH) for the Prince William Sound Area (PWS) shrimp pot fishery: the commercial allocation would increase from 40% to 60% and the noncommercial allocation would decrease from 60% to 40%.

WHAT ARE THE CURRENT REGULATIONS? Current regulations provide a commercial shrimp pot fishery if the estimated TAH in the waters described in 5 AAC 31.210 (a) is more than 110,000 pounds of spot shrimp (5 AAC 31.214). The GHL for the commercial pot gear fishery in these waters is 40% of the TAH of spot shrimp for the area, and the GHL for the noncommercial (sport and subsistence) pot gear fishery is 60% of the TAH. The fishery is managed so that no more than 50% of the commercial GHL may be taken from any one statistical area.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would reallocate the shrimp harvest by increasing the commercial fishery allocation of the TAH by 20% and potentially increasing the commercial harvest while decreasing the noncommercial fishery allocation by 20% and decreasing the noncommercial harvest.

BACKGROUND: See general shrimp fishery background, tables and figures found in Proposal 219. The TAH and the percentages allocated were developed using historical harvest information to provide for the level of noncommercial harvest at that time (2008), and if additional surplus was available, provide for a commercial fishery.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. The board should consider whether adoption of this proposal would continue to provide a priority for, as well as reasonable opportunity for, subsistence uses of shrimp.

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 226–5 AAC 31.235. Closed areas in Registration Area E.

PROPOSED BY: Jon Van Hyning.

WHAT WOULD THE PROPOSAL DO? Remove an area from the list of closed waters for the Prince William Sound Area (PWS) commercial shrimp trawl fishery.

WHAT ARE THE CURRENT REGULATIONS? As defined in 5 AAC 31.235, there are 4 areas closed by regulation in PWS to commercial shrimp trawling (Figure 226-1).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? PWS waters that have been closed to shrimp trawling to protect depressed crab stocks since 1985 will be opened. This could increase the indirect fishing mortality on depressed stocks of king and Tanner crab in these key production areas.

BACKGROUND: The current closure areas for shrimp trawling were adopted into regulation in 1985 to protect depressed king and Tanner crab stocks by minimizing indirect fishing mortality in key production areas. Further regulations for shrimp trawling in northwestern PWS were adopted in 1986, and included seasons and gear specifications. Shrimp trawling regulations were restructured in 1994 when the board adopted open season dates of April 15 through August 15 and October 1 through December 31, amended gear requirements, and created the Northwest Shrimp Trawl Fishing District (NSTFD). In 2003, the board adopted regulations that restructured shrimp trawl management areas. The NSTFD was repealed and the new sections created by this action were the Northwest, Wells, Southwest, and Central sections (Figure 226-1).

Currently, there are still concerns about king and Tanner crab populations in PWS. A Tanner crab subsistence fishery is open but commercial fishing for Tanner crab has been closed since 1989 because of low abundance of Tanner crab estimated in department surveys (Figure 226-2). The PWS (Registration Area E) Tanner Crab Harvest Strategy (5 AAC 35.308) was adopted by the board in 2016 and opens commercial and sport fisheries if survey estimates of legal male Tanner crab abundance were above 200,000 crab. The PWS trawl survey was conducted in 2017 and estimates of legal male Tanner crab did not surpass this threshold. The closed area defined in 5 AAC 31.235 (1) encompasses the majority of PWS trawl survey stations (Figure 226-1); the survey assesses Tanner crab in areas with concentrated Tanner crab abundance.

DEPARTMENT COMMENTS: The department O**PPOSES** this proposal because of continued concerns regarding Tanner and king crab population status in PWS and potential for increased crab bycatch associated with 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.

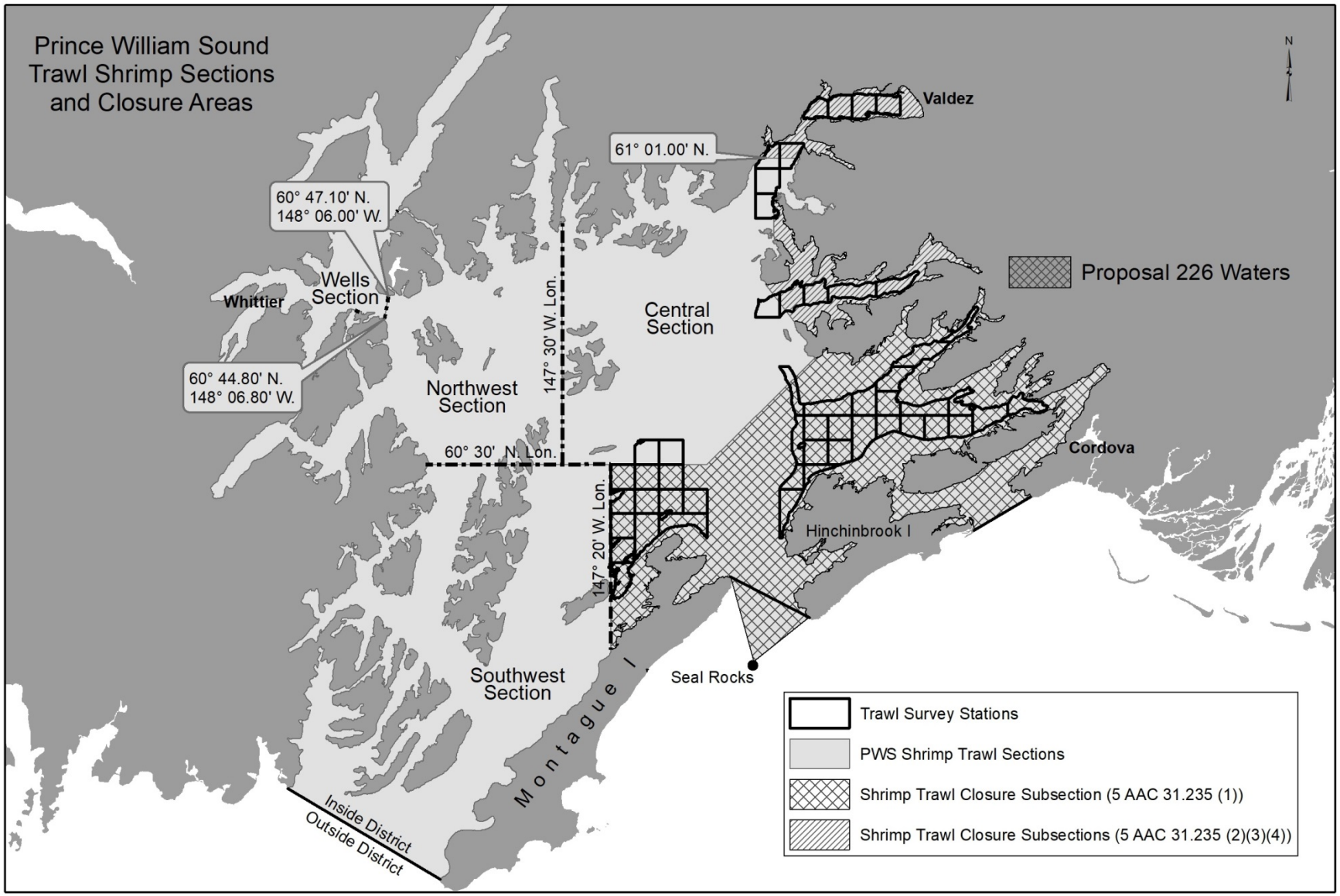

Figure 226-1.–Prince William Sound Area shrimp trawl sections, closed areas, and large mesh trawl survey stations.

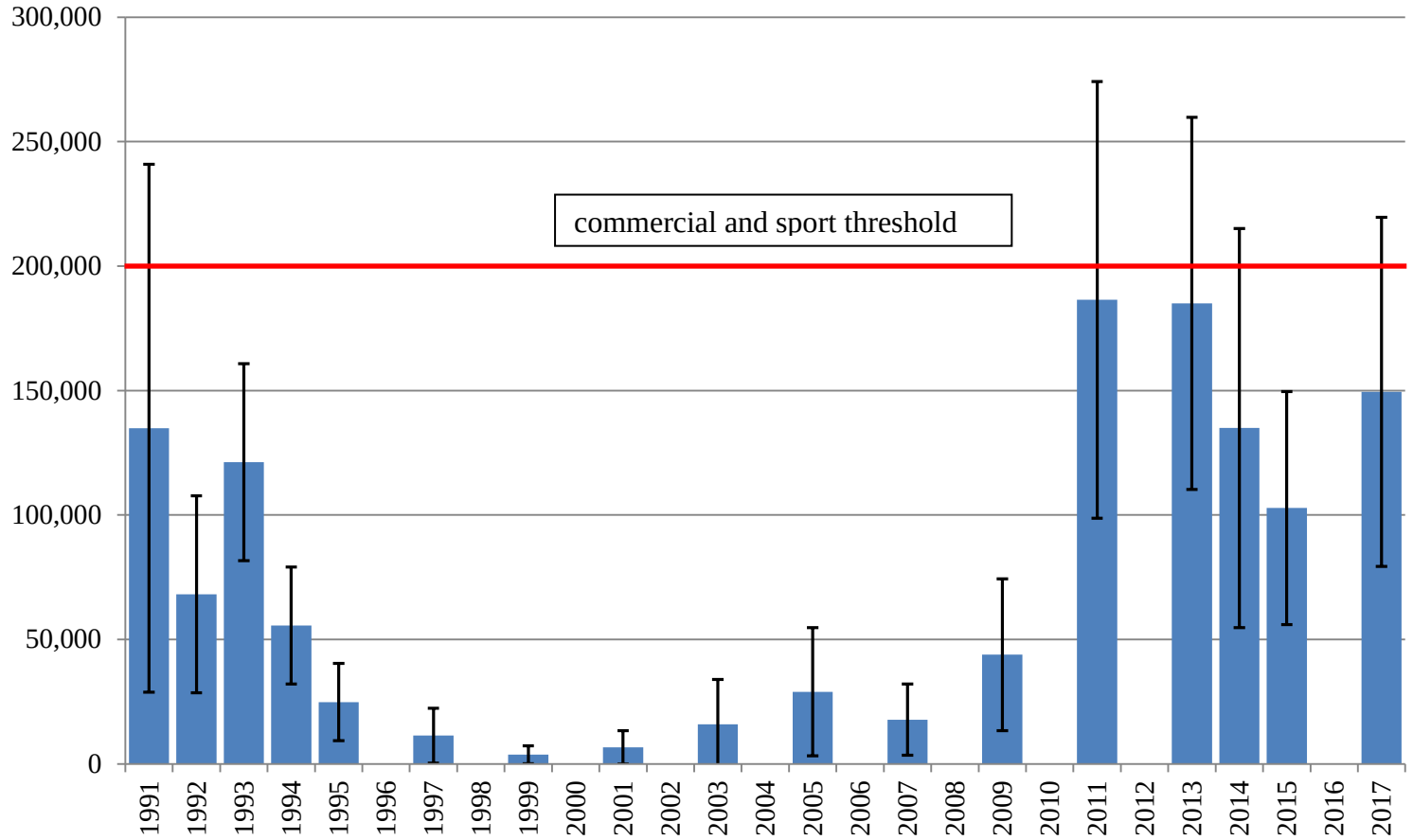

Figure 226-2.–Prince William Sound Area Tanner crab legal male abundance estimates from large mesh trawl survey, 1991–2017.

PROPOSAL 227–5 AAC 31.211. Shrimp trawl fishing seasons for Registration Area E.

PROPOSED BY: Whittier Fish and Game Advisory Committee.

WHAT WOULD THE PROPOSAL DO? Eliminate the Prince William Sound Area (PWS) commercial fall/winter shrimp trawl season.

WHAT ARE THE CURRENT REGULATIONS? In PWS, shrimp may be taken with trawls from April 15 through August 15 and from October 1 through December 31.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The PWS shrimp trawl fishery would not be open in the fall/winter, which would reduce a 7 month season by 3 months and would probably reduce the annual shrimp harvest.

BACKGROUND: See general shrimp trawl fishery background, tables and figures found in Proposal 226. Between 1998 and 2017, there have been 5 years with effort in the fall/winter portion of the fishery with 2017 being one of those years. The percentage of the harvest occurring in the fall/winter portion of the season has reached 9.4% of the total harvest; this occurred in 2007.

For the shrimp trawl fishery, 3 GHLs are established for the Wells, Central/Southwest combined, and Northwest sections. Between 2011 and 2017, the GHLs have not significantly changed (Table 227-1). Since 2006, the GHL was not reached in any of the sections with 2 exceptions: the Wells Section in 2013 and 2014. Harvest information is confidential from 2007 to 2017 because the number of participants was fewer than 3. Each year since 2007, some or all of the sections have been open until the regulatory closure.

The department does not conduct annual stock assessment surveys to estimate sidestripe shrimp (the fishery target) abundance. Limited fishery sampling has been done during the spring/summer fishery. Annual catch per unit effort (CPUE) information during the fishery indicate that the fishery is sustainable; CPUE information is confidential because annual participation has been fewer than 3 vessels.

DEPARTMENT COMMENTS: The department is **OPPOSED** to this proposal; there is no biological concern for shrimp harvested during the October to December portion of the fishery.

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 227-1.–Prince William Sound Area GHLs by section, 2011–2017.

	GHL(lb)		
Year	Wells	Central/Southwest	Northwest
2011	67,649	33,000	18,500
2012	65,957	33,000	18,500
2013	61,928	33,000	14,000
2014	60,300	33,000	14,000
2015	60,300	33,000	14,000
2016	69,500	33,000	14,000
2017	65,950	33,000	14,000