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ALASKA DEPARTMENT OF FISH AND GAME

STAFF COMMENTS ON STATEWIDE KING AND TANNER CRAB AND SUPPLEMENTAL ISSUES

ALASKA BOARD OF FISHERIES MEETING

ANCHORAGE, ALASKA

MARCH 17-21, 2014

Regional Information Report No. 4K14-02

The following staff comments were prepared by the Alaska Department of Fish and Game for use at the Alaska Board of Fisheries meeting, March 17-24, 2014 in Anchorage, Alaska and are prepared to assist the public and board. The stated staff comments should be considered preliminary and subject to change, if or when new information becomes available. Final department positions will be formulated after review of written and oral testimony presented to the board.

ABSTRACT

This document contains Alaska Department of Fish and Game (department) staff comments on statewide King and Tanner Crab regulatory proposals. These comments were prepared by the department for use at the Alaska Board of Fisheries (board) meeting, March 17-21, 2014 in Anchorage, Alaska to assist the public and board. The stated staff comments should be considered preliminary and subject to change, if or when new information becomes available. Final department positions will be formulated after review of written and oral testimony presented to the board.

Key words: Alaska Board of Fisheries, staff comments, subsistence, personal use, sport, commercial, regulatory proposals, shellfish, king crab, Tanner crab.

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SUMMARY OF DEPARTMENT POSITIONS

Proposal #	Dept. Position	Issue
326	O	Close all commercial king and Tanner crab fisheries, except Southeastern Alaska.
327	S	Update regulatory description of king crab Registration Area E.
328	S	Update regulatory description of Tanner crab Registration Area E.
329	N/O	Establish a guideline harvest range (GHR) for Tanner crab in Prince William Sound based on commercial fishery opened with 10-pot limit.
330	N/O	Establish a guideline harvest range (GHR) for Tanner crab in Prince William Sound based on commercial fishery opened with 15-pot limit.
331	N/O	Establish a guideline harvest range (GHR) for Tanner crab in Prince William Sound based on commercial fishery opened with 20-pot limit.
332	N/O	Open a commercial Tanner crab fishery in Prince William Sound for intervals no greater than two years.
333	N/O	Open a commercial Tanner crab fishery in Prince William Sound in March and April with vessel length and pot limit.
334	S	Modify the harvest strategy for Registration Area H Tanner crab.
335	N	Change season dates of the fisheries to October 15 through March 15.
336	N/O	Modify sport fishing season, pot size requirements, pot limit, and bag limit for Cook Inlet Tanner crab.
337	N	Repeal prohibition on subsistence Tanner crab fishing 14 days before participating in a king or Tanner crab commercial opening.
338	N	Close Alitak Bay to subsistence and commercial king and Tanner crab fishing.
339	S	Amend description of area and districts.
340	S	Clarify weather-delay regulations to open the Tanner crab seasons in the Kodiak and South Peninsula areas.
341	N	Repeal Tanner crab tank inspection requirements.
342	S	Change Tanner crab fishery opening to January 3.
343	S	Amend description of king and Tanner crab registration area and districts.
347	S	Amend description of registration area and districts.
344	S	Add spiny king crab (Paralithodes brevipes) as defined species of king crab.
345	N	Allow king crab be taken by hand line during winter commercial fishery in the Norton Sound Section.
346	O	Adjust red king crab harvest rates and trigger points based on changes in abundance model.
348	O	Increase harvest limit for Aleutian Islands golden king crab.
349	O	Modify Aleutian Islands golden king crab season.
350	N	Establish districts for western Aleutian Islands red king crab.
351	S	Establish management measures for Adak red king crab fishery.
352	N	Close federal waters between 171° W. long. and 179° W. long. to fishing when red king crab guideline harvest level (GHL) in state-waters is less than 250,000 pounds.
353	O	Establish registration deadline for Adak red king crab.

Note: N = Neutral
S = Support
O = Oppose

SUMMARY OF DEPARTMENT POSITIONS (Continued)

Proposal #	Dept. Position	Issue
354	N	Open Adak red king crab fishery by emergency order July 1.
355	N	Exempt persons and vessels participating in Adak District red king crab fishery from participation in certain other fisheries.
356	O	Add Adak as tank inspection location for red king crab.
357	S	Amend description of Aleutian Islands king crab registration area.
358	S	Revise Saint Matthew Island blue king crab fishery harvest strategy.
359	S	Allow groundfish pots in Saint Matthew Island blue king crab fishery.
360	N/O	Eliminate king crab pot marking for Registration Area Q (Bering Sea).
361	S	Modify gear marking requirements for longline pots in the Bering Sea golden king crab fishery.
362	S	Specify vertical placement of escape rings and update definition of escape ring placement in Bering Sea Tanner and snow crab fisheries.
363	S	Clarify vessel check-out provisions in rationalized crab fisheries.
364	S	Clarify when a trainee observer permit expires.
365	S	Clarify observer definitions for “briefing”, “debriefing”, and “trainee”.
366	S	Clarify observer briefing and debriefing instructions.
367	S	Update regulations for independent contracting agents.
370	O	Modify groundfish bycatch possession requirements.
371	O	Remove dip net size restrictions for Yukon Area districts 1–3 commercial summer chum salmon fisheries.
372	S	Modify the specifications and operations of a commercial fish wheel in the Yukon Area to allow the use of a lead.
373	S	Remove the exception allowing for a dead king salmon to be taken, but not retained in the Yukon Area districts 1–3 dip net and beach seine commercial summer chum salmon fisheries.
374	S	Modify the time period the Nushagak River single-hook regulation is in effect from year-round to May 1 – July 31.
375	S/N	Remedy a navigational obstruction in Ugashik River set gillnet salmon fishery.
377	N	Authorize use of purse seine gear for commercial harvest of Yukon River summer chum salmon in districts 1–3 during times of king salmon conservation; secondarily the proposal asks for consideration of allowing monofilament purse seine web in this fishery.

Note: N = Neutral
S = Support
O = Oppose

PROPOSAL 326 – 5AAC 34.XXX. Closed waters and 5 AAC 35.XXX. Closed waters. *(The finfish aspects of this proposal were considered at the Lower Cook Inlet meeting and heard and deliberated at the Upper Cook Inlet meeting. The king and Tanner crab aspects of this proposal will be considered during the Statewide King and Tanner Crab meeting.)*

PROPOSED BY: Don Johnson.

WHAT WOULD THESE PROPOSALS DO? This proposal would close all commercial king and Tanner crab fisheries in the state, except Southeastern Alaska.

WHAT ARE THE CURRENT REGULATIONS? Current regulations regarding commercial crab (king and Tanner) can be found in chapters 34 (*King Crab Fishery*) and 35 (*Tanner Crab Fishery*) of the Alaska Administrative Code (AAC; 5 AAC 34 and 5 AAC 35).

The Alaska Board of Fisheries (board) has previously adopted policy for management of king and Tanner crab under Board Finding 90-04-FB, March 1990.

It is the goal of the board and the Alaska Department of Fish and Game (department) to manage king and Tanner crab stocks in a manner that will protect, maintain, improve, and extend these resources for the greatest overall benefit to Alaska and the nation. Achievement of this goal is necessarily constrained by the requirement to minimize: (1) risks of irreversible adverse effects on reproductive potential; (2) harvest during biologically sensitive periods of the life cycle; (3) adverse fishery impacts on non-targeted portions of stocks; and (4) adverse interactions with other fish and shellfish stocks and fisheries. Management of these fisheries for the purpose of achieving this goal will result in a variety of benefits which include, but are not limited to, the following: (1) maintaining healthy stocks of king and Tanner crabs of sufficient abundance to insure their continued reproductive viability and the maintenance of their role in the ecosystem; (2) providing a sustained and reliable supply of high quality product to the industry and consumers which will provide substantial and stable employment in all sectors of the economy relating to these fisheries; and (3) providing opportunities for subsistence and personal use fisheries on these stocks. The board also recognizes the benefits of managing for the highest socioeconomic benefit when such action does not conflict with the previously mentioned biological constraints.

The board's finding further provides a number of policies and management measures.

WHAT WOULD BE THE EFFECT IF THESE PROPOSALS WERE ADOPTED? This proposal would eliminate harvest of king and Tanner crab throughout much of Alaska. It is unknown if the reduction in harvest would benefit king salmon production.

Many of the crab fisheries of the Bering Sea and Aleutian Islands are managed by the state of Alaska under a federal fishery management plan and blanket closure of those fisheries would be problematic because of the state's responsibilities under the federal fishery management plan. Tanner crab fisheries in the Gulf of Alaska are managed under board-approved harvest strategies that close fisheries when population size falls below established threshold abundance levels. Most king crab fisheries in the Gulf of Alaska have been closed for decades.

BACKGROUND: Red king crab are the predominant king crab in commercial harvests, with the largest harvests coming from Bristol Bay and smaller harvests coming from Southeast Alaska, Norton Sound, and the Adak area. Historically, very large harvests came from the Kodiak area, but that fishery has failed to recover since being closed in 1983. Several other once important king crab fishing grounds are also now closed due to conservation concerns. Bering Sea snow crab is the largest crab fishery in Alaska. Tanner crabs are found throughout the North Pacific Ocean and Bering Sea along the continental shelf and coastal waters. King and Tanner crab fisheries in the Gulf of Alaska and Bering Sea during the 2012/13 season were valued at approximately $225 million.

King salmon bycatch is not a concern in commercial king and Tanner crab fisheries since crab are commercially harvested with pots and pots do not catch king salmon.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. This proposal would unnecessarily close commercial fisheries currently open and those that could possibly be opened to commercial fishing. It would put unnecessary restrictions on many commercial crab fisheries without proven benefits. Existing regulations provide adequate protections for crab fisheries throughout Alaska.

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 327 – 5 AAC 34.200. Description of Registration Area E.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This proposal would amend the Registration Area E western boundary description for king crab by aligning it with the Registration Area K eastern boundary (Figure 327-1).

WHAT ARE THE CURRENT REGULATIONS? Regulatory descriptions of Registration Area E king crab boundaries are located in 5 AAC 34.200 (Figure 327-1). *Description of Registration Area E*. Registration Area E has as its western boundary the longitude of Cape Fairfield (148° 50.25' W. long.), and as its eastern boundary the longitude of Cape Suckling (144° W. long.).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would update and clarify regulatory descriptions of king crab boundaries in the Prince William Sound area. The department does not anticipate any changes with respect to management of the Registration Area E king crab fishery.

BACKGROUND: The department recently reviewed established Registration Area E king crab boundaries. The boundary between king crab registration areas K and E was not clearly defined in regulation, and was not consistent with other shellfish boundaries between the two registration areas (Figure 327-1). Adopting a consistent and clearly defined boundary between registration areas will benefit commercial fishermen, fishery managers, and law enforcement.

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.

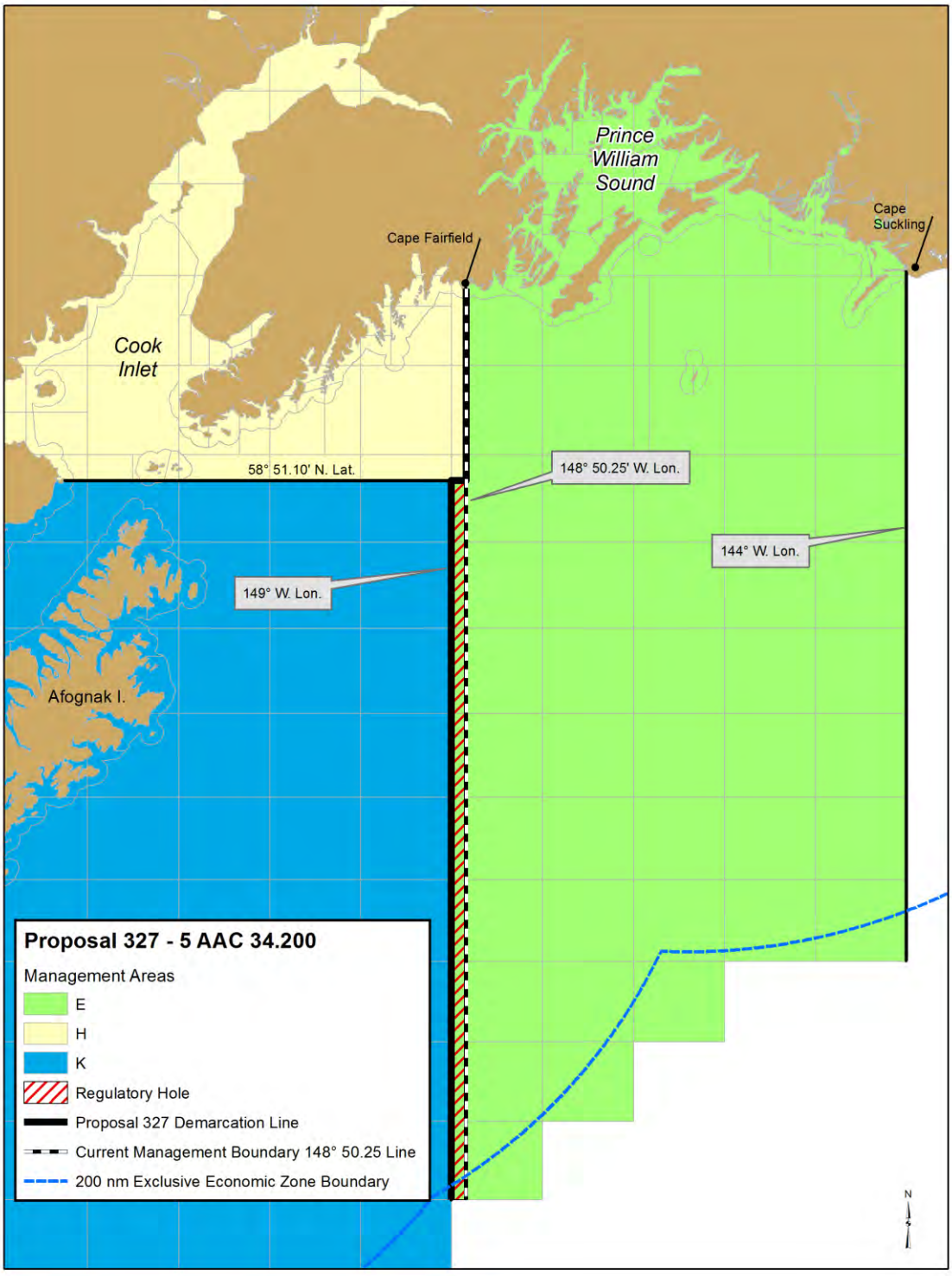

Figure 327-1.–Current and proposed king crab fishery boundaries in registration areas E, H, and K.

PROPOSAL 328 – 5 AAC 35.300. Description of Registration Area E and 5 AAC 35.305. Description of Registration Area E districts.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This proposal would amend the Registration Area E regulatory boundary descriptions for Tanner crab by updating historical boundary coordinates and aligning the western boundary with the eastern boundary of Registration Area J (Figure 328-1).

WHAT ARE THE CURRENT REGULATIONS? Regulatory descriptions of Registration Area E Tanner crab boundaries are located in 5 AAC 35.300 *Description of Registration Area E* and 5 AAC 35.305 *Description of Registration Area E districts*.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would update and clarify regulatory descriptions of Tanner crab boundaries in the Prince William Sound area; it would also update specific coordinates to reflect the precision afforded by current technology. The department does not anticipate any changes with respect to management of the Registration Area E Tanner crab fishery.

BACKGROUND: The department recently reviewed established Registration Area E Tanner crab boundaries. The boundary between Tanner crab registration areas J and E was not consistent with other shellfish boundaries between the two registration areas. Additionally, the department identified several landmarks that could be more precisely identified with specific global positioning coordinates. Adopting consistent and clearly defined boundaries between and within registration areas will benefit commercial fishermen, fishery managers, and law enforcement.

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.

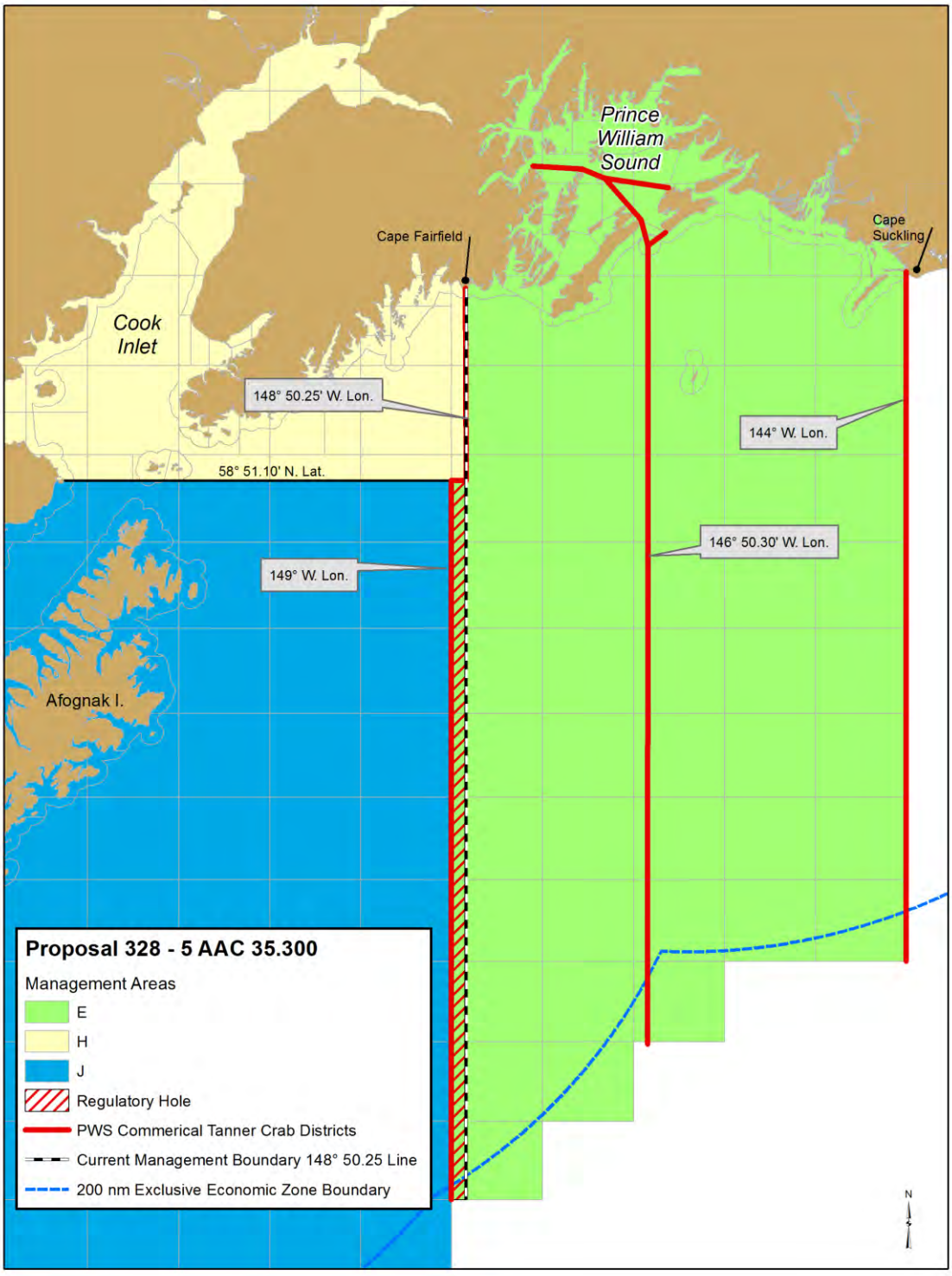

Figure 328-1.–Current and proposed Tanner crab fishery boundaries in registration areas E, H, and J.

PROPOSALS 329, 330, 331, 332, and 333 – 5 AAC 35.315. Guideline harvest range and 5 AAC 35.310. Fishing seasons for Registration Area E.

PROPOSED BY: Robert A. Smith (proposals 329–332) and the Village of Eyak (Proposal 333).

WHAT WOULD THESE PROPOSALS DO? These proposals would develop a Tanner crab management plan in Prince William Sound (PWS) with varying seasons and pot limits. Proposal 329 would establish a guideline harvest range (GHR) with a commercial season open from February 15 through March 31 and a 10-pot per vessel limit. Proposal 330 would establish a GHR with a commercial season open from November 1 through December 31 and a 15-pot per vessel limit. Proposal 331 would establish a GHR with a commercial season open from February 1 through March 31 and a 20-pot per vessel limit. Proposal 332 would open the commercial fishery with no more than two years between openings. Proposal 333 would open the commercial fishery from March 1 through April 30, allow only vessels less than 53 feet to participate, and allow 20 pots per vessel.

WHAT ARE THE CURRENT REGULATIONS? Regulation 5 AAC 35.310 states that the commercial harvest of Tanner crab in the PWS Area is closed until the Alaska Board of Fisheries (board) has adopted a harvest strategy; there are no season dates in regulation.

In accordance with 5 AAC 35.080, the Alaska Department of Fish and Game (department) shall establish an annual harvest strategy for each Tanner crab stock that is consistent with the board's *Policy on King and Tanner Crab Resource Management*. If adequate data are available, the department should establish a threshold level of abundance of each stock and may not allow fishing on any stock that is below its threshold level of abundance. Data used to determine guideline harvest levels (GHL) and exploitation rates may include estimates of exploitable biomass, estimates of recruitment, estimates of threshold level of abundance, estimates of acceptable biological catch, historical fishery performance data, estimates of reproductive potential, and market or other economic considerations.

Additional regulations designate Registration Area E as a superexclusive registration area for Tanner crab, restrict harvest to male crab 5.3 inches or greater in shell width, restrict gear to no more than 75 king and Tanner pots per vessel, require buoy tags, and pots must have a minimum of four escape rings no less than 4 and three-quarters inches inside diameter installed on the vertical plane of the pot.

There is currently a subsistence Tanner crab fishery in PWS (outside the Valdez Nonsubsistence Area) with season dates of October 1 through March 31, a gear limit for pots of two pots per person with a maximum of two pots per vessel, a permit requirement, and a bag and possession limit of five legal sized (five and one-half inches or greater in carapace width) male Tanner crab per person per day. The waters of Port Valdez, Galena Bay, Port Fidalgo, and Port Gravina are closed to subsistence crab fishing because they are in a nonsubsistence area or are considered key areas for reproductive adults and young crab.

WHAT WOULD BE THE EFFECT IF THESE PROPOSALS WERE ADOPTED? If one of these proposals were adopted, a commercial fishery for Tanner crab could occur in PWS with

a pot limit lower than that in current regulation, and in one case, a vessel size limit. All these proposals would increase the harvest of Tanner crab in PWS. The subsistence and commercial fishery would overlap in time and space in PWS.

BACKGROUND: Commercial harvest of Tanner crab within PWS occurred as early as 1968 when 1.2 million pounds of crab were landed. The fishery peaked in the 1972–1973 season when more than 13.9 million pounds were landed. In 1976, a minimum size limit of five and one-third inches or greater carapace width was implemented. After this, harvest decreased during the late 1970s and early 1980s, followed by large area closures during the 1984 and 1985 seasons. Stable harvests of around 500,000 pounds occurred during the 1986, 1987, and 1988 seasons before the fishery was closed due to lack of recruitment documented by the annual stock assessment pot survey. The commercial Tanner crab fishery in PWS has been closed since 1988 (Table 329-1). The decline of Tanner crab abundance in the early years of the commercial fishery was most likely due to harvesting too many reproductive males and females, before the male size limit and prohibition of harvesting females were implemented.

The department has assessed Tanner crab abundance in PWS since 1977, using a pot survey until 1991 and a trawl survey from 1991 to the present. The pot survey provided relative abundance indices of legal Tanner crab and was used to set guideline harvest levels for the commercial fishery. The trawl survey has occurred annually from 1991–1995 and biennially from 1997 to the present; data from this survey are used to estimate abundance of all recruit types and females (figures 329-1 and 329-2). Legal male estimates from core stations declined from 108,689 crabs in 1993 to the lowest estimated level of 3,697 crabs in 1999. Since then, the Tanner crab numbers have rebounded. In the most recent trawl survey conducted in 2013, the abundance estimate for legal males was 184,992 crabs. This estimate is similar to the estimate of 186,422 legal male Tanner crab in 2011. These two most recent surveys have documented the highest relative abundance of both legal and total male Tanner crab since the survey began in 1991 (Table 329-2). In addition, the abundance estimate of male pre-recruits less than 112 mm carapace width is also at their highest levels (about 7.5 million crab) since the inception of the trawl survey. The estimate for pre-recruit male crab between 113 mm and 134 mm is at the second highest level of abundance since the trawl survey was initiated (322,264 crab). Estimates of females were also at the highest relative abundance in survey history, at almost 7.1 million crab; the previous high was 2.3 million crab.

Noncommercial fisheries for Tanner crab historically remained open year round throughout PWS until 1999 when they were closed by regulation due to steady declines in both overall and legal male abundance as well as a lack of noncommercial fishery harvest information. In March 2008, the board established the current subsistence Tanner crab fishery in PWS; the board has not designated an amount reasonably necessary for subsistence, except presumptively through the Tanner crab bag limit of five legal-sized males per day. Harvest in the subsistence fishery has increased from 44 crab in the 2008–2009 season to 2,162 crab in the 2012–2013 season (Table 329-3).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on these allocative proposals and **OPPOSED** to opening a commercial fishery for Tanner crab at this time. Although the department is encouraged by the increased number of legal and pre-recruit male Tanner crab in

PWS, the department does not believe current abundance levels can sustainably support a commercial fishery and would like to see more evidence of a sustained recovery before prosecuting a commercial fishery. Additional commercial fishing activities occurring simultaneously or in the same areas as subsistence fishing for Tanner crab in PWS could reduce subsistence harvest.

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 329-1.–Commercial Tanner crab harvests from the Prince William Sound Management Area, 1968–2013.

Season[a]	Vessel	Landings	Harvest by Area (lb)				Total	Mean Weight (lb/crab)	Number of crab
				Inside	Outside				
1968–1969							1,235,613		
1969–1970							1,284,597		
1970–1971							4,159		
1971–1972							7,788,498		
1972–1973							13,927,868		
1973–1974				1,658,000	8,500,000		10,158,000		
1974–1975				1,187,000	2,667,000		3,854,000		
1975–1976				3,322,482	3,810,262		7,132,744		
			Northern	Hinchinbrook	Western	Eastern	Total		
1976–1977[b]	23	316	782,048	766,650	701,725	70,925	2,321,348		
1977–1978	38	591	994,721	1,161,831	2,079,549	570,573	4,806,674	2.2	2,184,852
1978–1979	51	783	649,977	708,562	2,248,545	3,443,471	7,050,555	2.1	3,357,408
1979–1980	49	561	140,228	332,583	1,462,059	4,057,847	5,992,717	2.0	2,996,359
1980–1981	30	304	152,196	812,352	1,561,207	250,076	2,775,831	2.1	1,321,824
1981–1982	29	216	351,139	722,834	1,503,253	288,425	2,865,651	No Data	
1982–1983	40	304	471,422	31,447	921,663	45,308	1,469,840	2.1	699,924
1984–1985[c]	0	0	Closed	Closed	Closed	No Effort	0		
1985	0	0	Closed	Closed	No Effort	No Effort	0		
1986	14	35	137,720	236,241	160,829	587	535,377	2.1	254,941
1987	23	65	152,834	222,052	196,246	0	571,132	2.1	271,968
1988	21	46	55,929	226,509	191,654	0	474,092	2.1	225,758
1989–2013	0	0	Closed	Closed	Closed	Closed	0		

Note: Blank cells indicate no data.

[a] Closed from 1989 to present.

[b] New districts and minimum legal size established.

[c] Calendar year season established.

Table 329-2.–Tanner crab population male abundance estimates based on trawl survey catches in the Northern and Hinchinbrook districts, Prince William Sound, 1991–2013.

		Size Class				
Year	Survey Tows	Prerecruits <112 mm	Prerecruits -1 113 – 134 mm	Recruits 135 – 157 mm	Post-recruits >157 mm	Legal Males
1991	29	1,694,798	237,328	114,870	4,670	119,539
1992	37	1,314,143	283,275	57,918	2,653	60,571
1993	38	779,440	237,601	106,105	2,584	108,689
1994	38	872,726	182,986	54,377	998	55,375
1995	32	357,697	97,511	22,275	0	22,275
1997	39	314,980	32,859	10,694	0	10,694
1999	40	152,459	16,872	2,749	948	3,697
2001	40	1,991,713	59,051	6,635	0	6,635
2003	40	805,089	95,070	15,924	0	15,924
2004*						
2005	40	503,122	117,439	28,057	948	29,004
2007	35	1,195,852	202,609	33,518	0	33,518
2008*						
2009	43	1,767,583	307,013	79,712	0	79,712
2011	43	1,928,261	574,852	186,422	0	186,422
2012*						
2013	43	7,440,865	322,264	178,096	6,897	184,992

*no survey conducted

Table 329-3.–Prince William Sound subsistence Tanner crab fishery participation and harvest, 2008–2013.

Season	Permits Issued	Permits Returned	Permits Fished	Days Fished	Legal Males Harvested
2008–2009	130	114	37	83	44
2009–2010	95	93	29	75	85
2010–2011	74	73	25	59	78
2011–2012	82	79	32	91	268
2012–2013	150	149	82	378	2,162

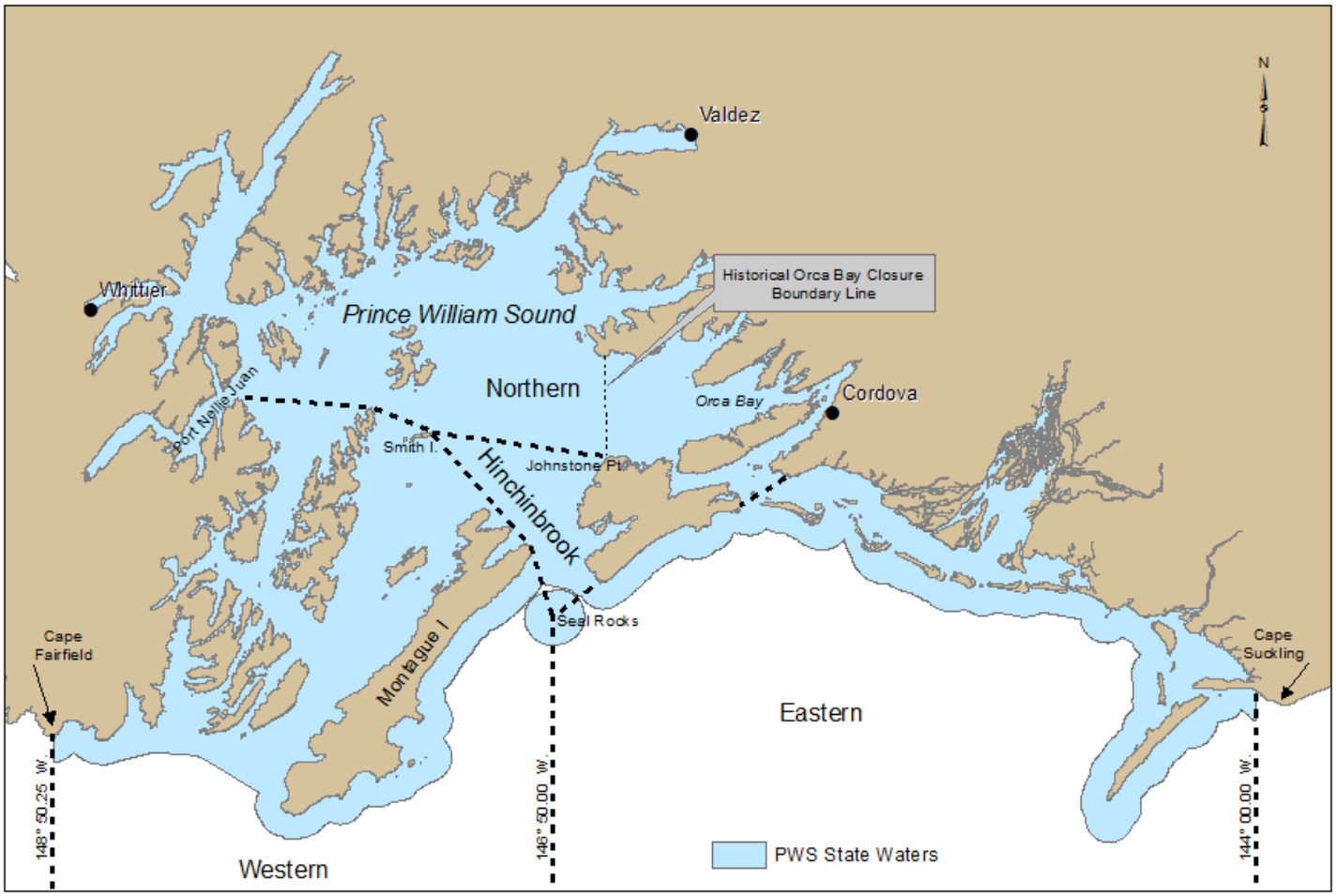

Figure 329-1.–Prince William Sound commercial Tanner crab fishing districts.

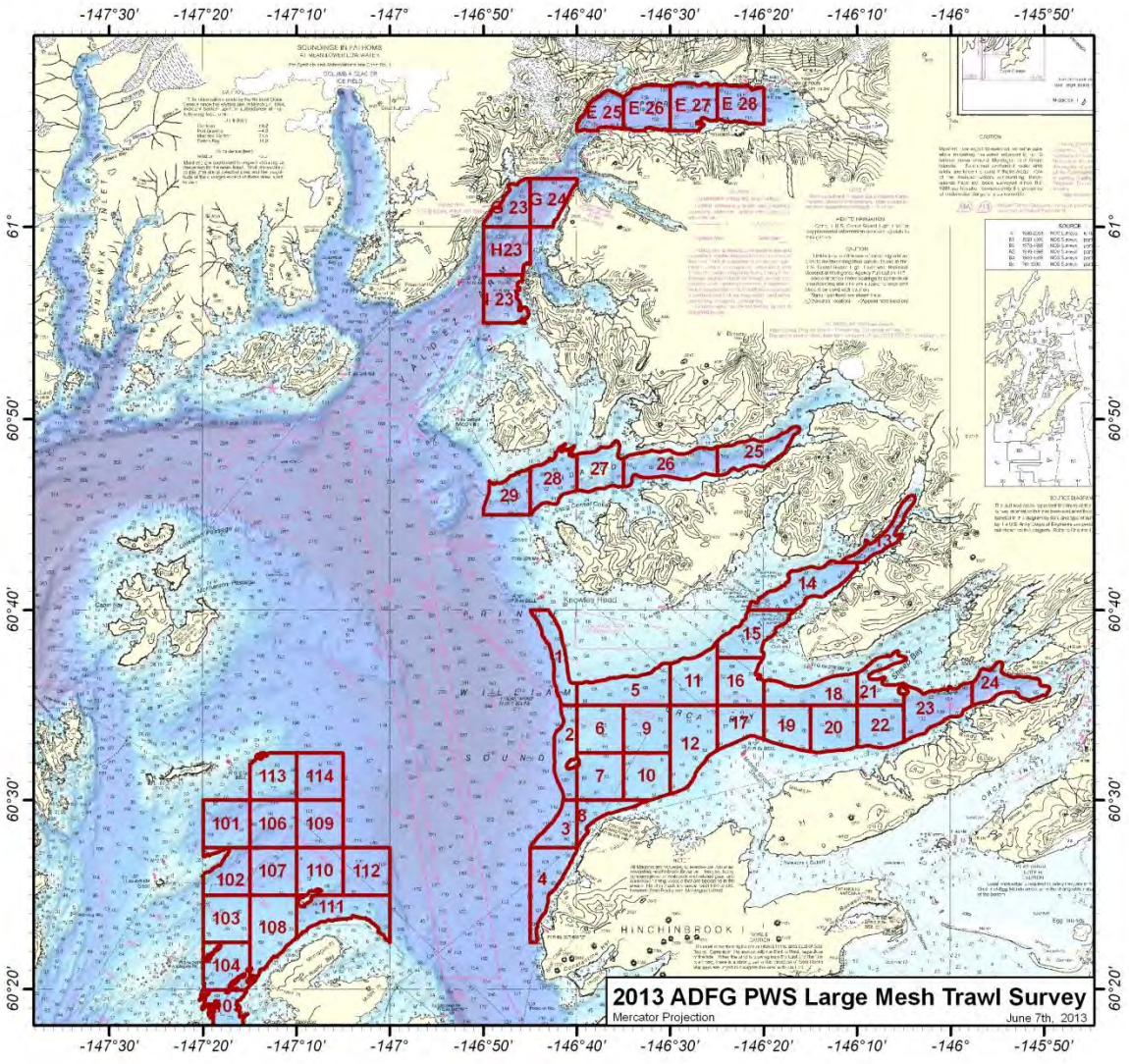

Figure 329-2.–Prince William Sound bottom trawl survey locations grid.

PROPOSAL 334 – 5 AAC 35.408. Registration Area H Tanner crab harvest strategy.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This proposal would use the most recent three-year average from the Alaska Department of Fish and Game (department) Kachemak and Kamishak trawl surveys (see Figure 334-1) instead of the most recent five-year average to calculate legal male Tanner crab abundance for purposes of determining noncommercial Tanner crab fishery openings and guideline harvest levels (GHL) when legal male Tanner crab stock abundance is below the minimum stock size threshold for a commercial fishery.

WHAT ARE THE CURRENT REGULATIONS? The Registration Area H Tanner crab harvest strategy (5 AAC 35.408) limits the noncommercial Tanner crab GHL to no more than 10 percent of the recent five-year average of legal male Tanner crab abundance when legal male abundance is below the minimum threshold for a commercial fishery, but is high enough to meet the threshold for noncommercial fisheries (sport, personal use, and subsistence outside the nonsubsistence area).

Current regulations state that the sport and personal use fisheries are to be closed in the Southern District east of a line from Pt. Pogibshi to Anchor Point (areas D and E, inside the nonsubsistence area), when:

1. The five-year average stock abundance from the Kachemak Bay trawl survey is less than 100,000 legal male Tanner crab; or
2. Estimated stock abundance of Tanner crab from the Kachemak Bay trawl survey is less than 100,000 legal male Tanner crab for three consecutive years; or
3. Estimated stock abundance of Tanner crab is less than 50,000 legal male Tanner crab in any given year.

Lastly, the noncommercial fishery (areas A, B and C) will remain closed in the Southern District west of a line from Pt. Pogibshi to Anchor Point and the Kamishak and Barren Islands districts when the recent five-year average stock abundance of legal male Tanner crab estimated from the Kamishak Bay trawl survey is less than 50,000 Tanner crab or if any single year's estimate is below 40,000 legal male Tanner crab.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would update regulations to reflect current Tanner crab maturity, molt, and longevity status research in the Cook Inlet area (Registration Area H). The department would estimate legal male crab abundance using the most recent three-year average instead of the most recent five-year average which will give the most recent survey data greater weight in decisions to open the fishery and determine the GHL than under current regulations.

BACKGROUND: From 1990 to the present, the department has conducted annual trawl surveys in Kachemak Bay to estimate Tanner crab abundance (Figure 334-1). Legal male abundance reached its highest level in the early 1990s, with a peak estimate of nearly 1.1 million legal male crab in 1992 (Table 334-1). Estimates of legal male abundance from 2000 to 2005 never reached the 100,000 crab threshold; variable estimates exceeding the 100,000 crab threshold were

observed from 2006–2009 (range 101,485–238,859 legal male Tanner crab). Estimates of legal male Tanner crab during the three most recent survey years were 41,595 (2011), 20,501 (2012) and 38,053 (2013).

In Kamishak Bay, a trawl survey has also been conducted since 1990 to estimate male Tanner crab abundance, with the last few surveys occurring biennially (Figure 334-1). The trend was similar to Kachemak Bay with estimates at their highest levels in the 1990s, ranging from 110,211 to 878,364 legal male Tanner crab and dropping to levels less than 100,000 crab from 2000–2005 (Table 334-2). Survey estimates after 2005 have fluctuated widely, ranging from lows of zero legal males during the 2012 survey and 54,115 in 2007 to highs of 307,042 in 2010 and 508,369 in 2006.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal. Recent Tanner crab results from these trawl surveys have shown that the majority of male Tanner crab in Kachemak Bay and Kamishak Bay are in a skip molt or terminal molt status, meaning they will not live more than three years past maturity. Because of this, abundance estimates using a three-year average rather than a five-year average will allow the department to track population trends more closely by providing a biologically appropriate population average to use relative to current thresholds to open noncommercial Tanner crab fisheries in Kachemak and Kamishak bays.

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

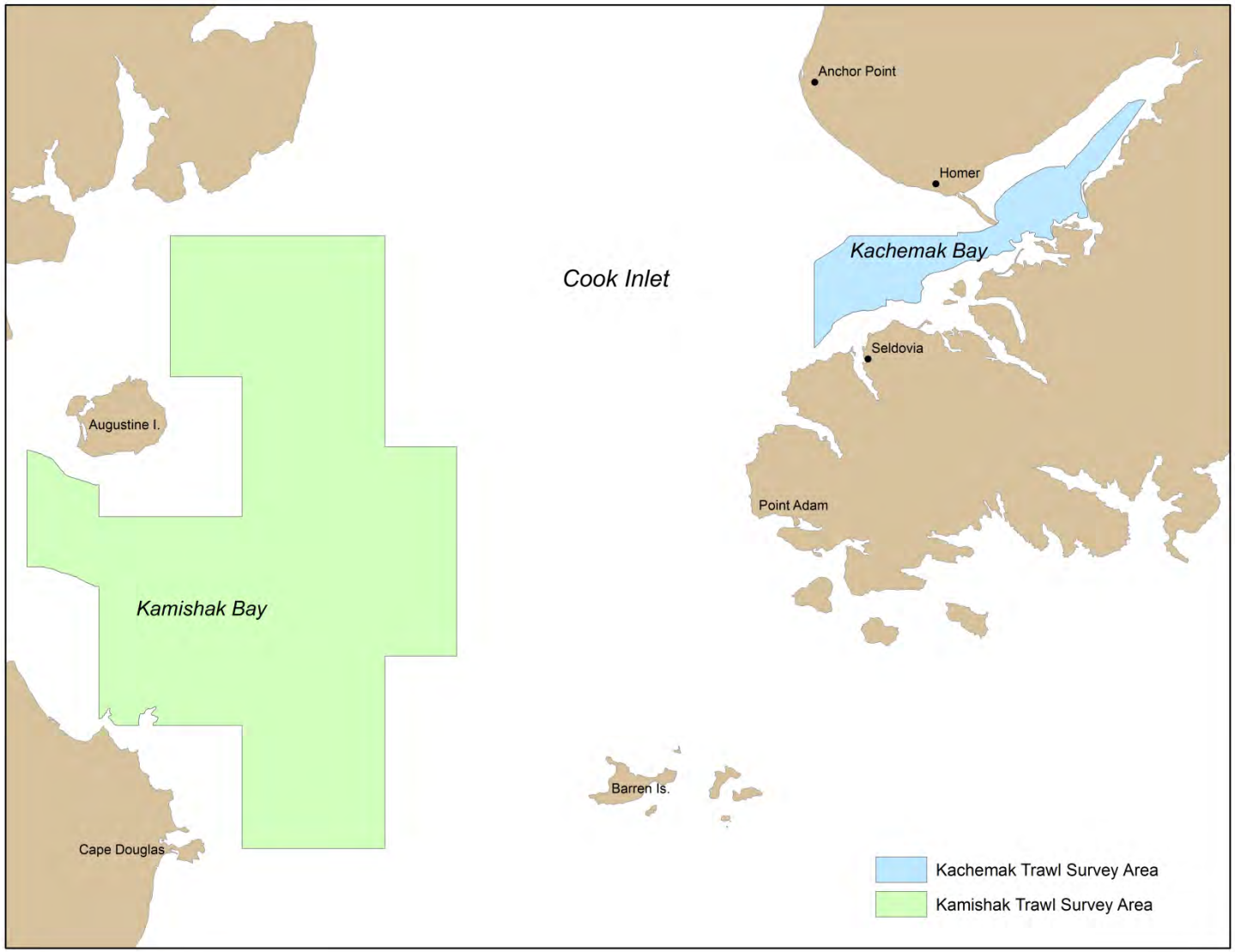

Figure 334-1.–Kachemak and Kamishak trawl survey locations in the Cook Inlet Management Area.

Table 334-1.–Male (by recruit category) and female Tanner crab estimates from the Kachemak Bay trawl survey, 1990–2013.

Year	No. of Tows	Prerecruit <115 mm	Prerecruit-1 115-139 mm	Recruit 140-165 mm	Postrecruit >165 mm	Legal Male >139 mm	Female Total
1990	19	1,844,958	494,420	319,670	70,430	390,100	1,431,357
1991	20	1,389,346	853,703	435,837	65,377	501,214	1,336,555
1992	18	789,472	919,649	977,453	81,468	1,058,920	590,951
1993	20	856,087	372,841	537,910	71,162	609,073	1,285,100
1994	20	647,305	160,089	169,665	29,732	199,397	1,026,328
1995	20	1,312,681	505,813	256,852	18,597	275,449	1,542,876
1996	19	754,031	597,340	98,926	0	98,926	730,245
1997	23	560,581	314,231	138,852	695	139,547	468,837
1998	23	387,768	195,921	200,246	6,178	206,424	498,442
1999	20	2,788,178	202,873	102,169	2,394	104,563	1,810,731
2000	23	1,387,590	385,323	81,164	1,545	82,709	961,227
2001	22	2,606,832	393,619	95,605	1,545	97,150	2,625,882
2002	21	3,815,506	211,554	88,170	0	88,170	3,195,219
2003	23	3,137,843	290,954	48,961	0	48,961	1,568,200
2004	23	2,333,925	569,970	84,794	0	84,794	2,408,582
2005	22	1,421,528	349,348	45,882	0	45,882	1,223,975
2006	23	1,502,965	240,712	238,859	0	238,859	1,027,023
2007	23	612,151	380,032	164,602	785	165,387	2,118,008
2008	16	930,720	230,979	98,996	2,489	101,485	807,399
2009	16	2,509,529	556,074	144,282	0	144,282	2,960,217
2010*							
2011	38	4,924,202	93,670	41,595	0	41,595	4,821,029
2012	37	4,772,547	57,087	20,501	0	20,501	5,326,806
2013	37	3,058,108	141,934	35,434	2,619	38,053	3,194,150

* no survey conducted.

Table 334-2.–Male (by recruit category) and female Tanner crab estimates from the Kamishak Bay trawl survey, 1990–2012.

Year	No. of Tows	Prerecruit <115 mm	Prerecruit-1 115-139 mm	Recruit 140-165 mm	Postrecruit >165 mm	Legal Male >139 mm	Female Total
1990	24	4,097,243	3,525,182	878,364	0	878,364	3,479,750
1991	17	1,265,562	2,420,775	633,816	0	633,816	622,091
1992	26	1,568,835	1,568,835	241,255	4,509	245,765	752,626
1993	15	4,606,968	1,795,420	310,310	0	310,310	3,802,663
1994	17	4,638,785	2,753,891	310,356	6,897	317,253	2,506,296
1995	24	2,626,300	2,226,688	297,999	0	297,999	864,686
1996	18	2,337,605	3,721,052	647,925	6,514	654,439	1,189,272
1997	18	1,391,965	2,415,258	590,136	11,725	601,860	470,936
1998	22	543,593	451,395	148,689	0	148,689	369,856
1999	20	3,146,284	519,398	110,211	0	110,211	1,268,010
2000	25	949,067	211,980	19,697	0	19,697	862,102
2001	24	5,173,459	143,626	49,341	0	49,341	4,905,260
2002	19	15,503,562	211,659	36,408	0	36,408	10,017,088
2003	17	4,142,216	337,253	62,071	0	62,071	3,530,470
2004	22	7,575,927	641,210	24,576	0	24,576	2,753,671
2005	21	9,777,719	2,107,070	61,414	0	61,414	6,915,253
2006	27	6,623,294	2,392,983	504,027	4,342	508,369	5,010,731
2007	24	1,011,787	277,323	54,115	0	54,115	575,179
2008							No Survey
2009							No Survey
2010	24	677,279	820,936	302,582	4,885	307,042	195,171
2011							No Survey
2012	23	1,993,253	98,449	0	0	0	1,117,271

PROPOSALS 335 – 5 AAC 35.410. Fishing seasons for Registration Area H; 5 AAC 58.022. Waters; seasons; bag, possession, and size limits; and special provisions for Cook Inlet-Resurrection Bay Saltwater Area; and 5 AAC 77.516. Personal use Tanner crab fishery.

PROPOSED BY: Homer Fish and Game Advisory Committee.

WHAT WOULD THE PROPOSAL DO? This proposal would change the sport and personal use Tanner crab season dates to October 15–March 31 in Kachemak Bay.

WHAT ARE THE CURRENT REGULATIONS? 5 AAC 35.408 *Registration Area H Tanner crab harvest strategy* established abundance thresholds necessary to open Cook Inlet Tanner crab fisheries. When department surveys indicate thresholds for legal male Tanner crab have been met, a noncommercial (sport and personal use) fishery may occur in Kachemak Bay. Tanner crab noncommercial (subsistence, sport, and personal use inside the Anchorage-Matsu-Kenai Nonsubsistence Area, and subsistence outside that nonsubsistence area) season dates in all areas are currently July 15–March 15 with a January 1–15 closure in Kachemak Bay waters only (Figure 335-1; areas D and E). Daily bag and possession limits are five legal male Tanner crab in all areas. Pots are limited to two per person and no more than two per vessel (except six per vessel in North Gulf Coast, Area E); all pots must have a biodegradable escape mechanism and two escape rings which are at least four and three eighths inches inside diameter. A harvest permit and catch recording form is required and must be completed before leaving the harvest location. Reported information includes catch, harvest, and harvest location information.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WAS ADOPTED? This proposal would reduce the Tanner crab sport and personal use fishing seasons by two and one-half months and have no effect on the subsistence season dates. This would likely result in reduced participation and harvest in the sport and personal use fisheries, by an unknown amount, due to less fishing time during July and August, typically months with better weather. This proposal would likely reduce discard mortality of non-retained soft shell crab that are still hardening their shells after molting.

If the proposal is adopted, the sport and personal use seasons in Kachemak Bay would be out of alignment with the subsistence season outside the nonsubsistence area, which is July 15 through March 15 (except if the subsistence fishery is closed in the Kamishak or Barren Islands districts, the subsistence fishery is also closed in the Eastern, Outer, and Central districts). They would also be out of alignment with the sport and personal use seasons in the remainder of Cook Inlet.

BACKGROUND: The Cook Inlet Tanner crab harvest strategy (5 AAC 35.408) allows commercial or noncommercial fisheries to occur when legal male crab abundance thresholds are met. Since the strategy was adopted in 2002, commercial thresholds have not been attained. However, noncommercial thresholds were attained and fishing was allowed from the 2008/09 season through the 2011/12 season (Kachemak Bay was closed by emergency order (EO) on September 6, 2011) until that year's survey was completed. At the current abundance the strategy allows harvest of no greater than 10% of the recent five-year average of legal male

abundance. Cook Inlet Tanner crab and Juneau area red king crab are the only noncommercial crab fisheries in Alaska managed with an abundance-based harvest limit.

Most of the Cook Inlet noncommercial fisheries harvest occurs in Kachemak Bay (reporting areas D and E) (Table 335-1). Kachemak Bay is inside the Anchorage-Matsu-Kenai Peninsula Nonsubsistence Area, which ends near Hesketh Island. During the three full seasons that the noncommercial fishery was reopened (2008/09 season through 2010/11 season), an average 93% of harvest and effort occurred in Kachemak Bay (Table 335-1). In Kachemak Bay, for the three most recent full seasons (2008/09 to 2010/11), 55% of the total harvest occurred between July 15–August 31. Sport and personal use fisheries exceeded allowable harvest levels in Kachemak Bay waters during the 2008/09 and 2009/10 seasons (Table 335-1). In response to this, daily bag and possession limits were reduced by emergency order from five to four in the Cook Inlet portion (reporting areas A, B, D, and E) of the management area during the 2010/11 season (Figure 335-1).

Harvest permit reporting for the noncommercial fishery provides information on the catch and release of females, legal males, and sublegal males (Table 335-2). During the three recent open seasons, the number of released crab approximated three times the number of crab that were retained. For instance, in the 2009/10 season, in Cook Inlet, 22,000 females, 33,000 sublegal males, and 7,000 legal males were caught in pots and released; while 19,000 legal males were harvested. Approximately 17,000 legal male Tanner crab were harvested in Kachemak Bay during the 2009/10 noncommercial season, representing approximately 12% of the 2009/10 legal male Tanner crab abundance estimate for Kachemak Bay.

Commercial Tanner crab fishing seasons in Alaska are structured to avoid biologically sensitive mating and molting periods and are typically prosecuted in late fall through early spring. Noncommercial Tanner crab fishing seasons are year round except in Prince William Sound and Cook Inlet; the Southeastern Alaska area has a 2-week closure in June but is otherwise open year round. Prince William Sound and Cook Inlet are areas where either Tanner crab stock status, harvest potential, or a combination of the two, is such that unrestricted seasons have the potential to negatively impact the health of the Tanner crab resource.

In 2013, the Alaska Department of Fish and Game (department) initiated a study to examine monthly changes in shell hardness in new shell male Tanner crab in Kachemak Bay using durometer measurements. Molt timing and shell condition are often determined through field observations and subjective visual examinations of crab, and laboratory studies and durometer measurements are meant to provide an objective, repeatable measure of shell condition. If durometer unit measurements (DU) are <60, crab are considered soft; between 60 and 80 DU, crab are considered hardening; and above 80 DU, crab are considered hard shelled. Preliminary results from the study indicate that new shell male Tanner crab in Kachemak Bay do not attain DU measurements of greater than 60 until after September 1 (Figure 335-2). After September 1, only one of the two measurements, the ventral carapace location, is greater than 60 DU; the sternite plate is slower to harden than the ventral surface of the carapace. Studies have shown that crab are more susceptible to discard mortality while in soft shell condition. Some mortality

also occurs when hard shell crab are discarded. Overall survivorship is greater when crab are in the hard shell condition.

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

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

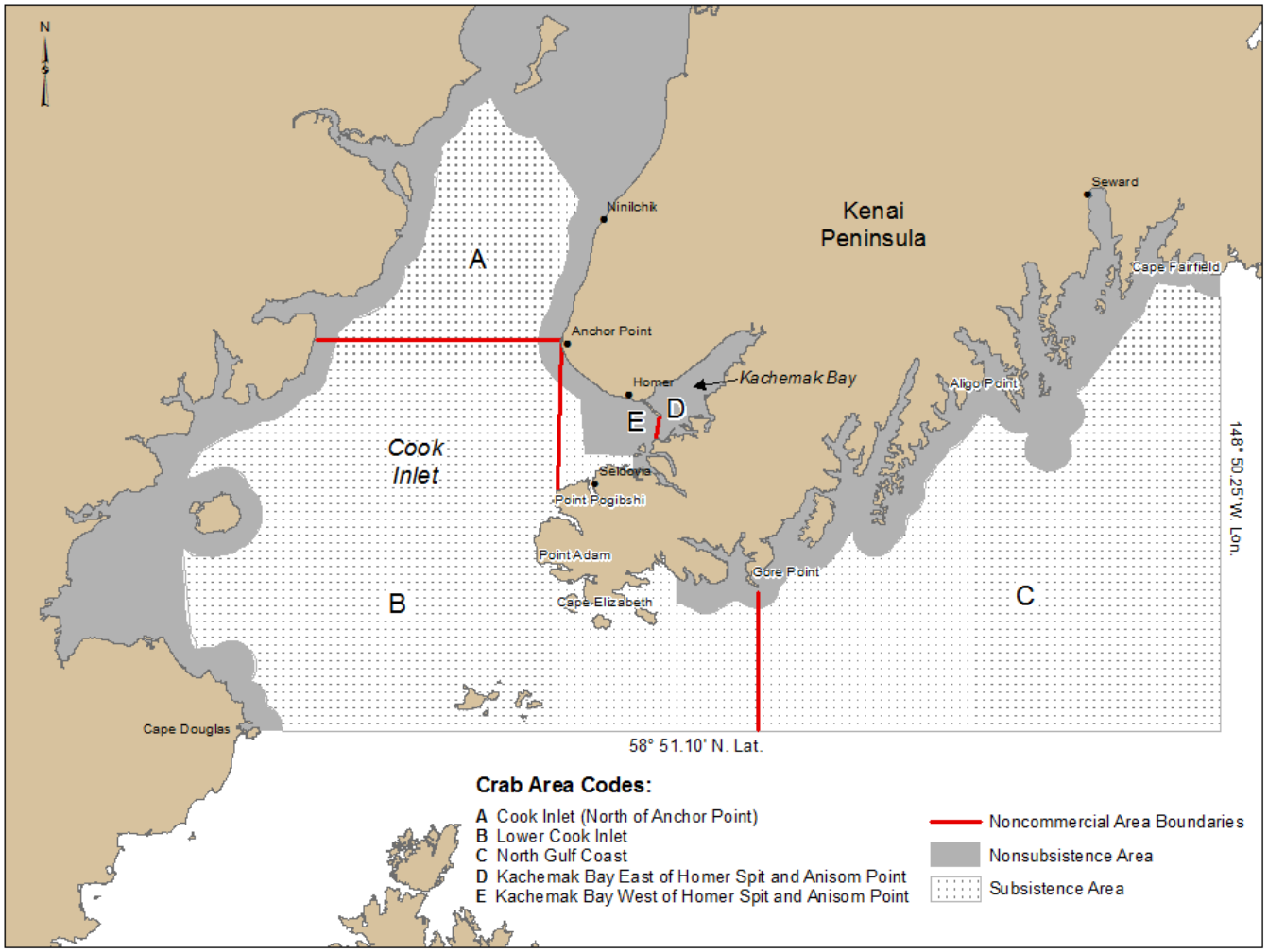

Figure 335-1.–Noncommercial Tanner crab area codes for the Cook Inlet Management Area.

Table 335-1.–Noncommercial Tanner crab harvest, guideline harvest levels (GHL), percent of harvest in summer (July–August) and fall/winter (September–March), and percent of harvest in areas D–E in the Cook Inlet Management Area (areas A–E), 2008/09–2013/14 seasons.

Season	Total Harvest	GHL Area A-C	Harvest Area A-C	% Harvest July-Aug	% Harvest Sept-Mar	GHL Area D-E	Harvest Area D-E	% Harvest July-Aug	% Harvest Sept-March	% Harvest Area D-E
2008/09	17,173	16,212	832	77%	23%	13,373	16,185	59%	41%	94%
2009/10	18,827	20,797	1,581	84%	16%	14,860	17,141	50%	50%	91%
2010/11	13,745	28,984	685	67%	33%	18,284	12,676	58%	42%	92%
Average[a]	16,582	21,998	1,033	76%	24%	15,506	15,334	55%	45%	93%
2011/12[b]	8,979	18,058	441	99%	1%	11,709	8,271	92%	8%	92%
2012/13	closed									
2013/14	closed									

[a] Averages from the three full open seasons.
[b] Season closed September 6, 2011in areas D and E, remained open in areas A-C, but no harvest occurred.

Table 335-2.–Noncommercial Tanner crab harvest, effort (fishing days), and released female, undersized, and legal crab in the Cook Inlet Management Area (areas A–E), 2008/09–2013/14 seasons.

Season	Harvest Area A-C	Effort Area A-C	Harvest Area D-E	Effort Area D-E	Total Harvest	Released[a] Females	Released[a] Sublegal Males	Released[a] Legal Males	Total[a] Released
2008/09	832	271	16,185	4,783	17,173	21,199	31,195	6,946	59,340
2009/10[b]	1,581	490	17,141	4,775	18,827	21,849	32,981	6,951	61,781
2010/11[b]	685	242	12,676	4,296	13,745	7,454	19,486	5,717	32,657
2011/12[bc]	441	132	8,271	2,663	8,979	8,373	9,720	1,366	19,459
2012/13	closed								
2013/14	closed								

[a] Released crab numbers reported on returned crab permits (not adjusted for non-respondents) for all areas combined.
[b] Harvest numbers adjusted for non-respondent harvest.
[c] Includes harvest from unknown area (not included in this table).

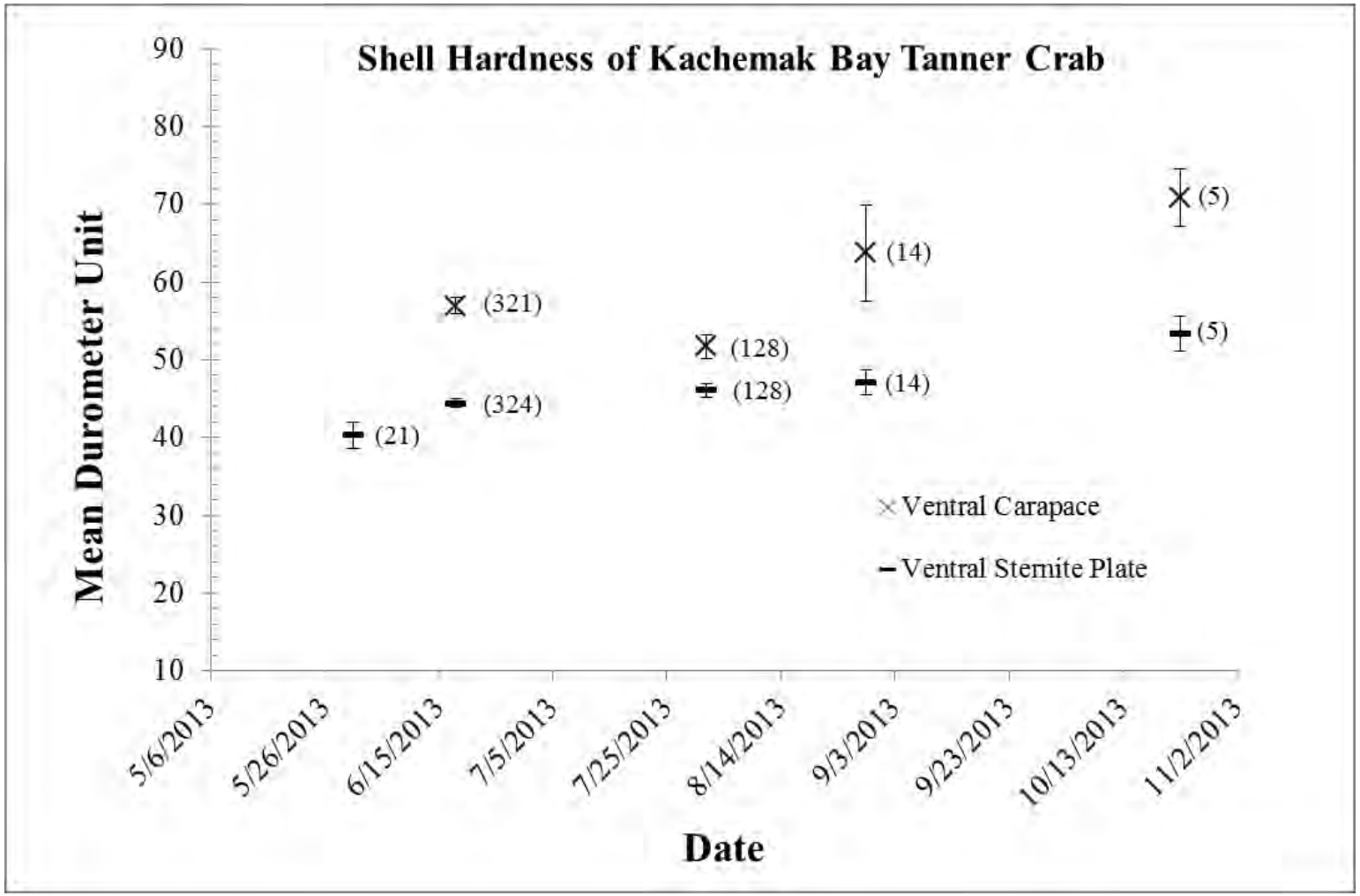

Figure 335-2.–Tanner crab shell hardness measurements (DU) (mean values and 95% confidence intervals) from two locations: ventral carapace and ventral Sternite plates from late May through early November, 2013, in Kachemak Bay. Numbers in parentheses represent sample sizes.

PROPOSAL 336 – 5AAC 58.022. Waters; seasons; bag, possession, and size limits; and special provisions for Cook Inlet-Resurrection Bay Saltwater Area.

PROPOSED BY: Joe Hanes

WHAT WOULD THIS PROPOSAL DO? This proposal would allow a sport fish Tanner crab fishery in Cook Inlet in November and February. It would impose (undefined) pot size limits, a two pot limit, and a bag limit of two crab.

WHAT ARE THE CURRENT REGULATIONS? The Cook Inlet Tanner crab harvest strategy (5 AAC 35.408) establishes abundance thresholds and other management provisions for commercial and noncommercial (sport, personal use and subsistence) Tanner crab fisheries in Cook Inlet. The harvest strategy allows a noncommercial harvest of no greater than 10% of the recent five-year average of legal male abundance. Within the harvest strategy, there are provisions that close the noncommercial fishery by areas A-E (Figure 336-1) based on the estimated abundance of legal crab from the Kachemak and Kamishak bay trawl surveys. In areas A, B, and C, the noncommercial fisheries are managed based on the Kamishak Bay trawl survey. In areas D and E, the noncommercial fisheries are managed based on the Kachemak Bay trawl survey.

The following regulations are identical among the sport, personal use, and subsistence Tanner crab fisheries in Cook Inlet. Season dates are July 15–March 15 with a January 1–15 closure in Kachemak Bay waters only (Figure 336-1; areas D and E). Daily bag and possession limits are five legal male Tanner crab in all areas. Pots are limited to two per person and no more than two per vessel (except six per vessel in North Gulf Coast, Area E); all pots must have a biodegradable escape mechanism and two escape rings which are at least four and three eighths inches inside diameter. A harvest permit and catch recording form is required and must be completed before leaving the harvest location. Reported information includes catch, harvest, and harvest location information.

WHAT WOULD BE THE EFFECT IF THISE PROPOSAL WAS ADOPTED? In years when the department survey estimates male Tanner crab abundance is sufficient to allow a noncommercial fishery, the proposal would have no effect. The season dates for the noncommercial fishery encompass the proposed November and February season. In years when the abundance threshold has not been met to open a noncommercial fishery, this proposal would allow a sport harvest in those two months with the proposed bag and pot limits resulting in some level of harvest.

Cook Inlet sport, personal use and subsistence Tanner crab fisheries are managed as noncommercial fisheries with uniform season dates, methods and means, and bag limits. This proposal would separate the sport fishery from that group providing additional opportunity to sport users in November and February. Additionally it would add regulatory complexity and require a new harvest recording form.

BACKGROUND: Since the harvest strategy was adopted in 2002, noncommercial fisheries opened from the 2008-09 season through 2011-12 seasons; thresholds required to allow commercial fisheries have not been attained.

DEPARTMENT COMMENTS: The department is **OPPOSED** to this proposal because it would allow harvest in years when the abundance threshold for legal male crab has not been met and could reduce the long-term reproductive potential of the stock. The department opposes the additional complexity that would result from establishing a sport fishery separate from the existing noncommercial fishery. The department is **NEUTRAL** on the allocative aspects of this proposal.

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

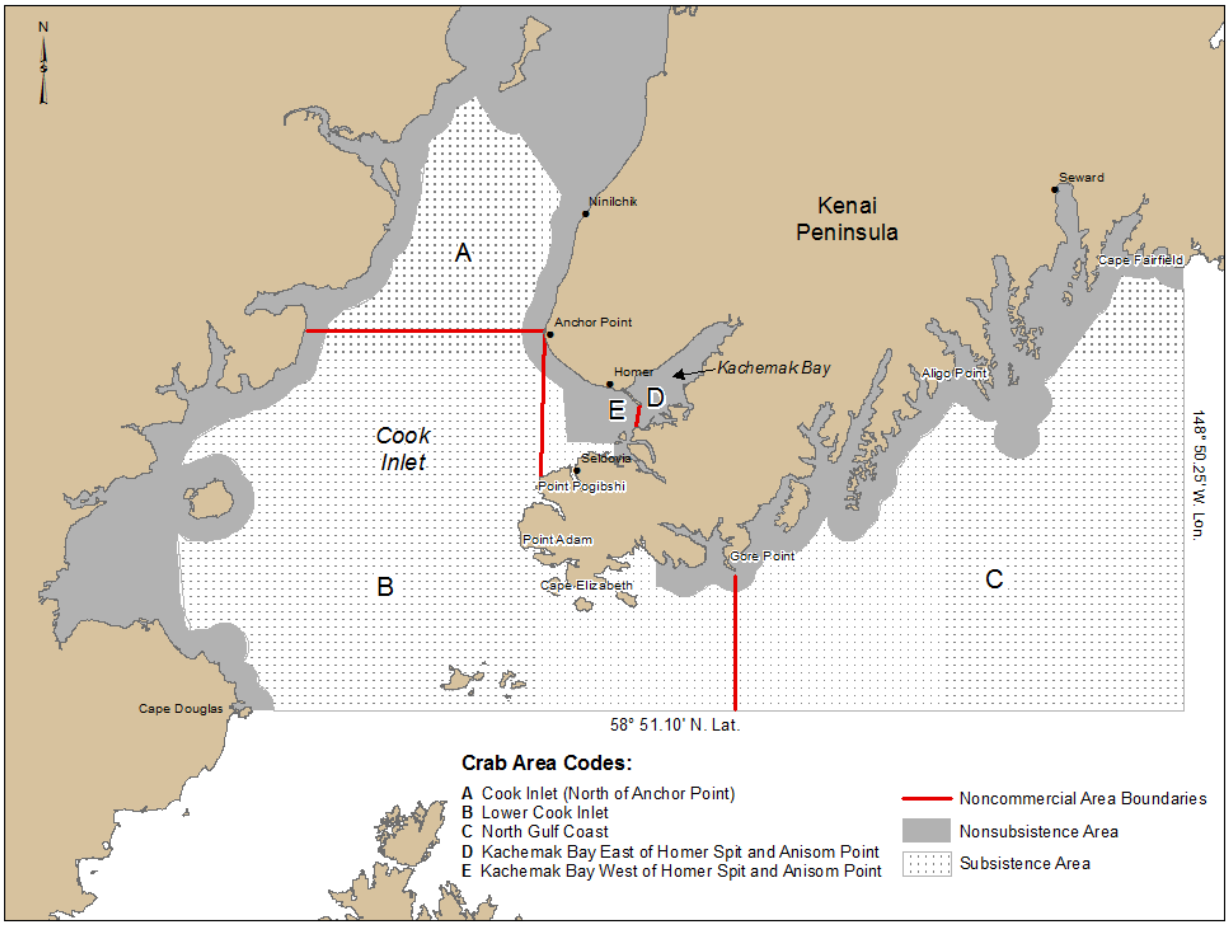

Figure 336-1.–Noncommercial Tanner crab area codes for the Cook Inlet Management Area.

PROPOSAL 337 – 5 AAC 02.425. Subsistence Tanner crab fishery.

PROPOSED BY: Ed Monkiewicz.

WHAT WOULD THE PROPOSAL DO? This proposal would allow a person to subsistence fish for Tanner crab in the Kodiak District during the 14 days immediately prior to opening of a commercial king or Tanner crab season.

WHAT ARE THE CURRENT REGULATIONS? Subsistence fishing for Tanner crab is prohibited for 14 days prior to the commercial season opening in waters greater than 25 fathoms in depth (5 AAC 02.425(2) *Subsistence Tanner crab fishery*).

Reference to subsistence fishing is also included in 5 AAC 35.053(1) which states that a person or vessel that operates commercial, subsistence, sport or personal use pots in waters greater than 25 fathoms during the 14 days immediately prior to opening of a commercial Tanner crab season is not eligible to participate in the commercial Tanner crab season.

There is no closed season for subsistence Tanner crab fishing in the Kodiak Area.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would provide additional opportunity for subsistence Tanner crab fishing during years when a commercial king or Tanner crab season is scheduled to open in the Kodiak District. Subsistence users who do not participate in the commercial Tanner crab fishery would be allowed to take Tanner crab during the 14 days immediately prior to the opening of the commercial king or Tanner crab season in the Kodiak Area. Because 5 AAC 35.053(1) would still apply, subsistence fishermen fishing for Tanner crab during the 14 day period prior to the commercial opening would not be eligible to participate in the commercial season.

BACKGROUND: Regulations that prohibit the operation of commercial, subsistence, sport or personal use pot gear prior to the start of a commercial Tanner crab season are intended to prevent prospecting by commercial Tanner crab participants under the guise of commercial, subsistence, sport, and personal use fishing, and provide for a fair start to the commercial Tanner crab season.

Commercial Tanner crab seasons occurred in the Kodiak District from 2001 to 2013; therefore, subsistence users were not allowed to take Tanner crab with pot gear in waters deeper than 25 fathoms from January 1–14 during each of those years.

Subsistence fishing for Tanner crab in the Kodiak Area is allowed under the terms of a subsistence shellfish permit. Since 2001, an annual average of 258 subsistence shellfish permits have been issued, and subsistence harvest of Tanner crab has ranged from approximately 4,100 to 9,600 Tanner crab annually, or 6,560–15,360 pounds edible weight. The Alaska Board of Fisheries has found that the amount reasonably necessary for subsistence (ANS) for this area is 22,000–68,000 pounds edible weight. Tanner crab makes up around 24% of the overall harvest of marine invertebrates on Kodiak Island based on past comprehensive surveys.

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

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

SUBSISTENCE REGULATION REVIEW:

1. Is this stock in a nonsubsistence area? No.

2. Is this stock customarily and traditionally taken or used for subsistence? Yes. The board has found that Dungeness crab and miscellaneous shellfish (which for the purposes of this determination includes Tanner crab) on the south side of the Alaska Peninsula between Kilokak Rocks 156° 19′ W. long. and Cape Kumlik 157° 27′W. long. are customarily and traditionally taken or used for subsistence (5 AAC 02.466(a)(2)).

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 22,000–68,000 pounds of usable weight of Dungeness crab and miscellaneous shellfish is reasonable necessary for subsistence uses (5 AAC 02.466(b)).

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 338 – 5 AAC 02.420. Subsistence king crab fishery; 5 AAC 02.425. Subsistence Tanner crab fishery; 5 AAC 34.4XX. Closed waters in Registration Area K; and 5 AAC 35.535. Closed Waters in Registration Area J.

PROPOSED BY: Tim Abena.

WHAT WOULD THE PROPOSAL DO? This proposal would close state waters (0-3 nautical miles) in Alitak Bay of the Kodiak Management Area to all subsistence and commercial king and Tanner crab fishing for at least seven years.

WHAT ARE THE CURRENT REGULATIONS? Alitak Bay is located in the Southwest Section of the Kodiak Tanner crab district (Figure 338-1). Commercial Tanner crab seasons in the Southwest Section are determined based on the Tanner crab harvest strategy (5 AAC 35.507 *Kodiak, Chignik, and South Peninsula Districts* C. bairdi *Tanner crab harvest strategies*). Prior to opening a commercial Tanner crab fishery, the estimated abundance of mature male Tanner crab must meet or exceed biological and management abundance thresholds established in the harvest strategy.

Commercial red and blue king crab seasons in the Kodiak Area are opened by emergency order only (5 AAC 34.410(a) *Fishing seasons for Registration Area K*). However, the Kodiak Area commercial red and blue king crab fishery has been closed since 1984 due to low abundance of red king crab.

King and Tanner crab may only be taken for subsistence purposes under authority of a subsistence fishing permit. King crab may only be taken from June 1 through January 31 as specified in 5 AAC 02.420(4) *Subsistence king crab fishery,* and Tanner crab may be harvested year-round, except for the 14 days immediately prior to the opening of a commercial king or Tanner crab season, (5 AAC 02.425(2) *Subsistence Tanner crab fishery*).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Alitak Bay would close to all commercial and subsistence king and Tanner crab fishing. Alitak Bay would remain open to sport fishing for Tanner crab fishing. Waters outside of Alitak Bay would remain open to subsistence king and Tanner crab fishing, sport Tanner crab fishing and commercial Tanner crab fishing during years when a commercial fishery is prosecuted. Closure of Alitak Bay to Tanner crab fishing may result in an increase in Tanner crab effort in other sections of the Kodiak District.

Bycatch of sublegal and female crab occurs during crab fisheries; however, the effects of prohibiting fisheries on crab inside state waters of Alitak Bay is unknown.

BACKGROUND: Proposal 338 was a companion proposal to Proposal 101; however, Proposal 101 was not approved by the Board of Fisheries during the January 2014 Kodiak finfish meeting.

The only community in Alitak Bay is Akhiok with a population of 71 (Figure 338-1; 2010 census). Harvesters in the subsistence fishery in Alitak Bay are primarily residents in the

community of Akhiok, seasonal commercial salmon set net operations, and staff and guests of hunting and fishing-oriented lodges.

Subsistence regulations limit red king crab harvest to three king crab per household per year and 12 Tanner crab per person per day. From 2003 to 2012, 56% of all subsistence king crab in the Kodiak Area were taken from Alitak Bay. Since 2003, the subsistence harvest of king crab in Alitak Bay, as reported on subsistence shellfish permits, has averaged approximately 200 king crab per year. Subsistence Tanner crab harvest in Alitak Bay since 2003 has averaged about 400 Tanner crab per year, or about 6% of all subsistence Tanner crab taken in the Kodiak Area.

Based on the department's annual trawl survey, approximately 50% of the estimated Southwest Section Tanner crab population and 40% of the estimated king crab population occur outside of state waters (0 to 3 nmi). The Southwest Section opened to commercial Tanner crab fishing four out of the last ten years (2005, 2006, 2011, and 2012; Table 338-1). In each of those years, over 50% of the Tanner crab was harvested inside the proposed closure area (Table 338-2). During years when the fishery was closed, Tanner crab abundance did not meet regulatory thresholds necessary to allow for commercial harvest. The estimated annual Southwest Section Tanner crab population size is highly variable, ranging from 0.75 million crab in 1995 to over 39 million crab in 2013 (Figure 338-2). Despite large variability during this time period, Tanner crab abundance in Alitak Bay has generally been increasing since the start of the department trawl survey in 1988 (Figure 338-2).

Since 2005, the number of Tanner crab harvested in the Southwest Section commercial fishery has ranged from approximately 47,000 to approximately 237,000 crab. Based on annual trawl survey results, commercial Tanner crab removals represent between 6-18% of the estimated legal males in the Southwest Section (Table 338-3).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal. The board should consider if reasonable opportunity for subsistence would still be provided if the proposal was adopted. Additional research and monitoring would be necessary to determine if reduced harvests of Alitak Bay king and Tanner crabs or other environmental factors are negatively impacting crab abundance in Alitak 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? No.

2. Is this stock customarily and traditionally taken or used for subsistence? Yes. The board has found that king crab in the Kodiak Area, as described in 5 AAC 02.400, except for the Semidi Island Overlap, the North Mainland, and the South Mainland Sections, as described in 5 AAC 35.505(a), are customarily and traditional taken or used for subsistence (5 AAC 02.466(a)(1)). The board has also found that Dungeness crab and miscellaneous shellfish (which includes Tanner crab) on the south side of the Alaska Peninsula between Kilokak

Rocks 156°19′W. long. and Cape Kumlik 157°27′W. long have customary and traditional uses.

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 22,000–68,000 pounds of usable weight of Dungeness crab and miscellaneous shellfish is reasonable necessary for subsistence purposes (5 AAC 02.466(b)).

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.

Table 338-1. Guideline harvest level (GHL), harvest, number of vessels, and exvessel value for Tanner crab in the Southwest Section of the Kodiak District, 2004–2013.

Year	GHL	Harvest (Pounds)	Number of Vessels	Exvessel Value
2004		*Fishery Closed*		
2005	450,000	574,944	20	$960,156
2006	150,000	169,089	7	$204,598
2007-2010		*Fishery Closed*		
2011	150,000	179,680	10	$415,061
2012	100,000	110,336	5	$207,432
2013		*Fishery Closed*		

Table 338-2. Commercial Tanner crab harvest in the Southwest Section and percent of harvest inside and outside of proposed closure area, 2004–2013.

Year	Southwest Section Harvest (numbers)	Percent Inside Proposed Closure	Percent Outside Proposed Closure
2004		*Fishery Closed*	
2005	237,099	51%	49%
2006	68,100	79%	21%
2007-2010		*Fishery Closed*	
2011	81,109	55%	45%
2012	46,996	76%	24%
2013		*Fishery Closed*	

Table 338-3. Number and percent of commercial Tanner crab harvested and estimated legal Tanner crab in the Southwest Section, 2004–2013.

Year	Southwest Section Harvest (numbers)	Est. Legal Crab in Southwest Section	Percent Harvested
2004	*Fishery Closed*		
2005	237,099	1,328,233	18%
2006	68,100	827,508	8%
2007-2010	*Fishery Closed*		
2011	81,109	1,238,613	7%
2012	46,996	766,008	6%
2013	*Fishery Closed*		

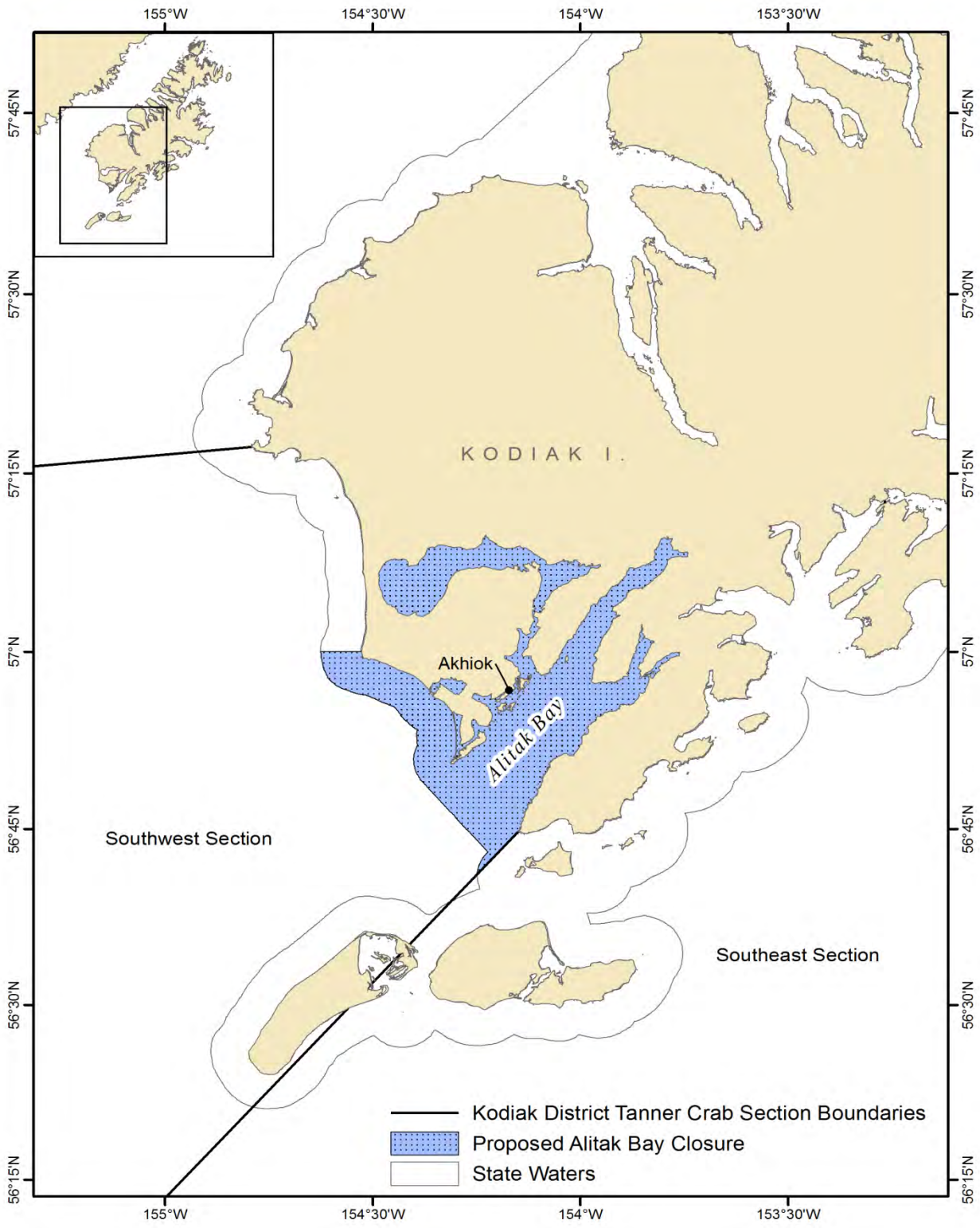

Figure 338-1.–Proposed Alitak Bay closure area and Tanner crab management boundaries.

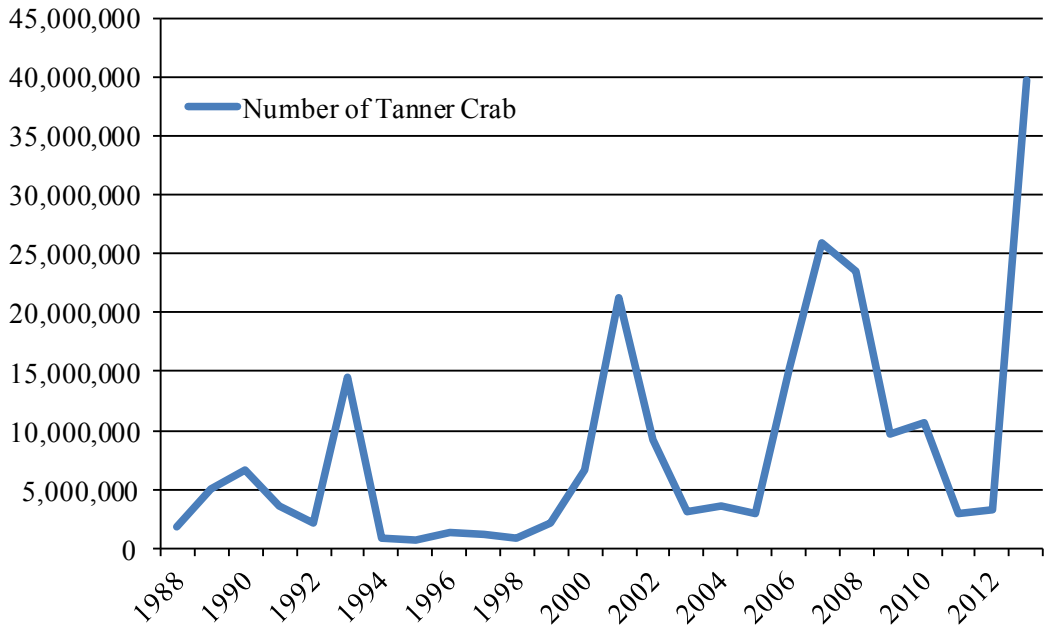

Figure 338-2.–Total estimated number of Tanner crab in the Southwest Section of the Kodiak District, 1988–2013.

PROPOSAL 339 – 5 AAC 34.400. Description of Registration Area K and 5 AAC 34.405. Description of Registration Area K districts.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This proposal would update and amend the Kodiak commercial king crab management area and district boundary regulatory descriptions (Figure 339-1).

WHAT ARE THE CURRENT REGULATIONS? Regulatory descriptions of the Kodiak Area and district boundaries are located in 5 AAC 34.400 *Description of Registration Area K* and 5 AAC 34.405 *Description of Registration Area K districts*.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would update and clarify regulatory descriptions of the Kodiak Area king crab boundaries. The department does not anticipate any changes with respect to management of the Kodiak Area commercial king crab fishery.

BACKGROUND: Most existing king crab boundary descriptions were established using National Oceanic and Atmospheric Administration (NOAA) nautical charts as a basis for boundary coordinates. When established, common landmarks without specific latitude and longitude coordinates were often used to establish and describe boundaries. Current NOAA charts and global positioning system (GPS) allow for better precision when identifying and describing geographic coordinates.

The largest proposed change would move the eastern boundary of the Kodiak Area from 148° 50.25' W long to 149° 00.00' W long (Figure 339-1) to align the boundary line between Kodiak and Prince William Sound areas (see Proposal 327). Other changes are minor and only increase the precision of existing boundary line coordinates (lat/long).

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.

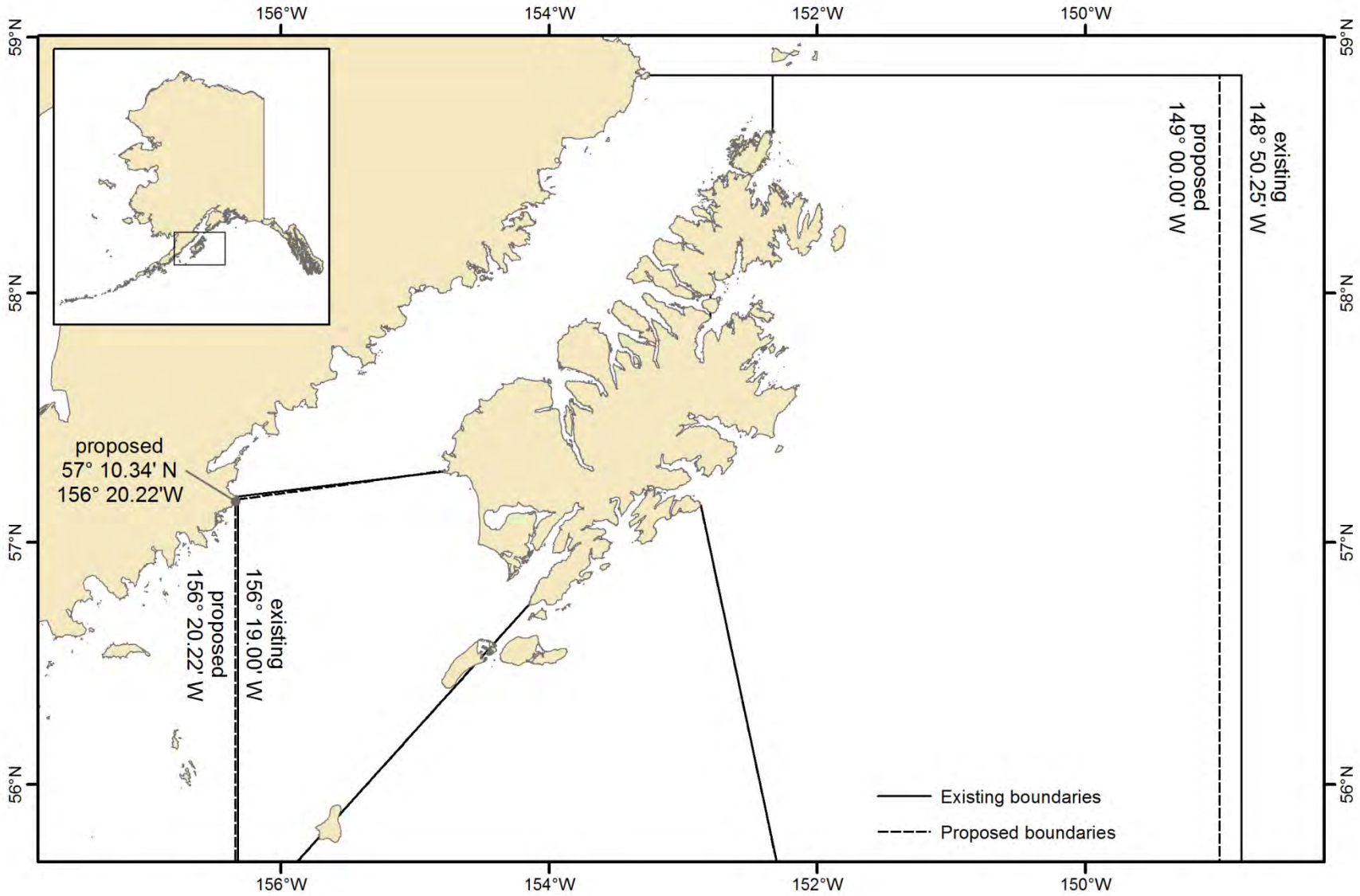

Figure 339-1. Existing and proposed boundaries for commercial king crab in the Kodiak Area.

PROPOSAL 340 – 5 AAC 35.510. Fishing seasons for Registration Area J.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? Amend weather delay regulations for opening the Tanner crab season in the Kodiak and South Peninsula districts to be consistent with original regulatory intent, and align the gale warning definition with the updated National Weather Service (NWS) gale warning definition.

WHAT ARE THE CURRENT REGULATIONS? Opening of the Tanner crab season in the Kodiak and South Peninsula districts will be delayed for 24 hours if the NWS marine forecast issued at 4:00 a.m. on the scheduled opening date for the current day and night, plus the following day and night for those areas, contains gale force wind warnings of 35 knots or higher (5 AAC 35.510(a)(2) and (c)(2)). If, after the initial delay, the following day's 4:00 a.m. NWS marine forecast for the current day and night, plus the following day and night, contains gale force wind warnings, the opening of the state-waters season will be delayed an additional 24 hours. Season opening delays may continue on a rolling 24-hour basis for 10 days beyond the initial opening date, when the season will open regardless of any gale force wind forecast.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would align the weather delay regulatory language with how the department has implemented this regulation and provide clear regulatory language for fishery participants.

BACKGROUND: Weather delay provisions are intended to improve vessel safety at the beginning of the season when vessels are transporting pots to the fishing grounds.

The NWS recently updated the definition of a gale warning in Alaska. According to the NWS, a gale warning is issued if sustained surface winds, or frequent gusts, in the range of 34 knots (39 mph) to 47 knots (54 mph), inclusive, are either predicted or occurring.

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.

PROPOSAL 341 – 5 AAC 35.506. Area J registration, and 5 AAC 35.555. Inspection requirements for Registration Area J.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This proposal would repeal the Tanner crab tank inspection requirement in the Kodiak, Chignik and South Peninsula districts.

WHAT ARE THE CURRENT REGULATIONS? Within 24 hours before the scheduled opening date of a commercial Tanner crab season in Area J, or at any time during the open season prior to taking crab, a Tanner crab vessel must have all holds, live tanks and freezers inspected by a representative of the department. Tanner crab may not be onboard the vessel at the time of the inspection (5 AAC 35.555 *Inspection requirements for Registration Area J*).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Department staff would no longer inspect vessels live holds, live tanks, or freezers prior to the opening of commercial Tanner crab seasons in the Kodiak, Chignik or South Peninsula districts. Vessel operators would still be required to complete a final registration beginning within 24 hours of season opening.

BACKGROUND: Tanner crab vessel tank inspections 24 hours prior to the season opening date in Registration Area J were established when Tanner crab fisheries in the Kodiak, Chignik, and South Peninsula districts were considerably larger and less regulated. Tank inspections were intended to discourage illegal fishing before the season opening and allow for a fair start for all fishery participants. During years when the Kodiak, Chignik, and South Peninsula districts all open to commercial Tanner crab fisheries, fishing vessels hail from up to six fishing ports. During some years the department is unable to provide staff in remote ports to conduct vessel tank inspections. In these instances some portions of the fleet may receive tank inspections, while other portions of the same fleet do not, resulting in inconsistent application of the regulation. Additionally, tank inspections may take several hours to complete during years with high vessel effort, which reduces the amount of time vessels have to travel to the fishing grounds immediately prior to the start of the season.

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.

PROPOSAL 342 – 5 AAC 35.510(c). Fishing seasons for Registration Area J.

PROPOSED BY: King Cove Advisory Committee.

WHAT WOULD THE PROPOSAL DO? This proposal would change the South Alaska Peninsula District Tanner crab season opening date from January 15 to January 3.

WHAT ARE THE CURRENT REGULATIONS? If South Peninsula District Tanner crab estimated abundance meets regulatory thresholds, the commercial Tanner crab season may open at 12:00 noon January 15 through March 31 (5 AAC 35.510 *Fishing seasons for Registration Area J).*

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Many vessels that participate in the commercial Tanner crab season also participate in federal/parallel Pacific cod fisheries, which begin on January 1; however, vessels that operate pot gear 14 days immediately prior to the opening of a commercial Tanner crab season, are prohibited from participating in the South Peninsula District Tanner crab season. Therefore, vessels that participate in both the federal/parallel Pacific cod season and the commercial Tanner crab season may not fish Pacific cod from January 1–14. Changing the commercial Tanner crab season opening date from January 15 to January 3 may provide more opportunity for vessels to participate in the federal/parallel Pacific cod fishery. Opening the Tanner crab fishery earlier may result in increased participants in the commercial Tanner crab season. More participants would increase the total amount of gear operated in the fishery and could result in faster-paced seasons, potentially leading to lower management precision.

If adopted, vessels that participate in the Tanner crab season would not be able to operate other pot gear from December 21 until the season opens January 3.

BACKGROUND: In recent years Tanner crab fisheries in the South Peninsula District have been managed in smaller geographical areas based on distribution and abundance of Tanner crab. The more productive areas tend to receive the most effort and quickly achieve the established harvest cap. Since 2011, Tanner crab seasons in the most productive areas have typically been short, closing within two to five days of opening. After the most productive areas close to Tanner crab fishing, vessels that also participate in the federal/parallel Pacific cod fisheries typically check out of the Tanner crab fishery and transition into the federal/parallel Pacific cod fishery. Beginning in 2012, management of federal Pacific cod fisheries transitioned from derby style fisheries to gear specific sectors resulting in shorter seasons (Table 342-1). From 2004–2011, the federal/parallel Pacific cod season averaged 57 days. In 2012 and 2013, the federal/parallel Pacific cod pot gear sector season averaged 32 days. Vessels that participate in the commercial Tanner crab season and then transition to the federal/parallel Pacific cod season after the most productive Tanner crab subsections close have less time to participate in the federal/parallel Pacific cod season than in previous years.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal. There are no biological concerns with changing the South Peninsula District Tanner crab season start date to January 3.

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 342-1. Western Gulf of Alaska federal/parallel Pacific cod season closure date and length of season in number of days, 2004–2013.

Year	Federal/parallel season closure date	Season length (days)
2004	24-Feb	54
2005	24-Feb	54
2006	2-Mar	61
2007	8-Mar	67
2008	1-Mar	60
2009	26-Feb	56
2010	27-Feb	57
2011	16-Feb	46
2004-2011 [a] average		*57*
2012	6-Feb	36
2013	28-Jan	27
2012-2013 [b] average		*32*

[a] Federal/parallel Pacific cod fisheries managed as open access/derby style fishery.

[b] Federal/parallel Pacific cod fisheries managed as individual gear sectors.

PROPOSAL 343 – 5 AAC 34.500. Description of Registration Area M and 5 AAC 34.505. Description of Registration Area M districts.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This proposal would amend the Alaska Peninsula commercial king crab area and district boundary descriptions (Figure 343-1).

WHAT ARE THE CURRENT REGULATIONS? Regulatory descriptions of the Alaska Peninsula area and district king crab boundaries are located in 5 AAC 34.500 *Description of Registration Area M* and 5 AAC 34.505 *Description of Registration Area M districts*.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would update and clarify regulatory descriptions of the Alaska Peninsula Area king crab boundaries. The department does not anticipate any changes with respect to management of the Alaska Peninsula commercial king crab fishery.

BACKGROUND: Most existing king crab boundary descriptions were established using National Oceanic and Atmospheric Administration (NOAA) nautical charts as a basis for boundary coordinates. When boundaries were established, common landmarks without specific latitude and longitude coordinates were often used to describe boundaries. Current NOAA charts and global positioning system (GPS) allow for better precision when identifying and describing geographic coordinates.

The largest proposed change would align the longitude coordinates at Scotch Cap Light with other commercial fisheries and provide consistency between groundfish and shellfish boundaries. Other changes are minor and only increase the precision of existing boundary line coordinates (lat/long).

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.

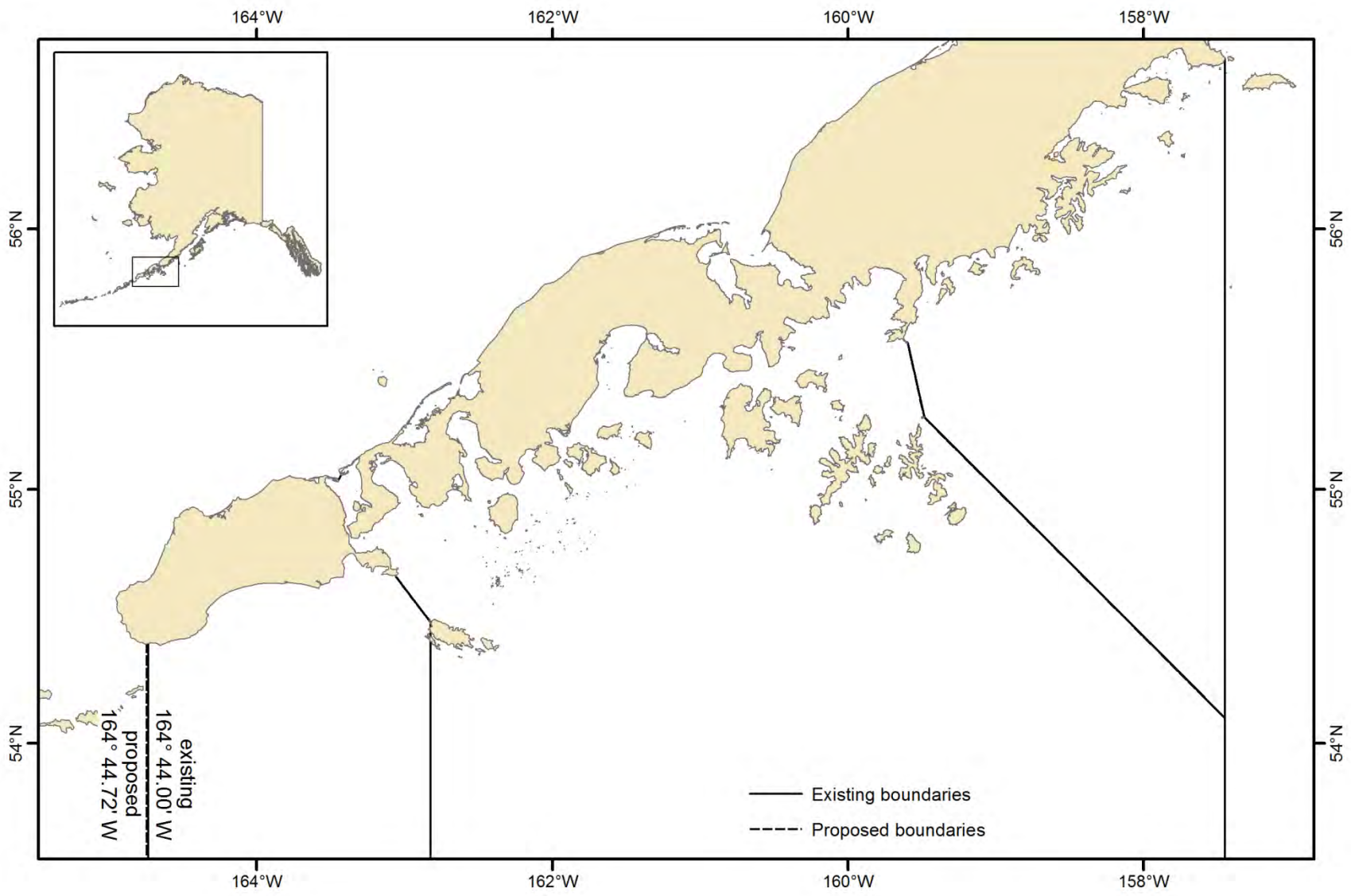

Figure 343-1. Existing and proposed boundaries for king crab in the Alaska Peninsula Area.

PROPOSAL 347 – 5 AAC 35.500. Description of Registration Area J and 5 AAC 35.505. Description of Registration Area J districts.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This proposal would amend boundary descriptions for Kodiak commercial Tanner crab district and sections by providing latitude and longitude coordinates (Figure 347-1).

WHAT ARE THE CURRENT REGULATIONS? Regulatory descriptions of the district and section boundaries for Tanner crab are located in 5 AAC 35.500 *Description of Registration Area J* and 5 AAC 35.505 *Description of Registration Area J Districts*.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would update and clarify regulatory descriptions of Tanner crab boundaries in the Kodiak District of Registration Area J. The department does not anticipate any changes with respect to management of Registration Area J commercial Tanner crab fisheries.

BACKGROUND: Most existing Tanner crab boundary descriptions were established using National Oceanic and Atmospheric Administration (NOAA) nautical charts as a basis for boundary coordinates. When boundaries were established, common landmarks without specific latitude and longitude coordinates were often used to describe boundaries. Current NOAA charts and global positioning system (GPS) allow for better precision when identifying and describing geographic coordinates. Most of the proposed changes are minor and only increase the precision of existing boundary line coordinates (lat/long).

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.

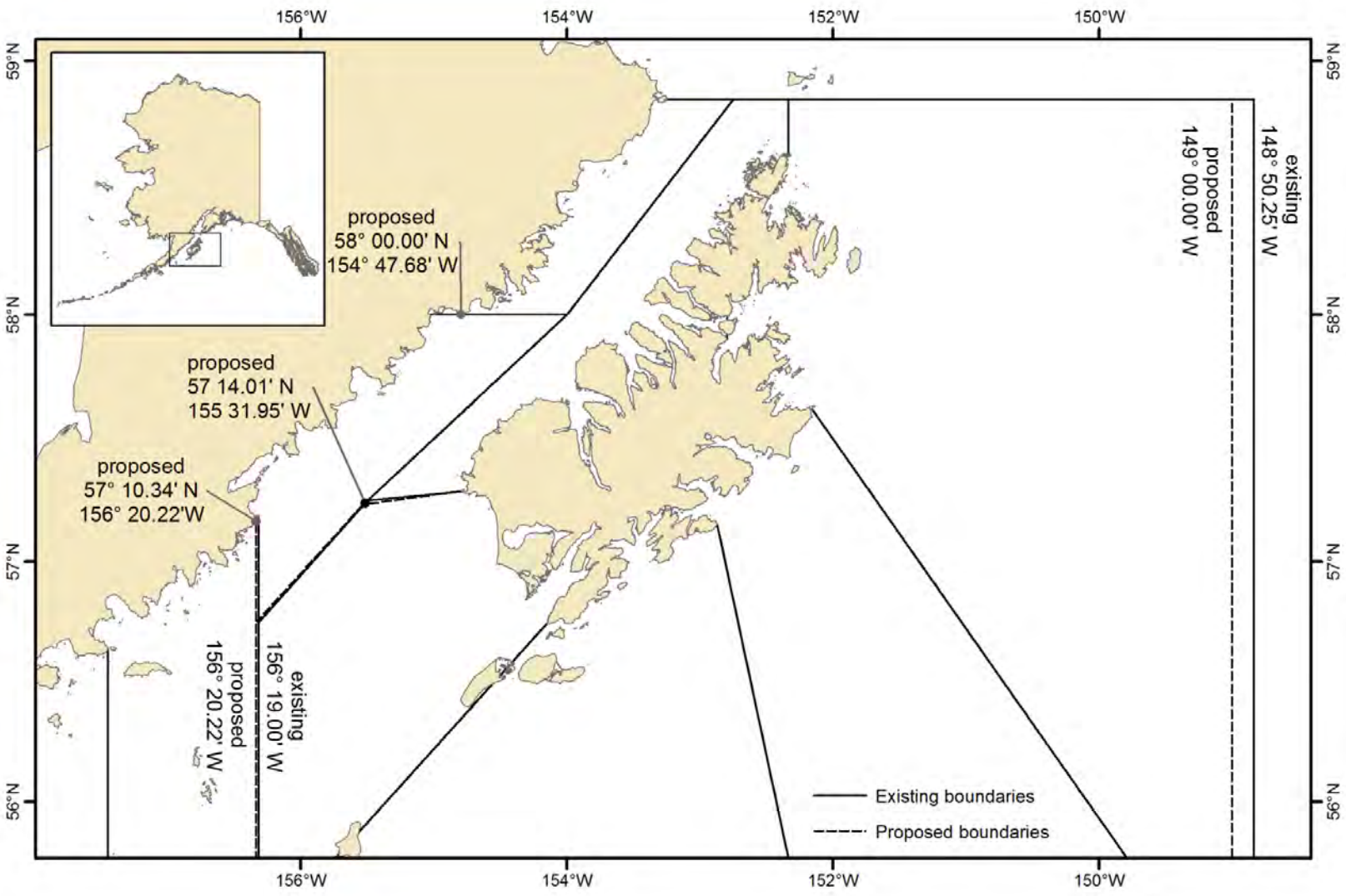

Figure 347-1. Existing and proposed boundaries for Tanner crab in the Kodiak District of Registration Area J.

PROPOSAL 344 – 5 AAC 39.975. Definitions.

PROPOSED BY: Norton Sound Economic Development Corporation.

WHAT WOULD THE PROPOSAL DO? This proposal would add "spiny", or Hanasaki, king crab (*Paralithodes brevipes*) to the list of king crab species in the statewide definition regulation.

WHAT ARE THE CURRENT REGULATIONS? Despite being a large lithodid crab species, Hanasaki spiny king crab (Figure 344-1) is not listed as a species of king crab under 5 AAC 39.975. Red, blue, golden, and scarlet king crabs are the only designated king crab species listed in regulation. Consequently, Hanasaki spiny king crabs are currently managed under miscellaneous shellfish regulation 5 AAC 38.062 and harvest is reported as miscellaneous shellfish on fish tickets when retained incidentally in other directed king crab fisheries in King Crab Registration Area Q.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Adding Hanasaki king crab as a species of king crab would allow fishery regulations for this species to be developed under king crab regulations (AAC Chapter 34) rather than under miscellaneous shellfish regulations.

BACKGROUND: *P. brevipes* (Hanasaki king crab) are a commercially important species in Japan. Hanasaki king crab are marketable in large part due to their brilliant red color when boiled, and their intense flavor. Populations of *P. brevipes* are known to occur in the waters around the Hanasaki Peninsula near Hokkaido, Japan, and in the Okhotsk Sea along the Kamchatka Peninsula in Russia. In 2003, Hanasaki king crabs were first documented in the Norton Sound Section when a single specimen was harvested for subsistence at Little Diomede Island. Few reports of this species occurred between 2003 and 2010, but several dozen Hanasaki king crabs have been harvested since 2011, including specimens harvested close to shore in the winter through-the-ice commercial fishery near Nome in 2012 and 2013. Additionally, subsistence catches comprised entirely of Hanasaki king crab, including gravid females, were documented near Gambell on Saint Lawrence Island during the summer of 2013. The total reported subsistence and incidental commercial harvest from the 2013 season was well below 100 Hanasaki king crabs. A juvenile Hanasaki king crab was also observed and photographed by an observer during the 2013 Norton Sound summer commercial red king crab fishery. The presence of breeding female, juvenile, and adult male Hanasaki king crab in Norton Sound suggests that this species may be establishing a population in Norton Sound.

DEPARTMENT COMMENTS: The department **SUPPORTS** defining Hanasaki king crab as a king crab species in regulation since it is a member of the genus *Paralithodes.* Limited commercial harvest of *P. brevipes* may provide the department with data concerning abundance, distribution, and life history of *P. brevipes* in Norton Sound.

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 344-3.–Photo of male *Paralithodes brevipes* (Hanasaki king crab) from Norton Sound.

PROPOSAL 345 – 5 AAC 34.050. Lawful gear for king crab and 5 AAC 34.925. Lawful gear for Registration Area Q.

PROPOSED BY: Norton Sound Economic Development Corporation.

WHAT WOULD THE PROPOSAL DO? This proposal would establish hand lines as legal commercial gear in the winter through-the-ice commercial king crab fishery in the Norton Sound Section.

WHAT ARE THE CURRENT REGULATIONS? The use of hand lines or jigging gear is permitted under 5 AAC 02.010 for use in the subsistence shellfish fishery. However, in both the winter through-the-ice and summer commercial crab fisheries, hand lines are not permitted as legal gear.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would allow individuals to use hand line or jigging gear to harvest king crab in the winter through-the-ice commercial fishery. Increased harvest of king crab using hand lines in areas currently lacking commercial effort would be low due to relative inefficiency of the proposed gear type; however, there is the potential for competition with subsistence fishermen because the area fished by both user groups would likely overlap.

BACKGROUND: The use of hand lines to harvest king crab is a longstanding customary and traditional subsistence harvest method in the Norton Sound-Bering Strait region. While less efficient than pot gear, hand lining is a relatively inexpensive and less time-consuming method for harvesting king crab in small numbers through the ice. Hand lining does not require the use of expensive pot gear, sleds to transport pots, and large amounts of bait. Additionally, hand lining can be conducted further offshore in the active ice zone where the likelihood of losing pot gear is high. Consequently, in the Bering Strait communities (e.g., Gambell, Savoonga, Little Diomede, Teller, Brevig Mission, and Wales), the use of hand line gear may be the preferred means to harvest king crab for subsistence uses.

In many Bering Strait communities, the use of commercial pot gear is cost prohibitive for most individuals, and the active ice zone is close to shore due to strong local current regimes and offshore winds making use of pot gear precarious.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal. If this proposal were adopted, there is the potential for impacts to local subsistence fishing opportunities, depending on localized commercial hand lining efforts. Commercial harvests of king crab species using hand line gear are anticipated to be small in scale. However, adoption of this proposal could provide additional economic opportunity for some communities. Additionally, winter red king crab harvest opportunities are limited in some years due to poor ice conditions and thus hand lining provides additional commercial opportunity to harvesters. It is anticipated that commercial hand line fishing would be conducted primarily within state waters. Legal gear is a Category 1 management measure meaning that it is fixed in the federal *Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs.*

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 346 – 5 AAC 34.915. Norton Sound Section red king crab harvest strategy.

PROPOSED BY: Norton Sound Economic Development Corporation.

WHAT WOULD THE PROPOSAL DO? This proposal serves as a placeholder to allow for changes to the Norton Sound Section red king crab harvest strategy.

WHAT ARE THE CURRENT REGULATIONS? The Norton Sound Section red king crab harvest strategy (5 AAC 34.915) directs the department to only allow a summer commercial fishery if the threshold level of legal male red king crab abundance exceeds 1.25 million pounds. At levels above 1.25 million pounds and less than 2 million pounds, a harvest rate up to 7 percent can be implemented. At levels above 2 million pounds and less than 3 million pounds of legal male biomass, the harvest rate cannot exceed 13 percent, and above 3 million pounds, a harvest rate up to 15 percent can be set. The guideline harvest level (GHL) set by the department cannot cause total removals to exceed the acceptable biological catch (ABC) adopted by the North Pacific Fishery Management Council (Council).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It is unclear what effect if any, adopting this proposal would have on the resource or users because the proposal does not request any specific changes to harvest rates.

BACKGROUND: In March 2012, the Alaska Board of Fisheries (board) amended harvest rates in the Norton Sound Section red king crab harvest strategy because department retrospective analysis of 2000–2010 data revealed actual harvest rates ranging from 9–17 percent of the legal male biomass, which were higher than the pre-2012 maximum harvest rate of 10 percent. More importantly, the Norton Sound red king crab stock remained relatively stable during this time, suggesting that historical harvest rates above 10 percent were sustainable. The goal of the modified harvest strategy was to minimize wide annual fluctuations in GHLs while still complying with federal requirements.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal because current harvest rates provide for sustained yield while constraining total removals below the ABC. Projection models used to establish the ABC are dynamic and adjustments are made annually. Language added to the Norton Sound Section red king crab harvest strategy in 2012 allows flexibility at different biomass projections levels, enabling managers to establish a specific GHL within a range to accommodate these annual adjustments. Therefore, it would be impractical to change the harvest strategy every time projection model parameters change, given that the model and its parameters are dynamic. Furthermore, the 2014 ABC will not be set until June 2014, so regulatory changes to the harvest strategy could have unforeseen impacts to the commercial crab fishery without knowing what ABC the Council will adopt in June 2014.

This proposal is a federal *Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs* Category 2 (guideline harvest levels) management measure.

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 348 – 5 AAC 34.612. Harvest levels for golden king crab in Registration Area O.

PROPOSED BY: Golden King Crab Coalition.

WHAT WOULD THE PROPOSAL DO? This proposal would increase the Aleutian Islands golden king crab (AIG) total allowable catch (TAC) by 15%. The TAC for the fishery east of 174° W long would increase by 0.5 million pounds, to 3.81 million pounds and the TAC for the fishery west of 174° W long would increase by 0.45 million pounds, to 3.43 million pounds. This proposal would also remove the regulatory reference to a golden king crab stock assessment model and harvest strategy.

WHAT ARE THE CURRENT REGULATIONS? Harvest levels are set by regulation at 3.31 million pounds in the eastern Aleutian Islands and 2.98 million pounds in the western Aleutian Islands until an AIG crab stock assessment model is established by the department and a harvest strategy is adopted by the board (5 AAC 34.612 *Harvest Levels for Golden King Crab in Registration Area O*).

The department may reduce 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 (5 AAC 34.612(b)).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would increase the Aleutian Islands golden king crab harvest levels by 15%.

Estimates of current or past abundance levels or of future stock trends are not available because there is no regular stock assessment survey for golden king crab in the Aleutian Islands and, although in regularly-reviewed development since 2008, a stock assessment model for Aleutian Islands golden king crab using fishery data has not been established for use in management. Hence, effects on the stock of increased harvest levels cannot be directly evaluated. Because there is no regular program for collecting fishery-independent stock assessment data and because the generation time of golden king crab is long, any such effects may not be immediately detectable.

The only tool currently available for tracking stock trends is fishery catch per unit effort (CPUE). Fishery CPUE, however, can be an unreliable indicator of relative abundance because it is influenced by factors unrelated to abundance. In particular, the Crab Plan Team (CPT) of the North Pacific Fishery Management Council (council) has expressed concerns that the post-rationalized AIG fisheries may be exhibiting hyperstability. Hyperstability refers to situations in which fishery CPUE remains elevated as stock abundance declines.

BACKGROUND: The AIG fishery is managed under the federal *Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs* (FMP), which establishes a cooperative management regime that defers management of Bering Sea and Aleutian Islands king and Tanner crab fisheries to the State of Alaska with federal oversight. Harvest levels (or TACs) are

designated as an FMP Category 2 management measure, meaning that TACs are set by the state following the criteria specified in the FMP. The National Marine Fisheries Service (NMFS) determines an annual catch limit (ACL) for each fishery managed under the FMP and the FMP specifies that, "The State [of Alaska] will establish the annual TAC for each crab stock sufficiently below the ACL so that the sum of the catch [including all sources of fishing mortality included in the ACL] and the State's assessment of additional uncertainty do not exceed the ACL." The AIG fishery has been rationalized since the 2005/06 season by an amendment to the FMP. Under the rationalization program, NMFS allocates 90% of the TAC to individual fishing quota (IFQ) and 10% of the TAC to community development quota (CDQ) in the eastern Aleutian Islands (east of 174º W long), and 10% of the TAC to the Adak community allocation (ACA) in the western Aleutian Islands (west of 174º W long); however, state waters are open access.

The AIG fishery has been prosecuted as a directed fishery since the 1981/82 season and has been open every season since then. Through the 1995/96 season, the AIG fishery was divided into two management areas: the Dutch Harbor Area (east of 171º W long) and the Adak Area (west of 171º W long). Although the Dutch Harbor Area was managed on the basis of fishery performance, with historical average landings providing an informal harvest guideline, the Adak Area was managed only with a "size–sex–season" management policy. Harvests in the AIG fishery peaked at 14,738,744 pounds in 1986/87 and averaged 11,875,811 during the 1985/86–1989/90 seasons, but the harvests dropped sharply from the 1989/90 to 1990/91 season and average harvest for the 1990/91–1995/96 seasons was 6,930,627 pounds (Table 348-1). Catch per pot lift (number of retained legal males; CPUE) showed a declining trend during 1985/86–1995/96 that accompanied the declining trend in harvest, from a CPUE of 7–12 during the 1985/86–1989/90 seasons to a CPUE of 5–8 during the 1990/91–1995/96 seasons. In 1996 the board restructured management of AIG fishery by combining the Adak and Dutch Harbor areas into a single Aleutian Islands Registration Area O and directed the department to manage the golden king crab in the areas east and west of 174° W long as two distinct stocks and stipulated that a conservative management plan be initiated.

Since the 1996/97 season, the AIG fishery has been managed with a constant-catch harvest strategy, with some modifications, and with separate harvest levels for the eastern Aleutian Islands and the western Aleutian Islands. The department established guideline harvest levels (GHLs) for the 1996/97 season at 3.2 million pounds for the eastern Aleutian Islands and at 2.7 million pounds for the western Aleutian Islands on the basis of historical (1990/91–1995/96) fishery harvests (Table 348-2). The department reduced the GHL for the eastern Aleutian Islands to 3.0 million pounds prior to the 1998/99 season in order to avoid the harvest rate on legal males from exceeding the maximum fishing mortality threshold (the overfishing rate) established for king crab in the FMP at that time; the 1997/98 harvest in the eastern Aleutian Islands exceeded the GHL by 9% and a declining trend in fishery CPUE through the season and the recovery rate of tagged legal males during the season indicated that the harvest rate on the legal males had exceeded the overfishing rate in 1997/98. The GHLs (and, after rationalization, TACs) for the eastern and western Aleutian Islands remained fixed at 3.0 million pounds and 2.7 million pounds, respectively, through the 2007/08 season. In 2008 the board increased the TACs for both the eastern and western Aleutian Islands by 5%, resulting in TACs of 3.15 million pounds for the eastern Aleutian Islands and 2.835 million pounds in the western Aleutian Islands that

became effective for the 2008/09 season. The board's action in 2008 also established TACs in regulation for the first time, with the provision that they remain fixed until an AIG stock assessment model and state regulatory harvest strategy were established. In 2012, prior to the 2012/13 season, the board increased the TACs established in 2008 by an additional 5%, resulting in the TACs currently in regulation: 3.31 million pounds for the eastern Aleutian Islands and 2.98 million pounds for the western Aleutian Islands. The 2012 TAC increase was based on a department analysis showing that, due to reductions in bycatch rates, the bycatch mortality of mature-sized sublegal males had declined since fishery rationalization to the extent that a TAC increase of 5% would result in a total fishery mortality of mature-sized males equivalent to what had occurred during pre-rationalized seasons. Prior to the 2013/14 season the department received authority to cost-recover AIG crab to cover costs of fishery observers in the AIG fishery. The department sold 106,000 pounds from the eastern Aleutian Islands to fund observer coverage which was previously funded by industry.

After the constant-catch harvest strategy was initiated for the 1996/97 season, CPUE in both the eastern and western Aleutian Islands fisheries showed an increasing trend through the pre-rationalized seasons (Table 348-2). Fishery CPUE of legal males sharply increased with rationalization in 2005/06 and remained relatively stable in the western Aleutian Islands through 2012/13; the 2013/14 western Aleutian Islands season is ongoing with harvest as of January 31, 2014 at 1.8 million pounds with a CPUE of 19. CPUE in the eastern Aleutian Islands spiked in 2011/12 and remained high through 2013/14. The 2013/14 eastern Aleutian Islands season is complete with 3.3 million pounds harvested with CPUE of 31.

No fishery-independent, stock-assessment survey data on golden king crab in the western Aleutian Islands are available. Fishery-independent stock assessment survey data on golden king crab in the Aleutian Islands are limited to that collected during five pot surveys performed by the department in a portion of the eastern Aleutian Islands between 170° 21' W long to 171° 33' W long: an initial survey performed in 1991 and a standardized triennial survey performed in 1997, 2000, 2003, and 2006. Survey CPUE of legal males remained relatively stable over the four triennial surveys, whereas CPUE of sublegal males and females, which can be influenced by occasional large catches of small immature crab, generally declined (Table 348-3).

Except for limited survey data from the eastern Aleutian Islands, the only data available for judging condition of golden king crab in the western and eastern Aleutian Islands are data collected from the fishery. Included here are data on: the fishery CPUE of legal males as recorded at landings; the size distribution from samples of the landed catch; and the catch and size of legal and sublegal males captured in pots sampled by fishery observers. There are difficulties in directly using fishery CPUE as an index of crab abundance due to the variety of confounding factors in addition to the crab abundance that affect fishery CPUE; e.g., gear design, soak time, the capabilities of individual fishing vessels, and the practices and knowledge of individual skippers. Significant changes in fishing practices occurred with the implementation of crab rationalization that likely affected fishery CPUE. Those changes include considerable increases in pot soak time and an overall reduction in participants (Table 348-2). Additionally, although the overall number of pots registered for the fishery decreased with rationalization, the number of pots registered to be fished per vessel doubled with rationalization to an average of 1,331 pots per vessel per season in the eastern Aleutian Islands fishery and 1,695 pots per vessel

per season in the western Aleutian Islands fishery for the 2005/06–2012/13 seasons. Moreover, slowing the competitive "race to fish" – an objective of rationalization – may provide the remaining participants in the fleet with a greater ability to target areas of high abundance. Changes in fishery practices can also affect both the size distribution of the retained and non-retained catch during the fishery: a longer pot soak time allows more opportunity for legal crab to enter a pot and, coupled with more extensive use of escape mechanisms in pots, more opportunity for the smaller crab that enter a pot to escape from the pot. The size frequency distribution of males captured in pots sampled by observers has shifted towards larger crab and a poorer representation of sublegal crab since the 1996/97 season, particularly since rationalization (Figure 348-1). That shift in size distribution is believed to represent changes in fishery practices more than it represents a shift in the population size frequency distribution; nonetheless, the size frequency data on males captured during the rationalized fishery seasons has provided fishery managers with little information for tracking or forecasting recruitment into the fishery.

The department began development of a stock assessment model using fishery data for the eastern and western AIG stocks in the mid-2000s and, since 2008, development of the stock assessment model has been guided by annual reviews by the council's CPT and Scientific and Statistical Committee (SSC) as part of the federal stock assessment process. The stock assessment model has not yet been accepted for use in establishing the federal OFLs and ACLs. Development of the stock assessment model has been hindered by the issues with fishery data described above, particularly those related to fishery rationalization, and recent efforts have been devoted to standardizing CPUE for the effects due to fishing practices and participants. Results of the CPUE-standardization analysis were reviewed by the CPT in September 2013. In that review, the CPT voiced concerns that fishery CPUE may not be a useful index of abundance for stock assessment, noting evidence of hyperstability in the fishery CPUE, and highlighted the need for a survey to provide better indices of abundance and recruitment than CPUE for stock assessment. Development of the stock assessment model has continued and the next iteration of the model, incorporating the most-recent recommendations of the CPT and SSC, will be reviewed by the CPT at its May 2014 meeting.

Given the lack of adequate survey data and because the stock assessment model using fishery data has not been accepted for use in establishing federal OFLs and ACLs, the federal OFL and ACL for the AIG stock are established following the procedure for the stocks in which only historical catch data are available: the OFL is estimated as the average catch and bycatch mortality from a time period determined to be representative of the production potential of the stock and the ACL is set at a value less than or equal to 90% of the OFL. Under the federal process, the OFL and ACL are established for golden king crab in the entire Aleutian Islands Area. The current federal OFL is 12.54 million pounds, computed as the average annual retained catch during 1985/86–1995/96 plus the average annual bycatch mortality estimated to have occurred in the directed fishery and in non-directed crab and groundfish fisheries. The current federal ACL is 11.28 million pounds, computed as 90% of the OFL. By comparison to the ACL, the estimated AIG total fishery mortality in 2012/13 was 6.87 million pounds (6.27 million pounds of retained catch and 0.60 million pounds of discard and bycatch mortality).

The department feels that the current federal ACL 11.28 million pounds of retained catch and bycatch mortality does not adequately account for the uncertainty on the OFL for the purposes of

establishing TACs. The 1985/86–1995/96 period used to compute the current OFL was established by the council's SSC in 2008. The CPT, however, in 2008, and again in 2009, recommended that catch from the 1985/86–1989/90 period be excluded from OFL calculation because that was a period during which annual catch appears to have not been sustainable. The stock assessment model, which remains under development and which has not been accepted for use in setting the federal OFL, has tended to estimate lower values for the OFL. In the most-recently (February 2013) reviewed iteration of the stock assessment model, the OFL for retained catch plus bycatch mortality of males was estimated for each of the eastern and western Aleutian Islands areas under four model configurations and yielded estimates of 3.36–4.94 million pounds for the eastern Aleutian Islands and 1.83–2.12 million pounds for the western Aleutian Islands.

Stock assessment model development for both the eastern and western AIG stocks are of high priority to the department, as well as to the council's CPT and SSC. Likewise, although the department and the CPT recognize the important need for a program to regularly collect fishery-independent stock assessment data from both the eastern and western AIG stocks, such a program has not been implemented due to the significant logistical and funding challenges. The department has recently been approached by the AIG fishing industry to discuss the possibility of the industry instituting a program to collect fishery-independent stock assessment data from the western and eastern Aleutian Islands under the guidance of the department and NMFS. The department has entered such discussions and plans to continue discussions with the industry on working cooperatively to collect fishery-independent data for stock assessment. Pending approval of the stock assessment model in development and in the absence of a program to collect fishery-independent stock assessment data, a constant-catch harvest strategy has been employed. A constant-catch harvest strategy maintains stable harvest levels during stock increases and stock declines. In order to prevent overharvest when stock levels and trends are uncertain, a constant-catch harvest strategy must be conservative.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. The relationship of stock size to fishery CPUE has not been determined and the department would not be able to determine impacts of increased harvest levels. Because the fisheries are rationalized, it would be difficult for the department to close the fishery inseason if fishery performance issues develop.

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 8.2.2). Category 2 management measures should be consistent with the criteria set out in the FMP and the National Standards (FMP Appendix B).

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

Table 348-1. Harvest history for the Aleutian Islands golden king crab fishery by fishery season, 1981/82–1995/96, Dutch Harbor and Adak Areas combined (adapted from 2008 BSAI Crab SAFE, NPFMC, Anchorage).

Season	Vessels	Harvest Pounds[a]	CPUE[b]	Average Weight[c]
1981/82	21	1,319,666	8	5.4
1982/83	132	9,236,942	9	5.3
1983/84	168	10,495,045	7	5.3
1984/85	43	4,819,347	11	4.8
1985/86	58	12,734,212	12	4.5
1986/87	64	14,738,744	8	4.4
1987/88	66	9,257,005	7	4.2
1988/89	76	10,627,042	8	4.3
1989/90	68	12,022,052	8	4.1
1990/91	23	6,950,362	8	4.1
1991/92	19	7,702,141	8	4.2
1992/93	22	6,291,197	7	4.1
1993/94	21	5,551,143	6	4.0
1994/95	35	8,128,511	5	4.2
1995/96	28	6,960,406	5	4.4

[a.] Includes deadloss.
[b.] Catch (number of crabs) per pot lift.
[c.] Average weight (pounds) of landed crabs, including deadloss.

Note: the size limit decreased from 6.5 inches to 6.0 inches for the Dutch Harbor Area in 1984/85 and for the Adak Area in 1985/86.

Table 348-2. Aleutian Islands golden king crab number of vessels, harvest levels, harvest, catch per unit effort (CPUE), and average weight of landed crab based on fish ticket data, and average soak time from observer sample pot data, 1996/97-2012/13.

Season	East of 174° W longitude						West of 174° W longitude					
	Vessels	GHL/TAC[a]	Harvest[b]	CPUE[c]	Avg. Wt.[d]	Avg. Soak[e]	Vessels	GHL/TAC[a]	Harvest[b]	CPUE[c]	Avg. Wt.[d]	Avg. Soak[e]
1996/97	14	3.200	3,290,862	6	4.5	5.4	13	2.700	2,524,910	6	4.2	7.9
1997/98	15	3.200	3,501,054	7	4.5	5.1	9	2.700	2,444,628	7	4.3	7.7
1998/99	14	3.000	3,247,863	9	4.4	4.3	3	2.700	1,691,385	11	4.1	9.4
1999/00	15	3.000	3,069,886	9	4.3	4.2	17	2.700	2,768,902	6	4.1	10.0
2000/01	15	3.000	3,134,079	10	4.5	4.6	12	2.700	2,884,682	7	4.1	9.6
2001/02	19	3.000	3,178,652	12	4.4	4.4	9	2.700	2,740,054	7	4.0	12.3
2002/03	19	3.000	2,821,851	12	4.4	4.1	6	2.700	2,640,604	8	4.0	12.1
2003/04	18	3.000	2,977,055	11	4.6	4.0	6	2.700	2,688,773	10	4.0	13.4
2004/05	19	3.000	2,886,817	18	4.5	3.7	6	2.700	2,688,234	12	3.9	11.6
Pre-CR Avg.	**16**	**3.044**	**3,123,124**	**10**	**4.4**	**4.4**	**9**	**2.700**	**2,563,575**	**8**	**4.1**	**10.4**
2005/06	7	3.000	2,866,602	25	4.6	14.1	3	2.700	2,653,716	21	4.2	24.2
2006/07	6	3.000	2,992,010	25	4.6	11.6	3	2.700	2,270,334	19	4.3	19.0
2007/08	4	3.000	2,989,997	28	4.7	17.2	3	2.700	2,518,103	20	4.2	22.3
2008/09	3	3.150	3,144,423	27	4.7	14.9	3	2.835	2,535,661	22	4.3	24.0
2009/10	3	3.150	3,150,474	26	4.6	16.2	3	2.835	2,761,813	24	4.4	26.8
2010/11	3	3.150	3,148,188	26	4.7	13.9	3	2.835	2,820,661	21	4.5	23.2
2011/12	3	3.150	3,150,374	37	4.7	18.5	3	2.835	2,814,042	23	4.6	27.8
2012/13	3	3.310	3,315,115	33	4.8	18.4	4	2.980	2,952,644	21	4.4	24.8
Post-CR Avg.	**4**	**3.114**	**3,094,648**	**28**	**4.7**	**15.6**	**3**	**2.803**	**2,665,872**	**22**	**4.4**	**24.0**

Note: CR began 2005/06, harvest includes individual fishing quota (IFQ), Community Development Quota (CDQ) east of 174° W long and Adak Community Allocation (ACA) west of 174° W long.

a. Guideline harvest level (GHL) 1996/97-2004/05, total allowable catch (TAC) beginning 2005/06, in millions of pounds.
b. Harvest in pounds, deadloss included.
c. Average number of retained crab per pot lift.
d. Average weight in pounds.
e. Average pot soak time in days.

Table 348-3. Catch per unit effort (CPUE) of legal males, sublegal males, and females in the 1997 – 2006 ADF&G Aleutian Islands golden king crab triennial pot survey for 61 stations fished in common over all four surveys.

Survey Year	Legal Males	Sublegal Males	Females
1997	4.7	49.7	58.6
2000	3.1	30.7	32.7
2003	2.9	11.9	10.5
2006	4.3	11.9	17.2

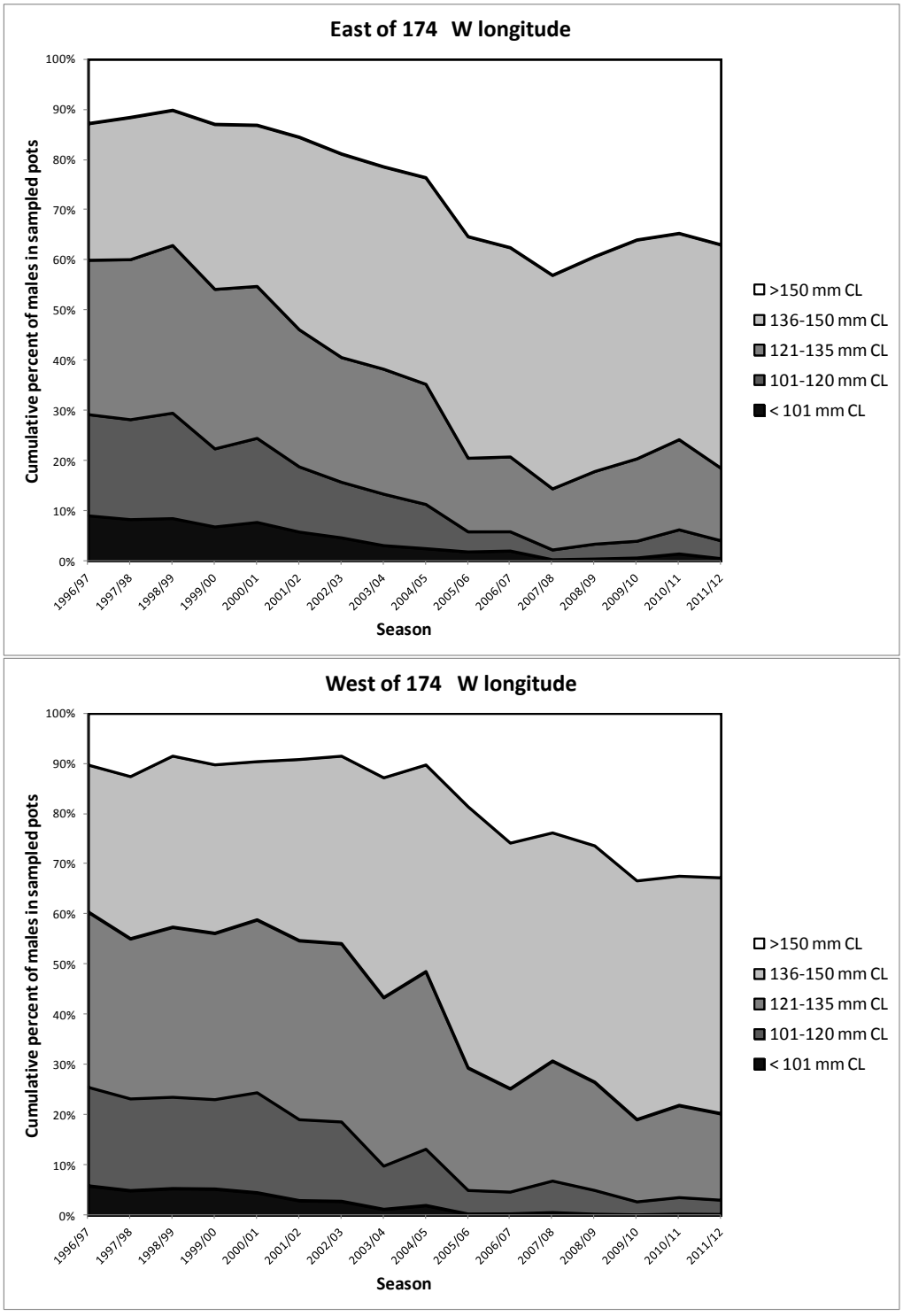

Figure 348-1. Percent composition in 5 size classes (mm, carapace length) of male golden king crab captured by pots sampled by fishery observers during the 1996/97 – 2011/12 Aleutian Islands golden king crab fishery, by season, in the areas east (above) and west (below) of 174° W longitude (from ADF&G Fishery Data Series No. 13-41).

PROPOSAL 349 – 5 AAC 34.610. Fishing seasons for Registration Area O.

PROPOSED BY: Chad Hoefer.

WHAT WOULD THE PROPOSAL DO? This proposal would change the Aleutian Islands golden king crab (AIG) season opening and closing dates to three months earlier; the AIG fisheries would open on May 15 rather than August 15 and close on February 15 rather than May 15.

WHAT ARE THE CURRENT REGULATIONS? The AIG fisheries open by regulation on August 15 and close by regulation on May 15 (5 AAC 34.610(b)). AIG fisheries have been rationalized by National Marine Fisheries Service (NMFS) since the 2005/06 season, 5 AAC 39.670.

The AIG stock is managed as two separate fisheries, east and west of 174° W long, with a separate total allowable catch (TAC) for each fishery (5 AAC 34.612(1) and (2)). The TAC is allocated by NMFS as 90% to individual fishing quota (IFQ) fisheries and 10% to Community Development Quota (CDQ) fisheries; however, state waters are open access.

A number of federal Bering Sea and Aleutian Islands (BSAI) crab rationalization fishery administrative processes are based on the federal definition of the "crab fishing year" from July 1 to June 30 (50 CFR 680.2). The crab fishing year is based on the first crab fishery (AIG) opening on August 15 and the last crab fishery (Bering Sea snow crab) closing on May 31. Current federal regulations provide for a variety of application, permitting, data reporting, and cost recovery processes that are coordinated with the July 1 to June 30 crab fishing year. This includes:

- Submission of applications for IFQ and individual processing quota (IPQ) (50 CFR 680.4(f)) and crab harvesting cooperative IFQ permits (50 CFR 680.21(b))
- Submission of value and volume data from Registered Crab Receivers (RCR) needed to determine annual cost recovery fee percentage (50 CFR 680.5)(m))
- Submission of cost recovery fees by holders of IFQ and IPQ (50 CFR 680.44)
- Renewal of required permits such as RCR and federal crab vessel permits (50 CFR 680.4(i) and (k)
- Arbitration agreements (50 CFR 680.20)
- Economic Data Reporting requirements (50 CFR 680.6)
- Submission of application for a regional delivery exemption for the AIG fishery (50 CFR 680.4(o)

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would allow fishermen to take advantage of more favorable weather conditions by fishing during the summer months; however, the annual catch limit (ACL) and overfishing level (OFL) would not be set in time to establish the total allowable catch (TAC).

A May 15 season opening would require NMFS to establish AIG fishery application, permitting, data reporting, and cost recovery processes that are separate from the administrative processes

established for AIG crab rationalization fisheries. Establishing a separate administrative process for the AIG fishery would result in an increased administrative burden for participants that hold quota share or processing quota share in the AIG fishery and in other BSAI crab rationalization fisheries.

Establishing a separate administrative process for the AIG fishery would require significant revisions to federal regulations, information management systems, permit application and quota issuance processes, and other recordkeeping and reporting requirements. NMFS would incur additional costs to develop and administer these program modifications. The additional costs would be subject to cost recovery under the program established for the BSAI crab rationalization fisheries (50 CFR 680.44). Under the cost recovery program, NMFS recovers the costs of management, administration, and enforcement of crab rationalization fisheries by collecting fees from holders of quota share and processor quota share in all BSAI crab rationalization fisheries. While NMFS does not anticipate that the administrative process revisions required by the proposal to modify the AIG fishery season dates would result in a significant increase in cost recovery fees, it is important to note that the additional costs would be recovered from all crab rationalization fishery participants.

The revisions to federal regulations would require a longer time period to complete than the revisions to state regulations. Federal regulatory revisions are made through a process in which NMFS publishes proposed regulations and provides the public with an opportunity to comment on the proposed regulations. Following consideration of public comment on proposed regulations, NMFS prepares final regulations that, if approved by the Secretary of Commerce, implement the regulatory revisions.

BACKGROUND: Current AIG season dates were established by the board in March 2005 and were structured to provide maximum fishing opportunity under the crab rationalization program while allowing the department adequate time to assess fishery data after the fisheries close. A three-month closure allows for processing and analysis of fishery data; the proposed season date changes would still allow for a three-month closure. Golden king crab molting and mating occurs year-round and there is no clearly defined biological season for this stock, when a majority of crab are mating and molting. Fishing effort in AIG fisheries generally takes place from August to December in the eastern AIG fishery and from August to May in the western AIG fishery.

Overfishing levels (OFLs) and annual catch limits (ACLs) for golden king crab are recommended by the North Pacific Fishery Management Council's (council) Crab Plan Team in May and are finalized by the Council's Scientific and Statistical Committee in June. Total AIG fishery mortality, including directed catch and bycatch mortality in all fisheries, may not exceed the ACL; therefore the TAC must be set below the ACL. The proposed season dates would not allow for the OFL and ACL to be set prior to the TAC announcement and fishery opening.

DEPARTMENT COMMENTS: The department is **OPPOSED** to this proposal because the proposal would set the TAC prior to establishment of the ACL by the North Pacific Fishery Management Council.

Fishing seasons 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 National Standards (FMP Appendix B).

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

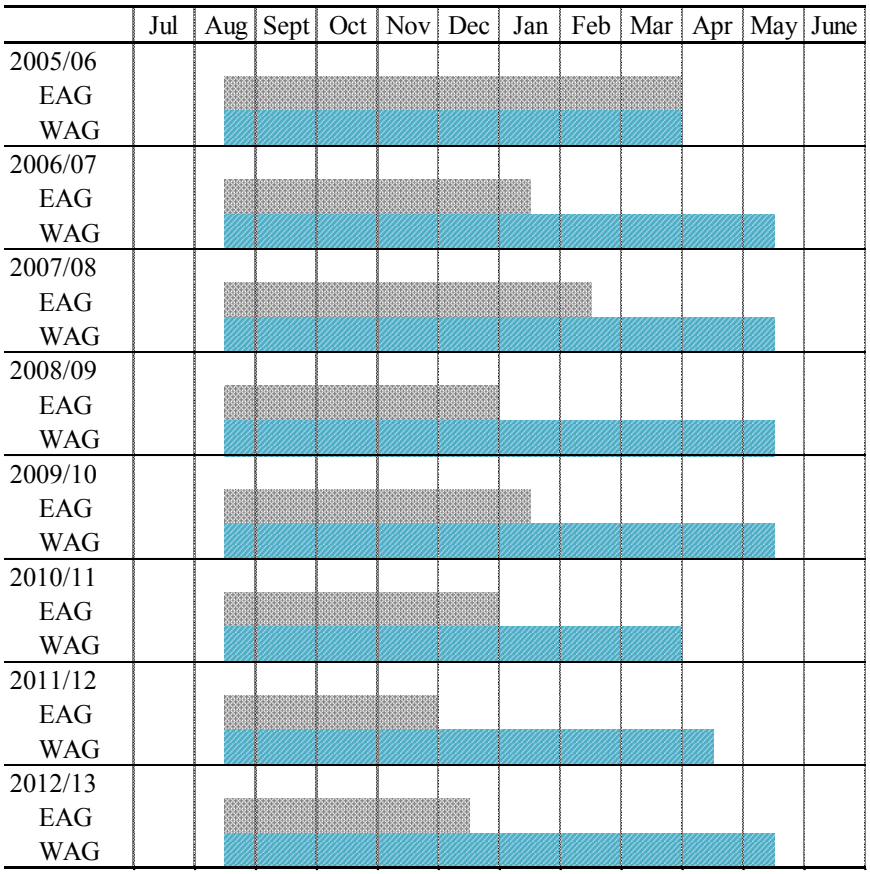

Figure 349-1.-Dates of active fishing in Aleutian Islands golden king crab fisheries, 2005/06-2012/13. EAG = Eastern Aleutian Islands (east of 174° W long). WAG = Western Aleutian Islands (west of 174° W long).

PROPOSAL 350 – 5 AAC 34.60X. Description of districts.

PROPOSED BY: Adak Community Development Corporation.

WHAT WOULD THE PROPOSAL DO? This proposal would establish two districts for red king crab fishery management in waters of the Aleutian Islands west of 171° W long. The two districts would be 1) Adak District from 171° to 179° W long, and 2) Petrel District west of 179° W long. (Figure 350-1).

WHAT ARE THE CURRENT REGULATIONS? The Aleutian Islands king crab registration area (Area O), extends from 164° 44' W long on Unimak Island to the U.S./Russia maritime boundary line on the west (5 AAC 34.600). There are no regulatory districts for Aleutian Islands red king crab.

The federal *Fishery Management Plan for the Bering Sea/Aleutian Islands King and Tanner Crabs (FMP)* includes red king crab of the Aleutian Islands west of 171º W long. Red king crab in federal waters from 171° to 179° W long may be fished only by those holding federal licenses through the license limitation program (LLP); in federal waters west of 179° W long the fishery is rationalized by National Marine Fisheries Service and only individual fishing quota permit holders or community development quota holders may participate. In state waters of the Aleutian Islands the red king crab fishery is open access.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would establish districts for red king crab fishery management and regulation development within Registration Area O west of 171º W long; however, the FMP currently recognizes all red king crab in waters west of 171º W long as a single stock and the federal overfishing level (OFL) for red king crab in the Aleutian Islands is applicable to the entire fishery west of 171° W long. Red king crab harvest in both districts would count toward the single OFL.

BACKGROUND: The Aleutian Islands red king crab fishery west of 171° W long began in 1961 and rapidly developed, with a peak harvest of 21 million pounds in the 1964/65 season. Harvest remained high until the 1975/76 season when harvest dropped to less than 0.5 million pounds. In the late 1970s, guideline harvest level (GHL) ranges were established, ranging from 0.5 million to 3.0 million pounds. From the mid-1970s through mid-1990s, harvest never surpassed 2.0 million pounds despite increased effort. The fishery closed from 1996/97 – 1997/98 due to low stock abundance. In 1998/99, limited areas around Adak Island were opened to assess the status of red king crab; however, the GHLs were not reached. The Aleutian Islands between 171° and 179° W long have been closed to red king crab fishing since the 1998/99 season due to very low stock abundance. In 2002, a pot survey was conducted between 172° W long and 179° W long; however due to poor survey catches, only 34% of the survey was completed. The completed portion of the survey indicated that red king crab around Adak, Atka, and Amlia Islands were severely depressed. Before a red king crab fishery would reopen in the Aleutian Islands, the department would need a survey to determine if stock conditions warrant a commercial fishery opening. In 2012, a state-waters red king crab industry-cooperative survey was designed; however, the survey did not occur.

Red king crab in waters of the Aleutian Islands between 171° and 179° W long are not managed under the crab rationalization program; however all red king crab in federal waters west of 171° W long are included in the *Fishery Management Plan for the Bering Sea/Aleutian Islands King and Tanner Crabs.*

The federal red king crab overfishing level (OFL) and annual catch limit (ACL) are set for the Aleutian Islands west of 171° W long; the OFL and ACL are not set by district. The 2013/14 Aleutian Islands red king crab overfishing level (OFL) and annual catch limit (ACL) are 0.12 million pounds and 0.07 million pounds, respectively, based on average total fishery mortality and accounts for projected bycatch mortality in groundfish and other crab fisheries. There is currently no allowance for a directed red king crab fishery in the ACL; however, the ACL in 2012/13 and 2013/14 were set high enough to account for an industry-cooperative survey.

A red king crab fishery in the Aleutian Islands between 171° and 179° W long would be managed as an open access fishery in state waters and only vessels licensed under the federal license and limitation program could participate in federal waters. Harvest in both federal and state waters count towards the federal OFL and ACL; other fisheries would be impacted if the ACL were exceeded.

In May 2013, the North Pacific Fishery Management Council's Crab Plan Team discussed the potential of localized populations of red king crab in the Aleutian Islands; however, information on stock structure is lacking.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on establishing fishing districts; however, there is no data on red king crab stock structure to indicate separate stocks east and west of 179° W long, or separate state and federal stocks.

Establishing districts, subdistricts, and sections is a Category 2 management measure under the *Fishery Management Plan for the Bering Sea/Aleutian Islands King and Tanner Crabs* (FMP; FMP Section 8.2.4 District, Subdistrict, and Section Boundaries). Category 2 management measures must be consistent with the criteria set out in the FMP and the National Standards (FMP Appendix B).

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

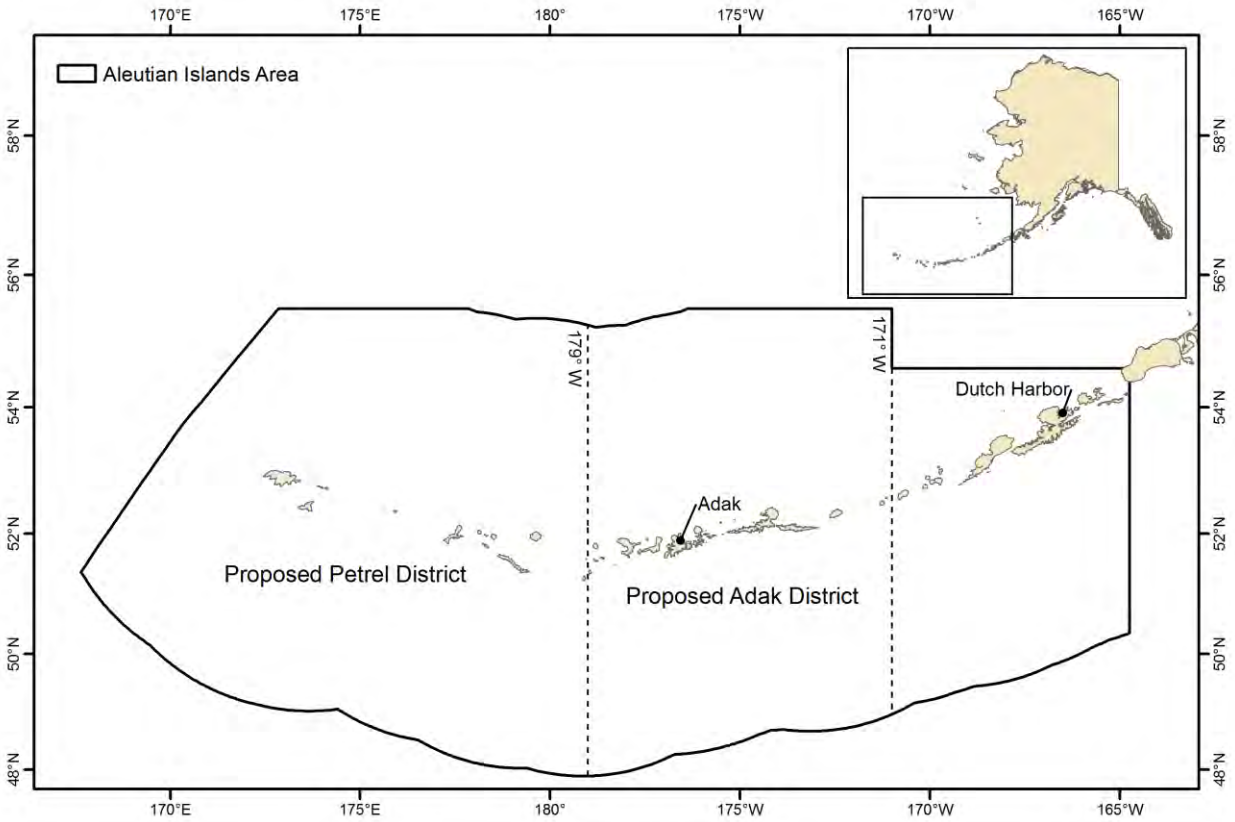

Figure 350-1.-Proposed districts for Aleutian Islands red king crab.

PROPOSAL 351 – 5 AAC 34.6XX. Adak District red king crab management plan.

PROPOSED BY: Adak Community Development Corporation.

WHAT WOULD THE PROPOSAL DO? This proposal would implement several fishery management measures for red king crab in the Aleutian Islands from 171° W long to 179° W long.

WHAT ARE THE CURRENT REGULATIONS? In state waters of the Aleutian Islands (0 – 3 nmi offshore) between 171° W long and 179° W long vessels fishing for red king crab are limited to 60 feet or less in overall length (5 AAC 34.610(d)). There is no vessel size limit in adjacent federal waters (3 – 200 nmi offshore). A vessel in waters of Alaska from 171° to 179° W long may not operate more than 10 pots (5 AAC 34.625(g)); there is no pot limit in adjacent federal waters. Observer coverage is required for the number of catcher vessels the department determines adequate (5 AAC 39.645(d)(5)(A)). Vessel operators must register for the Aleutian Islands red king crab fishery at least 21 days before the vessel begins fishing operations (5 AAC 34.606(b)).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would establish a daily fishing period, logbook and daily reporting requirements for the proposed "Adak District" red king crab fishery (Proposal 350). Pots could only be operated from 8:00 a.m. until 5:59 p.m., with a subsequent 14 hour soak before the next daily fishing period. Vessels would be required to complete logbooks provided by the department and report daily to the department the number of pot lifts, the number of retained crab, and any other information the commissioner determines is necessary.

BACKGROUND: Red king crab in waters of the Aleutian Islands between 171° and 179° W long are not managed under the crab rationalization program; however, all red king crab in federal waters west of 171° W long are included in the *Fishery Management Plan for the Bering Sea/Aleutian Islands King and Tanner Crabs.* A red king crab fishery would be managed as an open access fishery in state waters and only vessels licensed under the federal license limitation program could participate in federal waters.

Further fishery background is provided in staff comments for Proposal 350.

DEPARTMENT COMMENTS: The department **SUPPORTS** this proposal as it would provide fishery management measures when the fishery reopens.

Gear placement and reporting are a Category 3 management measure under the *Fishery Management Plan for the Bering Sea/Aleutian Islands King and Tanner Crabs* (FMP; FMP Section 8.3.1 Reporting Requirements and 8.3.2 Gear Placement and Removal).

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 352 – 5 AAC 34.6XX. Closed waters.

PROPOSED BY: Adak Community Development Corporation.

WHAT WOULD THE PROPOSAL DO? This proposal would close the exclusive economic zone (EEZ; 3 – 200 nmi offshore) between 171° and 179° W long to fishing for red king crab when the guideline harvest level (GHL) is less than 250,000 pounds.

WHAT ARE THE CURRENT REGULATIONS? The fishing season for red king crab is from October 15 to February 15 (5 AAC 34.610(a)). Red king crab may be taken by vessels with federal license limitation permits in federal waters between 171° and 179° W long; however, in waters of Alaska (0 – 3 nmi offshore) from 171° to 179° W long red king crab may only be taken by vessels 60 ft or less in overall length (5 AAC 34. 610(d)). In state waters of Alaska from 171° to 179° W long, no more than 10 pots may be used per vessel (5 AAC 34.625(g)); however, there is no pot limit in adjacent waters of the EEZ.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? When surveys in state and federal waters indicate a harvestable surplus less than 250,000 pounds, state waters would open and federal waters would remain closed. When stock assessment surveys in state and federal waters indicate a harvestable surplus of at least 250,000 pounds, both state and federal waters would open; vessel size and pot limit would be restricted in state waters, but not in federal waters.

BACKGROUND: Based on historic harvest records from the 1980s, 38% of the reported harvest between 171° and 179° W long was from state waters and 62% of the harvest was reported from federal waters (Table 352-1).

A red king crab fishery in the Aleutian Islands between 171° and 179° W long would be managed as an open access fishery in state waters and only vessels licensed under the federal license and limitation program could participate in federal waters. A single federal overfishing level (OFL) and annual catch limit (ACL) are currently set for Aleutian Islands red king crab west of 171° W long. State and federal waters are managed as one stock. Harvest in both federal and state waters count towards the federal OFL and ACL; other fisheries would be impacted if the ACL were exceeded.

In May 2013, the North Pacific Fishery Management Council's Crab Plan Team discussed the potential of localized populations of red king crab in the Aleutian Islands, however information on stock structure is lacking.

Further fishery background is provided in staff comments for Proposal 350.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal; however, without stock assessment and abundance information the department is unable to determine harvestable surplus or what the apportionment is inside or outside of state waters.

Closed waters fall under Category 2 management measures under the *Federal Management Plan for the Bering Sea/Aleutian Islands King and Tanner Crabs* (FMP; FMP Section 8.2.9 Closed Waters). Category 2 management measures must be consistent with the criteria set out in the FMP and the National Standards (FMP Appendix B).

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

Table 352-1. Red king crab harvest in state and federal waters between 171° and 179° W long of the Aleutian Islands during the 1985/86–2012/13 seasons.

Season	State waters harvest	Federal waters harvest	Total harvest	% State waters harvest	% Federal waters harvest
1985/86	22,276	26,645	48,921	46%	54%
1986/87	19,915	32,074	51,989	38%	62%
1987/88	242,187	384,515	626,702	39%	61%
1988/89	312,311	586,200	898,511	35%	65%
1989/90	136,797	163,798	300,595	46%	54%
1990/91	2,749	11,928	14,677	19%	81%
1991/92	1,883	2,187	4,070	46%	54%
1992/93	CF	CF	CF		
1993/94	CF	CF	CF		
1994/95	4,622	0	4,622	100%	0%
1995/96	CF	CF	0		
1996/97	FC	FC	-	-	-
1997/98	FC	FC	-	-	-
1998/99*	CF	CF	-	-	-
1999/00-2012/13	FC	FC	-	-	-
TOTAL (non-CF)	742,740	1,207,347	1,950,087	38%	62%

CF = confidential harvest.
FC = fishery closed.

PROPOSAL 353 – 5 AAC 34.606. Area O registration.

PROPOSED BY: Adak Community Development Corporation.

WHAT WOULD THE PROPOSAL DO? This proposal would reduce the preseason registration deadline for the Aleutian Islands red king crab fishery between 171° and 179° W long from 21 days to 7 days.

WHAT ARE THE CURRENT REGULATIONS? The current vessel registration deadline for the Aleutian Islands red king crab fishery is 21 days before the vessel begins fishing operations (5 AAC 34.606(b)). 5 AAC 39.645(d)(5)(A) *Shellfish onboard observer program* allows the department to place onboard observers on catcher vessels for the red king crab fishery east of 179° W long.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The preseason registration period is used when the department funds observer coverage. The 21-day period allows enough time for the department to notify observer providers of fishery observer needs, brief observers and transport the observer to the port of departure of the fishing vessel. The preseason registration deadline is also used to provide the department with advance notice of vessel effort for fishery management.

When observer coverage is funded by the vessel (pay-as-you-go) the vessel operator is responsible for obtaining observer coverage before fishing; however, the 21-day preseason registration would still provide advance notice of vessel effort for fishery management.

BACKGROUND: Vessel preseason registration periods were established to give the department adequate time to assess vessel effort for inseason management and to provide for sufficient observer coverage before the start of the season. If the season reopens, observer coverage would be paid for by the vessel, unless other funds were made available to the department. Observer coverage is important to document and quantify bycatch for assessing overfishing levels under the *Federal Management Plan for the Bering Sea/Aleutian Islands King and Tanner Crabs*.

Further fishery background is provided in staff comments for Proposal 350.

DEPARTMENT COMMENTS: The department is **OPPOSED** to this proposal, because seven days is not sufficient time to provide advance notice for observer coverage.

Registration deadlines are a Category 3 management measure under the *Federal Management Plan for the Bering Sea/Aleutian Islands King and Tanner Crabs* (FMP; FMP Section 8.2.8 Other).

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 354 – 5 AAC 34.610. Fishing seasons for Registration Area O.

PROPOSED BY: Adak Community Development Corporation.

WHAT WOULD THE PROPOSAL DO? This proposal would change the red king crab season opening date in waters of the Aleutian Islands between 171° and 179° W long to begin 3.5 months earlier. The season would open July 1 rather than October 15. The season closure would remain February 15.

WHAT ARE THE CURRENT REGULATIONS? The Aleutian Islands red king crab fishery regulatory season may open October 15, and the season closes February 15 (5 AAC 34.610(a)). In state waters of the Aleutian Islands from 171° to 179° W long a vessel registered to fish for red king crab may be no longer than 60 feet in overall length (5 AAC 34.610(d)). There is no vessel size restriction in adjacent federal waters.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED This proposal would allow red king crab fisherman to participate during summer months. Fishing in July may result in capture of recently-molted crab which could have poor meat-fill and may result in additional mortalities.

The proposed season opening date would allow only a short window between establishment of the annual catch limit (ACL) and fishery opening.

BACKGROUND: Historically, the Aleutian Islands red king crab fishery opened on November 1, with the exception of the 1980/81 season, when the fishery was opened January 15. In 2002/03 and 2003/04 seasons, the Aleutian Islands between 179° W long and 179° E long was opened to a Petrel Bank red king crab fishery from October 25 through October 27 and 29, respectively.

The October 15 opening date for Aleutian Islands red king crab was set in March 2002. The 2002 proposal was intended to reduce fishing effort during the early portion of the fishery, and the opening date is concurrent with the Bristol Bay red king crab fishery season opening.

The department does not currently survey this stock; however, to determine a harvestable surplus a survey would be required. Survey timing has not been determined; however, survey timing would need to be coordinated with fishery timing.

Federal overfishing level (OFLs) and annual catch limits (ACLs) for red king crab are recommended by the North Pacific Fishery Management Council's (council) Crab Plan Team (CPT) during May and are finalized by the council Scientific and Statistical Committee in early June. Total fishery mortality, which currently only includes bycatch mortality in groundfish and other crab fisheries, may not exceed the ACL.

Further fishery background is provided in staff comments for Proposal 350.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on opening the fishery July 1; however, the department believes an August 1 opening (or later) would lower deadloss, allow shells to harden and provide a more marketable product as meat-fill would be higher.

Fishing seasons 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 National Standards (FMP Appendix B).

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

PROPOSAL 355 – 5 AAC 34.628. Operation of other gear in Registration Area O.

PROPOSED BY: Adak Community Development Corporation.

WHAT WOULD THE PROPOSAL DO? This proposal would decrease from 30 days to 7 days when fishermen and vessels are prohibited from operating longline, trawl, and pot gear for commercial, subsistence, personal use, or sport fisheries prior to the opening of the commercial red king crab season in the Aleutian Islands between 171° and 179° W long.

WHAT ARE THE CURRENT REGULATIONS? Current regulations state that no person or vessel may operate longline, trawl, or pot gear in waters less than 125 fathoms in depth for either commercial, subsistence, personal use, or sport fishing in that portion of the Aleutians Islands open to commercial red king crab 30 days prior to the scheduled opening of the commercial red king crab fishery (5 AAC 34.628).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would decrease the amount of the time that a person or vessel would be prohibited from using longline, pot, or trawl gear in a commercial, subsistence, personal use, or sport fishery within the area that would open to commercial red king crab fishery in the Aleutian Islands.

BACKGROUND: The existing 30 day prohibition on pot, trawl and longline fishing in the area opened to fishing for red king crab is an anti-prospecting measure and was designed to help allow a competitive, fair start for the fishery.

Further commercial fishery background is provided in staff comments for Proposal 350.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal. Adoption of this proposal could result in shorter seasons as some vessels may have a competitive advantage for locating red king crab.

This proposal falls under the other section as a Category 3 management measure under *Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs* (FMP; FMP Section 8.3.8 Other).

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 356 – 5 AAC 34.640. Registration Area O inspections and inspection points.

PROPOSED BY: Adak Community Development Corporation.

WHAT WOULD THE PROPOSAL DO? This proposal would allow law enforcement officers certified by the Alaska Police Standards Council to conduct tank inspections in Adak for Aleutian Islands red king crab.

WHAT ARE THE CURRENT REGULATIONS? Current inspection points for Aleutian Islands red king crab (Registration Area O) are Dutch Harbor, Akutan, King Cove, and at additional locations if specified by the department (5 AAC 34.640(a)). King crab vessels must have their holds, live tanks, and freezers inspected by a local department representative within 72 hours prior to commencing fishing operations (5 AAC 34.640(b)).

An inspection is not complete unless, at the time of the inspection, there is onboard the vessel, a valid CFEC permit holder, with the permit on board, for the registration area or district and king crab species in which the vessel is registering for (5 AAC 34.020(d)). In a king crab registration area, district, or subdistrict in which tank inspections are required, a king crab vessel is not validly registered until the inspection is completed by a local representative of the department.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would add Adak as a tank inspection point and it would authorize law enforcement officers to conduct tank inspections rather than a representative of the department.

BACKGROUND: Tank inspections help provide a fair start to the fishery. If a red king crab fishery were conducted where the majority of the fleet intended to register in Adak, the department would attempt to send a representative to Adak to perform tank inspections and assist with regulatory issues. The red king crab fishery near Adak has been closed for many years. It would be helpful to have a department representative in Adak if a fishery were to occur. It is the department's policy to waive tank inspections if department personnel are unable to travel to the tank inspection location.

Further fishery background is provided in staff comments for Proposal 350.

DEPARTMENT COMMENTS: The department has authority to designate Adak as a location for tank inspections. The department is **OPPOSED** to allowing a nondepartment employee conduct tank inspections for a fishery because they would not have knowledge of the fishery to interact with resource users.

Tank inspections are a Category 3 management measure under the *Fishery Management Plan for the Bering Sea/Aleutian Islands King and Tanner Crabs* (FMP; FMP Section 8.3.4 Vessel Tank Inspections).

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 357 – 5 AAC 34.600. Description of Registration Area O.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This proposal would clarify the commercial king crab demarcation line separating the Aleutian Islands Area from the Alaska Peninsula Area.

WHAT ARE THE CURRENT REGULATIONS? Current regulation places the eastern boundary of the Aleutian Islands Area as Scotch Cap Light at 164° 44' W long (5 AAC 34.600).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would update the specific demarcation coordinates to reflect the best precision available for Scotch Cap Light at 164° 44.72' W long. This proposal would not affect how fisheries are managed in the Aleutian Islands Area.

BACKGROUND: The intent of this proposal is to standardize demarcation lines as well as update specific demarcation coordinates to reflect the best precision afforded by current technology. In this case, the demarcation line is not changed it is merely becoming a more accurate description.

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

Establishing districts, subdistricts, and sections is a Category 2 management measure under the *Fishery Management Plan for the Bering Sea/Aleutian Islands King and Tanner Crabs* (FMP; FMP Section 8.2.4 District, Subdistrict, and Section Boundaries). Category 2 management measures should be consistent with the criteria set out in the FMP and the National Standards (FMP Appendix B).

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

PROPOSAL 358 – 5 AAC 34.917. Saint Matthew Island Section blue king crab harvest strategy.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This proposal would modify the Saint Matthew Island Section blue king crab harvest strategy by: 1) establishing the threshold for consideration of a fishery opening at 1.609 million mature-sized male crab; 2) establishing a harvest rate on the estimated number of mature–sized males that increases linearly from 5%, when the stock is estimated to be at threshold, to 10%, when the estimated number of mature–sized males is two or more times greater than the threshold; 3) restricting the number of legal males that can be harvested to 25% or less of the estimated number of legal males; and 4) clarifying that the stock estimates used to determine a fishery opening and to compute harvest levels are survey-equivalent estimates of abundance at the time of survey.

WHAT ARE THE CURRENT REGULATIONS? The existing harvest strategy: 1) establishes a threshold for consideration of a fishery opening at 2.9 million pounds of mature-sized males; 2) establishes a harvest rate on the estimated number of mature–sized males that increases linearly from 10%, when the stock biomass is estimated to be at threshold, to 20%, when the estimated biomass of mature–sized males is four or more times greater than the threshold; and 3) restricts the number of legal males that can be harvested to 40% or less of the estimated number of legal males.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The proposed harvest strategy would: 1) establish a stock threshold level for consideration of a fishery opening that would better promote stock rebuilding when the stock is at low levels than the threshold in current regulation; 2) reduce harvest levels computed according to the state's harvest strategy to avoid conflicts with federal annual catch limits (ACL), to better account for uncertainty as required by the federal *Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs* (FMP), and be more comparable with other harvest strategies in regulation for Bering Sea king crab fisheries; and 3) clarify the stock estimates used in application of the harvest strategy.

BACKGROUND: The Saint Matthew Island Section blue king crab fishery is managed by the State of Alaska under the federal FMP, which establishes a State/Federal cooperative management regime that defers crab management to the State of Alaska with federal oversight. The fishery began in 1977 and harvests peaked in 1983 at 9.5 million pounds. Harvests declined to as low as 1.0 million pounds in the late-1980s, but stabilized during 1991–1998 at a range of 2.5–4.6 million pounds annually. The Saint Matthew Island blue king crab stock was declared overfished by the National Marine Fisheries Service (NMFS) in 1999 and the fishery was closed by ADF&G during the 1999/00–2008/09 seasons until the stock was declared rebuilt from overfished status by NMFS in 2009. In 2005, during the 1999/00–2008/09 closure period, the fishery was rationalized under the federal Bering Sea/Aleutian Islands Crab Rationalization Program. Among the many notable changes due rationalization, management of the fishery changed from a competitive fishery that was managed inseason towards a preseason-determined

guideline harvest level (GHL) to a fishery in which a total allowable catch (TAC) was determined preseason and distributed as individual fishing quotas.

The fishery was opened for the 2009/10–2012/13 seasons, during which harvests ranged from 0.5 million pounds to 1.9 million pounds annually. The fishery was closed by ADF&G for the 2013/14 season due to an apparent steep decline in stock level and a high degree of uncertainty in preseason stock estimates from the summer 2013 stock assessment survey.

The stock threshold, harvest rate on mature-sized males, and cap on the harvest rate of legal males in the current harvest strategy were adopted into regulation in 2000 as components of a harvest strategy for a stock rebuilding plan that addressed the 1999 federal overfished declaration for this stock and was designed in accordance with the federal overfishing definitions developed in 1998 for FMP amendment 7. The harvest strategy adopted into regulation in 2000 also stipulated a minimum GHL (or, after rationalization in 2005, a minimum TAC) for a fishery opening. The minimum GHL was originally proposed as a management tool to help prevent harvests from exceeding low GHLs during fast-paced competitive fisheries, but analyses also showed the minimum GHL promoted stock rebuilding. After the stock was declared rebuilt in 2009 and prior to the fishery's reopening under the rationalization program in 2009/10, the minimum TAC was removed from the harvest strategy.

In 2008, the federal overfishing definitions of FMP amendment 7 were revised and the federal process for determining stock status and overfishing rates and for establishing overfishing limits (OFLs) were changed by FMP amendment 24. The revisions to federal overfishing definitions in amendment 24 included a lowering of the default maximum harvest rate and the accounting for total fishery mortality – including the estimated mortality of discarded bycatch – in the establishment of OFLs. The current harvest strategy can prescribe harvest levels that would result in exceeding the OFLs established under the current, revised federal overfishing definitions. In 2010, the federal FMP was further revised by FMP amendment 38 to specifically address uncertainty in stock assessment by requiring that an annual catch limit (ACL) be set for each stock at a level below the OFL. Although consideration of uncertainty is an important component of the state's role in setting fishery harvest levels under FMP amendment 38, that consideration is not adequately accounted for in the rules for computing the total allowable catch (TAC) according to the current harvest strategy. In each season since the Saint Matthew Island blue king crab fishery reopened in 2009/10, the department has had to adjust the TAC significantly downward from that computed according to the current harvest strategy in order to avoid exceeding the federal OFL (or, since 2010, the ACL) or to account for uncertainty in stock assessment and status.

The stock threshold established in the current harvest strategy was set as 25% of the mature-sized male component of the total mature biomass capable of producing maximum sustainable yield as specified in FMP amendment 7. That stock threshold was ineffective in closing the fishery when the stock was at critically low levels and was ineffective in promoting stock rebuilding from the time that the stock was declared overfished by NMFS until the time that it was declared rebuilt by NMFS. The minimum GHL/TAC for a fishery opening, which was removed from the harvest strategy in 2009, was the component of the harvest strategy that closed the fishery and provided protection to the stock during the 1999/00–2008/09 rebuilding period.

The stock threshold in the proposed harvest strategy is set as one-half of the average of the estimated number of mature-sized males estimated from the 1978–2012 preseason survey data.

The exploitation rate on mature-size males used for computing harvest levels for Saint Matthew Island blue king crab in the current harvest strategy is not only high relative to current federal overfishing rates, but it is also higher than what is used in any other regulatory harvest strategy for a Bering Sea king crab stock. Whereas the current harvest strategy prescribes a 10–20% exploitation rate on mature-sized males for the Saint Matthew Island Section blue king crab fishery, 5 AAC 34.918 prescribes a 10% exploitation rate for the Pribilof District blue king crab fishery and 5 AAC 34.816 prescribes a 10–15% exploitation rate for the Bristol Bay Area red king crab fishery. Additionally, the maximum harvest rate on legal males in the Saint Matthew Island blue king crab fishery established in the current harvest strategy (40%) is twice as high as the maximum harvest rate on legal males in the Pribilof blue king crab fishery established in 5 AAC 34.918 (20%).

The proposed harvest strategy would result in harvest rates generally under the limit of the current federal overfishing definition and provides a precautionary approach to fishery management by proportionally reducing harvest rates when abundance is below the long-term average and closing the fishery when abundance is less than one-half of the long-term average. A conservative harvest strategy, such as that proposed, would provide stock protection while providing reasonable opportunities for harvesting. Due to high recruitment variation, uncertainty on stock assessment, and the potential for occasional high natural mortality, it appears that no harvest strategy can completely prevent declines in the Saint Matthew blue king crab stock, but a precautionary approach would reduce the chance of prolonged stock collapse.

Finally, note that when the current harvest strategy was adopted into regulation, it was understood, without specifying in the regulation, that the stock estimates used to compare with the stock threshold for a fishery opening and for computing the TAC were to be estimates equivalent to the time series of area-swept estimates from the NMFS eastern Bering Sea continental shelf bottom trawl survey as estimated for the time of the summer survey. To avoid ambiguity, the proposed harvest strategy clarifies that the stock estimates used in application of the harvest strategy are to be the "survey-equivalent" estimates of the number of animals present at the time of the survey.

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

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 8.2.2). Category 2 management measures should be consistent with the criteria set out in the FMP and the National Standards (FMP Appendix B).

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

PROPOSAL 359 – 5 AAC 34.925. Lawful gear for Registration Area Q.

PROPOSED BY: Peter Liske.

WHAT WOULD THE PROPOSAL DO? This proposal would allow fishermen registered for the Saint Matthew Island Section blue king crab (SMB) fishery to configure up to 10 pots for groundfish for use in capturing bait for crab fishing operations.

WHAT ARE THE CURRENT REGULATIONS? Fishermen registered for the SMB fishery may operate up to an aggregate of 250 pots (5 AAC 34.925(e)(3)(A)). Groundfish pots are not allowed in the SMB fishery.

A groundfish pot has tunnel eye openings with perimeters limited to 36 inches (5 AAC 28.050 (e)). A king crab pot has a tunnel eye opening with a perimeter greater than 36 inches, with any one dimension no less than 5 inches (5 AAC 34.050(2)).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would allow fishermen greater ability to target Pacific cod for hanging bait during their crab fishing operations. The proposal is not clear if the 10 groundfish pots would be in addition to the crab pot limit of 250 pots.

BACKGROUND: In March 1999, the board adopted regulations allowing fishermen registered for the Bering Sea snow and Tanner crab fisheries to configure up to 20 of their pots for groundfish (5 AAC 35.525(d)). Similar regulations were passed by the board in March 2008, allowing fishermen registered for the Bristol Bay red king crab fishery to configure up to 10 of their pots for groundfish (5 AAC 34.825(k)). The SMB fishery was closed from 1999 through 2008/09, when these proposals were adopted; allowing groundfish pots during the SMB fishery was not considered.

The SMB season length increased from an average of 6 days from 1989 to 1998, to 3.5 months under crab rationalization. Since reopening in 2009/10, fishermen have participated in the SMB fishery an average of 32 days and bait their pots throughout the season.

Pacific cod fisheries in the Bering Sea are managed by National Marine Fisheries Service.

DEPARTMENT COMMENTS: The department **SUPPORTS** this proposal. This proposal has potential to provide economic benefit to fishery participants and does not appear to provide increased management or conservation concerns. This proposal would help the department account for groundfish effort in the SMB fishery because fishermen register their groundfish pots each season and observer sampling protocols for groundfish pots differ from crab pot sampling protocols.

Gear modifications are a Category 3 management measure under the *Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs* (FMP; FMP Section 8.3.5 Gear Modifications).

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 360 – 5 AAC 34.051. King crab gear marking requirements and 5 AAC 34.926. King crab pot marking requirements for Registration Area Q.

PROPOSED BY: Peter Liske.

WHAT WOULD THE PROPOSAL DO? This proposal would eliminate buoy tag requirements for the Saint Matthew Island blue king crab (SMB) fishery.

WHAT ARE THE CURRENT REGULATIONS? Fishermen are limited to a maximum of 250 pots per vessel in the SMB fishery (5 AAC 34.925(e)(3)(A)). Each pot must have a tag affixed to one of its buoys and buoy tags are issued each registration year (5 AAC 34.051(b) and (c)).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Without buoy tags the 250-pot limit could not be enforced.

BACKGROUND: Buoy tags are sequentially numbered and issued each season to fishermen participating in fisheries with pot limits. Buoy tags are affixed to buoys in order to enforce pot limits. Pot limits for Bering Sea crab fisheries were established by the board in 1992 and were implemented to lengthen fast-paced, short-duration fisheries, and to limit gear loss that could result in ghost fishing. The implementation of crab rationalization in 2005 eliminated the need for pot limits as an inseason management tool, and pot limits for the Bering Sea snow and Tanner crab and the Bristol Bay red king crab fisheries were removed by the board in 2008 with no known negative effects.

The SMB fishery was closed from 1999 through 2008/09 and was not considered by the board when pot limits and buoy tag requirements were removed for other rationalized Bering Sea crab fisheries. Since reopening in 2009/10, fishermen have used an average of 166 pots per vessel and have rarely used the maximum number of pots allowed.

The current pot limit does not appear to constrain fishermen in their ability to harvest their quotas.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal because the pot limit would be unenforceable; however, the department is **NEUTRAL** on pot limits in the SMB fishery.

Pot limits are a Category 2 management measure under the *Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs* (FMP; FMP Section 8.2.7 Pot Limits). Category 2 management measures should be consistent with the criteria set out in the FMP and the National Standards (FMP Appendix B). Gear modifications are a Category 3 management measure under the FMP (FMP Section 8.3.5 Gear Modifications).

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 361 – 5 AAC 34.925. Lawful gear for Registration Area Q.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This proposal would modify gear marking requirements in Registration Area Q for longlined pots in the Bering Sea golden king crab fishery. The requirement for having a pole and a flag on each end of the longline in the Bering Sea golden king crab fishery would be eliminated.

The proposal would also align gear marking requirements by adding letters "SL" to signify a shellfish longline, which would align gear marking requirements for the Bering Sea with those in the Aleutian Islands (Registration Area O).

WHAT ARE THE CURRENT REGULATIONS? In the Bering Sea golden king crab fishery, pots may be fished in a single-pot fashion or may be longlined. Longlined pots must be marked by a cluster of four buoys and a pole and a flag (5 AAC 34.925(f)).

In the Aleutian Islands golden king crab fishery, longlined pots must be marked by a cluster of four buoys, with one buoy in the cluster marked as a shellfish longline, with the initials "SL" (5 AAC 34.625(b)(2)).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would align gear marking requirements for golden king crab longlines in the Bering Sea with gear marking requirements in the Aleutian Islands. Fishermen that longline pots in the Bering Sea golden king crab fishery mark their gear in accordance with the gear marking requirements for the Aleutian Islands. This proposal would align regulations with current fishing practices.

BACKGROUND: Most Bering Sea golden king crab effort occurs in the Pribilof District. The Pribilof District golden king crab fishery opens January 1 and closes on December 31 or when the guideline harvest level (GHL) is reached, whichever occurs first. The fishery is managed under a constant-catch harvest strategy, with a GHL of 150,000 pounds. Since 2010, participation has ranged from 1 to 2 vessels and harvest is confidential. Of all of the vessels that have participated since 2010, one vessel has longlined their pots.

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

Gear markings are a Category 3 management measure under the *Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs* (FMP; FMP Section 8.3.8 Other).

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 362 – 5 AAC 35.525. Lawful gear for Registration Area J.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This proposal would specify that in the Bering Sea District of Registration Area J, escape rings on Tanner crab pots could be placed no higher on a vertical surface than the first full mesh from the bottom of the pot and it would clarify the existing ring placement regulation for Bering Sea snow crab pots.

WHAT ARE THE CURRENT REGULATIONS? In Registration Area J, escape mesh or escape rings are required on crab pots in order to permit the escapement of undersize male and female snow and Tanner crab.

Tanner crab pots using escape rings must have at least four rings that are no less than 5 inches in diameter and must be placed on a vertical plane. Tanner crab pots that use escape mesh must have at least one-third of one vertical plane of the pot composed of not less than 7.25 inch stretched mesh webbing (5 AAC 35.525(b)(1)).

Snow crab pots using escape rings must have at least eight escape rings with a diameter of no less than 4 inches. These rings must be within one mesh measurement from the bottom of the pot and four rings must be placed on each of two sides. Snow crab pots using escape mesh must have one half of one side of the pot composed of not less than 5.25 inch stretched mesh webbing (5 AAC 35.525(b)(1)).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? If adopted, this proposal would reduce Tanner crab bycatch and thus bycatch mortality in Bering Sea Tanner crab fisheries and update the existing snow crab escape ring placement description.

BACKGROUND: Regulations requiring escape rings or escape mesh for snow and Tanner crab pots were adopted by the board in 1996. No stipulations were included as to where the rings must be located on a pot. In 2000, as part of the snow crab rebuilding plan, the board adopted ring placement provisions to reduce bycatch mortality during the snow crab fishery. However, regulations for escape rings on Tanner crab pots do not include language regarding where the rings must be placed.

Research conducted by the department and National Marine Fisheries Service (NMFS) in 1997 concluded that escape rings placed at the middle of the pot or higher are significantly less effectual at reducing bycatch of sublegal and female Tanner crab (Pengilly 2000). In pots without an escapement device or in pots with rings at mid-height, catch per unit effort (CPUE) of female crab was at least twice that of pots with rings placed low on the pot. Sublegal male bycatch was 1.5 times higher in pots with mid-height placement or no rings than on pots with rings placed low on the pot.

From October through December 2013, the department surveyed escape mechanisms on 78 pots from 13 vessels registering for the 2013/14 Bering Sea Tanner crab season (Table 362-1). Approximately one third of the pots were configured with escape mesh only. Of the 69% of pots

that had escape rings, 74% had all four rings placed no higher than the first full mesh measurement of the bottom of the pot. Of the remaining 26% of the pots with escape rings, 19% of pots had all four escape rings on the middle to top third of the pot. Seven percent of the pots sampled had mixed ring placement.

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

Gear modifications are a Category 3 management measure under the *Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs* (FMP; FMP Section 8.3.5 Gear Modifications).

COST ANALYSIS: Approval of this proposal may result in an additional direct cost for a private person to participate in this fishery. The additional cost would be to modify ring placement.

Table 362-1.–Survey of Bering Sea Tanner crab pot escape ring placement, 2013.

Vessels	
Registered	19
Number surveyed	13
Percent surveyed	68%
Pots	
Number surveyed	78
Escape mesh only	31%
Escape rings only	69%
Escape ring placement	
Within first full mesh	74%
Bottom third, above first full mesh	0%
Middle third	2%
Top third	17%
Mixed placement	7%

PROPOSAL 363 – 5 AAC 39.670. Bering Sea/Aleutian Islands Individual Fishing Quota (IFQ) Crab Fisheries Management Plan.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This proposal clarifies vessel check-out provisions for rationalized Bering Sea/Aleutian Islands crab fisheries.

WHAT ARE THE CURRENT REGULATIONS? Fishermen participating in a rationalized crab fishery may leave pots at-depth for up to 14 days following the completion of fishing operations. Fishing operations are completed when either the vessel operator contacts the department to invalidate their registration within 72 hours of operating their last pot for that species in the registration area (5 AAC 39.675(b)(1)) or when pot gear belonging to that vessel is removed from the water and placed into long-term storage or transferred to another vessel (5 AAC 39.675(b)(2)).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would clarify how and when a vessel must contact the department to check-out of a rationalized crab fishery. A registered vessel operator would need to check out by contacting the department within 72-hours of completing fishing operations.

BACKGROUND: The department tracks vessel participation during rationalized crab fisheries. Vessels in rationalized crab fisheries may participate any time during the regulatory season. The department collects important fishery information when a vessel operator checks out of a fishery, such as how many pots were lost or if catch was discarded at the rail. Vessel check-out provisions were originally included in crab rationalization regulations; however, as regulations have changed over time, vessel check-out provisions have become confusing and unclear.

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

Reporting requirements are a Category 3 management measure under the *Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs* (FMP; FMP Section 8.3.1 Reporting Requirements).

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 364 - 5 AAC 39.143(c)(1)(A). Onboard observer certification and decertification.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This proposal would clarify when a crab observer trainee permit expires. The existing regulation incorrectly states that a crab observer trainee permit expires if the trainee has not participated in a briefing, whereas the regulation should state that the permit expires when the trainee has not participated in a debriefing.

WHAT ARE THE CURRENT REGULATIONS? Current regulation, 5 AAC 39.143(c)(1)(A) states that a crab observer trainee permit expires on the earlier of the 36th day after the crab observer trainee has participated in a briefing for an observer trip if, during this 36-day period, the trainee has not participated in a briefing with the department.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The regulation would be corrected to reflect the original intent. The second use of the term 'briefing' in subsection (c)(1)(A) is incorrect and would be replaced by the term 'debriefing'.

BACKGROUND: The corresponding regulation for scallop observers (5 AAC 39.143(c)(2)(A)) correctly uses the word 'debriefing' instead of 'briefing'.

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

State observer requirements are a Category 3 management measure under the *Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs* (FMP; FMP Section 8.3.7 State Observer Requirements).

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 365 - 5 AAC 39.143(p). Onboard observer certification and decertification.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This proposal would clarify existing regulatory definitions for the terms 'briefing', 'debriefing', and 'trainee' as used in the state's onboard observer programs.

WHAT ARE THE CURRENT REGULATIONS? Regulation 5 AAC 39.143(p)(1) defines 'briefing' as a meeting between the department and a trainee in which the upcoming observer trip is discussed; (p)(2) 'debriefing' as a meeting between the department and trainee in which the trainee's last observer trip, and whether the trainee meets the criteria for certification are discussed; and (p)(3) 'trainee' means a person who holds a crab or scallop onboard observer trainee permit and is a candidate to be a crab or scallop onboard observer.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would provide accurate definitions of 'briefing', 'debriefing' and 'trainee,' and alleviate confusion which might arise due to incomplete definitions concerning trainee and certified observers.

BACKGROUND: The current regulation narrowly defines the terms 'briefing', 'debriefing', and 'trainee' and does not reflect the broader definitions, as proposed, that are currently applied to these terms.

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

State observer requirements are a Category 3 management measure under *the Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs* (FMP; FMP Section 8.3.7 State Observer Requirements).

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 366 - 5 AAC 39.146 (d). Onboard observer briefing and debriefing.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This proposal would require onboard observers to contact the department's observer program office each time their vessel returns to any port and require observers to be prepared to provide all data and deployment information to the department.

WHAT ARE THE CURRENT REGULATIONS? Regulation 5 AAC 39.146(d) states that if an onboard observer's vessel returns to the port of briefing for any reason, the observer shall contact the department. The department may schedule a mid-trip debriefing which will allow a preliminary data check and provide the department an opportunity to resolve sampling problems or answer observer questions.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The department would be provided additional opportunities to coach observer performance, inform observers of changes to protocols, gather information on observer deployments, and review observer-collected data during deployment.

BACKGROUND: This proposed regulation change reflects observer program policies and operations.

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

State observer requirements are a Category 3 management measure under the *Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs* (FMP; FMP Section 8.3.7 State Observer Requirements).

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 367 - 5 AAC 39.645(j)(2),(3),(6) and (k). Shellfish onboard observer program.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This proposal would repeal two regulatory provisions regarding observer training that are no longer needed in light of the department's assumption of shellfish observer training duties. This proposal would also update regulations to reflect observer program operational adjustments made necessary by Bering Sea and Aleutian Islands crab rationalization.

Currently there is no definition in regulation for the term 'pay-as-you-go'. Defining this term in regulation would clarify observer coverage which is contracted by a vessel through an independent contracting agent and funded by the vessel operator, as opposed to observer coverage funded through the department.

WHAT ARE THE CURRENT REGULATIONS? Existing regulation 5 AAC 39.645(j)(2) requires independent observer contracting agents secure contracts directly with vessel owners and operators, (j)(3) requires independent observer contracting agents provide the department with a training plan for observers and observer training class instructor qualifications no less than 30 days before implementation, (j)(6) requires independent observer contracting agents coordinate with the department to schedule observer certification examinations and provide all observer sampling equipment for use during the examinations and (k) allows the department to conduct up to four observer examinations per year when at least 10 observer candidates are scheduled to take the examination.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Regulation 5 AAC 39.645(j)(2) would be amended to clarify observer contracts in 'pay-as-you-go' fisheries.

5 AAC 39.645(j)(3) would be repealed because the department trains all shellfish observers.

5 AAC 39.645(j)(6) would require independent observer contracting agents provide observer gear for observer training classes and exams but would no longer require contracting agents to schedule observer certification examinations as the department trains all shellfish observers.

5 AAC 39.645(k) would be repealed because it is no longer relevant as the department trains all shellfish observers.

5 AAC 39.645 (m) would define 'pay-as-you-go', a term that is regularly used by the observer program and industry to define funding of observer coverage that is directly secured and paid for by vessel owners or operators.

BACKGROUND: Subsection (j)(2): When the shellfish observer program was implemented, all observer coverage was 'pay-as-you-go' meaning that the cost of the observer is paid by the vessel owner or operator. Currently, a portion of observer coverage is funded through the department and the proposed regulation revision would clearly define that independent observer

contracting agents secure contracts directly with vessel owners and operators in 'pay-as-you-go' fisheries.

Subsection (j)(3): When the shellfish observer program was implemented, independent observer contracting agents were responsible for training their employees for crab observer work and were mandated to provide a training plan to the department. Starting in 2012, the department trains all shellfish observers; therefore, this subsection is no longer needed.

Subsection (j)(6): When the shellfish observer program was implemented, independent observer contracting agents were responsible for scheduling the time and date of ADF&G shellfish observer examinations for their observer candidates and provide each candidate with sampling equipment for use during the department examinations. Starting in 2012, the department trains all shellfish observers; therefore, the requirement for observer contractors to schedule observer examinations for their employees is no longer necessary.

Subsection (k): This regulation set a maximum number of yearly exams and a minimum number of trainee candidates for each ADF&G shellfish observer examination scheduled. Starting in 2012, the department trains all shellfish observers where observer training classes and examination schedules are dependent on fishery needs and department capabilities; therefore, this regulation is no longer necessary.

Subsection (m). The term 'pay-as-you-go' is not in regulation; however, is necessary to help distinguish from department funded observer coverage.

These proposed regulation changes reflect observer program policies and operations.

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

State observer requirements are a Category 3 management measure under the *Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs* (FMP; FMP Section 8.3.7 State Observer Requirements).

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 370 – 5AAC 28.070. Groundfish possession and landing requirements.

PROPOSED BY: Petersburg Vessel Owners Association

WHAT WOULD THE PROPOSAL DO? This proposal seeks to amend statewide groundfish possession requirements so that the retainable bycatch level of a species of groundfish is assessed only at the time of delivery.

WHAT ARE THE CURRENT REGULATIONS? Current statewide groundfish possession and landing requirements, 5 AAC 28.070 (b), allow bycatch levels to be established for conservation of the resource, to avoid waste of a bycatch species, to prevent overharvest of a bycatch species, or to facilitate consistency of state and federal regulations for a species. A halibut or groundfish fisherman may have on board a bycatch level of a groundfish species of up to 20%, by weight of the directed groundfish species or halibut on board the vessel.

Bycatch limits are established by species or species complex (for example, demersal shelf rockfish) via emergency order or by regulation. The current regulation states a vessel may not have more than the bycatch allowance onboard at any time.

Federal groundfish maximum retainable amounts are contained in 50 C.F.R. 679.20 (e). Maximum retainable amounts of bycatch in federal regulations are applied at any time during the fishing trip.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? If adopted, this proposal would allow a vessel to exceed the regulatory bycatch limit onboard during a fishing trip, provided the allowable bycatch percentage was achieved at landing.

Most groundfish harvested off Alaska are taken in federal and parallel groundfish fisheries and a portion of that harvest is landed onshore; therefore, removing the possession portion of the state bycatch regulation would result in state bycatch possession regulations differing from federal groundfish possession regulations. The State of Alaska would apply bycatch retention standards only at landing whereas federal rules would apply bycatch provisions throughout the trip. This could cause confusion within the fishing community and could lead to unintended violations, especially for parallel/federal groundfish fisheries when a vessel may have fish from both state and federal fisheries onboard during the same trip.

Fishermen could target bycatch species during a trip and there may not be a deterrent to avoid bycatch. The fishermen would do this by targeting economically viable bycatch species at the beginning of the trip and then attempting to cover the catch with less valuable directed species. If the fisherman is unable to cover the bycatch, the fisherman could then legally discard the catch prior to landing the fish without any penalty and there is a potential for increased waste of bycatch species if this were to occur.

BACKGROUND: All groundfish and halibut landings are reported on an ADF&G fish ticket and compliance with bycatch retention levels is determined using fish ticket records. The current statewide regulation does not allow a permit holder to exceed the onboard allowable bycatch level for a directed species. In most cases, fish in excess of the allowable bycatch level must be

returned to the sea immediately. These discarded fish must be reported on the fish ticket as discarded at sea. For example, if a fisherman brought onboard a bycatch species prior to landing any directed species, the bycatch species would have to be discarded at sea; however, if a directed species was brought onboard first, the bycatch species could be retained for landing. Exceptions to this include demersal shelf rockfish in the Southeast District; all rockfish in Northern Southeast and Southern Southeast Inside districts, Prince William Sound, and Cook Inlet; and black rockfish in the Eastern Gulf of Alaska Area. In those areas and for those species, permit holders fishing for groundfish or halibut must retain, weigh, and report all fish taken. Fish taken in excess of bycatch allowances must be reported as bycatch overage and proceeds from the sale of those fish shall be surrendered to the state (5 AAC 28.171).

DEPARTMENT COMMENTS: The department is **OPPOSED** to this proposal. If this proposal were adopted, fishermen could target bycatch species during a trip and there may not be a deterrent to avoid bycatch. In addition, state and federal bycatch regulations would not be in alignment because bycatch limits in federal regulations are an instantaneous calculation (at any time during a fishing trip). The North Pacific Fishery Management Council will be taking an initial look at this same issue in June 2014. If the Council decides to move forward, it would be 1–2 years before changes in bycatch accounting were implemented; in the interim, state and federal regulations would not be aligned.

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 371 – 5 AAC 05.362. Yukon River Summer Chum Salmon Management Plan.

PROPOSED BY: Yukon Delta Fisheries Development Association.

WHAT WOULD THE PROPOSAL DO? This proposal would remove dip net size restrictions for the Yukon Area districts 1–3 commercial summer chum salmon fishery.

WHAT ARE THE CURRENT REGULATIONS? Under 5 AAC 05.362(k), during times of king salmon conservation, dip net gear is allowed to target summer chum salmon in the Yukon Area districts 1–3 commercial fishery, and permit holders are required to release king salmon alive from this gear type. Permit holders may use up to four dip nets with gear specifications defined in 5 AAC 39.105(d)(24). The dip net frame may not exceed five feet as measured by the maximum straight-line distance between any two points on the net opening. The maximum straight-line distance measurement has been in regulation since 1972. The depth of the bag must be at least one-half of the greatest straight-line distance of the net opening. The bag webbing is restricted to a maximum stretched measurement of 4.5 inches. Additionally, the dip net must be attached to a rigid handle and operated by hand. These same gear specifications apply to subsistence fishing dip net gear.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? If adopted, this proposal would allow commercial fishermen to use dip nets of any size to harvest summer chum salmon during poor king salmon runs. This would potentially increase the commercial catch of salmon (both chum and king salmon) by increasing the efficiency of the gear. However, the subsistence fishery would still operate under the dip net gear specifications under 5 AAC 39.105(d)(24). It would be confusing if subsistence and commercial dip net gear had different specifications, particularly during concurrent commercial and subsistence fishing periods.

BACKGROUND: Lower Yukon River commercial harvest of surplus summer chum salmon has been greatly reduced during recent years because of the need to minimize incidental harvest of king salmon caught in traditional gillnet gear. In response to a poor king salmon run and a concurrent strong summer chum salmon run in 2013, the board created new regulations to provide liberalized commercial fishing opportunity with dip net and beach seine gear to harvest surplus summer chum salmon in Yukon Area districts 1 and 2. Dip nets were surprisingly successful harvesting economically viable numbers of summer chum salmon and accounted for the majority of the harvest taken with these two new gear types. In contrast, due to the difficulty of operating beach seine gear in the high water conditions present during the summer season, very few fishermen chose to operate beach seine gear and the limited interest in using this gear quickly waned. In 2013, approximately 188,000 summer chum salmon were harvested by dip net gear (approximately 50% of the total commercial harvest) and 1,000 summer chum salmon by beach seines. Minimal impact to king salmon was observed while fishermen were using these gear types approximately 900 king salmon were reported as released alive during these commercial periods. No dead king salmon were reported by fishermen.

The preliminary cumulative summer chum salmon commercial harvest for districts 1 and 2 with all gear types combined was approximately 380,000 fish, which is the largest on record since 1989. Despite the marked improvement in commercial summer chum salmon harvest, there was a foregone commercial harvest of approximately one million fish.

DEPARTMENT COMMENTS: The department is **OPPOSED** to removing all dip net size restrictions. The original intent of authorizing use of dip nets was to provide a gear option that provides for selective harvest of summer chum salmon, while allowing for release of king salmon unharmed. However, the purpose of this proposal is focused on increasing harvest efficiency for summer chum salmon which would likely result in an increase in incidental contact with king salmon. Based on observations from the dip net commercial activity in the Yukon River in 2013 and in dip net fisheries in other areas of the state, it is apparent that the current dip net size restrictions allow for king salmon to be safely returned to the water alive. Dip nets with larger frame openings and potentially deeper net bags may be more difficult to handle and safely release king salmon. It is critical that any gear specifications and operations allow king salmon to be safely and easily returned to the water alive.

COST ANALYSIS: Approval of this proposal may result in an additional direct cost for private persons to participate in this fishery, if they choose to procure new, or modify existing, gear.

PROPOSAL 372 – 5 AAC 05.333. Fish wheel specifications and operations.

PROPOSED BY: Virgil Umphenour.

WHAT WOULD THE PROPOSAL DO? This proposal would modify the specifications and operations of a commercial fish wheel in the Yukon Area to allow the use of a lead.

WHAT ARE THE CURRENT REGULATIONS? Fish wheels are allowed as commercial gear in the upper Yukon River in districts 4–6. The use of leads with commercial fish wheels is not specifically authorized in regulation.

The use of leads while subsistence fishing is authorized in 5 AAC 01.010(a)(4).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would allow fishermen to use leads while commercial fishing with fish wheels and authorize a long standing practice.

BACKGROUND: There was an inquiry from the public questioning the use of leads with commercial fish wheels in spring 2013. Historically, leads have been used with fish wheels for subsistence and commercial fishing on the Yukon River. Commercial and subsistence fishing periods in districts 4–6 are often concurrent and many fishermen use the same wheel for both commercial and subsistence fishing. Therefore, the practice of using leads during commercial fishing periods likely was tied to the use of leads for subsistence fishing. Additionally, because leads are not specifically prohibited in the commercial fishery, most fishermen do not realize that leads were not specifically allowed during commercial fishing.

DEPARTMENT COMMENTS: The department **SUPPORTS** this proposal as a means of aligning regulations with current commercial fishing practices. Use of a lead promotes efficient fish wheel operation at many sites. When a surplus of salmon is available and sufficient to meet escapement and subsistence needs then commercial fish wheel opportunity should be allowed to occur so that harvest efficiency can be maximized through the use of leads.

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 unless a fisherman currently is not using a lead and chooses to build one.

PROPOSAL 373 – 5 AAC 05.362. Yukon River Summer Chum Salmon Management Plan.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This proposal would remove the exception allowing for a dead king salmon to be taken, but not retained, in Yukon Area districts 1–3 dip net and beach seine commercial summer chum salmon fisheries.

WHAT ARE THE CURRENT REGULATIONS? Under 5 AAC 05.362(k), during times of king salmon conservation, dip net and beach seine gear may be used to target summer chum salmon in the Yukon Area districts 1–3 commercial fishery. All king salmon caught in dip net and beach seine gear must be returned immediately to the water alive, except that a dead king salmon may be taken but may not be retained; the dead king salmon must be recorded on a fish ticket and forfeited to the state.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would remove the potential loophole that may allow fishermen to illegally harvest king salmon while commercial fishing and places emphasis on ensuring all king salmon are returned immediately to the water alive.

BACKGROUND: In response to a poor king salmon run and a concurrent strong summer chum salmon run in 2013, the Alaska Board of Fisheries (board) adopted new regulations to provide liberalized commercial fishing opportunity with dip net and beach seine gear to harvest surplus summer chum salmon in Yukon Area districts 1 and 2. Dip nets were surprisingly successful harvesting economically viable numbers of summer chum salmon and accounted for the majority of the harvest taken with these two new gear types. In 2013, approximately 188,000 summer chum salmon were harvested by dip net gear and 1,000 summer chum salmon by beach seines. Relatively few king salmon were caught using these gear types, and approximately 900 king salmon were reported as released alive during these commercial periods. No dead king salmon were reported by fishermen. However, an enforcement officer reported he contacted a dip net fisherman who had three dead king salmon in his boat. The fish were seized, but no citation was issued because it was not illegal to take king salmon. Based on observations from the beach seine and dip net commercial activity in the Yukon River in 2013, it is unlikely for king salmon to incur severe injury or mortality at the time they are caught in these gear types.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal. Encouraging and enforcing the practice of returning king salmon immediately to the water alive can be best achieved by removing language that allows taking of king salmon. In order to operate an orderly dip net and beach seine commercial fishery, regulations need to emphasize and ensure that all king salmon are released alive.

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 374 - 5 AAC 67.022. Special provisions for seasons, bag, possession, and size limits, and methods and means in the Bristol Bay Area.

PROPOSED BY: Nushagak Advisory Committee

WHAT WOULD THE PROPOSAL DO? Adoption of this proposal would allow the use of multiple hooks in much of the Nushagak River drainage from August 1–April 30 and maintain the prohibition of multiple hooks during the king salmon season from May 1–July 31.

WHAT ARE THE CURRENT REGULATIONS? In the Nushagak River drainage, excluding the Wood River drainage, only one single-hook artificial lure, or one single hook, may be used year-round. Additionally, after taking and retaining a bag limit of king salmon 20 inches or greater in length, a person may not sport fish with bait for the remainder of the day in the Nushagak River drainage.

In the following waters only unbaited, single-hook, artificial lures may be used year-round: the Nushagak River upstream of its confluence with Harris Creek, the Tikchik River drainage, the upper Nuyakuk River, and the Mulchatna River from 1½ miles downstream of the Stuyahok River to 1½ miles upstream of the Koktuli River.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Adoption of this proposal would allow anglers fishing in portions of the Nushagak River drainage to use multiple hooks in fisheries for species other than king salmon, such as coho salmon and northern pike, from August 1–April 30.

BACKGROUND: At its October 2012 work session, the Alaska Board of Fisheries (board) generated Proposal 239 for consideration at its December 2012 Bristol Bay meeting. The proposal sought to restrict the Nushagak River drainage (Figure 374-1) to single-hook artificial lures during the king salmon fishery May 1 through July 31. During deliberations at the Bristol Bay meeting, RC 102 was adopted as substitute language and extended the single hook restriction to year-round. The board adopted RC 103 to amend the proposal further and require that after taking and retaining a bag limit of king salmon 20 inches or greater in length, a person may not sport fish with bait for the remainder of the day in the Nushagak River drainage.

Many local residents harvest northern pike and coho salmon under sport fishing regulations and believe the required use of single hooks reduces their efficiency in catching and harvesting fish.

DEPARTMENT COMMENTS: The department **SUPPORTS** this proposal. Adoption of this proposal would provide increased opportunity and harvest potential for fish other than king salmon. It would not affect the king salmon fishery.

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

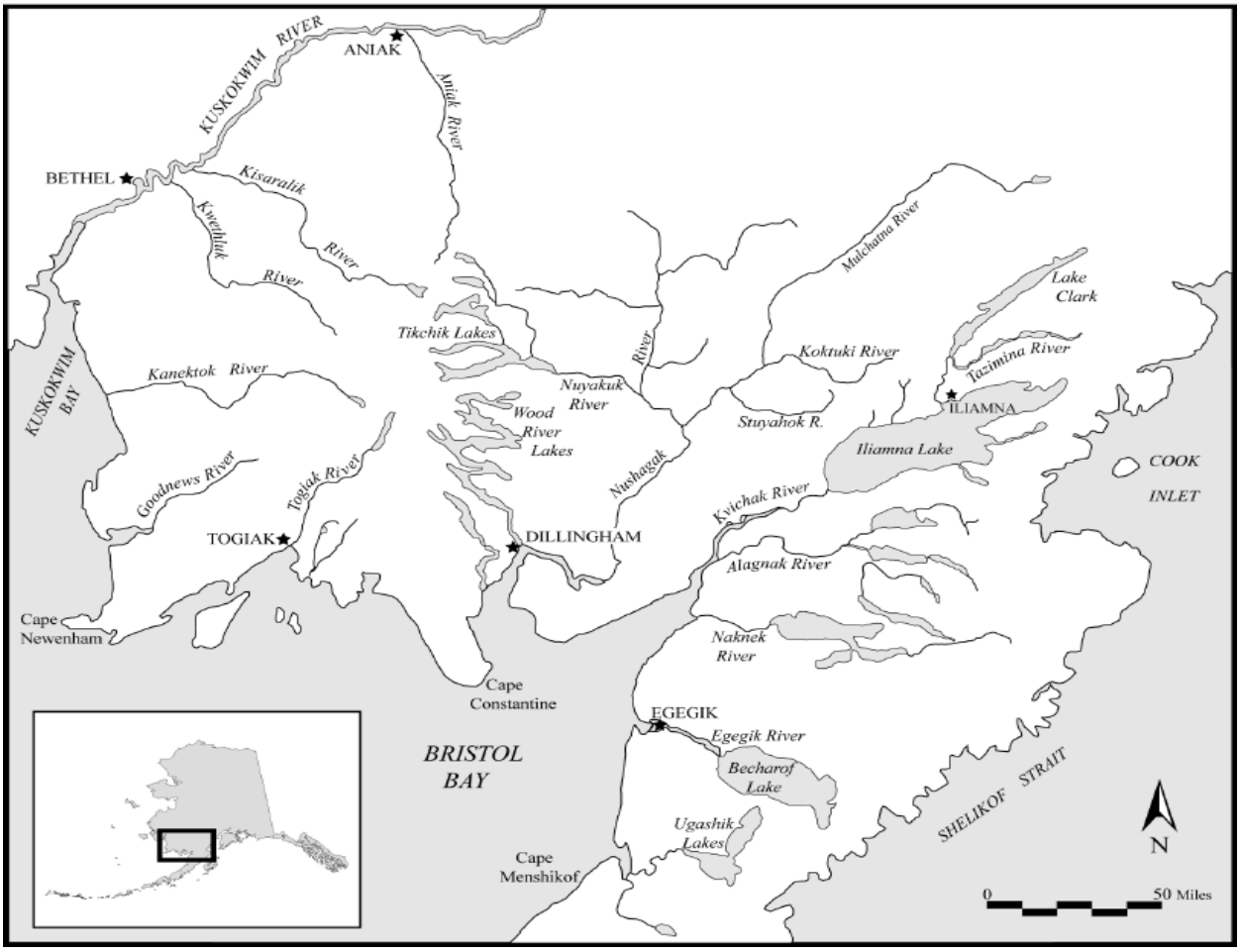

Figure 374-1. Nushagak River drainage.

PROPOSAL 375 - 5 AAC 06.331. Gillnet specifications and operations.

PROPOSED BY: Alaska Department of Fish and Game

WHAT WOULD THE PROPOSAL DO? This proposal will remedy a navigation hazard associated with set gillnet operations in the Ugashik River. The proposal will provide that no part of a set gillnet in statistical area 321-50 (Ugashik Village) may extend more than 600 feet from the east bank 18 foot high tide mark of the Ugashik River.

WHAT ARE THE CURRENT REGULATIONS? 5 AAC 06.331 (m)(8) allows set gillnets to be a maximum of 600 feet from the 18-foot east bank high tide mark, except that a set gillnet may extend to 1,000 feet from the high tide mark if
(A) not withstanding provision (i) of this section the shoreward end of the set gillnet is at least 400 feet from the 18-foot high tide mark;
(B) the anchoring devices are no more than 100 feet from the set gillnet, and;
(C) the set gillnet is not attached to a running line connected to the beach.

Regulations permit up to 50 fm of gillnet in no more than two nets.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? By allowing a maximum of 600 feet from the east bank 18-foot high tide mark, the navigable portion of the river channel will not be blocked. This configuration would allow clear passage around commercial fishing gear at all tidal stages. A 600-foot maximum distance for set gillnet gear would rectify the navigation obstruction and provide an enforceable regulatory definition.

BACKGROUND: Prior to a regulatory change in 2012, set gillnet fishermen in statistical area 321-50 were permitted a maximum of 1,000 feet from the high tide mark to deploy all equipment associated with a set gillnet operation (anchors, running lines, buoys, etc.) In 2011, the United States Coast Guard and Army Corps of Engineers found that set gillnet gear deployed according to the 1,000-foot maximum regulation constituted an obstruction to navigation at nearly every tidal stage (Figure 375-1). To rectify the navigation obstruction, a proposal was submitted to reduce the maximum distance for set gillnet gear to 600 feet. The Alaska Board of Fisheries (board) ultimately adopted regulations which allowed for either 1) a mid-river set gillnet not attached to the shore, or 2) a traditional set with running lines attached to the shore, with the east bank 18-foot high tide mark as the reference point for measuring distance (Figure 375-2). However, it became apparent in 2013 that this regulation did not remedy the navigation obstruction as intended because the regulation did not stipulate the use of one configuration or the other, nor did it prevent a permit holder from using a traditional set inshore of a mid-river set, and it proved difficult to enforce (Figure 375-3).

DEPARTMENT COMMENTS: The department submitted this proposal and **SUPPORTS** maintaining safe navigation of waters involved with gillnet fisheries in Bristol Bay (Figure 375-4). The department is **NEUTRAL** on the allocative aspects of this proposal.

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

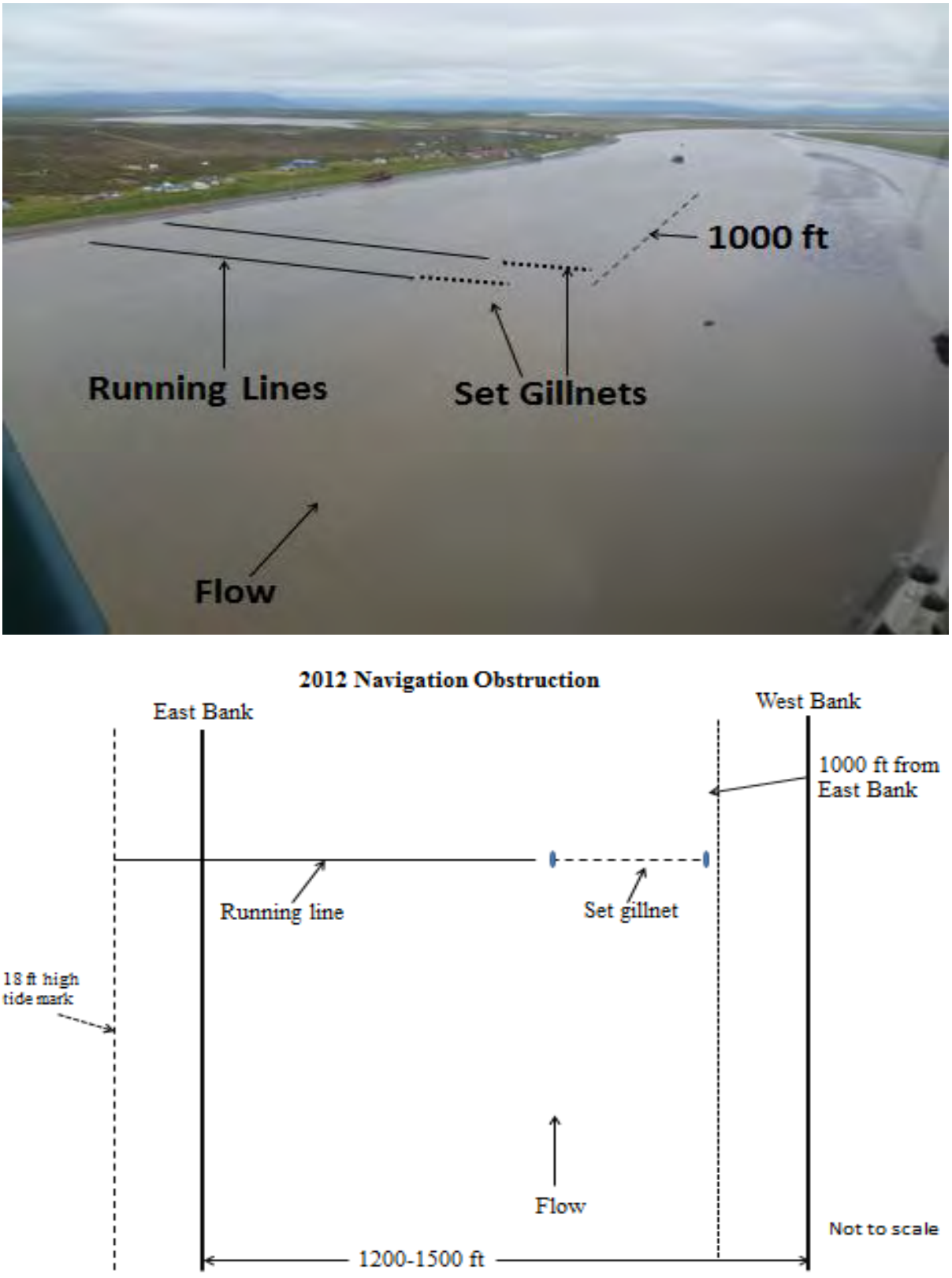

Figure 375-1. Configuration (photo and diagram) of set gillnets in compliance with previous 1,000-foot distance regulation; this constituted a navigation obstruction.

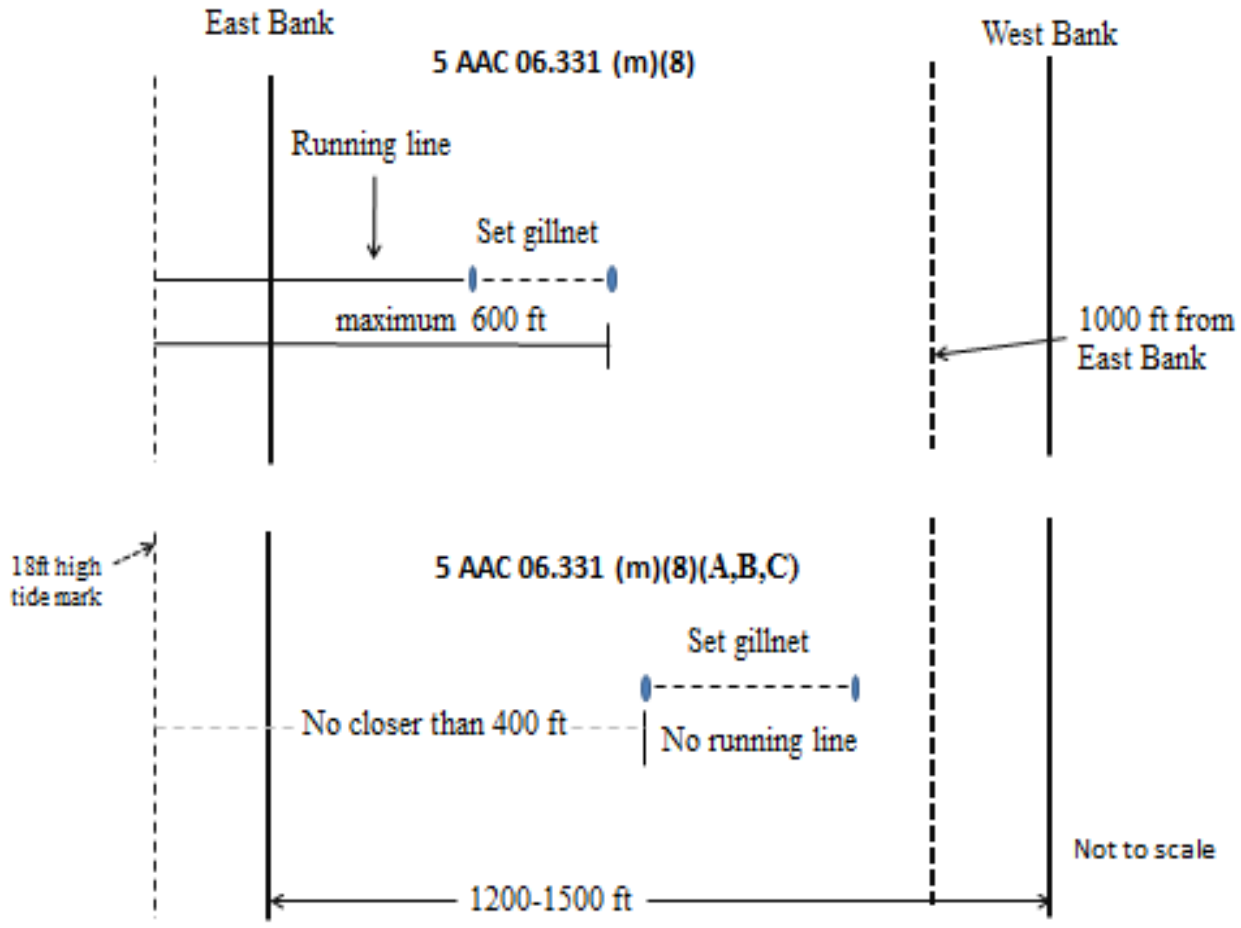

Figure 375-2. Current regulatory set gillnet configurations adopted in 2012.

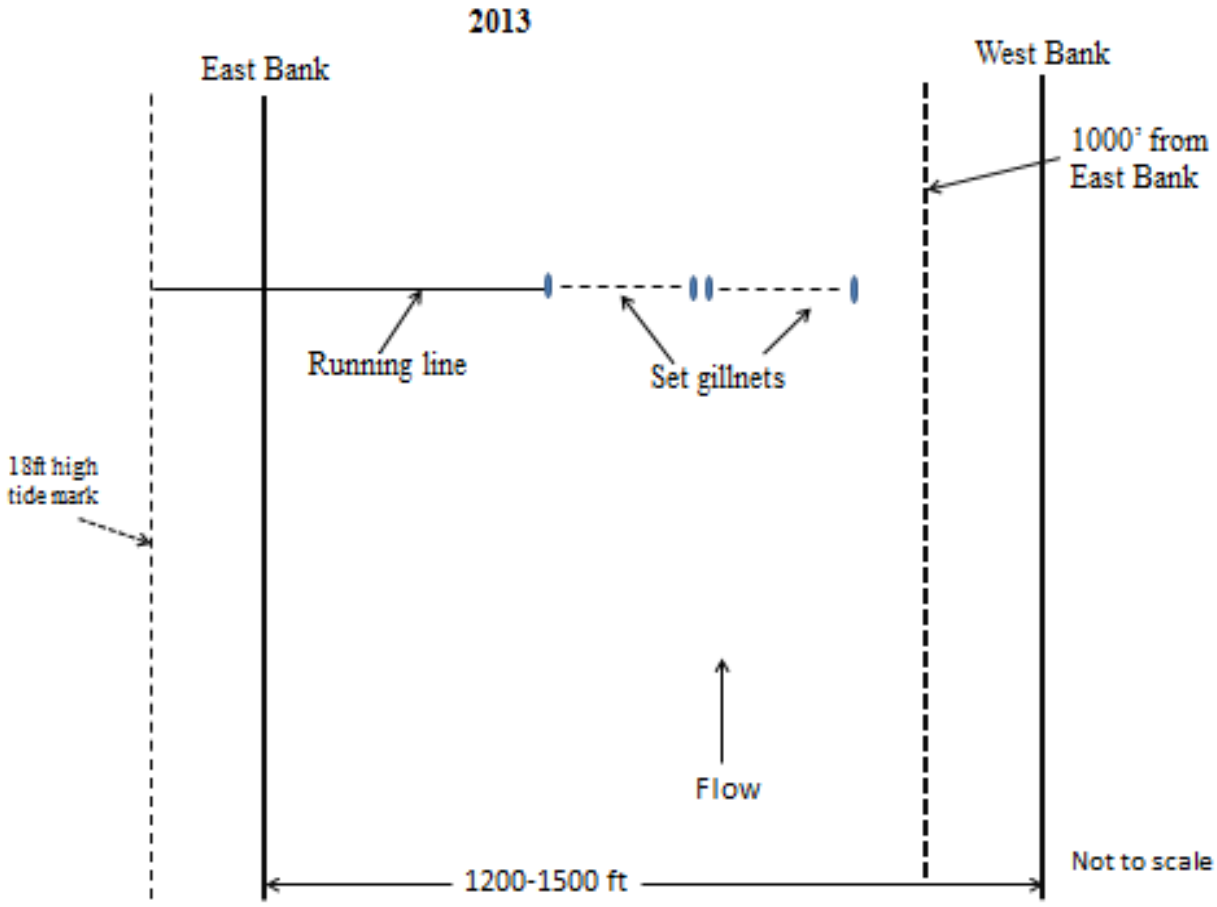

Figure 375-3. Set gillnet configuration in 2013. (Note: the offshore set gillnet in the diagram was not connected to a running line).

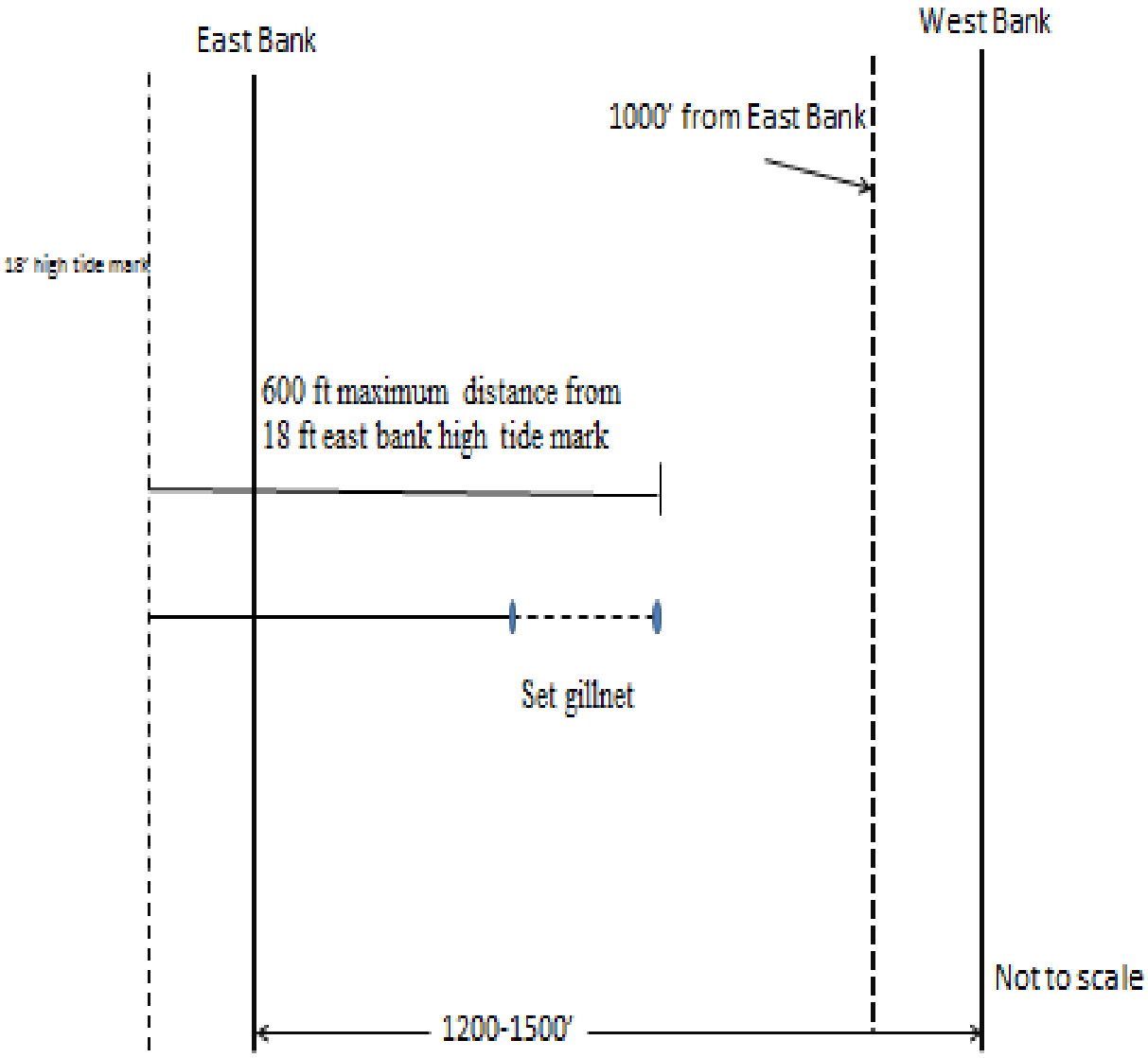

Figure 375-4. Proposed set gillnet configuration.

PROPOSAL 377 – 5 AAC 05.362. Yukon River Summer Chum Salmon Management Plan.

PROPOSED BY: Alaska Board of Fisheries (board) from an emergency petition request by Yukon Delta Fisheries Development Association.

WHAT WOULD THE PROPOSAL DO? This proposal would authorize use of purse seine gear for commercial harvest of Yukon River summer chum salmon in districts 1–3 during times of king salmon conservation. Secondarily, it would allow monofilament purse seine web to be used in this fishery.

WHAT ARE THE CURRENT REGULATIONS? Under 5 AAC 05.362(k), during times of king salmon conservation, beach seine and dip net gear are allowed to target summer chum salmon in the Yukon Area districts 1–3 commercial fishery, and permit holders are required to release king salmon alive from these gear types. Permit holders may use up to four dip nets with gear specifications defined in 5 AAC 39.105(d)(24). Additionally, gillnets may be restricted to five and one half inch or smaller mesh size, not exceeding 30 meshes in depth.

Currently, the use of monofilament purse seine web is prohibited under 5 AAC 39.170.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? If adopted, this proposal would allow fishermen to use purse seine gear made of monofilament mesh to harvest summer chum salmon during poor king salmon runs and all king salmon caught in this selective harvest gear must be returned immediately to the water alive. This would potentially increase the catch of salmon (both chum and king salmon) by allowing another gear type during times of king salmon conservation.

BACKGROUND: In response to a poor king salmon run and a concurrent strong summer chum salmon run in 2013, the board adopted new regulations to provide liberalized commercial fishing opportunity with dip net and beach seine gear to harvest surplus summer chum salmon in Yukon Area districts 1 and 2. Dip nets were surprisingly successful harvesting economically viable numbers of summer chum salmon and accounted for the majority of the harvest taken with these two new gear types. Due to the difficulty of operating beach seine gear in the high water conditions present during the summer season, very few fishermen chose to operate beach seine gear. In 2013, approximately 188,000 summer chum salmon were harvested by dip net gear and an additional 1,000 summer chum salmon were taken in beach seines. Relatively few king salmon were caught using these gear types, and approximately 900 king salmon were reported as released alive during these commercial periods. No dead king salmon were reported by fishermen. The total summer chum salmon commercial harvest for districts 1 and 2 with all gear types combined was approximately 380,000 fish, which is the largest on record since 1989. Despite the marked improvement in commercial summer chum salmon harvest, there was a foregone commercial harvest of approximately one million fish.

The inability to capitalize on the available surplus of summer chum salmon will likely continue because of the inefficiency of the current selective harvest gear due to king salmon conservation concerns. To address this issue, preliminary feasibility work using purse seine gear and monofilament webbing to selectively harvest chum salmon was conducted by Yukon Delta

Fisheries Development Association in July and August 2013 as a test fishery project in cooperation with the department. This study occurred after the majority (approximately 90%) of the king salmon run had passed and occurred in the south mouth area of the lower Yukon River where king salmon abundance was very low based on department test fishing indices. Only two king salmon were caught in the purse seine on the first day of the study and no king salmon were encountered after that. Therefore, releasing king salmon from this gear type was not fully tested. However, YDFDA was able to develop methods for fishing purse seines of 50 fathoms in length and 3.5 inch mesh inriver with small skiffs to catch chum salmon, and demonstrated that they were able to release chum salmon corralled in the purse seine alive. There was incidental mortality of small non-target fish species, such as Bering cisco and small pink salmon that were gilled in this mesh size.

There is limited information available about purse seine fishing with small boats in freshwater systems and releasing a subset of fish from the catch. The idea for purse seine fishing on the Yukon River may have originated from the Columbia River in Oregon and Washington, where purse seines are being tested inriver to selectively harvest hatchery king salmon while releasing wild king salmon alive. Commercial fishing on the Columbia River was greatly restricted in previous years because federally protected salmon and steelhead populations could be incidentally harvested in the mixed stock fishery. The Washington Department of Fish and Wildlife (WDFW) began conducting feasibility studies in 2009 on the efficiency of purse seine gear to selectively harvest hatchery king salmon in the lower Columbia River and a final report is scheduled to be released spring 2014. The department has been in communication with the WDFW research biologists responsible for these feasibility studies.

Preliminary data from the Columbia River show that purse seine gear is efficient at catching fish in commercially viable numbers, and that immediate mortality due to purse seining was less than one tenth of 1% across all fish (all species) captured. WDFW also conducted a three-year study on short-term and long-term mortality rates of wild king salmon released from this experimental purse seine fishery. Initial estimates based on a PIT tagging study completed by WDFW suggested release mortality was as high as 25-30%. However, WDFW believed mainstem spawning and spawning in other unaccounted tributaries confounded this estimate and actual release mortality is much lower. A radiotagging study was conducted in 2013 by the U.S. Geological Survey and WDFW plans to utilize those data to help resolve this issue, but the data analysis is ongoing. As noted above, a final report on the release mortality studies is expected in spring 2014.

The Colville Confederated Tribes also began testing purse seine gear in the upper Columbia River in 2009 to selectively harvest wild sockeye salmon and hatchery king salmon, while releasing wild king salmon alive. Large numbers of salmon can be harvested by purse seines in the upper Columbia River because salmon congregate in a particular area due to a thermal barrier. It is relatively easy for crews to sort through large hauls in this area because the water is slow moving and clear, making identification of hatchery and wild king salmon in the set quick and easy. This is different from the lower Yukon River where water is fast moving and very turbid.

In both the lower and upper Columbia River feasibility studies, purse seine gear was constructed of nylon webbing of either 3.5 inch mesh (lower Columbia River) or 3.0 inch mesh (upper

Columbia River). It is commonly believed that nylon webbing reduces injury to fish compared to monofilament web. Purse seine length varied from 120 fathoms to 200 fathoms maximum. All fishing vessels were equipped with a boom to haul in the net. WDFW staff indicated that purse seines equipped with a "money bag" or "bundt-end" of 1 inch herring mesh in the last 10 fathoms of the net greatly reduced injury and stress to fish while sorting through hauls. Additionally, WDFW staff highly recommended the use of rubberized dip nets to release non-target species back to the water with minimal stress and injury. WDFW staff observed non-target species being released back to the water quickly and safely during the feasibility studies in both the lower and upper Columbia River. However, large hauls could result in slower processing that would increase stress to fish held in the seine. Lastly, WDFW staff noted that fishermen cleared fishing areas of debris and snags or noted where they were prior to commencing purse seining operations. Snags and debris could greatly reduce the efficiency of purse seines.

The first directed commercial fishery with purse seine gear in the lower Columbia River is expected to occur in 2014. A regulatory panel is still determining what that fishery will look like and regulations on number of fishermen permitted in the fishery, size of nets, and size of boats have not yet been decided.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal. The department is supportive of fishing gear innovations to address harvest of surplus summer chum salmon while protecting king salmon during times of conservation. Initial test fishing results indicate that purse seine gear may potentially increase harvest of summer chum salmon. However, there is still much that remains unknown in its application in the lower Yukon River summer season fishery. This gear was not operated during the peak of the 2013 summer chum and king salmon runs, and the ability to safely release king salmon while sorting through a potentially high volume of summer chum salmon has not been evaluated. There was incidental mortality of one king salmon and small non-target fish species such as Bering cisco and small pink salmon that were gilled in the test fishery conducted on the lower Yukon River. It is unknown how pink salmon may be impacted during a large even-numbered year return. Any effort to provide additional commercial summer chum harvest opportunity must first and foremost ensure continued conservation of Yukon River king salmon, which is a stock of concern.

A cautious approach to implementing use of purse seines is recommended during this developmental stage. The department is supportive of continuing to work cooperatively with industry to develop our knowledge of how this gear type may be best applied to the lower Yukon River summer season fishery. Further evaluation of purse seine web style, net length, net construction, and fish handling methods on the Yukon River is necessary to ensure that there is minimal impact to Yukon River king salmon and other non-target species in this fishery.

COST ANALYSIS: Approval of this proposal would result in an additional direct cost for a private person who chooses to participate in this fishery because fishermen would incur costs of procuring new, or modifying existing, gear.