

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



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2012 Norton Sound Summer Crab 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. No summer commercial fishery occurred in 1991 due to a cut in staff needed to manage the fishery the previous winter. In 1992 the summer commercial fishery resumed. 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. This designation stated that 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 put into place before the 1996 season had 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 the CDQ allocation was in place, 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. The program states that 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 so that 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 falls 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.

During the March 2002 BOF meeting, new regulations were adopted changing closed water boundaries and start dates for the crab CDQ fishery. Figure 2 shows the new closed waters boundaries. Closed waters were extended further offshore near Golovin, moved closer to shore near Unalakleet and eastward near Sledge Island. 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.

Prior to 2006, Norton Sound Section (Q 3) included all waters north of the latitude of Cape Romanzof ($61^{\circ} 49'$ N lat), south of the latitude of Cape Prince of Wales ($65^{\circ} 49'$ N lat), and east of 168° W longitude. At a special BOF meeting on May 3, 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).

At its March 2008 meeting, BOF changed the start date of the open access fishery. 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 have been eliminated. For escapement of sublegal crabs, a new regulation is in effect: a minimum of 4 escape rings are required per pot with each ring having a minimum inside diameter of $4\frac{1}{2}$ inches located within one mesh size from the bottom of the pot, or at least $\frac{1}{2}$ 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 $6\frac{1}{2}$ inch stretched mesh. Another regulation change was that the size limit for male blue king crab in the Norton Sound commercial fishery was reduced from $5\frac{1}{2}$ inches to 5 inches in shell width.

The ADF&G length-based population model estimated legal male crab abundance for the 2012 summer commercial crab fishery at 3.74 million pounds (1.38 million crabs), compared to the revised 2011 model abundance estimate of 3.82 million pounds (1.45 million crabs) for legal male crabs. The model revised the 2011 estimate from 3.98 million pounds (1.47 million crabs) to 3.82 million pounds. Every time new data is incorporated into the population model, it estimates current abundance as well as revises prior years' abundances. Current and revised abundance estimates are based on the 2011 trawl survey (Appendix 1), the 2011 summer and 2010-11 winter fisheries data, and historical data going back to 1976 that include pot and trawl surveys and summer and winter fisheries results.

The portion of the 2012 legal male crab abundance that is catchable to the commercial fishery, which primarily harvests crabs ≥ 5.0 -inch (127-mm) carapace width, was estimated to be 3.21 million pounds (1.18 million crabs). An exploitation rate of 14.5% on the population catchable to the fishery equates to a guideline harvest level (GHL) of 465,450 pounds of crab. This follows the revised harvest strategy set by the BOF in March of 2012. By regulation, the CDQ fishery is

allocated 7.5% of the GHL; therefore, the CDQ harvest quota was set at 34,910 pounds preseason, with the open access fishery allocation set at 430,540 pounds.

HARVEST SUMMARY

Open Access Fishery

The 2012 summer open access commercial crab fishery was opened by emergency order at 12:00 noon, June 29 in the Norton Sound Section, with a GHL of 465,450 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 flew live crabs to Aquatech in Anchorage. The majority of crabs were delivered to NSSP, while the catcher-sellers sold crabs directly to local residents. The single catcher-processor sold to a market in Korea as well as directly to local residents.

The first open access delivery was made on July 1 and final delivery was made August 12, the day after the open access portion of the fishery was closed by emergency order at 6:00PM, for a total season length of 44 days, compared to 33 days in 2011. In 2012, both buyers purchased crab continuously once the open access season was under way, with no reports of poor crab meat fill.

The open access harvest from fish ticket reports was 149,604 red king crabs or 441,080 pounds (102% of the open-access quota; Table 1). Of this total, 242 pounds were reported as deadloss, and 2,860 pounds reported as personal use. A total of 29 vessels and 29 permit holders made 289 landings (Table 2). The average weight for commercially caught crab was 2.9 pounds, slightly heavier than for the last four years. Including CDQ, number of pots registered was 1,200, and there were 10,041 pot pulls. CPUE was 16 crabs, compared to 21 last year. In 2012, the open-access catch rate was not as high as in 2011, but was higher than the 3 years previous to 2011 (Figure 3). The average price paid (including CDQ catch) was \$5.41 per pound, the highest paid ever (Table 3). The exvessel value of the fishery (including CDQ) was \$2.556 million, the highest ever for this fishery (Figure 4).

CDQ Fishery

The Norton Sound and Yukon Delta CDQ groups 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 (CFEC) 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 2012, as in the previous six years, Yukon Delta transferred their quota to Norton Sound; therefore, all fishermen operated under authority of the Norton Sound CDQ group.

For the third time, the CDQ fishery opened concurrently with the open-access fishery in 2012. The initial CDQ delivery was made on July 1 and the last delivery was made September 8, when 100% of the CDQ allocation (34,910 pounds) had been harvested. This year, NSEDC wanted to stretch out the season that live crab is available for their markets; therefore, they stopped purchasing from CDQ crabbers on July 12 when roughly half of the CDQ quota was reached, and started buying again a week after the closure of the open access fishery on August 11. Unfortunately, due to storm conditions, crabbers were delayed harvesting the remainder of the

CDQ quota, and molting crab showed up in deliveries made during the week of September 3. Final CDQ delivery was made on September 8 for a total CDQ harvest of 34,910 pounds (Table 4). Fourteen permit-holders were registered to fish the CDQ fishery but only eleven actually fished, making a total of 23 landings and 646 pots lifts. Average price paid to fishermen was \$5.40 per pound, for an exvessel value of \$187,558 for the CDQ fishery. This was the twelfth year a CDQ harvest occurred since the CDQ fishery was implemented in 1998, and the ninth year the fishery harvested or nearly harvested the entire allocation.

Fish ticket reports document that 9 statistical areas were fished in the open access and CDQ fisheries (Table 5), compared to 8 areas in 2011. Similar to last year, the top harvest came from statistical area 636401 (31%). Significant harvests also came from 3 other areas: 626401 (24%), 646401 (21%), and 656401 (18%), all of which are directly south of the closed boundary line (Figure 2, Appendix 2). The catch from statistical areas east of 164°W longitude made up 56% of the harvest, similar to the 59% last year (Figure 5).

Harvest Sampling

Carapace length measurements and shell age were collected from 5,056 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 91% of the total legal crabs sampled, and old-shell crabs made up 9%. Recruit crabs are new-shell legal crabs < 116-mm carapace length (CL). Postrecruit crabs are legal new-shell male crabs \geq 116-mm CL and all legal old-shell males. Recruit crabs made up 33% of the legal crabs sampled and postrecruit crabs made up 67%, the highest percentage of postrecruit crabs since 2006 (Table 2). Overall mean carapace length of legal male crabs was 118 mm.

Since the summer of 2002, Norton Sound Economic Development Corporation has operated a seafood processing plant in Nome. In 2012, all sampling data were collected from this plant as crabbers offloaded their catch. The department will continue to make a concerted effort to coordinate catch sampling and data collection with fishermen and buyers to ensure optimal commercial harvest data collection.

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 29–August 11, 2012.

Date	Landings	Number of Crabs	Lbs of Crabs Harvested	Cumulative Lbs	Number of Pots Pulled	Average Weight (lbs)	Daily CPUE
7/01	1	12	34	34	1	2.8	12
7/02	8	4,583	13,322	13,356	276	2.9	17
7/03	2	78	231	13,587	11	3.0	7
7/04	6	3,064	8,739	22,326	209	2.9	15
7/05	5	2,149	6,135	28,461	83	2.9	26
7/06	6	3,146	8,992	37,453	219	2.9	14
7/07	2	92	243	37,696	21	2.6	4
7/08	8	3,510	9,990	47,686	242	2.8	15
7/09	2	1,707	4,931	52,617	77	2.9	22
7/10	2	1,119	3,311	55,928	41	3.0	27
7/11	11	6,825	19,489	75,417	381	2.9	18
7/12	4	2,849	8,303	83,720	121	2.9	24
7/13	6	2,272	6,609	90,329	170	2.9	13
7/14	9	4,734	13,545	103,874	350	2.9	14
7/15	11	5,721	16,935	120,809	388	3.0	15
7/16	2	469	1,389	122,198	41	3.0	11
7/17	12	3,610	10,555	132,753	292	2.9	12
7/19	1	15	30	132,783	1	2.0	15
7/20	18	9,935	28,740	161,523	631	2.9	16
7/21	8	4,802	13,721	175,244	280	2.9	17
7/22	7	2,671	7,833	183,077	221	2.9	12
7/23	9	4,903	14,353	197,430	350	2.9	14
7/24	5	2,021	5,976	203,406	158	3.0	13
7/27	6	5,133	15,076	218,482	238	2.9	22
7/28	1	1,171	3,499	221,981	40	3.0	29
7/29	3	3,027	9,473	231,454	113	3.1	27
7/30	10	6,744	19,757	251,211	343	2.9	20
7/31	12	7,568	21,917	273,128	353	2.9	21
8/01	4	1,532	4,481	277,609	122	2.9	13
8/02	15	6,181	18,304	295,913	493	3.0	13
8/03	5	1,714	4,943	300,856	186	2.9	9
8/04	2	837	2,480	303,336	77	3.0	11
8/05	13	8,976	27,317	330,653	504	3.0	18
8/06	3	1,189	3,605	334,258	119	3.0	10
8/07	7	4,252	12,831	347,089	224	3.0	19
8/08	11	7,189	21,649	368,738	365	3.0	20
8/09	12	6,518	19,521	388,259	358	3.0	18
8/10	13	5,488	16,626	404,885	455	3.0	12
8/11	21	8,893	27,348	432,233	639	3.1	14
8/12	6	2,905	8,847	441,080	202	3.0	14
	289	149,604	441,080	441,080	9,395	2.9	16

Note: The fishery closed by EO on 8/11/12 at 6:00PM and the last delivery was made on 8/12/12.

Table 2.-Historical summer commercial red king crab annual harvest, Norton Sound Section, Eastern Bering Sea, 1977-2012.

Year	Number	Number	Number	Number	Harvest (lbs) ^a		Number		Percent		Average	Avg. Legal		
	Vessels	Permits	Landings	Crabs	Open	CDQ ^b	Registered	Pulls	CPUE	Old	Percent	Weight	Mean	
	(open access only)				Access					Shell	Postrecruits	(lbs)	Length (mm)	
1977	7	7	13	195,877	517,787		c	5,457	36	c	c	2.7	113	
1978	8	8	54	660,829	2,091,961		c	10,817	64	c	c	3.0	119	
1979	34	34	76	970,962	2,931,672		c	34,773	28	c	c	3.0	120	
1980	9	9	50	329,778	1,186,596		c	11,199	29	c	c	3.6	126	
1981	36	36	108	376,313	1,379,014		c	33,745	11	c	c	3.7	129	
1982	11	11	33	63,949	228,921		c	11,230	6	c	c	3.6	125	
1983	23	23	26	132,205	368,032			3,583	11,195	12	c	45	2.8	115
1984	8	8	21	139,759	387,427			1,245	9,706	14	c	41	2.8	113
1985	6	6	72	146,669	427,011			1,116	13,209	11	c	55	2.9	116
1986	3	3	c	162,438	479,463			578	4,284	38	c	52	2.9	116
1987	9	9	c	103,338	327,121			1,430	10,258	10	13	78	3.2	122
1988	2	2	c	76,148	236,688			360	2,350	32	26	75	3.1	119
1989	10	10	c	79,116	246,487			2,555	5,149	15	29	77	3.1	120
1990	4	4	c	59,132	192,831			1,388	3,172	19	17	79	3.1	121
1991 ^d							No summer commercial fishery							
1992	27	27	c	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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Year	Number	Number	Number	Number	Harvest (lbs) ^a		Number		CPUE	Percent	Percent	Average	Avg. Legal
	Vessels	Permits	Landings	Crabs	Open	CDQ ^b	Registered	Pulls		Old			
	(open access only)				Access					Shell		(lbs)	Length (mm)
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

^a Deadloss included in total.

^b No CDQ fishery harvest prior to the 2000 season.

^c Data not available.

^d 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, 1977–2012.

Year	Guideline	Legal Male Pop. Est. (lbs) ^b	Commercial		Ex-vessel Price/lb	Fishery Value (millions \$)	Season Length	
	Harvest		Harvest (lbs) ^{a,b}				Days	Dates
	Level (lbs) ^b		Open Access	CDQ				
1977	^c	1.7	0.52		0.75	0.229	60	^c
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 ^d
1987	0.40		0.33		1.50	0.491	11	8/01-08/12
1988	0.20	1.0	0.24		^c	^c	10	8/01-08/11
1989	0.20		0.25		3.00	0.739	3	8/01-08/04
1990	0.20		0.19		^c	^c	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 ^e
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 ^f
1997	0.08		0.09		1.98	0.184	44	7/01-08/13 ^g
1998	0.08		0.03		1.47	0.041	65	7/01-09/03 ^h
1999	0.08	1.6	0.02		3.08	0.073	66	7/01-09/04 ⁱ

Table 3.-Page 2 of 2.

Year	Guideline	Legal Male Pop. Est. (lbs) ^b	Commercial		Exvessel Price/lb	Fishery Value (millions \$)	Season Length		
	Harvest		Harvest (lbs) ^{a,b}				Days	Dates	
	Level (lbs) ^b		Open Access	CDQ					
2000	0.33	4.2	0.29	0.01	2.29	0.715	91	7/01-09/29	^j
2001	0.30	3.8	0.28	0.00	2.34	0.674	97	7/01-09/09	^k
2002	0.24	3.1	0.24	0.01	2.81	0.729	77	6/15-09/03	^l
2003	0.25	3.1	0.25	0.01	3.09	0.823	68	6/15-08/24	^m
2004	0.35	4.4	0.34	0.03	3.13	1.158	53	6/15-08/08	ⁿ
2005	0.37	4.8	0.37	0.03	3.18	1.264	72	6/15-08/27	^o
2006	0.45	4.5	0.42	0.03	2.26	1.021	67	6/15-08/22	ⁿ
2007	0.32	3.1	0.29	0.02	2.84	0.750	52	6/15-08/07	ⁿ
2008	0.41	4.1	0.36	0.03	3.20	1.231	73	6/23-09/03	^p
2009	0.38	3.8	0.37	0.03	3.17	1.225	98	6/15-09/20	^q
2010	0.40	4.5	0.39	0.03	3.73	1.528	58	6/28-08/24	^r
2011	0.36	4.0	0.37	0.03	5.23	2.016	33	6/28-07/30	^s
2012	0.47	3.7	0.44	0.03	5.41	2.556	72	6/29-09/08	^t

^a Deadloss included in total.

^b Millions of pounds.

^c Information not available.

^d Fishing actually began 8/12.

^e Fishing actually began 7/8.

^f Fishing began 7/9 due to fishermen's strike.

^g First delivery was made 7/10.

^h First delivery was made 7/16.

ⁱ The season was extended 24 hours due to bad weather.

^j Open access (OA) fishery closed 8/29; CDQ fishery opened 9/1-9/29.

^k OA closed 9/1. CDQ opened 9/1- 9/9.

^l OA opened 7/1-8/6. CDQ opened 6/15-6/28 and 8/9-9/3.

^m OA opened 7/1-8/13. CDQ opened 6/15-6/28 and 8/15-8/24.

ⁿ CDQ opened 6/15-6/28. OA opened 7/1 to the end date.

^o OA opened 7/1-8/15. CDQ opened 6/15-6/28 and 8/17-8/27.

^p OA opened 6/23-8/18. CDQ opened 8/17-9/3.

^q CDQ opened 6/15-7/28. OA opened 6/15 to the end date.

^r CDQ opened 6/28-7/16. OA opened 7/1 to the end date.

^s CDQ opened 6/28-7/8. OA opened 6/28 to the end date.

^t CDQ opened 6/29 to the end date. OA opened 6/29-8/11.

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Table 4.-Daily catch based on fish ticket data for the CDQ summer commercial king crab harvest, Norton Sound Section, Eastern Bering Sea, June 29–September 8, 2012.

Date	Landings	Number Crab	Crab Harvested (lbs)	Cumulative Total (lbs)	Number Pots Pulled	Average Weight (lbs)	CPUE
7/01	1	519	1,567	1,567	40	3.0	13
7/04	5	1,692	5,008	6,575	144	3.0	12
7/06	3	2,030	5,929	12,504	120	2.9	17
7/08	1	602	1,777	14,281	20	3.0	30
7/11	1	849	2,391	16,672	40	2.8	21
7/12	1	98	377	17,049	22	3.8	4
8/30	1	476	1,386	18,435	40	2.9	12
9/02	3	2,162	6,726	25,161	83	3.1	26
9/03	3	1,584	4,969	30,130	34	3.1	47
9/07	2	749	2,390	32,520	54	3.2	14
9/08	2	748	2,390	34,910	49	3.2	15
Total	23	11,509	34,910	34,910	646	3.0	18

Note: The CDQ fishery closed by regulation 9/8/12, and the last delivery was made on 9/8/12.

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 29–September 8, 2012.

Statistical Area	Number Crab	Crab Harvested (lbs.)	Number Pots Pulled	CPUE	Average Weight (lbs.)	Percent of Pots Pulled in Stat. Area	Percent of Harvest in Stat. Area
626401	39,403	115,524	2,063	19	2.93	20.5%	24.3%
636330	492	1,454	56	9	2.96	0.6%	0.3%
636401	50,557	148,183	2,868	18	2.93	28.6%	31.1%
646330	408	1,204	35	12	2.95	0.3%	0.3%
646401	33,721	98,811	2,646	13	2.93	26.4%	20.8%
656330	2,617	8,168	80	33	3.12	0.8%	1.7%
656401	28,688	85,920	2,002	14	2.99	19.9%	18.1%
666330	331	1,000	40	8	3.02	0.4%	0.2%
666401	4,896	15,726	251	20	3.21	2.5%	3.3%
Total	161,113	475,990	10,041	16	2.95	100.0%	100.0%

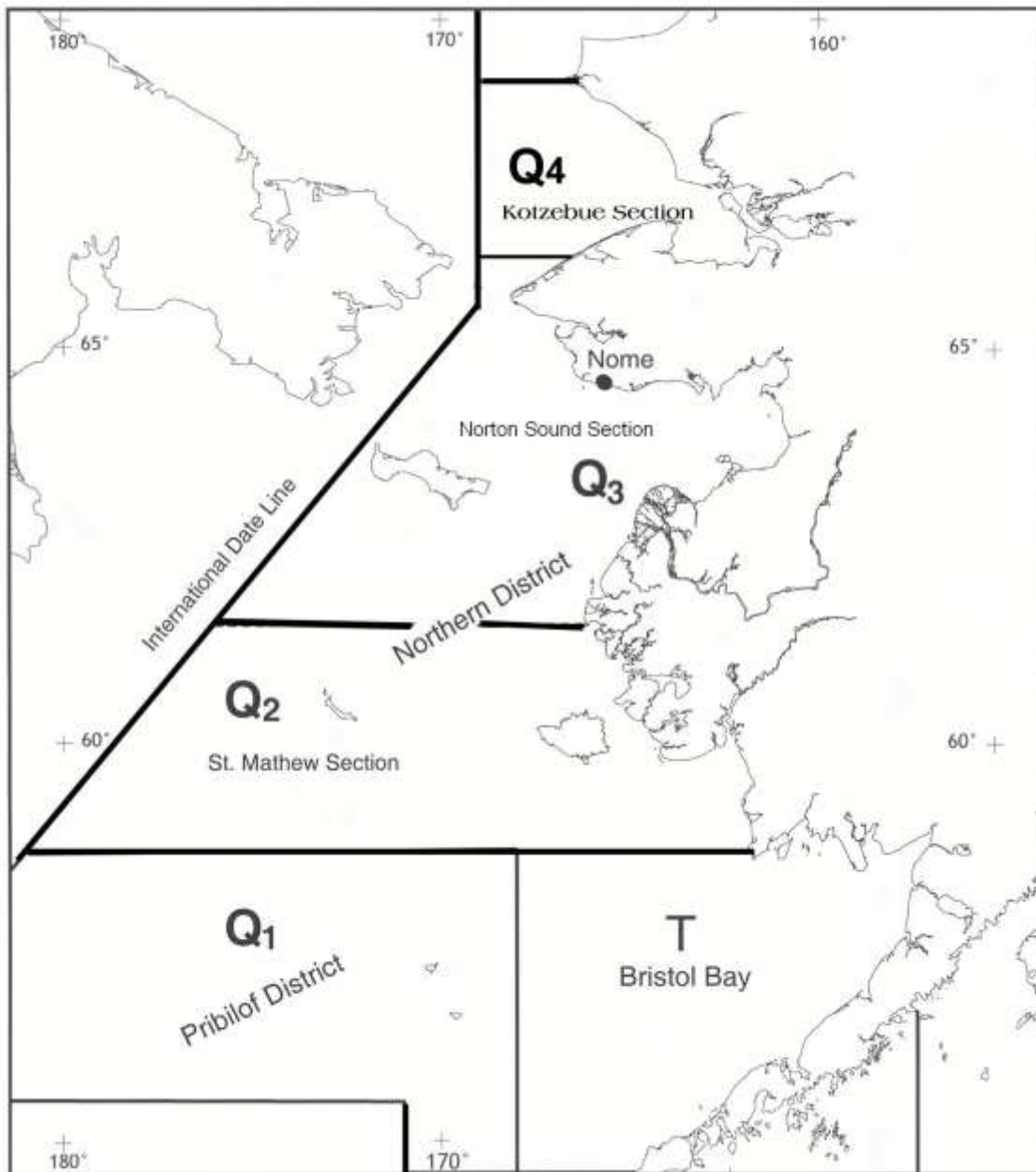


Figure 1.—King crab fishing districts and sections of Statistical Area Q.

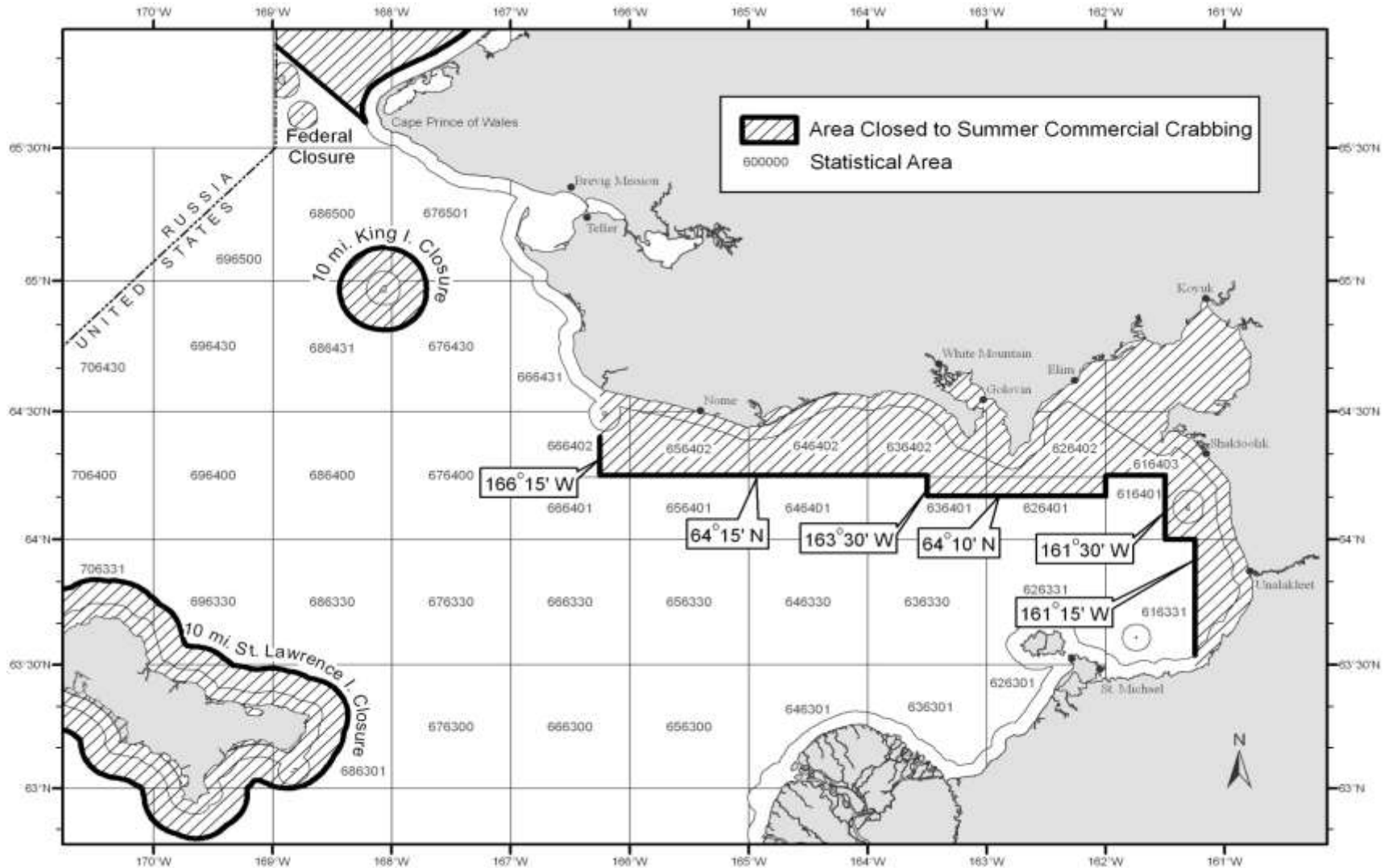
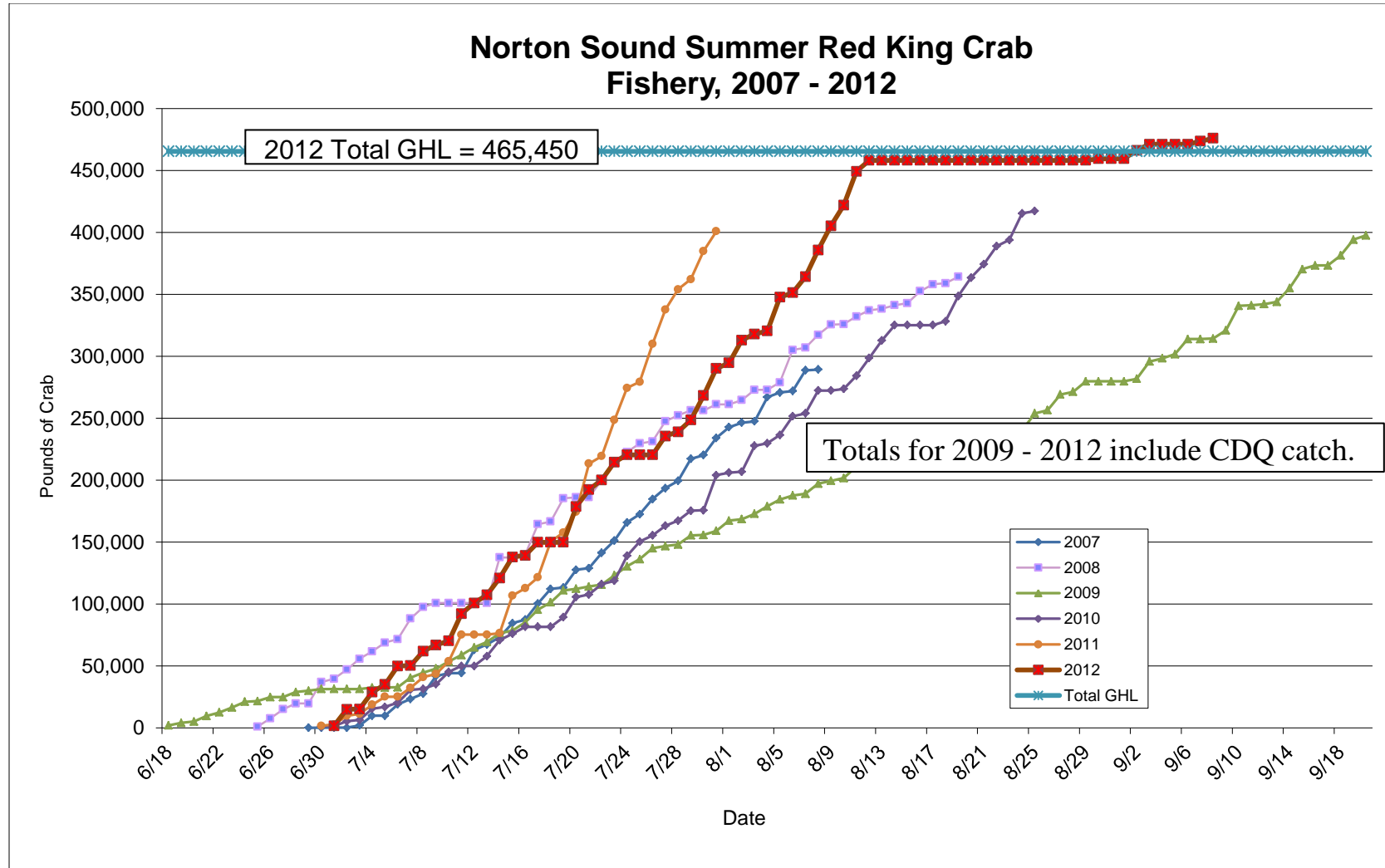


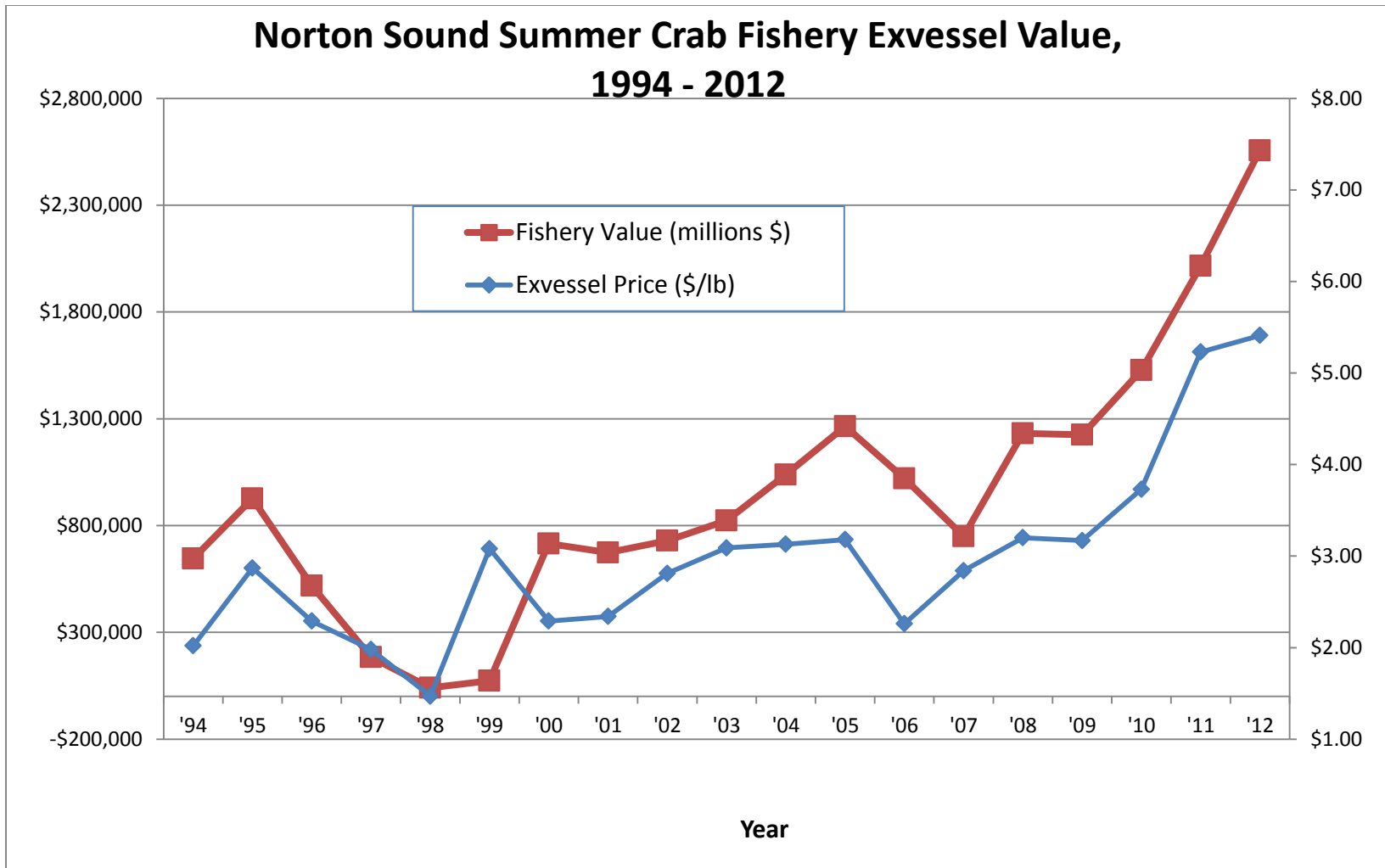
Figure 2.-Closed-waters area in effect for the Norton Sound summer commercial crab fishery.



Note: CDQ catch is not included in years prior to 2009 because the open-access and CDQ portions of the crab fishery did not occur concurrently in those years.

Figure 3.-Current and historical catch performance for the Norton Sound summer commercial crab fishery, 2006-2012.

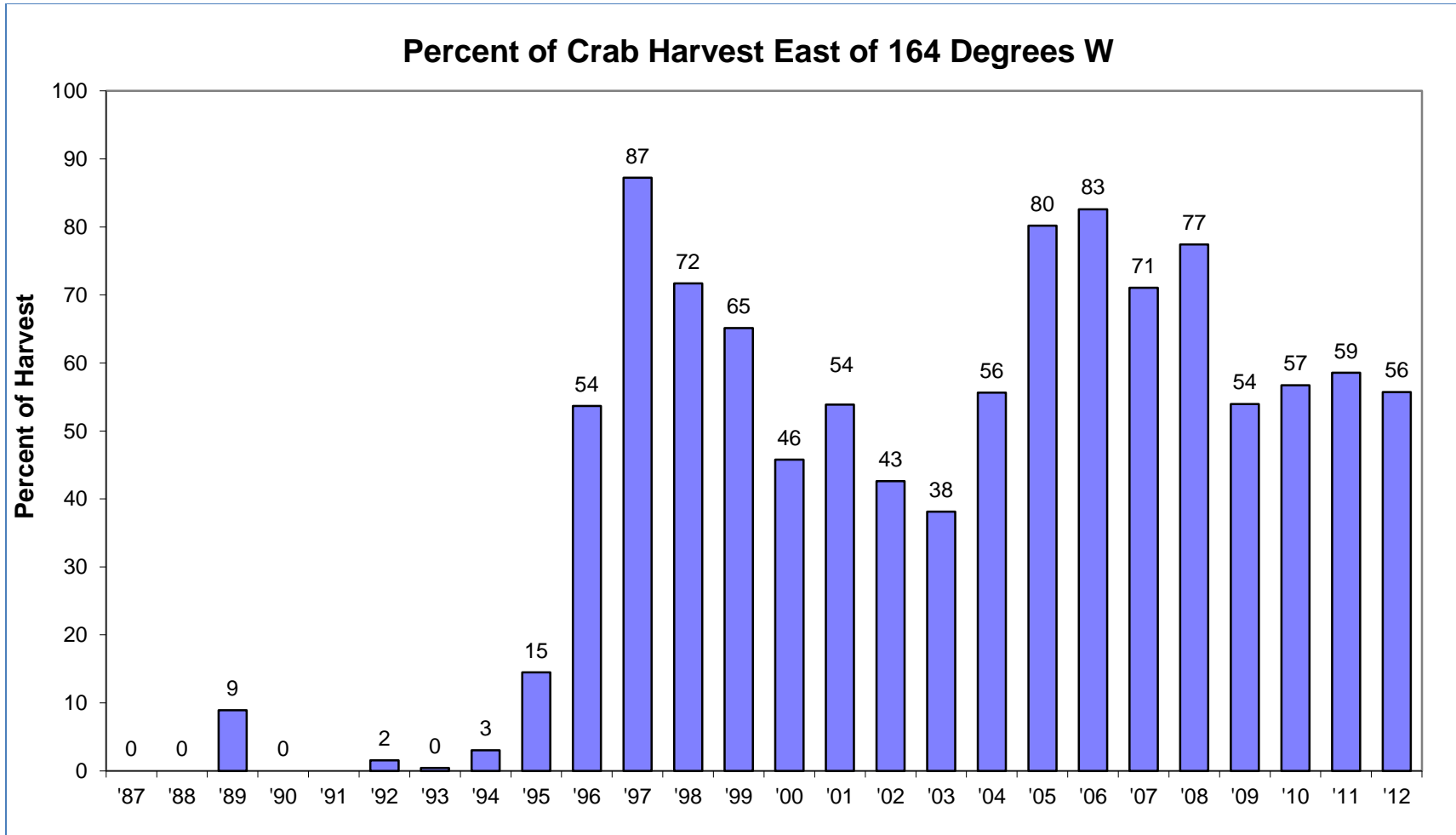
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Notes: Pricing information was not available for 1988-1990. No summer commercial fishery occurred in 1991.

Figure 4.-Norton Sound crab fishery ex-vessel value and price per pound, 1977-2012.

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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, 1987-2012.

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 crab ^a)			Legal Male Biomass (millions of pounds)
				Pre-2 Males ^b	Pre-1 Males ^b	Legal Males ^c	
1976	9/02 - 09/05 9/16 - 10/07	NMFS	Trawl	331,555	808,091	1,742,755	5,228,265
1979 ^d	7/26 - 08/05	NMFS	Trawl			809,799	2,429,397
1980 ^e	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.

^a Number of crabs captured on ADF&G pot surveys represent data standardized for a 24-hour soak.

^b The 1976, 1979, 1988, and all ADF&G trawl catches include resampled stations (in parentheses). The 1979, 1996, 2006, and 2008 population estimates incorporated resampled stations by combining catches and tow distances for each station resampled.

^c Population estimates are valid for the date of the survey (i.e., either before or after the summer commercial fishery).

^d Legal male red king crabs were defined as ≥ 121 -mm (4.75-in) in carapace width (CW) for the pot surveys and all ADF&G trawl surveys, and ≥ 104 -mm CL for all of the NMFS trawl surveys except the 1979 survey which defined legal males as ≥ 100 -mm CL.

^e Pre-1 and pre-2 male, and female data is not available for the 1979 NMFS trawl survey and the legal male abundance estimate is fully standardized.

^f 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, 1977-2012 (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 ^a	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	Totals
616331			2,357		5,658	888				26,186
616401				231	416	6,170				6,852
626331			1,415	27,018	3,235	3,047		2,489		79,762
626401	23,113	94,130	118,202	61,704	96,327	103,043	52,054	85,271	115,524	1,012,754
626402										40,347
636330		126	26,680	10,253	2,350	5,026	2,584		1,454	61,573
636401	166,489	227,204	224,531	123,092	197,948	96,279	182,040	146,973	148,183	2,191,043
636402										5,220
646301										18,516
646330	2,226	4,097	2,629	5,290	1,505	933	1,205		1,204	40,563
646401	1,964	149	1,660		18,728	46,264	77,437	83,099	98,811	682,705
646402										292,779
656300	932		284	1,909						180,012
656330	46,288	47,411	17,752	4,911		10,617	17,660	1,546	8,168	1,287,228
656401	21,579	9,405	28,434	70,065	68,968	107,557	82,747	77,149	85,920	2,518,544
656402		380	807	2,254						1,172,583
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	2,852,342
666402	23,344	16,025	1,050	2,959		6,228	1,577	2,271		1,395,063
666431										151,472
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	17,137,511

Note: No summer commercial fishery occurred in 1991.

^a Does not include approximately 2,490 lbs not reported on fish tickets.