

**ALASKA DEPARTMENT OF FISH AND GAME  
DIVISION OF COMMERCIAL FISHERIES  
NEWS RELEASE**



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**2014 Norton Sound Summer Crab Fishery Season Summary**

**INTRODUCTION**

Norton Sound Section (Q3) consists of all waters in Statistical Area Q north of the latitude of Cape Romanzof (61° 49' N latitude), east of the International Dateline, and south of latitude 66° N (Figure 1). A large vessel summer commercial crab fishery existed in the Norton Sound Section from 1977 through 1992. Due to a cut in management staff the previous winter, no summer commercial fishery occurred in 1991, but it resumed in 1992. Regulation changes adopted during the March 1993 Board of Fisheries (BOF) meeting changed participation in the fishery to that of small boats. A super-exclusive designation went into effect for the Norton Sound commercial crab fishery June 27, 1994, which stated a vessel registered for the Norton Sound crab fishery may not be used to take king crab in any other registration area during that registration year. Later a vessel moratorium was put into place before the 1996 season with the intention of creating a license limitation program. The Community Development Quota (CDQ) groups were allocated a portion of the summer harvest quota beginning in 1998 although no harvest occurred until the 2000 season. The North Pacific License Limitation Program (LLP) went into effect for the Norton Sound crab fishery January 1, 2000, which states a vessel which exceeds 32 feet in length overall must hold a valid crab license issued under the LLP by the National Marine Fisheries Service.

During the March 1999 BOF meeting, a new management strategy was enacted for the Norton Sound summer red king crab fishery (5AAC 34.915). A threshold level of abundance of legal male red king crab biomass was set at 1.5 million lbs. The summer commercial season may only open if the population of legal crab is  $\geq$  1.5 million lbs. If the legal biomass is 1.5 to 2.5 million lbs, the harvest rate will be no more than 5%, so that the stock may rebuild. If the legal biomass is  $\geq$  2.5 million lbs, the harvest rate will be no more than 10%. In March of 2012, this regulation was modified and the new threshold level of abundance of legal male red king crab biomass was set at 1.25 million lbs. If the estimated legal biomass is within the range of 1.25 to 2.0 million lbs, the harvest rate will be no more than 7% of legal male abundance. From 2.0 to 3.0 million lbs, the harvest rate will be no more than 13%. If the estimated legal biomass is  $>$  3.0 million lbs, the harvest

rate will be no more than 15%. Improved abundance estimates and the current management strategy will greatly reduce the risks of overfishing the stock.

Regulations defining area and closed water boundaries have changed over the years. Prior to 2006, Norton Sound Section (Q 3) included all waters north of the latitude of Cape Romanzof (61° 49' N lat), south of the latitude of Cape Prince of Wales (65° 49' N lat), and east of 168° W longitude. At a special BOF meeting in May of 2006, Norton Sound Section was expanded so that the new northern boundary was latitude 66° N and the International Dateline became the new western boundary (Figure 1). In 2010, due to concern over lack of stock status information, NMFS closed the area above the latitude of Cape Prince of Wales, and that area is now open to fishing only in state waters (Figure 2).

For the Norton Sound Section, closed waters were redefined at the March 2002 BOF meeting, where new regulations were adopted for areas within Norton Sound. The closed waters boundary was extended farther offshore near Golovin, moved closer to shore near Unalakleet, and moved eastward near Sledge Island (Figure 2).

Start dates for the CDQ and open access crab fisheries have also been variable through time. At the March 2002 BOF meeting, regulations were changed to stipulate the Norton Sound CDQ crab fishery may begin at 12:00 noon, June 15, or no less than 72 hours after the commercial sac roe herring fishery is closed, whichever is later, through 12:00 noon, June 28. After July 1, the commissioner may, by emergency order, open a CDQ fishery for any remaining allocation after closure of the open access fishery. At the March 2008 BOF meeting, the start date of the open access fishery was changed. Previously, the open access fishery started on July 1, but BOF passed a regulation allowing ADF&G to open the fishery by emergency order anytime beginning on or after June 15. The CDQ fishery may open at any time, also by emergency order. Previous restrictions requiring the herring fishery to be over before the start of the crab fishery were eliminated.

Also at the March 2008 BOF meeting, a new regulation was adopted to minimize the handling of sublegal and female crabs: a minimum of 4 escape rings are required per pot with each ring having a minimum inside diameter of 4½ inches located within one mesh size from the bottom of the pot, or at least ½ of the vertical surface of a square pot or sloping side-wall surface of a conical or pyramid pot must be composed of no less than 6½ inch stretched mesh. Another regulation change at this meeting was the size limit for male blue king crab in the Norton Sound commercial fishery was reduced from 5½ inches to 5 inches in shell width.

The department estimated harvestable legal male crab biomass for the 2014 summer commercial crab fishery was 3.19 million pounds (1.15 million crabs). This estimate was based on the model's results from spring of 2014 that included the latest data from the 2011 trawl survey (Appendix 1), the 2013 summer fishery, and the 2011–12 winter study. Based on the BOF regulation that an exploitation rate is not to exceed 15% when the legal male biomass exceeds 3.0 million pounds, in 2014 the department allowed an exploitation rate of 12% on the legal population (over 4.75 inch carapace width), which equated to a guideline harvest level (GHL) of 382,800 pounds of crab. The CDQ allocation (7.5%) was 28,710 pounds and the open access fishery allocation was 354,090 pounds.

## **HARVEST SUMMARY**

## **Open Access Fishery**

The 2014 summer open access commercial crab fishery was opened by emergency order at 12:00 noon, June 25 in the Norton Sound Section, with a GHF of 382,800 pounds of crab. Two companies, Norton Sound Seafood Products (NSSP) and Aquatech, were registered to buy crab, and five fishermen registered to sell crab dockside as catcher-seller or catcher-processor. NSSP operated a seafood processing plant in Nome and two tenders in eastern Norton Sound. A fisherman based in Unalakleet shipped live crabs via airplane to Aquatech in Anchorage. The majority of crabs were delivered to NSSP, while the catcher-sellers sold crabs directly to local residents as well as to NSSP. The two catcher-processors sold to a live market in Korea and to NSSP.

The first open access delivery was made on June 28 and final delivery was made August 3, the day after the open access portion of the fishery was closed by emergency order at 12:00 noon, for an open access season length of 40 days, compared to 74 days in 2013. This year as in past years, the season start was based on when the crab processors were ready to purchase crab. Once the open access season was under way, both land-based buyers purchased crab continuously with no reports of poor crab meat fill.

For the first three weeks of the 2014 season, the harvest rate was similar to that of the past four summers (Figure 3), but after a 4-day storm in mid-July during which no crabbing occurred, the harvest rate for the fleet improved and CPUE averaged 20 crabs per pot during the third week of July (Table 1). The CPUE then dropped to an average of 13 crabs per pot, but the fleet harvest rate continued to be excellent because additional crabbers started fishing. By the end of July, the projected trend line showed that the open access quota would be reached in the first week of August; therefore, since the weather forecast remained positive and no drop in harvest rate was expected, a closure was announced for August 2, which gave crabbers 72 hours' notice.

The open access harvest from fish ticket reports was 120,385 red king crabs or 360,860 pounds (102% of the open-access quota; Table 1). Of this total, 2,365 pounds were reported as deadloss, and 3,187 pounds reported as personal use. Out of the 39 vessels and 43 permit holders that registered to fish, 33 vessels and 35 permit holders made 281 landings (Table 2). The average weight for commercially caught crab was 3.0 pounds, same as last year. Including CDQ, number of pots registered was 1,560, and there were 10,127 pot pulls. CPUE was 13 crabs, compared to 9 crabs in 2013. In 2014, the total harvest rate tracked very closely to 2012. Out of the last six years, only 2011 showed a higher harvest rate (Figure 3). The average price paid (including CDQ catch) was \$5.12 per pound, the fourth highest amount ever paid (Table 3). The exvessel value of the fishery (including CDQ) was \$1.960 million, the fourth highest fishery value ever (Figure 4).

## **CDQ Fishery**

The Norton Sound Economic Development Corporation (NSEDC) and Yukon Delta Fisheries Development Association (YDFDA) divide the CDQ allocation. Only fishermen designated by these two CDQ groups are allowed to participate in this portion of the king crab fishery. Fishermen are required to have a CDQ fishing permit from the Commercial Fisheries Entry Commission and register their vessel with ADF&G before they make their first delivery. Fishermen operate under authority of the CDQ group and each CDQ group decides how their crab quota is harvested. In 2014, as in the previous seven years, YDFDA transferred their quota

to NSEDC. Unlike last year, but similar to the nine years previous to 2013, NSEDC crabbers harvested at least 96% of the entire allocation.

For the fifth time in the last six years, the CDQ fishery opened concurrently with the open access fishery in 2014. The initial CDQ delivery was made on June 29 and the last delivery was made August 15. Total harvest was 28,148 pounds and was 98% of the CDQ allocation of 28,710 pounds (Table 4). Only two permit-holders initially registered to fish the CDQ fishery and had harvested approximately 6,300 pounds (22% of the CDQ quota) by the time the open access fishery closure was announced on July 30. By August 1, an additional sixteen crabbers had registered, but one registrant later decided not to fish. Due to the high catch rate exhibited in the open access fishery, NSEDC implemented harvest restrictions on their CDQ crabbers in order to not exceed the quota. The seventeen crabbers were each given one-seventeenth of the remaining quota (minus a buffer), and the remainder of the quota left after one round of fishing was given out by lottery to any interested and registered CDQ crabber. NSEDC originally set the delivery deadline for August 8, but later extended it until most of the quota had been caught.

In 2014, there were a total of 28 CDQ landings and 854 pots lifts. Average price paid to fishermen was \$5.00 per pound, for an exvessel value of \$139,740 for the CDQ fishery. This was the thirteenth year a CDQ harvest occurred since the CDQ fishery was implemented in 1998.

### **Harvest Areas and Sampling**

Fish ticket reports document 11 statistical areas were fished in the open access and CDQ fisheries (Table 5), compared to 14 areas in 2013. Same as last year, the top harvest (32%) and most effort (30%) came from statistical area 656401, south of Nome, followed by statistical areas 636401 and 626401 in eastern Norton Sound, both of which yielded 18-20% of the total harvest. Along with two other higher producing areas, statistical areas 666401 (10%) and 646401 (9%), these statistical areas are all directly south of the closed boundary line (Figure 2, Appendix 2). The catch from statistical areas east of 164°W longitude made up 43% of the harvest (Figure 5).

Carapace length (CL) measurements and shell age were collected from 4,682 commercially-caught crabs during the open access and CDQ fisheries. Carapace age was classified as new (2–12 months old) or old (over 13 months old). Male new-shell crabs made up 78% of the total legal crabs sampled, and old-shell crabs made up 22%, almost three times as much as last year. Recruit crabs are new-shell legal crabs < 116-mm CL. Postrecruit crabs are legal new-shell male crabs ≥ 116-mm CL and all legal old-shell males. Recruit crabs made up 35% of the legal crabs sampled and postrecruit crabs made up 65%, similar to last year (Table 2). Overall mean carapace length of legal male crabs was 120 mm.

Since the summer of 2002, NSEDC has operated a seafood processing plant in Nome. In 2014, the majority of sampling data was collected from this plant as crabbers offloaded their catch. Additional sampling data were collected from one of the two catcher-processors when offloading at the dock prior to shipment to Anchorage.

Table 1.—Daily catch based on fish ticket data for the open-access summer commercial king crab harvest, Norton Sound Section, Eastern Bering Sea, June 25–August 3, 2014.

Date	Landings	Number of Crabs	Lbs of Crabs Harvested	Cumulative Lbs	Number of Pots Pulled	Average Weight (lbs)	Daily CPUE
06/28	1	358	1,006	1,006	40	2.8	9
06/29	8	1,950	5,648	6,654	238	2.9	8
06/30	5	2,092	6,094	12,748	198	2.9	11
07/01	2	379	1,073	13,821	41	2.8	9
07/02	4	1,158	3,004	16,825	135	2.6	9
07/03	7	2,598	7,341	24,166	180	2.8	14
07/04	13	5,951	17,373	41,539	463	2.9	13
07/05	8	2,104	6,098	47,637	229	2.9	9
07/06	11	4,935	14,767	62,404	436	3.0	11
07/07	5	2,395	7,286	69,690	196	3.0	12
07/08	1	457	1,406	71,096	27	3.1	17
07/09	15	4,967	14,686	85,782	496	3.0	10
07/10	6	2,599	7,814	93,596	195	3.0	13
07/11	3	904	2,516	96,112	58	2.8	16
07/12	12	4,423	12,895	109,007	413	2.9	11
07/13	18	6,103	18,620	127,627	588	3.1	10
07/17	3	347	965	128,592	91	2.8	4
07/18	8	2,756	8,458	137,050	212	3.1	13
07/19	1	28	82	137,132	19	2.9	1
07/20	10	7,110	21,184	158,316	317	3.0	22
07/21	2	1,487	4,476	162,792	79	3.0	19
07/22	9	4,152	12,590	175,382	236	3.0	18
07/23	16	9,598	29,554	204,936	498	3.1	19
07/25	21	6,970	21,171	226,107	679	3.0	10
07/26	10	7,315	22,286	248,393	364	3.0	20
07/27	2	1,664	5,012	253,405	80	3.0	21
07/28	7	2,456	7,430	260,835	199	3.0	12
07/29	14	6,809	20,211	281,046	456	3.0	15
07/30	9	4,063	12,248	293,294	352	3.0	12
07/31	12	4,618	13,820	307,114	380	3.0	12
08/01	11	4,834	14,680	321,794	370	3.0	13
08/02	22	9,813	30,086	351,880	785	3.1	13
08/03	5	2,992	8,980	360,860	223	3.0	13

Note: The fishery closed by emergency order on 8/2/14 at 12:00 noon and the last delivery was made on 8/3/14.

Table 2.—Historical summer commercial red king crab annual harvest, Norton Sound Section, Eastern Bering Sea, 1977–2014.

Year	Number	Number	Number	Number	Harvest (lbs) <sup>a</sup>		Number		Percent		Average	Avg. Legal		
	Vessels	Permits	Landings	Crabs	Open	CDQ <sup>b</sup>	Pots	CPUE	Old	Percent	Weight	Mean		
	<b>(open access only)</b>				Access		Registered	Pulls	Shell	Postrecruits	(lbs)	Length (mm)		
1977	7	7	13	195,877	517,787		<sup>c</sup>	5,457	36	<sup>c</sup>	<sup>c</sup>	2.7	113	
1978	8	8	54	660,829	2,091,961		<sup>c</sup>	10,817	64	<sup>c</sup>	<sup>c</sup>	3.0	119	
1979	34	34	76	970,962	2,931,672		<sup>c</sup>	34,773	28	<sup>c</sup>	<sup>c</sup>	3.0	120	
1980	9	9	50	329,778	1,186,596		<sup>c</sup>	11,199	29	<sup>c</sup>	<sup>c</sup>	3.6	126	
1981	36	36	108	376,313	1,379,014		<sup>c</sup>	33,745	11	<sup>c</sup>	<sup>c</sup>	3.7	129	
1982	11	11	33	63,949	228,921		<sup>c</sup>	11,230	6	<sup>c</sup>	<sup>c</sup>	3.6	125	
1983	23	23	26	132,205	368,032			3,583	11,195	12	<sup>c</sup>	45	2.8	115
1984	8	8	21	139,759	387,427			1,245	9,706	14	<sup>c</sup>	41	2.8	113
1985	6	6	72	146,669	427,011			1,116	13,209	11	<sup>c</sup>	55	2.9	116
1986	3	3	<sup>c</sup>	162,438	479,463			578	4,284	38	<sup>c</sup>	52	2.9	116
1987	9	9	<sup>c</sup>	103,338	327,121			1,430	10,258	10	13	78	3.2	122
1988	2	2	<sup>c</sup>	76,148	236,688			360	2,350	32	26	75	3.1	119
1989	10	10	<sup>c</sup>	79,116	246,487			2,555	5,149	15	29	77	3.1	120
1990	4	4	<sup>c</sup>	59,132	192,831			1,388	3,172	19	17	79	3.1	121
1991 <sup>d</sup>							No summer commercial fishery							
1992	27	27	<sup>c</sup>	24,902	74,029			2,635	5,746	4	29	72	3.0	120
1993	14	20	208	115,913	335,790			560	7,063	16	10	69	2.9	119
1994	34	52	407	108,824	327,858			1,360	11,729	9	71	86	3.0	119
1995	48	81	665	105,967	322,676			1,900	18,782	6	21	64	3.0	118
1996	41	50	264	74,752	224,231			1,640	10,453	7	36	70	3.0	117
1997	13	15	100	32,606	92,988			520	2,982	11	14	51	2.8	116
1998	8	11	50	10,661	29,684			360	1,639	7	39	68	2.8	117
1999	10	9	53	8,734	23,553			360	1,630	5	12	58	2.7	118
2000	14	17	202	108,249	297,654	14,870		560	6,345	18	16	60	2.7	116
2001	30	37	320	98,321	288,199	0		1,200	11,928	8	11	67	2.9	119
2002	28	32	164	86,666	244,376	15,225		1,120	6,491	14	11	67	3.0	120
2003	24	30	219	88,518	253,284	13,923		960	8,494	11	14	52	2.8	117
2004	26	29	208	120,289	314,472	26,274		1,120	8,066	15	8	51	2.8	117
2005	30	32	227	128,405	370,744	30,060		1,320	8,867	16	9	64	2.9	118

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Table 2.—Page 2 of 2.

Year	<u>(open access only)</u>			<u>Harvest (lbs)<sup>a</sup></u>		<u>Number</u>		CPUE	Percent Old Shell	Percent Postrecruits	Average Weight (lbs)	Avg. Legal Mean Length (mm)	
	Number Vessels	Number Permits	Number Landings	Number Crabs	Open Access	CDQ <sup>b</sup>	Registered						Pulls
2006	28	29	224	139,131	419,191	32,557	1,120	8,695	17	27	75	3.0	119
2007	30	30	234	101,672	289,264	23,611	1,200	9,118	12	12	55	2.8	117
2008	23	23	230	132,295	364,235	30,900	920	8,721	16	23	55	2.8	115
2009	22	23	333	133,498	369,462	28,125	920	11,934	12	18	57	2.8	116
2010	23	25	256	139,014	387,304	30,000	1,040	9,698	16	14	51	2.8	116
2011	24	25	173	132,030	373,990	26,850	1,040	6,808	21	14	57	2.8	116
2012	29	29	289	149,604	441,080	34,910	1,200	10,041	16	9	67	2.9	118
2013	33	33	435	124,485	373,278	18,585	1,420	15,058	9	8	68	3.0	120
2014	33	35	281	120,385	360,860	28,148	1,560	10,127	13	22	65	3.0	120

<sup>a</sup> Deadloss included in total.

<sup>b</sup> No CDQ fishery harvest prior to the 2000 season.

<sup>c</sup> Data not available.

<sup>d</sup> No summer commercial fishery.

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Table 3.—Historical summer commercial red king crab fishery economic performance, Norton Sound Section, Eastern Bering Sea, 1977–2014.

Year	Guideline	Legal Male Pop. Est. (lbs) <sup>b</sup>	Commercial		Exvessel Price/lb	Fishery Value (millions \$)	Season Length	
	Harvest		Harvest (lbs) <sup>a,b</sup>				Days	Dates
	Level (lbs) <sup>b</sup>		Open Access	CDQ				
1977	<sup>c</sup>	1.7	0.52		0.75	0.229	60	<sup>c</sup>
1978	3.00		2.09		0.95	1.897	60	6/07–08/15
1979	3.00	0.8	2.93		0.75	1.878	16	7/15–07/31
1980	1.00	1.9	1.19		0.75	0.890	16	7/15–07/31
1981	2.50	1.2	1.38		0.85	1.172	38	7/15–08/22
1982	0.50	0.9	0.23		2.00	0.405	23	8/09–09/01
1983	0.30		0.37		1.50	0.537	4	8/01–08/05
1984	0.40		0.39		1.02	0.395	14	8/01–08/15
1985	0.45	1.1	0.43		1.00	0.427	22	8/01–08/23
∞ 1986	0.42		0.48		1.25	0.600	13	8/01–08/25 <sup>d</sup>
1987	0.40		0.33		1.50	0.491	11	8/01–08/12
1988	0.20	1.0	0.24		<sup>c</sup>	<sup>c</sup>	10	8/01–08/11
1989	0.20		0.25		3.00	0.739	3	8/01–08/04
1990	0.20		0.19		<sup>c</sup>	<sup>c</sup>	4	8/01–08/05
1991	0.34	1.3			No Summer Commercial Fishery			
1992	0.34		0.07		1.75	0.130	2	8/01–08/03
1993	0.34		0.33		1.28	0.430	52	7/01–08/28 <sup>e</sup>
1994	0.34		0.32		2.02	0.646	31	7/01–07/31
1995	0.34		0.32		2.87	0.926	67	7/01–09/05
1996	0.34	0.5	0.22		2.29	0.519	57	7/01–09/03 <sup>f</sup>
1997	0.08		0.09		1.98	0.184	44	7/01–08/13 <sup>g</sup>
1998	0.08		0.03		1.47	0.041	65	7/01–09/03 <sup>h</sup>
1999	0.08	1.6	0.02		3.08	0.073	66	7/01–09/04 <sup>i</sup>

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Year	Guideline	Legal Male Pop. Est. (lbs) <sup>b</sup>	Commercial		Ex-vessel Price/lb	Fishery Value (millions \$)	Season Length	
	Harvest		Harvest (lbs) <sup>a,b</sup>				Days	Dates
	Level (lbs) <sup>b</sup>		Open Access	CDQ				
2000	0.33	4.2	0.29	0.01	2.29	0.715	91	7/01–09/29 <sup>j</sup>
2001	0.30	3.8	0.28	0.00	2.34	0.674	97	7/01–09/09 <sup>k</sup>
2002	0.24	3.1	0.24	0.01	2.81	0.729	77	6/15–09/03 <sup>l</sup>
2003	0.25	3.1	0.25	0.01	3.09	0.823	68	6/15–08/24 <sup>m</sup>
2004	0.35	4.4	0.34	0.03	3.13	1.038	53	6/15–08/08 <sup>n</sup>
2005	0.37	4.8	0.37	0.03	3.18	1.264	72	6/15–08/27 <sup>o</sup>
2006	0.45	4.5	0.42	0.03	2.26	1.021	67	6/15–08/22 <sup>n</sup>
2007	0.32	3.1	0.29	0.02	2.84	0.750	52	6/15–08/07 <sup>n</sup>
2008	0.41	4.1	0.36	0.03	3.20	1.231	73	6/23–09/03 <sup>p</sup>
2009	0.38	3.8	0.37	0.03	3.17	1.225	98	6/15–09/20 <sup>q</sup>
2010	0.40	4.5	0.39	0.03	3.73	1.528	58	6/28–08/24 <sup>r</sup>
2011	0.36	4.0	0.37	0.03	5.23	2.016	33	6/28–07/30 <sup>s</sup>
2012	0.47	3.7	0.44	0.03	5.41	2.556	72	6/29–09/08 <sup>t</sup>
2013	0.50	4.1	0.37	0.02	5.63	2.165	74	7/03–09/14 <sup>u</sup>
2014	0.38	3.2	0.36	0.03	5.12	1.960	52	6/25–08/15 <sup>v</sup>

<sup>a</sup> Deadloss included in total.

<sup>b</sup> Millions of pounds.

<sup>c</sup> Information not available.

<sup>d</sup> Fishing actually began 8/12.

<sup>e</sup> Fishing actually began 7/8.

<sup>f</sup> Fishing began 7/9 due to fishermen's strike.

<sup>g</sup> First delivery was made 7/10.

<sup>h</sup> First delivery was made 7/16.

<sup>i</sup> The season was extended 24 hours due to bad weather.

<sup>j</sup> Open access (OA) fishery closed 8/29; CDQ fishery opened 9/1–9/29.

<sup>k</sup> OA closed 9/1. CDQ opened 9/1–9/9.

<sup>l</sup> OA opened 7/1–8/6. CDQ opened 6/15–6/28 and 8/9–9/3.

<sup>m</sup> OA opened 7/1–8/13. CDQ opened 6/15–6/28 and 8/15–8/24.

<sup>n</sup> CDQ opened 6/15–6/28. OA opened 7/1 to the end date.

<sup>o</sup> OA opened 7/1–8/15. CDQ opened 6/15–6/28 and 8/17–8/27.

<sup>p</sup> OA opened 6/23–8/18. CDQ opened 8/17–9/3.

<sup>q</sup> CDQ opened 6/15–7/28. OA opened 6/15 to the end date.

<sup>r</sup> CDQ opened 6/28–7/16. OA opened 7/1 to the end date.

<sup>s</sup> CDQ opened 6/28–7/8. OA opened 6/28 to the end date.

<sup>t</sup> CDQ opened 6/29 to the end date. OA opened 6/29–8/11.

<sup>u</sup> Both CDQ and OA opened 7/3 to the end date.

<sup>v</sup> CDQ opened 6/25 to the end date. OA opened 6/25–8/2.

Table 4.—Daily catch based on fish ticket data for the CDQ summer commercial king crab harvest, Norton Sound Section, Eastern Bering Sea, June 25–August 15, 2014.

Date	Landings	Number Crabs	Crab Harvested (lbs)	Cumulative Total (lbs)	Number Pots Pulled	Average Weight (lbs)	CPUE
06/29	1	135	382	382	20	2.8	7
07/03	1	211	638	1,020	40	3.0	5
07/04	1	220	590	1,610	40	2.7	6
07/06	1	151	410	2,020	40	2.7	4
07/09	1	236	665	2,685	40	2.8	6
07/13	1	448	1,301	3,986	60	2.9	7
07/18	1	550	1,677	5,663	40	3.0	14
07/23	1	231	649	6,312	40	2.8	6
08/03	1	364	1,235	7,547	20	3.4	18
08/05	8	1,687	5,956	13,503	255	3.5	7
08/06	4	1,824	5,343	18,846	104	2.9	18
08/07	2	986	2,957	21,803	60	3.0	16
08/09	1	313	980	22,783	20	3.1	16
08/10	1	842	2,319	25,102	15	2.8	56
08/11	1	798	2,239	27,341	20	2.8	40
08/13	1	152	455	27,796	10	3.0	15
08/15	1	124	352	28,148	30	2.8	4
Total	28	9,272	28,148	28,148	854	3.0	11

*Note:* The CDQ fishery closed on 8/15/14, and the last delivery was made on 8/15/14.

Table 5.—Red king crab CDQ and open-access summer commercial harvest based on fish ticket reports by statistical area for Norton Sound Section, Eastern Bering Sea, June 25–August 15, 2014.

Statistical Area	Number Crabs	Crab Harvested (lbs.)	Number Pots Pulled	CPUE	Average Weight (lbs.)	Percent of Pots Pulled in Stat. Area	Percent of Harvest in Stat. Area
616331	1,763	4,923	243	7	2.79	2.4%	1.3%
616401	1,624	4,692	170	10	2.89	1.7%	1.2%
626401	23,006	69,936	2,059	11	3.04	20.3%	18.0%
636330	2,568	7,565	266	10	2.95	2.6%	1.9%
636401	25,675	78,572	1,976	13	3.06	19.5%	20.2%
646330	1,803	5,390	94	19	2.99	0.9%	1.4%
646401	12,460	36,409	1,062	12	2.92	10.5%	9.4%
656401	40,905	122,631	3,007	14	3.00	29.7%	31.5%
666401	12,784	38,099	826	15	2.98	8.2%	9.8%
666402	6,316	18,968	344	18	3.00	3.4%	4.9%
666431	753	1,825	80	9	2.42	0.8%	0.5%
Total	129,657	389,008	10,127	13	3.00	100.0%	100.0%

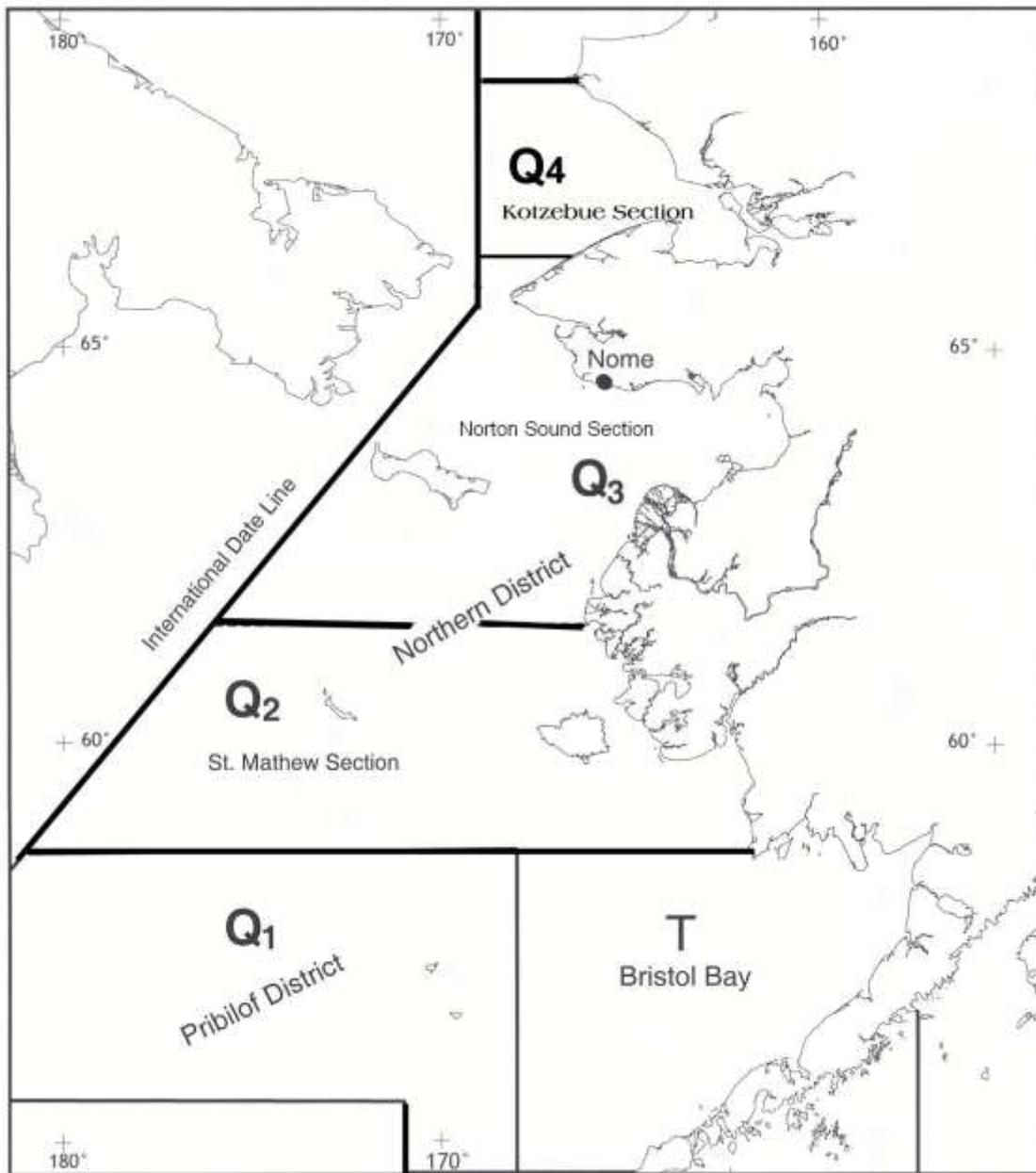


Figure 1.—King crab fishing districts and sections of Statistical Area Q.

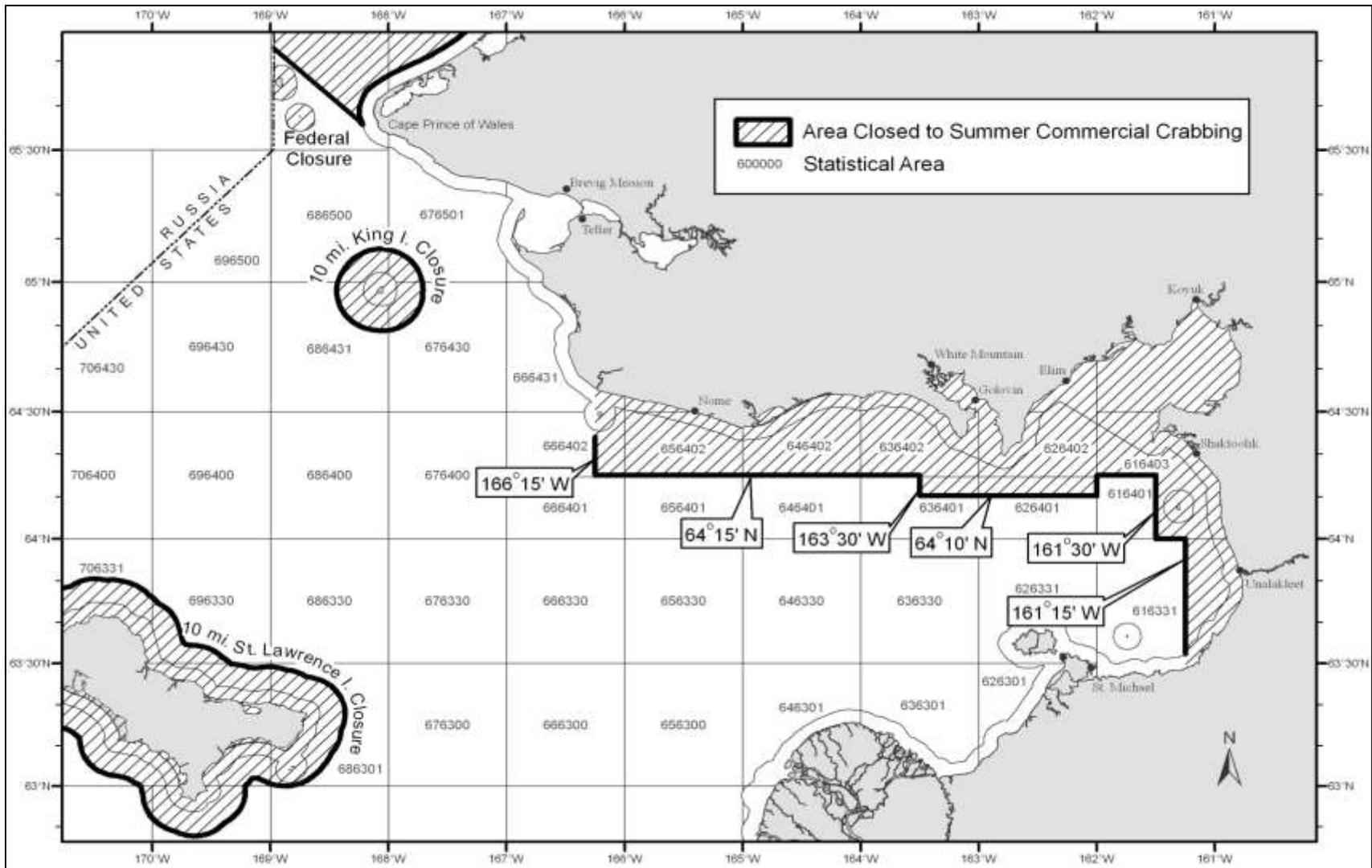


Figure 2.—Closed-waters area in effect for the Norton Sound summer commercial crab fishery.

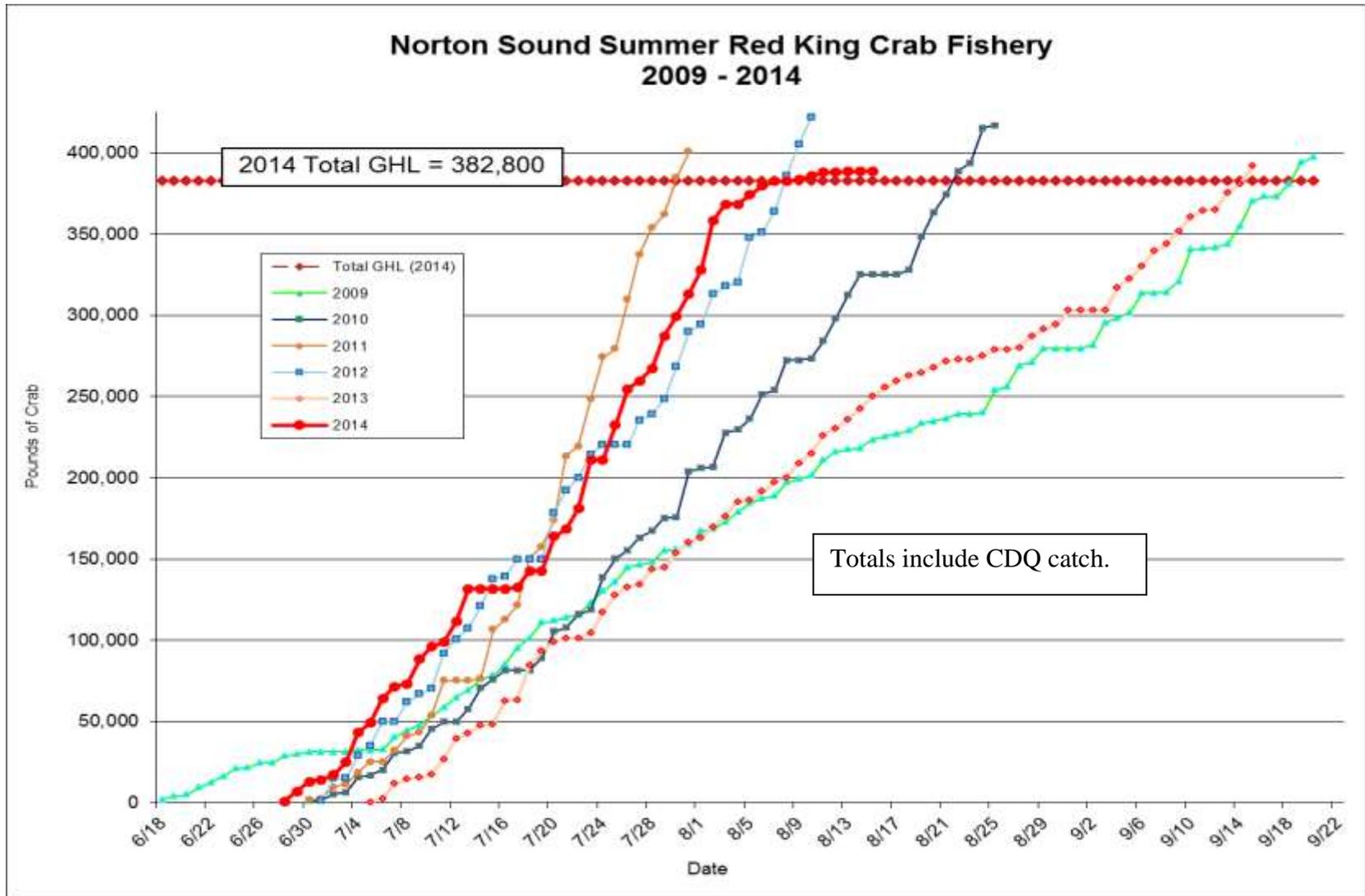
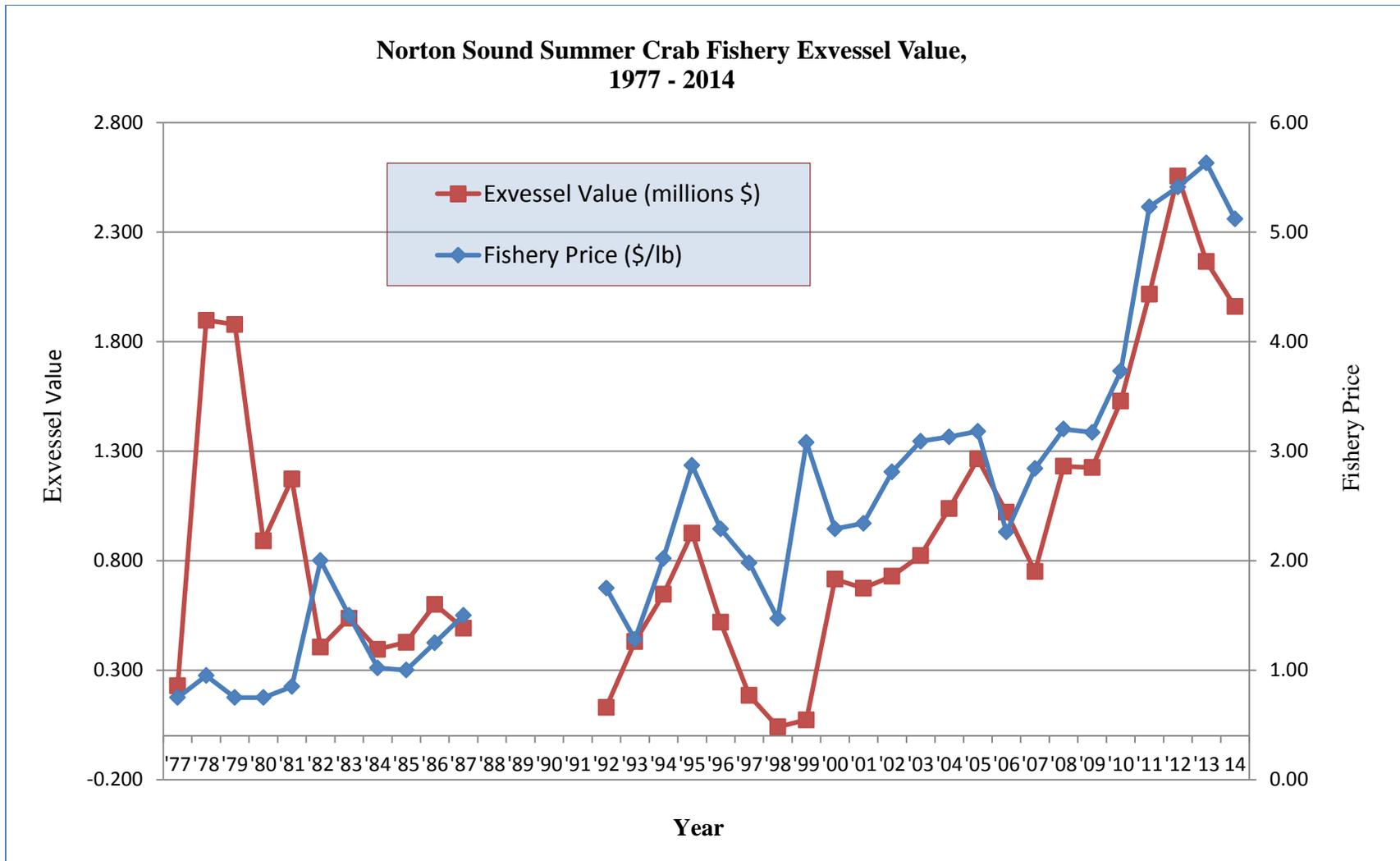
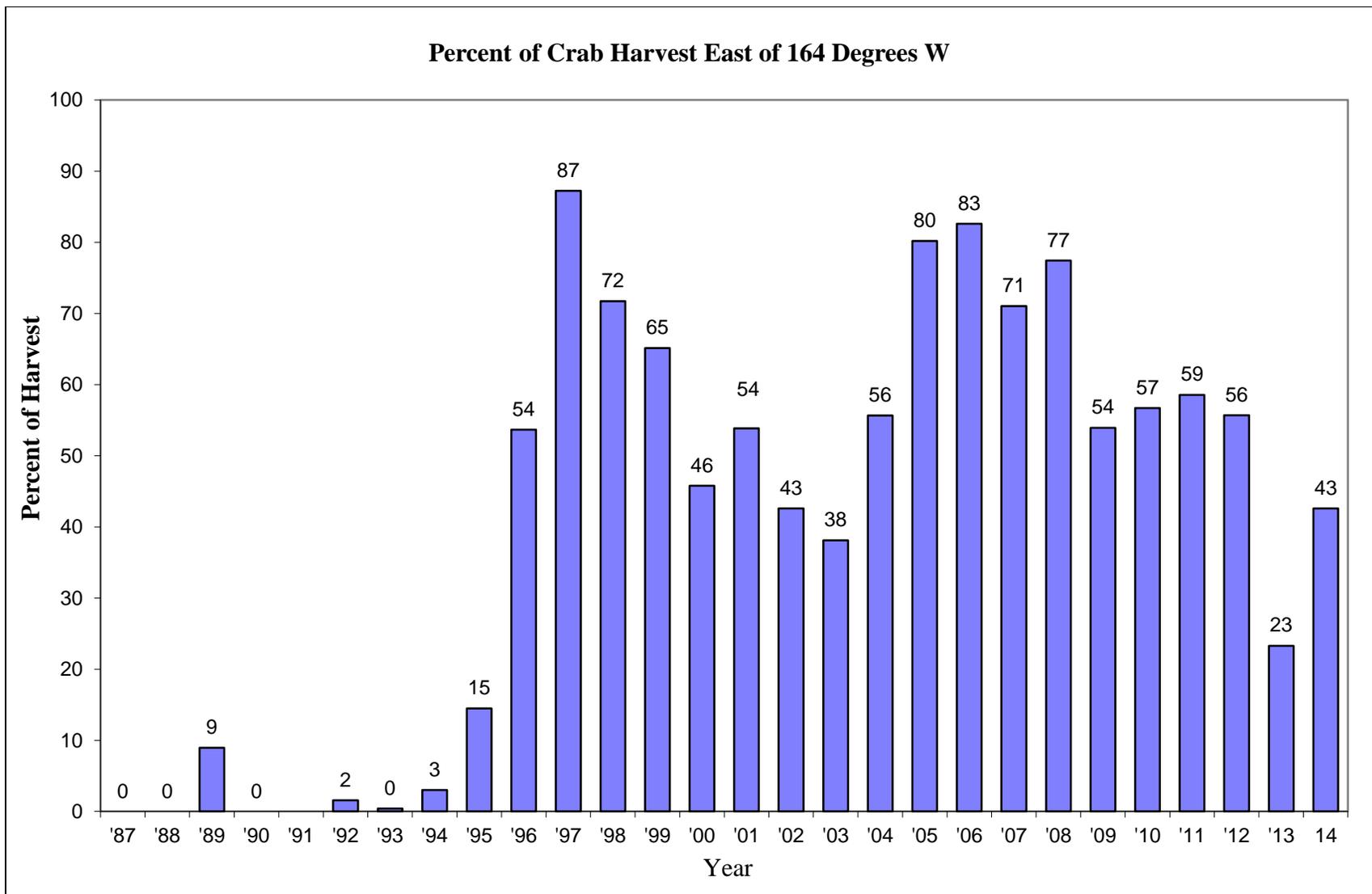


Figure 3.—Current and historical catch performance for the Norton Sound summer commercial crab fishery, 2009–2014.



Notes: Pricing information was not available for 1988–1990. No summer commercial fishery occurred in 1991.

Figure 4.—Norton Sound crab exvessel value and fishery price per pound, 1977–2014.



Note: No summer commercial fishery occurred in 1991.

Figure 5.—The percent of crab harvested during the Norton Sound summer commercial red king crab fishery east of 164 degrees west longitude, 1987–2014.

Appendix 1.–Standardized results from population assessment surveys for red king crabs in Norton Sound, 1976–2011.

Year	Date	Research Agency	Gear	Population Abundance Estimates (Number of crabs) <sup>a</sup>			Legal Male Biomass (millions of pounds)
				Pre-2 Males <sup>b</sup>	Pre-1 Males <sup>b</sup>	Legal Males <sup>c</sup>	
1976	9/02–09/05 9/16–10/07	NMFS	Trawl	331,555	808,091	1,742,755	5,228,265
1979 <sup>d</sup>	7/26–08/05	NMFS	Trawl			809,799	2,429,397
1980 <sup>e</sup>	7/04–07/14	ADF&G	Pots			1,900,000	5,700,000
1981	6/28–07/14	ADF&G	Pots			1,285,195	3,855,585
1982	7/06–07/20	ADF&G	Pots			353,273	1,059,819
1982	9/05–09/11	NMFS	Trawl	356,724	832,581	877,722	2,633,166
1985	7/01–07/14	ADF&G	Pots			907,579	2,722,737
1985	9/16–10/01	NMFS	Trawl	466,858	707,140	1,051,857	3,155,571
1988	8/16–08/30	NMFS	Trawl	565,255	493,030	978,748	2,936,244
1991	8/22–08/30	NMFS	Trawl	294,801	303,682	1,287,486	3,862,458
1996	9/07–09/18	ADF&G	Trawl	452,580	325,699	536,235	1,608,705
1999	7/28–08/07	ADF&G	Trawl	103,832	940,198	1,594,341	4,783,023
2002	7/27–08/06	ADF&G	Trawl	427,703	518,638	771,569	2,314,707
2006	7/25–08/08	ADF&G	Trawl	775,076	569,833	726,251	2,178,753
2008	7/24–08/11	ADF&G	Trawl	795,777	697,442	811,727	2,435,182
2011	7/18–08/15	ADF&G	Trawl	431,153	311,550	1,310,634	3,931,902

Note: Blank cells are because the numbers were not calculated.

<sup>a</sup> Population estimates are valid for the date of the survey (i.e., either before or after the summer commercial fishery).

<sup>b</sup> Pre-2 males were defined as 76-89 mm in carapace length (CL) and pre-1 males were defined as 90-104 mm CL.

<sup>c</sup> Legal male red king crabs were defined as  $\geq 121$  mm (4-3/4 inches) in carapace width (CW) for the pot surveys and all ADF&G trawl surveys (except for 1996, when legal males were defined as at least 105 mm CL), and  $\geq 104$  mm CL for all of the NMFS trawl surveys (except the 1979 survey which defined legal males as at least 100 mm CL).

<sup>d</sup> Pre-2 male and pre-1 male data are unavailable for the 1979 NMFS trawl survey.

<sup>e</sup> The 1980 pot survey estimate has been revised from the original estimate of 13.4 million pounds which was thought inaccurate due to an under-reporting of recovered tagged crabs.

Appendix 2.—Historical commercial harvest by statistical areas of red king crabs from Norton Sound Section, Eastern Bering Sea, 1977–2014 (catch in pounds).

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Statistical Area	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
616331	7,893												
616401													
626331	40,020					22							
626401	31,572			4,830	399								
626402	38,995												
636330													
636401				12,398	61,823	32,246	5,880	41	891				22,030
636402													
646301													
646330					4,716								5,212
646401			155,972		1,319	17,532							
646402	80,969					748							
656300			161,699		15,174								
656330			323,518	72,735	395,662	3,983	24,246	83,479	7,632		79,006	36,129	1,757
656401			138,011	121,147	253,387	60,480	11,422	183,119	246,200		194,408	165,644	100,956
656402	306,302	90,187	288,869	918	3,098	2,832			132,363				
666230		55,490			77								
666300		162,795	60,816	84,874	9,167	95		4,534					
666330		353,016	505,050	367,446	141,513	8,990	1,192		389	70,615	2,963	13,020	1,275
666401		179,212	486,947	205,400	381,510	79,580	325,045	116,254	5,341	408,848	50,744	21,895	115,257
666402	12,036	515,778	534,938	183,581		17,585			32,992				
666431			146,029										
676300		13,238		126,231									
676330		51,304	81,798	6,762	18,734								
676400		667,130	33,856	274	92,026	1,315	247		32				
676430		3,811	12,309		373	3,513			1,171				
676501					36								
686330			1,860										
686431													
Totals	517,787	2,091,961	2,931,672	1,186,596	1,379,014	228,921	368,032	387,427	427,011	479,463	327,121	236,688	246,487

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Statistical Area	1990	1992	1993	1994	1995	1996 <sup>a</sup>	1997	1998	1999	2000	2001	2002	2003
616331				48					633	4,557		3,506	646
616401					35								
626331						61						2,455	
626401					18,971	45,045	18,066	8,065	508	4,689	61,620	53,722	15,899
626402													1,352
636330						4,560	3,838	2,449			2,253		
636401		1,159	1,373	8,087	24,329	70,677	59,206	10,771	14,201	126,994	91,343	50,906	83,949
636402				1,754	3,466								
646301					4,628	13,888							
646330					1,493	2,894	314		3,021		1,868	1,955	
646401			1,963	37,222	105,045	22,834	1,052	3,194	221		4,287		3,952
646402			730	143,511	66,821								
656300													14
656330		4,814	265		19,745	15,446	4,661	4,078	1,300		20,869	12,374	21,176
656401	171	53,119	105,341	29,566	32,289	9,985	4,035	1,127	2,739	94,813	55,158	63,038	40,566
656402			193,079	106,053	44,000								1,441
666230													
666300						25,519							
666330	27,185	4,305	31,758		730					5,839	7,030	1,332	1,296
666401	162,263	10,632	746	396		3,001	1,816		930	60,762	43,771	35,970	83,998
666402			535	1,221								30,070	12,873
666431					1,124							4,274	45
676300						546							
676330													
676400	3,212					9,775							
676430													
676501													
686330													
686431													
Totals	192,831	74,029	335,790	327,858	322,676	224,231	92,988	29,684	23,553	297,654	288,199	259,602	267,207

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Statistical Area	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Totals
616331			2,357		5,658	888					4,923	31,109
616401				231	416	6,170				7,729	4,692	19,273
626331			1,415	27,018	3,235	3,047		2,489		686		80,448
626401	23,113	94,130	118,202	61,704	96,327	103,043	52,054	85,271	115,524	36,802	69,936	1,119,492
626402												40,347
636330		126	26,680	10,253	2,350	5,026	2,584		1,454	12,035	7,565	81,173
636401	166,489	227,204	224,531	123,092	197,948	96,279	182,040	146,973	148,183	34,027	78,572	2,302,363
636402												5,220
646301												18,516
646330	2,226	4,097	2,629	5,290	1,505	933	1,205		1,204	4,195	5,390	50,147
646401	1,964	149	1,660		18,728	46,264	77,437	83,099	98,811	59,737	36,409	779,139
646402										5,271		294,200
656300	932		284	1,909								180,012
656330	46,288	47,411	17,752	4,911		10,617	17,660	1,546	8,168	8,515		1,297,733
656401	21,579	9,405	28,434	70,065	68,968	107,557	82,747	77,149	85,920	147,569	122,631	2,795,029
656402		380	807	2,254						37,743		1,214,562
666230			1,721									57,288
666300			18,245									366,045
666330	12,359	142	5,041	511		1,514		2,042	1,000			1,567,553
666401	42,452	727	600	2,498		10,021			15,726	33,469	38,099	2,932,155
666402	23,344	16,025	1,050	2,959		6,228	1,577	2,271		1,419	18,968	1,415,449
666431										2,669	1,825	155,966
676300												140,015
676330												158,598
676400				180								808,047
676430												21,177
676501		1,008										1,044
686330												1,860
686431			340									340
Totals	340,746	400,804	451,748	312,875	395,135	397,587	417,304	400,840	475,990	391,863	389,008	17,934,299

Note: No summer commercial fishery occurred in 1991.

<sup>a</sup> Does not include approximately 2,490 lbs not reported on fish tickets.