

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



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2013 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. 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 2013 summer commercial crab fishery was 4.13 million pounds (1.56 million crabs). This estimate was based on the model's results from spring of 2013 with the latest data from the 2011 trawl survey (Appendix 1), the 2012 summer fishery, and the 2011–12 winter study. Based on the newly defined harvest strategy, in 2013 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 495,600 pounds of crab. The CDQ allocation (7.5%) was 37,170 pounds and the open access fishery allocation was 458,430 pounds.

HARVEST SUMMARY

Open Access Fishery

The 2013 summer open access commercial crab fishery was opened by emergency order at 12:00 noon, July 3 in the Norton Sound Section, with a GHL of 458,430 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 July 3 and final delivery was made September 15, the day after the open access portion of the fishery was closed by emergency order at 6:00 PM, for a total season length of 74 days, compared to 44 days in 2012. This year, the season start was delayed for a few days because NSSP found poor meat fill in some of their test fishery crab; however, once the open access season was under way, both land-based buyers purchased crab continuously with no further reports of poor crab meat fill until the very end of the season.

In 2013, catch rate was poor for the entire fleet and by the end of July the projected trend line showed that if catch rate did not change, the quota would not be reached until the second half of September. On August 1, to allow the fleet to efficiently obtain the allowable harvest of red king crab, by emergency order the closure line south of Nome from 166°15'W (Sledge Island) and 163°30'W (near Square Rock) was moved north by 3 miles, to 64°18'N from 64°15'N (Figure 3). On August 7, to allow more of the fleet additional fishing opportunity, by emergency order the closure line between 162°38'W (Carson Creek) and 162°W (the eastern border of statistical area 626401) was moved north by 5 miles to 64°15'N, and the closure line between 162°W and 161°30'W (Cape Denbigh) was also moved north, by 3 miles to 64°18'N (Figure 3). Catch rates increased slightly and temporarily for the portion of the fleet that fished in the western half of Norton Sound but did not improve for the crabbers fishing in the east side of Norton Sound. By the second half of August, the trend line projected the quota would not be reached. Since most of the registered buyers were still interested in purchasing crab, the fishing time was extended from September 3 to September 10, by which time a few newly molted crabs had shown up in the fishery. A shorter extension was granted, to September 13, but safety concerns due to adverse marine conditions resulted in the final closure date of September 14.

The open access harvest from fish ticket reports was 124,485 red king crabs or 373,278 pounds (81% of the open-access quota; Table 1). Of this total, 882 pounds were reported as deadloss, and 6,248 pounds reported as personal use. A total of 33 vessels and 33 permit holders made 435 landings (Table 2). The average weight for commercially caught crab was 3.0 pounds, slightly heavier than the average for the last six years. Including CDQ, number of pots registered was 1,420, and there were 15,058 pot pulls. CPUE was 9 crabs, compared to 16 crabs in 2012. In 2013, the total catch rate tracked very closely to 2009; these two years had the worst catch rates out of the last six years (Figure 4). The average price paid (including CDQ catch) was \$5.63 per pound, the highest amount ever paid (Table 3). The exvessel value of the fishery (including CDQ) was \$2.165 million, second only to the record setting amount paid out in 2012 of \$2.556 million (Figure 5).

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 2013, as in the previous six years, YDFDA transferred their quota to NSEDC; however, due to the poor catch rate all season, NSEDC only harvested 18,585 pounds, half of the CDQ quota. This is the first time in ten years that the fishery did not harvest the majority of the allocation.

For the fourth time in the last five years, the CDQ fishery opened concurrently with the open access fishery in 2013. The initial CDQ delivery was made on July 16 and the last delivery was made September 15, when 50% of the CDQ allocation (37,170 pounds) had been harvested (Table 4). Seven permit-holders were registered to fish the CDQ fishery but only four fished, making a total of 25 landings and 862 pots lifts. Average price paid to fishermen was \$5.50 per pound, for an exvessel value of \$101,250 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 14 statistical areas were fished in the open access and CDQ fisheries (Table 5), compared to 9 areas in 2012. Unlike last year, the top harvest came from statistical area 656401 (38%). As the crabbers moved around more this year trying to find the crab, their harvests came from a larger area instead of being concentrated as in years past. Several statistical areas yielded harvests of 9–15%: 646401 (15%), 656402 (10%), 626401 (9%), 636401 (9%), and 666401 (9%). Except for statistical area 656402, which was temporarily opened this year, all the other listed statistical areas are directly south of the original closed boundary line (Figure 2, Appendix 2). The catch from statistical areas east of 164°W longitude made up 23% of the harvest, less than half of the 56% from last year (Figure 6).

Carapace length (CL) measurements and shell age were collected from 6,072 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 92% of the total legal crabs sampled, and old-shell crabs made up 8%. Recruit crabs are new-shell legal crabs < 116-mm CL. Postrecruit crabs are legal new-shell male crabs \geq 116-mm CL and all legal old-shell males. Recruit crabs made up 32% of the legal crabs sampled and postrecruit crabs made up 68%, the highest percentage of postrecruit crabs since 2006 (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 2013, the majority of sampling data was collected from this plant as crabbers offloaded their catch. Additional sampling data were collected from the two catcher-processors as they offloaded their catch at the dock prior to shipment to Anchorage. 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, July 3–September 14, 2013.

Date	Landings	Number of Crabs	Lbs of Crabs Harvested	Cumulative Lbs	Number of Pots Pulled	Average Weight (lbs)	Daily CPUE
7/05	1	144	453	453	20	3.1	7
7/06	4	755	2,187	2,640	113	2.9	7
7/07	9	3,036	9,124	11,764	359	3.0	8
7/08	3	880	2,591	14,355	89	2.9	10
7/09	3	374	1,097	15,452	57	2.9	7
7/10	2	666	2,016	17,468	79	3.0	8
7/11	9	3,189	9,438	26,906	305	3.0	10
7/12	11	4,151	12,604	39,510	391	3.0	11
7/13	5	1,144	3,417	42,927	159	3.0	7
7/14	3	1,446	4,537	47,464	120	3.1	12
7/15	1	269	823	48,287	40	3.1	7
7/16	10	3,999	12,319	60,606	328	3.1	12
7/17	2	195	562	61,168	41	2.9	5
7/18	17	6,871	20,496	81,664	596	3.0	12
7/19	11	2,976	8,777	90,441	296	2.9	10
7/20	4	1,884	5,329	95,770	160	2.8	12
7/21	3	651	1,912	97,682	118	2.9	6
7/23	3	776	2,360	100,042	81	3.0	10
7/24	15	4,314	12,853	112,895	560	3.0	8
7/25	12	3,423	10,356	123,251	399	3.0	9
7/26	4	1,313	3,971	127,222	131	3.0	10
7/27	3	502	1,657	128,879	32	3.3	16
7/28	12	2,896	8,578	137,457	394	3.0	7
7/29	2	304	903	138,360	60	3.0	5
7/30	15	3,071	9,096	147,456	468	3.0	7
7/31	9	1,905	5,690	153,146	327	3.0	6
8/01	6	876	2,661	155,807	160	3.0	5
8/02	8	2,091	6,199	162,006	356	3.0	6
8/03	12	2,427	7,117	169,123	351	2.9	7
8/04	11	2,971	8,748	177,871	336	2.9	9
8/05	1	311	929	178,800	39	3.0	8
8/06	6	1,846	5,411	184,211	210	2.9	9
8/07	5	1,529	4,452	188,663	134	2.9	11
8/08	4	696	2,096	190,759	158	3.0	4
8/09	7	2,815	8,209	198,968	280	2.9	10
8/10	9	1,969	5,955	204,923	320	3.0	6
8/11	10	3,727	11,093	216,016	369	3.0	10
8/12	4	1,168	3,581	219,597	117	3.1	10
8/13	6	1,917	5,714	225,311	194	3.0	10
8/14	8	2,153	6,368	231,679	216	3.0	10
8/15	10	2,468	7,439	239,118	371	3.0	7

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Date	Landings	Number of Crabs	Lbs of Crabs Harvested	Cumulative Lbs	Number of Pots Pulled	Average Weight (lbs)	Daily CPUE
8/16	9	1,811	5,326	244,444	285	2.9	6
8/17	11	1,369	4,002	248,446	326	2.9	4
8/18	3	1,146	3,422	251,868	160	3.0	7
8/19	3	451	1,317	253,185	80	2.9	6
8/20	7	1,130	3,365	256,550	252	3.0	4
8/21	11	1,317	3,896	260,446	372	3.0	4
8/22	3	331	997	261,443	120	3.0	3
8/23	1	4	13	261,456	40	3.3	0
8/24	3	616	2,076	263,532	88	3.4	7
8/25	9	1,069	3,244	266,776	243	3.0	4
8/27	3	396	1,170	267,946	69	3.0	6
8/28	10	2,359	7,181	275,127	351	3.0	7
8/29	5	1,403	4,223	279,350	135	3.0	10
8/30	2	915	2,784	282,134	78	3.0	12
8/31	5	2,798	8,568	290,702	189	3.1	15
9/04	8	3,899	12,228	302,930	270	3.1	14
9/05	3	1,777	5,237	308,167	71	2.9	25
9/06	6	2,617	7,694	315,861	200	2.9	13
9/07	8	2,851	8,430	324,291	237	3.0	12
9/08	4	1,485	4,440	328,731	131	3.0	11
9/09	6	2,195	6,817	335,548	204	3.1	11
9/10	12	2,920	8,826	344,374	314	3.0	9
9/11	5	1,368	4,065	348,439	155	3.0	9
9/12	1	123	367	348,806	12	3.0	10
9/13	6	2,854	8,660	357,466	177	3.0	16
9/14	3	1,747	5,386	362,852	91	3.1	19
9/15	8	3,436	10,426	373,278	212	3.0	16
Total	435	124,485	373,278	373,278	14,196	3.0	9

Note: The fishery closed by emergency order on 9/14/13 at 6:00 PM and the last delivery was made on 9/15/13.

Table 2.-Historical summer commercial red king crab annual harvest, Norton Sound Section, Eastern Bering Sea, 1977-2013.

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
2013	33	33	435	124,485	373,278	18,585	1,420	15,058	9	8	68	3.0	120

^a Deadloss included in total.

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

^c Data not available.

^d No summer commercial fishery.

Table 3.-Historical summer commercial red king crab fishery economic performance, Norton Sound Section, Eastern Bering Sea, 1977–2013.

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				
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

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Year	Guideline	Legal Male Pop. Est. (lbs) ^b	Commercial		Exvessel Price/lb	Fishery Value (millions \$)	Season Length		
	Harvest Level (lbs) ^b		Harvest (lbs) ^{a,b}				Days	Dates	
			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
2013	0.50	4.1	0.37	0.02	5.63	2.165	74	7/03-09/14	^u

^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.

^u Both CDQ and OA opened 7/3 to the end date.

Table 4.-Daily catch based on fish ticket data for the CDQ summer commercial king crab harvest, Norton Sound Section, Eastern Bering Sea, July 3–September 14, 2013.

Date	Landings	Number Crab	Crab Harvested (lbs)	Cumulative Total (lbs)	Number Pots Pulled	Average Weight (lbs)	CPUE
7/16	1	734	2,266	2,266	40	3.1	18
7/18	1	272	799	3,065	40	2.9	7
7/20	1	126	373	3,438	40	3.0	3
7/23	1	318	929	4,367	40	2.9	8
7/25	1	123	362	4,729	40	2.9	3
7/26	1	289	774	5,503	40	2.7	7
7/28	1	326	973	6,476	40	3.0	8
7/31	1	323	957	7,433	40	3.0	8
8/07	1	465	1,336	8,769	40	2.9	12
8/08	1	186	550	9,319	40	3.0	5
8/09	1	284	852	10,171	40	3.0	7
8/12	1	204	639	10,810	40	3.1	5
8/14	1	100	289	11,099	40	2.9	3
8/19	1	138	423	11,522	40	3.1	3
8/21	1	15	45	11,567	20	3.0	1
8/25	2	226	647	12,214	63	2.9	4
8/29	1	28	75	12,289	17	2.7	2
9/01	1	83	259	12,548	26	3.1	3
9/04	1	512	1,744	14,292	39	3.4	13
9/05	1	47	158	14,450	15	3.4	3
9/07	1	258	795	15,245	39	3.1	7
9/09	1	323	1,049	16,294	42	3.2	8
9/13	1	606	1,874	18,168	31	3.1	20
9/15	1	132	417	18,585	10	3.2	13
Total	25	6,118	18,585	18,585	862	3.0	7

Note: The CDQ fishery closed by emergency order on 9/14/13, and the last delivery was made on 9/15/13.

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, July 3–September 14, 2013.

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
616401	2,654	7,729	174	15	2.91	1.2%	2.0%
626331	230	686	58	4	2.98	0.4%	0.2%
626401	12,260	36,802	2,117	6	3.00	14.1%	9.4%
636330	4,129	12,035	492	8	2.91	3.3%	3.1%
636401	11,486	34,027	1,912	6	2.96	12.7%	8.7%
646330	1,446	4,195	173	8	2.90	1.1%	1.1%
646401	19,767	59,737	1,469	13	3.02	9.8%	15.2%
646402	1,803	5,271	148	12	2.92	1.0%	1.3%
656330	2,770	8,515	324	9	3.07	2.2%	2.2%
656401	49,031	147,569	5,696	9	3.01	37.8%	37.7%
656402	12,623	37,743	1,404	9	2.99	9.3%	9.6%
666401	10,938	33,469	918	12	3.06	6.1%	8.5%
666402	470	1,419	93	5	3.02	0.6%	0.4%
666431	996	2,669	80	12	2.68	0.5%	0.7%
Total	130,603	391,863	15,058	9	3.00	100.0%	100.0%

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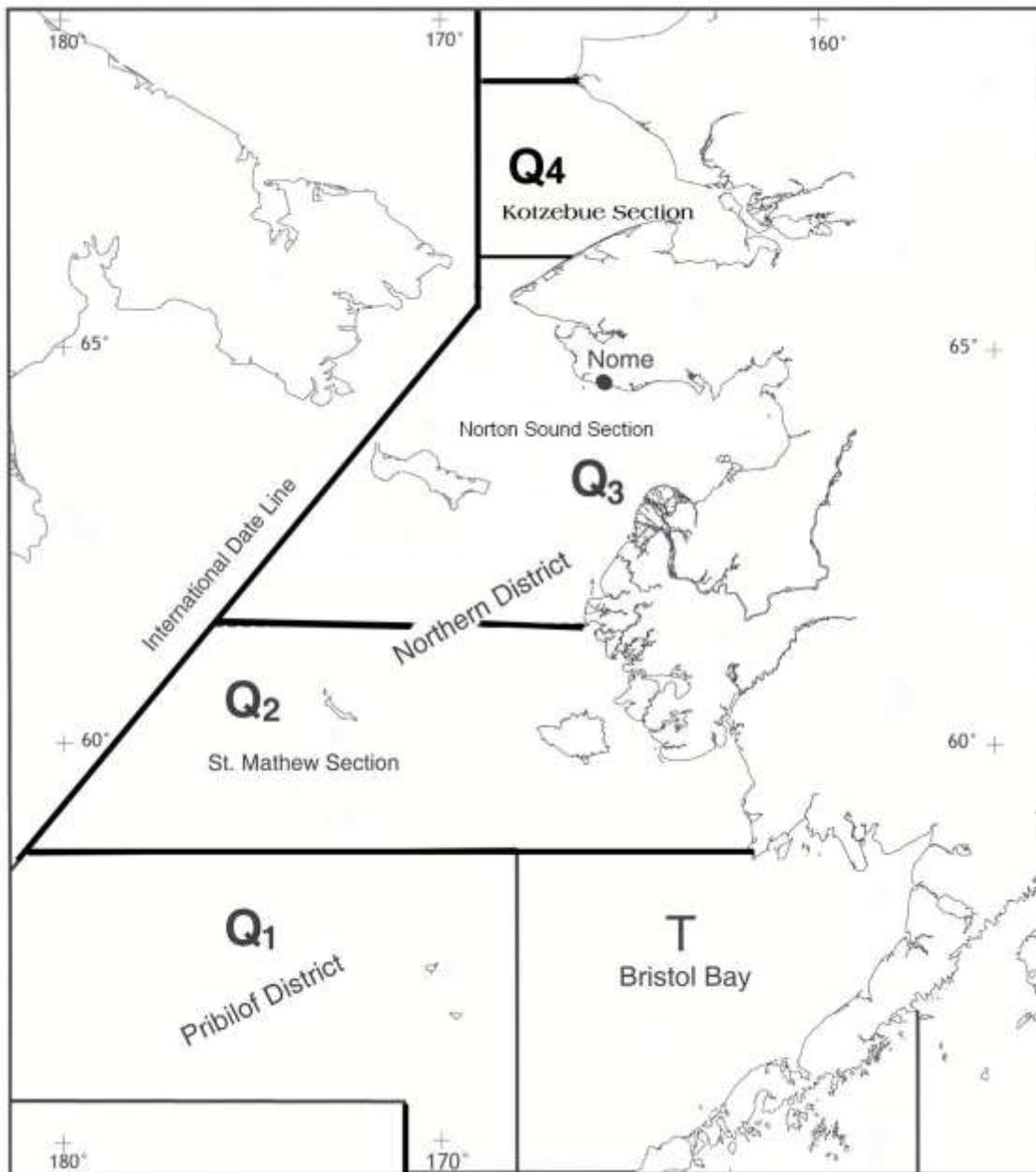


Figure 1.—King crab fishing districts and sections of Statistical Area Q.

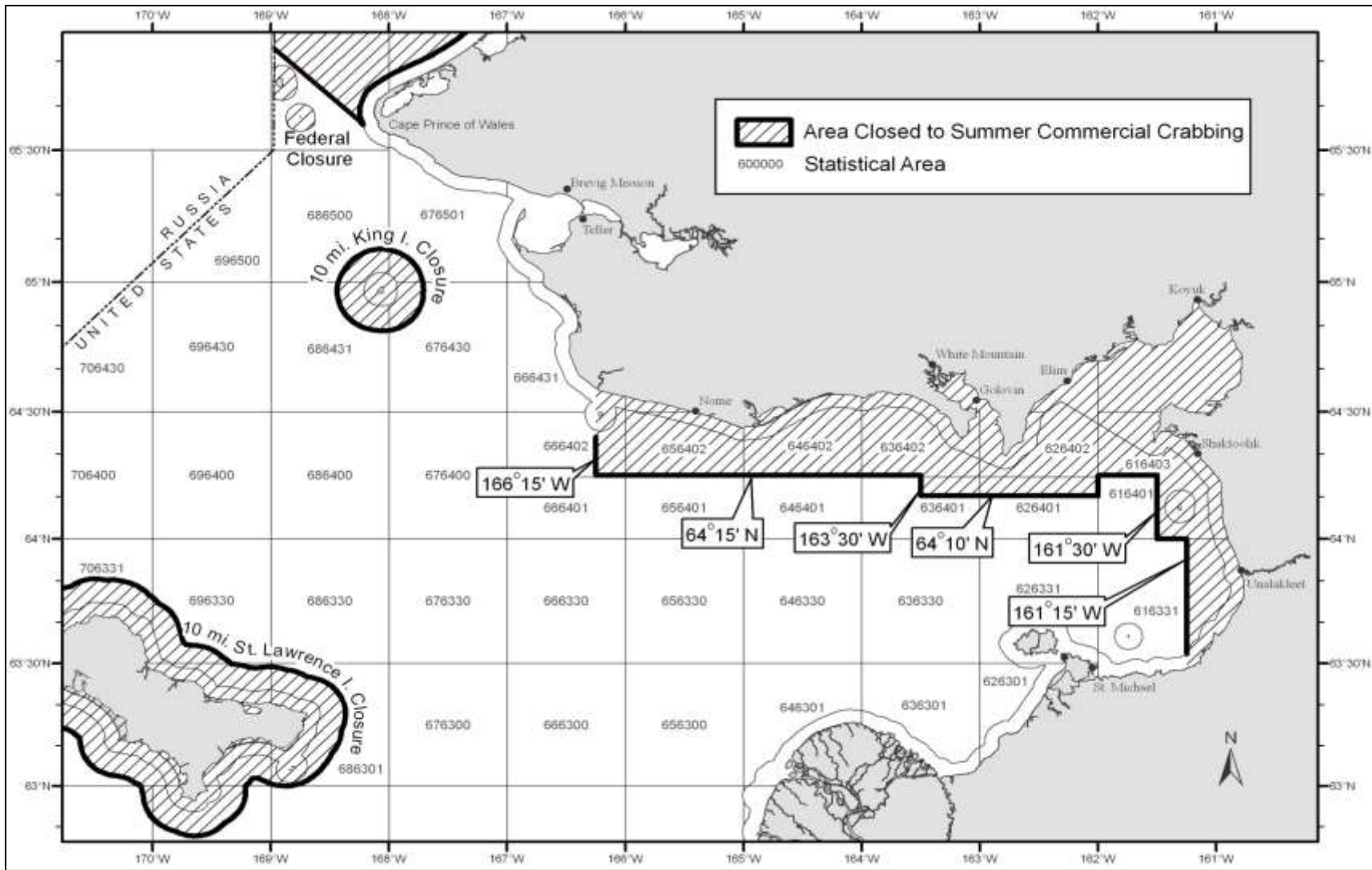


Figure 2.-Closed-waters area in effect for the Norton Sound summer commercial crab fishery.

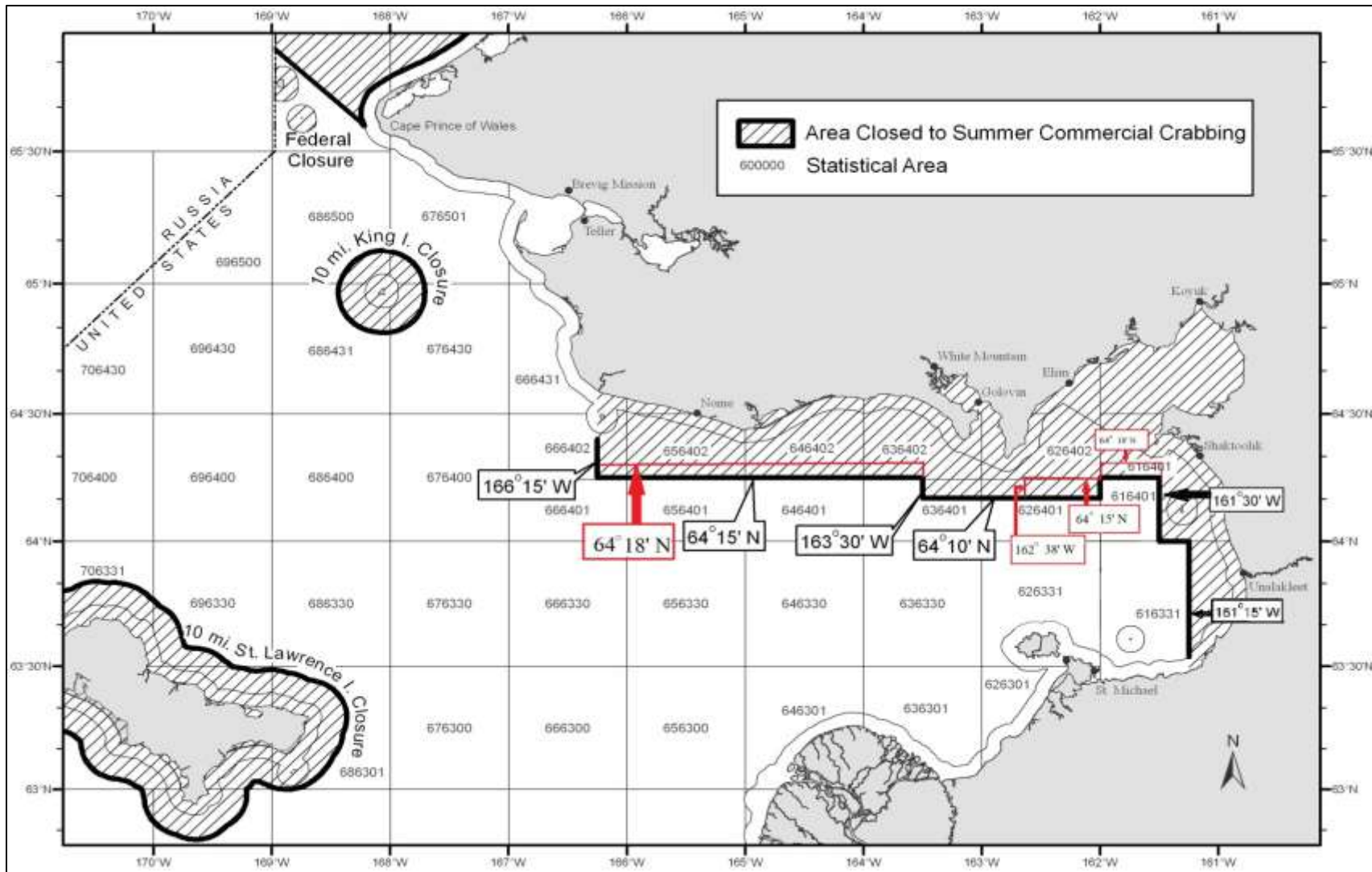
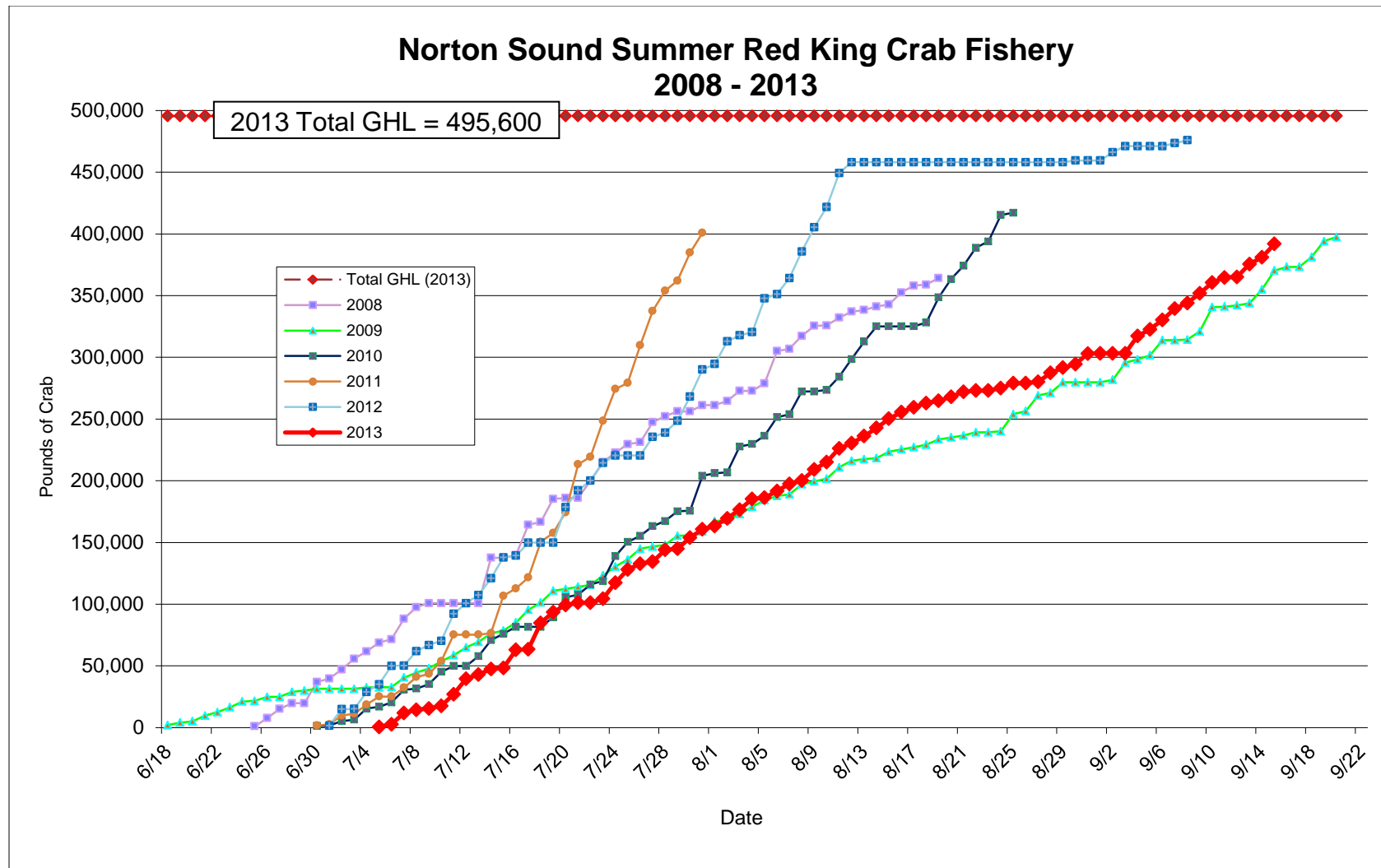


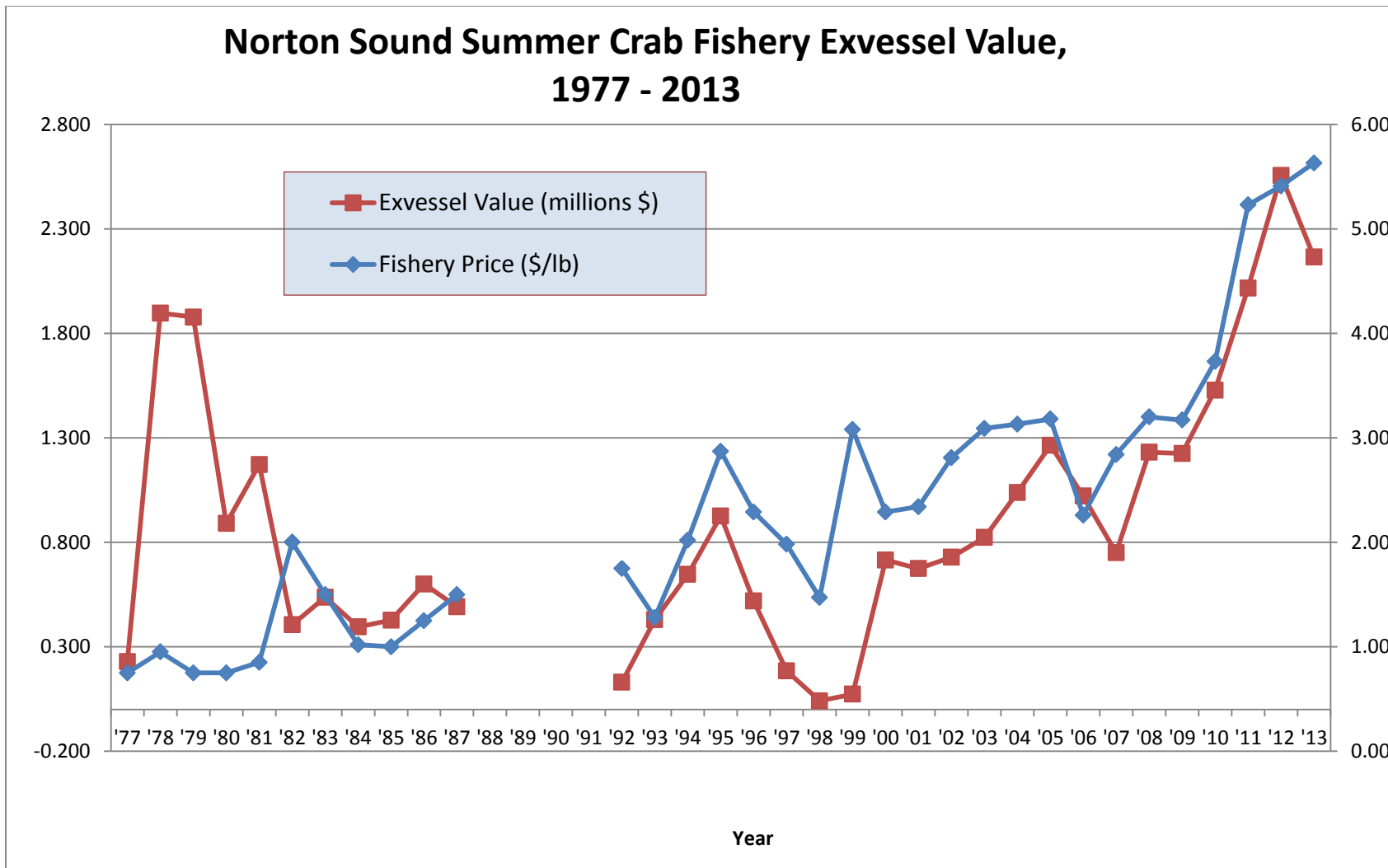
Figure 3.-Changes in closed water boundary lines in effect for the 2013 Norton Sound summer commercial crab fishery.



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 4.- Current and historical catch performance for the Norton Sound summer commercial crab fishery, 2008-2013.

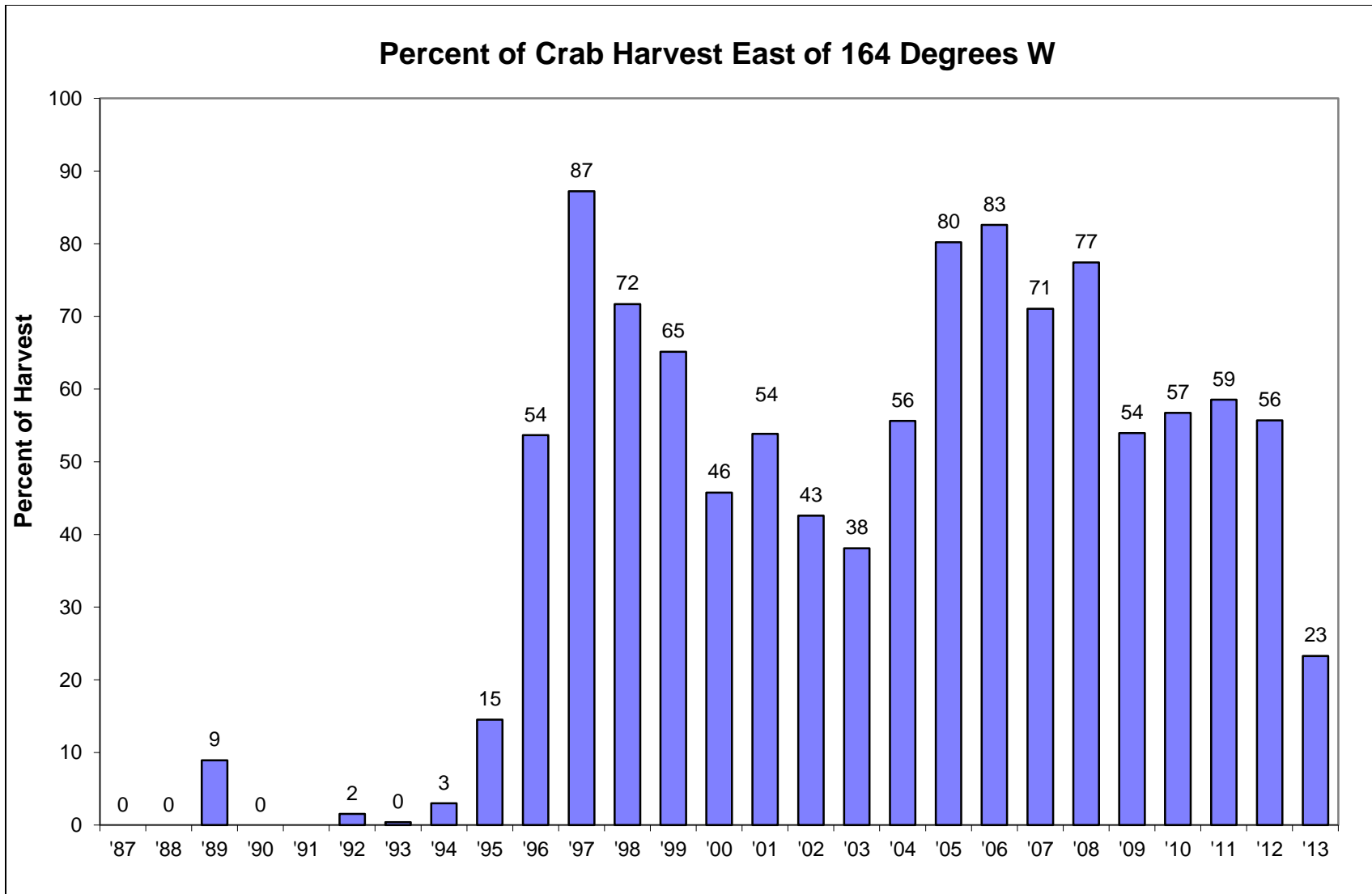
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Notes: Pricing information was not available for 1988-1990. No summer commercial fishery occurred in 1991.

Figure 5.- Norton Sound crab exvessel value and fishery price per pound, 1977-2013.

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Note: No summer commercial fishery occurred in 1991.

Figure 6. -The percent of crab harvested during the Norton Sound summer commercial red king crab fishery east of 164 degrees west longitude, 1987-2013.

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, 1977-2013 (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	2013	Totals
616331			2,357		5,658	888					26,186
616401				231	416	6,170				7,729	6,852
626331			1,415	27,018	3,235	3,047		2,489		686	79,762
626401	23,113	94,130	118,202	61,704	96,327	103,043	52,054	85,271	115,524	36,802	1,012,754
626402											40,347
636330		126	26,680	10,253	2,350	5,026	2,584		1,454	12,035	61,573
636401	166,489	227,204	224,531	123,092	197,948	96,279	182,040	146,973	148,183	34,027	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	4,195	40,563
646401	1,964	149	1,660		18,728	46,264	77,437	83,099	98,811	59,737	682,705
646402										5,271	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	8,515	1,287,228
656401	21,579	9,405	28,434	70,065	68,968	107,557	82,747	77,149	85,920	147,569	2,518,544
656402		380	807	2,254						37,743	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	33,469	2,852,342
666402	23,344	16,025	1,050	2,959		6,228	1,577	2,271		1,419	1,395,063
666431										2,669	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	391,863	17,137,511

Note: No summer commercial fishery occurred in 1991.

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