

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



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2010 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 pounds. The summer commercial season may only open if the population of legal crab exceeds 1.5 million pounds. If the legal biomass is 1.5 to 2.5 million pounds the harvest rate will not exceed five percent, so that the stock may rebuild. If the legal biomass is 2.5 million pounds or more, the harvest rate will be no more than 10 percent. 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.

At a special BOF meeting on May 3, 2006, Norton Sound Section (Q 3) was expanded to include all waters north of the latitude of Cape Romanzof (6149' N lat), south of latitude 66° N, and east of the International Dateline (Figure 1). Previously the boundaries had been south of the latitude of Cape Prince of Wales (65° 49' N lat) and east of 168° W longitude.

At the March 2008 meeting, BOF changed the start date of the open access fishery. Previously, the open access fishery started on July 1, but the 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 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 was that 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 ADF&G length-based population model estimated legal male crab abundance for the 2010 summer commercial crab fishery at 4.45 million pounds (1.69 million crabs). This is up 16% from the revised 2009 model abundance estimate of 3.84 million pounds (1.49 million crabs) for legal male crabs. The model revised the 2009 estimate from 3.75 million pounds (1.34 million crabs) to 3.84 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 2008 trawl survey (Appendix A1), the latest summer and winter fisheries data, and historical data going back to 1976 that include pot and trawl surveys and summer and winter fisheries results.

A 9% exploitation rate on the legal population \geq 4.75-inch (121-mm) carapace width equates to a guideline harvest level (GHL) of 400,000 pounds of crab. This follows the harvest strategy set by the BOF. By regulation, the CDQ fishery is allocated 7.5% of the GHL; therefore, the CDQ harvest quota was set at 30,000 pounds preseason.

HARVEST SUMMARY

Open Access Fishery

The 2010 summer open access commercial crab fishery was opened by emergency order at 12:00 noon, July 1 in the Norton Sound Section, with a GHL of 370,000 pounds of crab. Two companies, Norton Sound Seafood Products (NSSP) and Aquatech, were registered to buy crab, and six fishermen registered to sell crab dockside as catcher-sellers. 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 four catcher-sellers sold crabs directly to local residents.

First open-access delivery was made on July 4 and final delivery was made August 25, the day after the open access portion of the fishery was closed by emergency order at 12:00 noon, for a total season length of 58 days compared to 98 days in 2009. In 2010, 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 139,014 red king crabs or 387,304 pounds (105% of the open-access quota) (Table 1). Of the 2010 total, 208 pounds were reported as deadloss, and 6,376 pounds reported as personal use. A total of 23 vessels and 25 permit holders made 256 landings (Table 2). The average weight for commercially caught crab was 2.8 pounds, same as in 2009. Number of pots registered was 1,040 (number of vessels registered was 26) and there were 8,617 pot pulls throughout the fishery, with CPUE of 16 crabs. In 2010, the catch rate was much higher than in 2009, and more closely resembled catch rates from the three years prior to 2009 (Figure 3). The average price paid (including CDQ catch) was \$3.73 per pound, the highest paid ever (Table 3). The exvessel value of the fishery (including CDQ) was \$1,527,971, the highest since 1994 when Norton Sound was designated a super-exclusive area, which effectively changed the character of the fishery from a large vessel to a small vessel 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 2010, as in the previous four years, Yukon Delta transferred their quota to Norton Sound; therefore, all fishermen operated under authority of the Norton Sound CDQ group.

For the first time, the CDQ fishery opened concurrently with the open-access fishery in 2009. In 2010, neither buyer was ready to purchase open access crab by the end of June; therefore, similar to years prior to 2009, the CDQ fishery was opened first, on June 28. The initial CDQ delivery was made on June 30 and the last delivery was made July 16, when 100% of the CDQ allocation, 30,000 pounds of crab, had been harvested, for a total length of 17 days (Table 4). Nine permit-holders were registered to fish CDQ but only seven actually fished, making a total of 30 landings and 1,081 pots lifts. Average price paid to fishermen was \$3.77 per pound, for an exvessel value of \$110,808 for the CDQ fishery. This was the tenth year a CDQ harvest occurred since the CDQ fishery was implemented in 1998, and the seventh year the fishery harvested or nearly harvested the entire allocation.

Fish ticket reports document that 8 statistical areas were fished in the 2010 open access and CDQ fisheries (Table 5, Figure 2), compared to 13 areas in 2009, when the crabbers moved around a lot more as they searched for crab. Similar to years prior to 2009, the majority of the harvest came from statistical area 636401 (44%). Significant harvests also came from 3 other areas: 656401 (20%), 646401 (19%), and 626401 (12%), all of which are directly south of the closed boundary

line (Figure 2, Appendix A2). The catch from statistical areas east of 164°W longitude made up 51% of the harvest, similar to 54% last year (Figure 5).

Harvest Sampling

Carapace length measurements and shell age were collected from 5,902 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 86% of the total legal crabs sampled, and old-shell crabs made up 14%. 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 49% of the legal crabs sampled and postrecruit crabs made up 51%, a more even split than the previous five years (Table 2). Overall mean carapace length of legal male crabs was 116 mm, same as in 2009.

Since the summer of 2002, Norton Sound Economic Development Corporation has operated a seafood processing plant in Nome. In 2010, 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, July 1–August 24, 2010.

| Date | Landings | Number of Crabs | Lbs of Crabs Harvested | Cumulative Lbs | No. of Pots Pulled | Average Weight (lbs) | Daily CPUE |
|--------|----------|-----------------|------------------------|----------------|--------------------|----------------------|------------|
| 7/04 | 2 | 364 | 979 | 979 | 59 | 2.7 | 6 |
| 7/06 | 3 | 1,355 | 3,531 | 4,510 | 107 | 2.6 | 13 |
| 7/07 | 4 | 1,881 | 5,187 | 9,697 | 158 | 2.8 | 12 |
| 7/09 | 2 | 831 | 2,329 | 12,026 | 78 | 2.8 | 11 |
| 7/10 | 6 | 3,766 | 10,063 | 22,089 | 214 | 2.7 | 18 |
| 7/11 | 3 | 994 | 2,886 | 24,975 | 82 | 2.9 | 12 |
| 7/13 | 6 | 2,527 | 6,791 | 31,766 | 202 | 2.7 | 13 |
| 7/14 | 7 | 4,051 | 10,958 | 42,724 | 232 | 2.7 | 17 |
| 7/15 | 3 | 1,203 | 3,340 | 46,064 | 79 | 2.8 | 15 |
| 7/16 | 4 | 2,052 | 5,514 | 51,578 | 118 | 2.7 | 17 |
| 7/19 | 7 | 2,746 | 7,693 | 59,271 | 212 | 2.8 | 13 |
| 7/20 | 10 | 6,008 | 16,323 | 75,594 | 327 | 2.7 | 18 |
| 7/21 | 2 | 748 | 2,083 | 77,677 | 60 | 2.8 | 12 |
| 7/22 | 6 | 3,027 | 8,289 | 85,966 | 213 | 2.7 | 14 |
| 7/23 | 2 | 962 | 2,700 | 88,666 | 80 | 2.8 | 12 |
| 7/24 | 12 | 7,420 | 20,276 | 108,942 | 397 | 2.7 | 19 |
| 7/25 | 8 | 4,092 | 11,454 | 120,396 | 226 | 2.8 | 18 |
| 7/26 | 3 | 1,847 | 5,082 | 125,478 | 117 | 2.8 | 16 |
| 7/27 | 6 | 2,869 | 7,752 | 133,230 | 142 | 2.7 | 20 |
| 7/28 | 2 | 1,486 | 4,118 | 137,348 | 78 | 2.8 | 19 |
| 7/29 | 8 | 2,897 | 7,998 | 145,346 | 317 | 2.8 | 9 |
| 7/30 | 1 | 129 | 357 | 145,703 | 5 | 2.8 | 26 |
| 7/31 | 13 | 10,089 | 28,420 | 174,123 | 522 | 2.8 | 19 |
| 8/01 | 3 | 740 | 2,080 | 176,203 | 71 | 2.8 | 10 |
| 8/02 | 1 | 247 | 706 | 176,909 | 40 | 2.9 | 6 |
| 8/03 | 13 | 7,570 | 20,928 | 197,837 | 426 | 2.8 | 18 |
| 8/04 | 2 | 739 | 2,090 | 199,927 | 60 | 2.8 | 12 |
| 8/05 | 5 | 2,336 | 6,647 | 206,574 | 198 | 2.8 | 12 |
| 8/06 | 9 | 5,362 | 15,060 | 221,634 | 313 | 2.8 | 17 |
| 8/07 | 2 | 904 | 2,396 | 224,030 | 79 | 2.7 | 11 |
| 8/08 | 11 | 6,492 | 18,449 | 242,479 | 387 | 2.8 | 17 |
| 8/10 | 2 | 447 | 1,240 | 243,719 | 40 | 2.8 | 11 |
| 8/11 | 6 | 3,888 | 10,692 | 254,411 | 226 | 2.8 | 17 |
| 8/12 | 6 | 5,066 | 14,226 | 268,637 | 229 | 2.8 | 22 |
| 8/13 | 9 | 5,029 | 14,273 | 282,910 | 350 | 2.8 | 14 |
| 8/14 | 7 | 4,458 | 12,317 | 295,227 | 259 | 2.8 | 17 |
| 8/18 | 2 | 1,104 | 3,127 | 298,354 | 56 | 2.8 | 20 |
| 8/19 | 9 | 7,006 | 20,372 | 318,726 | 359 | 2.9 | 20 |
| 8/20 | 11 | 5,281 | 14,836 | 333,562 | 367 | 2.8 | 14 |
| 8/21 | 5 | 3,739 | 10,820 | 344,382 | 137 | 2.9 | 27 |
| 8/22 | 13 | 5,102 | 14,615 | 358,997 | 421 | 2.9 | 12 |
| 8/23 | 5 | 1,793 | 5,079 | 364,076 | 134 | 2.8 | 13 |
| 8/24 | 14 | 7,722 | 21,503 | 385,579 | 400 | 2.8 | 19 |
| 8/25 | 1 | 645 | 1,725 | 387,304 | 40 | 2.7 | 16 |
| Totals | 256 | 139,014 | 387,304 | | 8,617 | 2.8 | 16 |

Note: The fishery closed by EO on 8/24/10 at noon and the last delivery was made on 8/25/10.

Table 2.—Historical summer commercial red king crab annual harvest, Norton Sound Section, Eastern Bering Sea, 1977–2010.

| Year | Number of | Number of | Number of | Number of | Harvest (lbs) ^a | | Number of Pots | | CPUE | Percent | Percent | Average | Avg. Legal Mean |
|-------------------|-----------|-----------|--------------|-----------|----------------------------|------------------|----------------|------------|---------|--------------|--------------|--------------|-----------------|
| | Vessels | Permits | Landings | Crabs | Open Access | CDQ ^b | Registered | Pulls | | Old Shell | Postrecruits | Weight (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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Table 2.–Page 2 of 2.

| Year | Number of | Number of | Number of | Number of | Harvest (lbs) ^a | | Number of Pots | | CPUE | Percent | Percent | Average | Avg. Legal Mean |
|------|-----------|-----------|-----------|-----------|----------------------------|------------------|----------------|--------|------|-----------|--------------|--------------|-----------------|
| | Vessels | Permits | Landings | Crabs | Open Access | CDQ ^b | Registered | Pulls | | Old Shell | Postrecruits | Weight (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 |

^a Deadloss included in total.

^c Data not available.

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

^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, 1977–2010.

| Year | Guideline | Legal Male Pop. Est. (lbs) ^b | Commercial Harvest (lbs) ^{a,b} | | Exvessel Price/lb | Fishery Value (millions \$) | Season Length | |
|------|-------------------------------------|--|--|-----|------------------------------|--------------------------------|---------------|-------------------------|
| | Harvest Level (lbs) ^b | | Open Access | CDQ | | | Days | Dates |
| 1977 | ^c | 1.7 | 0.52 | | 0.75 | 0.229 | 60 | ^c |
| 1978 | 3.00 | 1.7 | 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 | 1.3 | 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 | 0.9 | 0.37 | | 1.50 | 0.537 | 4 | 8/01-08/05 |
| 1984 | 0.40 | 0.9 | 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 | 1.1 | 0.48 | | 1.25 | 0.600 | 13 | 8/01-08/25 ^d |
| 1987 | 0.40 | 1.1 | 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 | 1.0 | 0.25 | | 3.00 | 0.739 | 3 | 8/01-08/04 |
| 1990 | 0.20 | 1.0 | 0.19 | | ^c | ^c | 4 | 8/01-08/05 |
| 1991 | 0.34 | 1.3 | | | No Summer Commercial Fishery | | | |
| 1992 | 0.34 | 1.3 | 0.07 | | 1.75 | 0.130 | 2 | 8/01-08/03 |
| 1993 | 0.34 | 1.3 | 0.33 | | 1.28 | 0.430 | 52 | 7/01-08/28 ^e |
| 1994 | 0.34 | 1.3 | 0.32 | | 2.02 | 0.646 | 31 | 7/01-07/31 |
| 1995 | 0.34 | 1.3 | 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 | 0.5 | 0.09 | | 1.98 | 0.184 | 44 | 7/01-08/13 ^g |
| 1998 | 0.08 | 0.5 | 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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Table 3.–Page 2 of 2.

| Year | Guideline | Legal Male Pop. Est. (lbs) ^b | Commercial Harvest (lbs) ^{a,b} | | Exvessel Price/lb | Fishery Value (millions \$) | Season Length | |
|------|-------------------------------------|--|--|------|----------------------|--------------------------------|---------------|--------------------------|
| | Harvest Level (lbs) ^b | | Open Access | CDQ | | | Days | Dates |
| 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 |

^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 fishers' 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.

Table 4.—Daily catch based on fish ticket data for the CDQ summer commercial king crab harvest, Norton Sound Section, Eastern Bering Sea, June28–July 16, 2010.

| Date | Landings | Number of Crab | Lbs of Crab Harvested | Cumulative Total (lbs) | No. of Pots Pulled | Average Weight (lbs) | CPUE |
|-------|----------|----------------|-----------------------|------------------------|--------------------|----------------------|------|
| 6/30 | 3 | 444 | 1,246 | 1,246 | 90 | 2.8 | 5 |
| 7/01 | 1 | 94 | 263 | 1,509 | 31 | 2.8 | 3 |
| 7/02 | 5 | 1,326 | 3,806 | 5,315 | 200 | 2.9 | 7 |
| 7/03 | 1 | 380 | 1,072 | 6,387 | 40 | 2.8 | 10 |
| 7/04 | 4 | 2,901 | 8,088 | 14,475 | 159 | 2.8 | 18 |
| 7/05 | 1 | 503 | 1,382 | 15,857 | 40 | 2.7 | 13 |
| 7/07 | 4 | 1,861 | 5,135 | 20,992 | 159 | 2.8 | 12 |
| 7/08 | 1 | 296 | 803 | 21,795 | 40 | 2.7 | 7 |
| 7/09 | 3 | 491 | 1,356 | 23,151 | 120 | 2.8 | 4 |
| 7/11 | 2 | 633 | 1,751 | 24,902 | 61 | 2.8 | 10 |
| 7/13 | 2 | 444 | 1,219 | 26,121 | 61 | 2.7 | 7 |
| 7/14 | 1 | 760 | 1,998 | 28,119 | 39 | 2.6 | 19 |
| 7/15 | 1 | 654 | 1,826 | 29,945 | 40 | 2.8 | 16 |
| 7/16 | 1 | 21 | 55 | 30,000 | 1 | 2.6 | 21 |
| Total | 30 | 10,808 | 30,000 | | 1,081 | 2.8 | 10 |

Note: The CDQ fishery closed by regulation 7/16/2010, and the last delivery was made on 7/16/2010.

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 28–August 24, 2010.

| Statistical Area | Number | Pounds | Pots Pulled | CPUE | Average Weight (Lbs.) | Percent of Pots Pulled in Stat. Area | Percent of Harvest in Stat. Area |
|------------------|---------|---------|-------------|------|-----------------------|--------------------------------------|----------------------------------|
| 626401 | 18,820 | 52,054 | 1,361 | 14 | 2.8 | 14.0% | 12.5% |
| 636330 | 921 | 2,584 | 99 | 9 | 2.8 | 1.0% | 0.6% |
| 636401 | 65,071 | 182,040 | 3,487 | 19 | 2.8 | 36.0% | 43.6% |
| 646330 | 453 | 1,205 | 50 | 9 | 2.7 | 0.5% | 0.3% |
| 646401 | 27,530 | 77,437 | 1,531 | 18 | 2.8 | 15.8% | 18.6% |
| 656330 | 6,372 | 17,660 | 441 | 14 | 2.8 | 4.5% | 4.2% |
| 656401 | 30,073 | 82,747 | 2,689 | 11 | 2.8 | 27.7% | 19.8% |
| 666402 | 582 | 1,577 | 40 | 15 | 2.7 | 0.4% | 0.4% |
| Total | 149,822 | 417,304 | 9,698 | 15 | 2.8 | 100.0% | 100.0% |

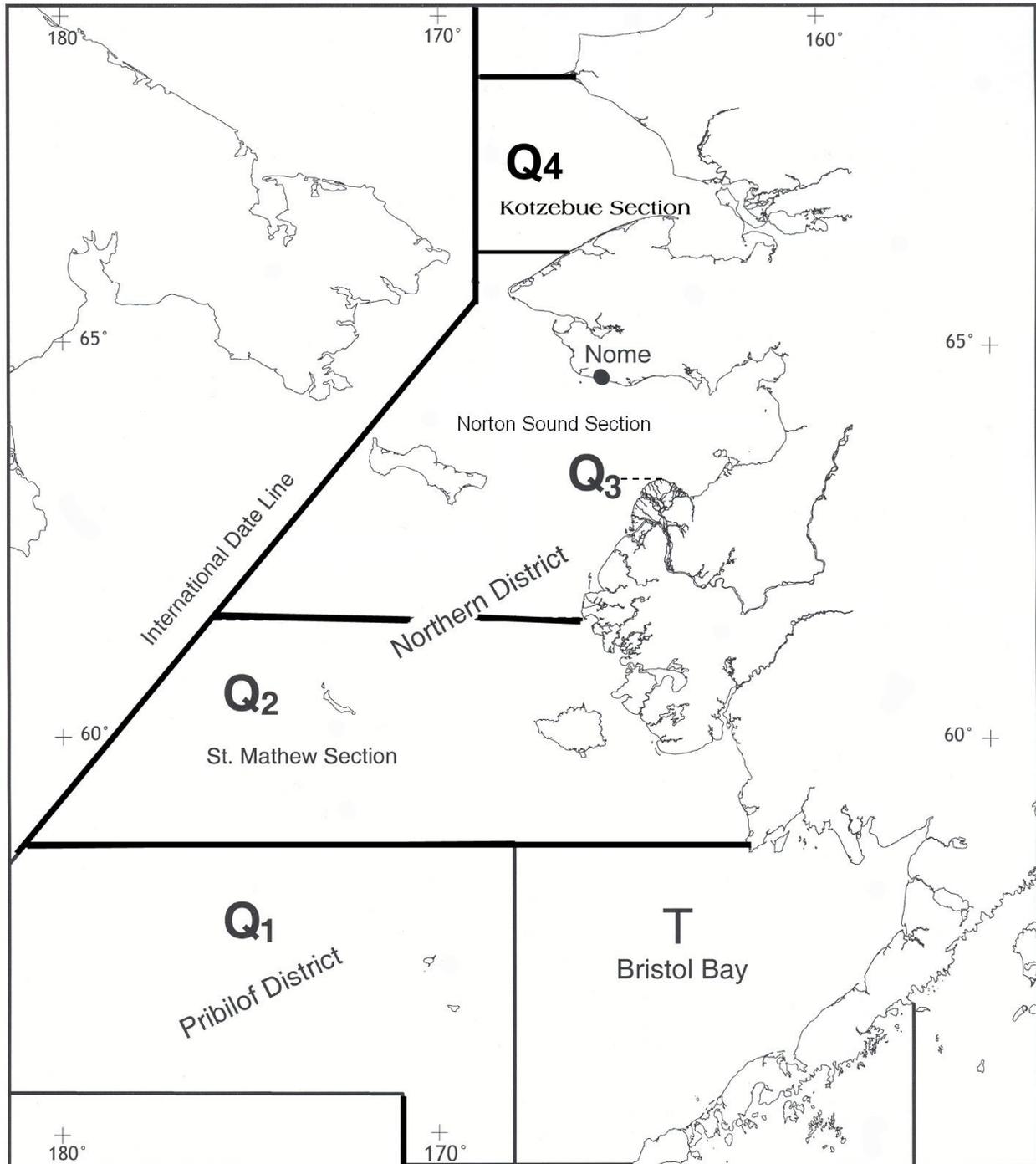


Figure 1.—King crab fishing districts and sections of Statistical Area Q.

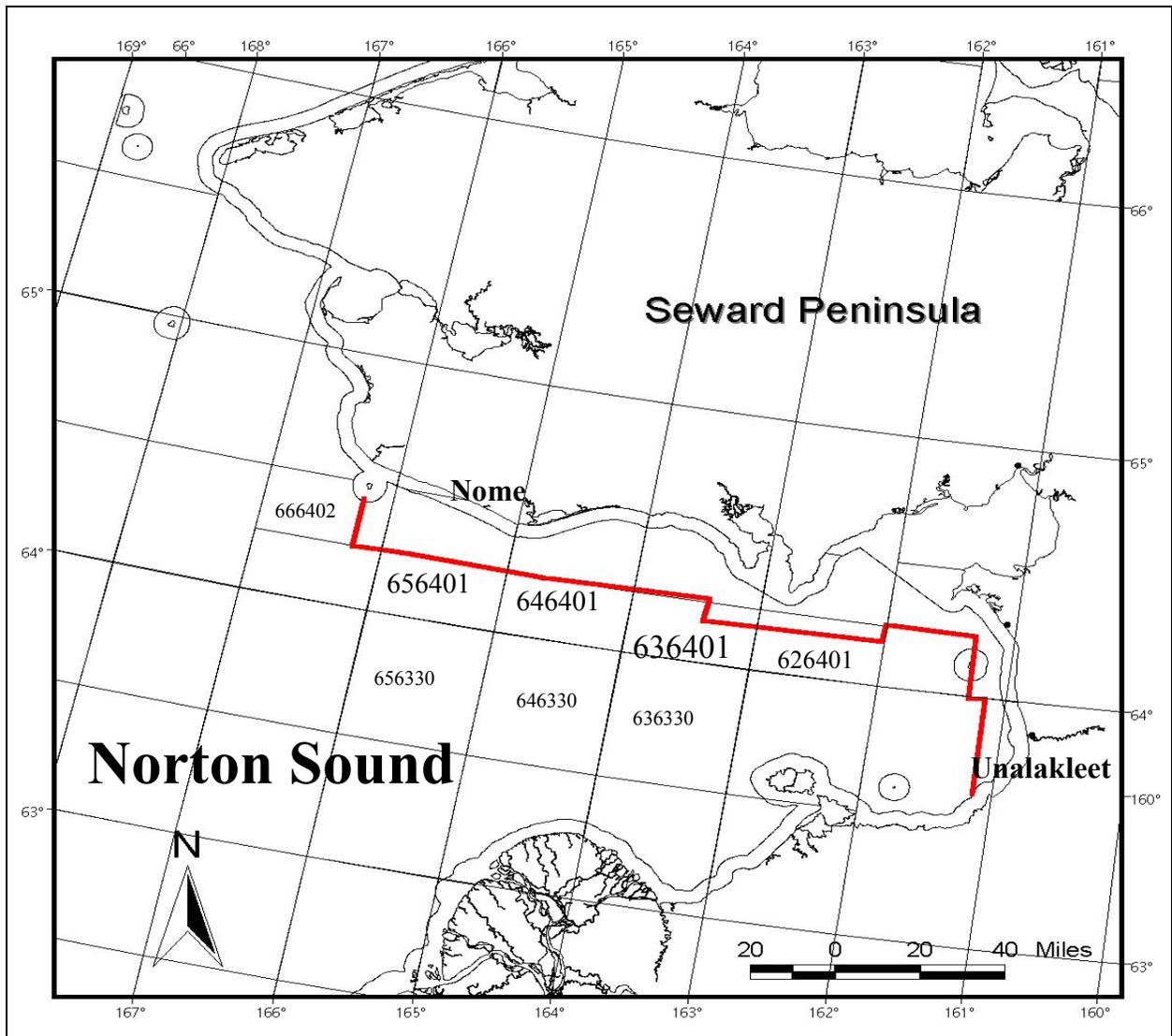
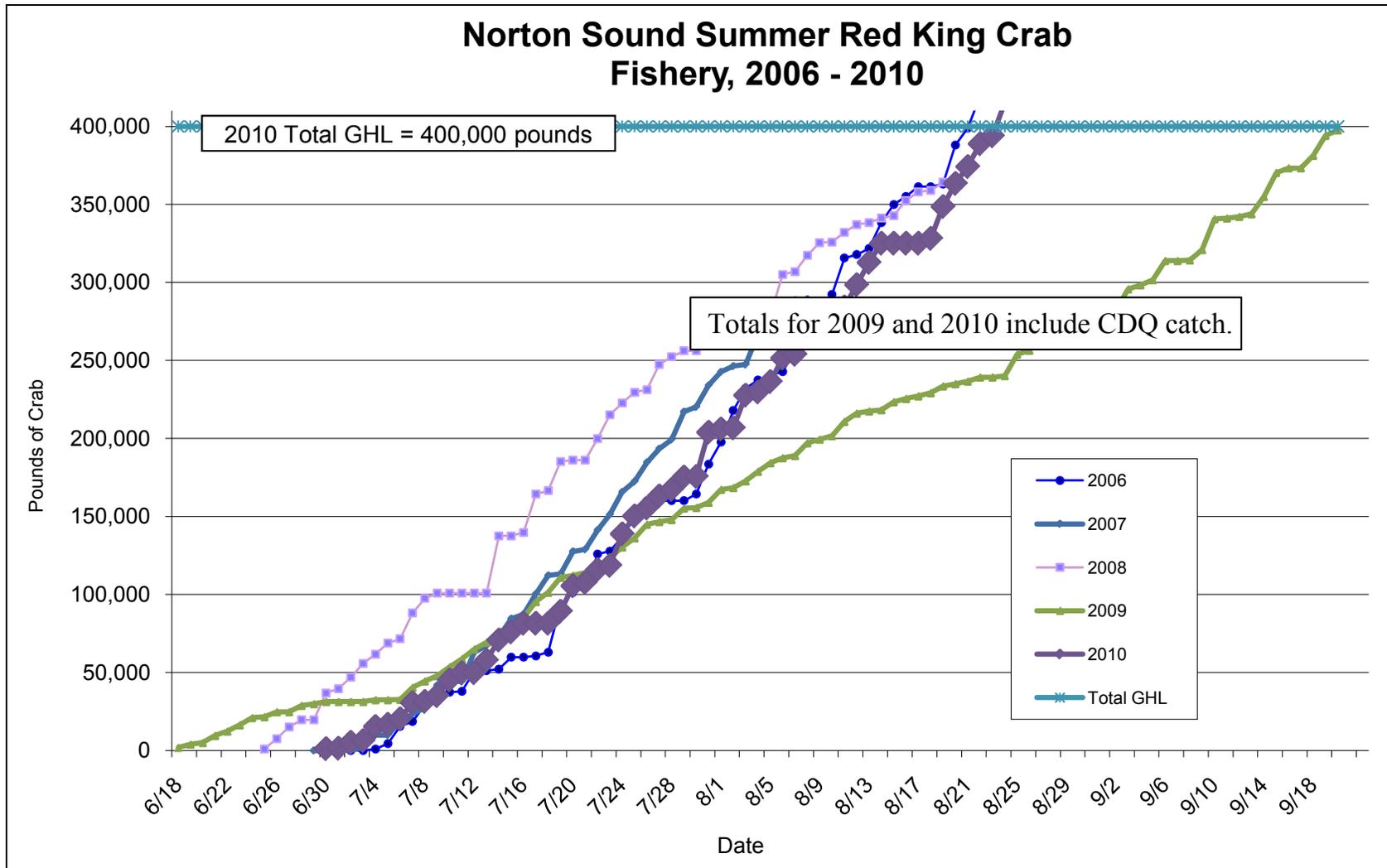


Figure 2.—Closed-waters area in effect for the Norton Sound summer commercial crab fishery and the eight statistical areas where fishing occurred in 2010.



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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, 2006–2010.

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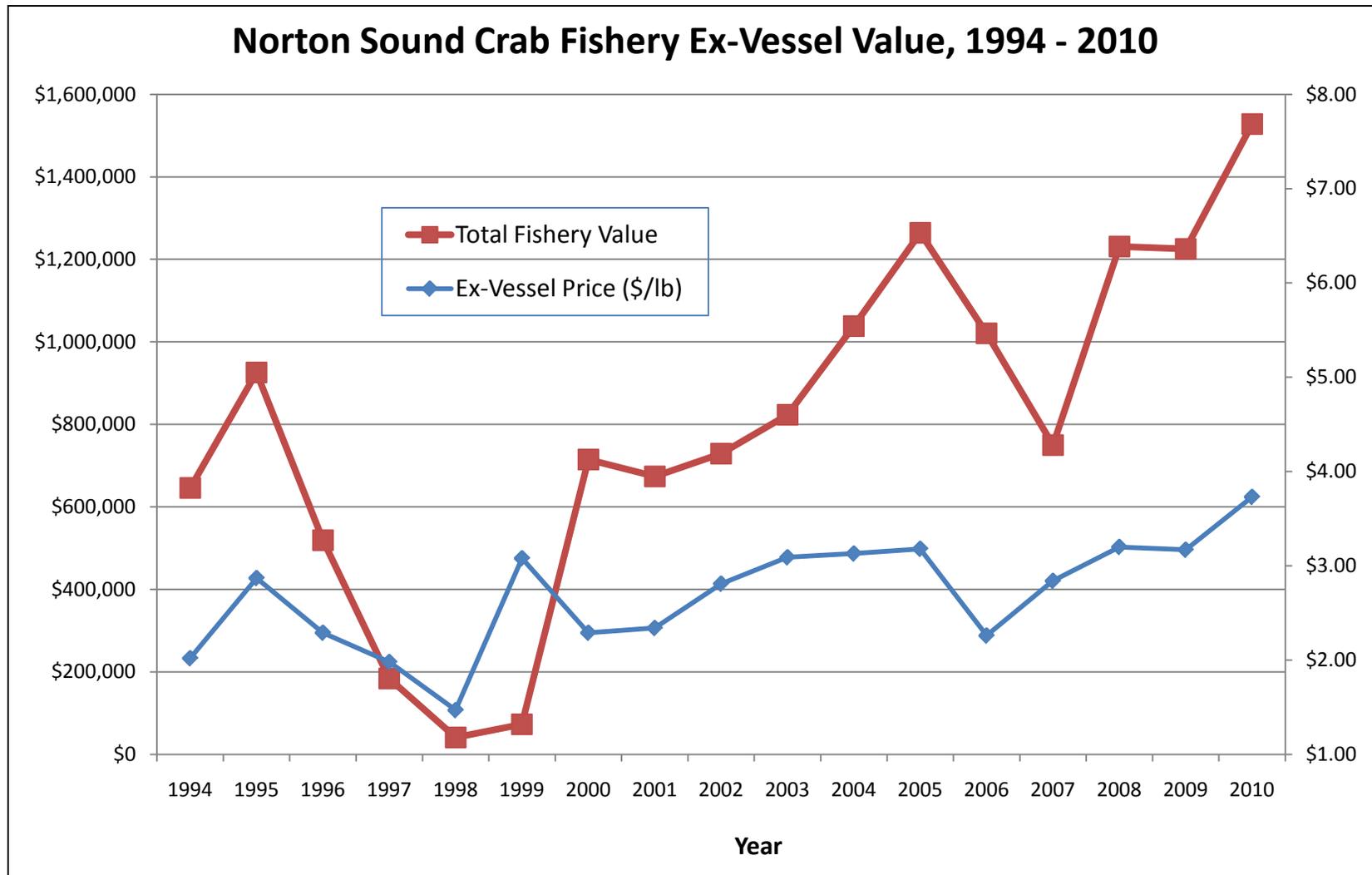


Figure 4.—Norton Sound crab fishery exvessel value and price per pound, 1994–2010.

Appendix A1.–Standardized results from population assessment surveys for red king crabs in Norton Sound, 1976–2008.

| Year | Dates | Research Agency | Gear | Number of Red King Crabs Captured ^{a, b} | | | | Population Abundance Estimates ^c | | | Standard Error | | |
|-------------------|-----------------------------|-----------------|-------|---|-------------|--------------------------|---------|---|-------------|-------------|----------------|-------------|-------------|
| | | | | Pre-2 Males | Pre-1 Males | Legal Males ^d | Females | Pre-2 Males | Pre-1 Males | Legal Males | Pre-2 Males | Pre-1 Males | Legal Males |
| 1976 | 9/02 - 9/05, 9/16 - 10/7 | NMFS | Trawl | 58(38) | 110(213) | 180(614) | 101(35) | 331,555 | 808,091 | 1,742,755 | 44,653 | 70,094 | 104,941 |
| 1979 ^e | 7/26 - 8/05 | NMFS | Trawl | | | 90(86) | N/A | | | 809,799 | | | 61,176 |
| 1980 ^f | 7/04 - 7/14 | ADF&G | Pots | | | 3,290 | 158 | | | 1,900,000 | | | |
| 1981 | 6/28 - 7/14 | ADF&G | Pots | | | 3,415 | 1,933 | | | 1,285,195 | | | |
| 1982 | 7/06 - 7/20 | ADF&G | Pots | | | 2,001 | 424 | | | 353,273 | | | |
| 1982 | 9/05 - 9/11 | NMFS | Trawl | 42 | 107 | 97 | 256 | 356,724 | 832,581 | 877,722 | 50,116 | 76,454 | 79,907 |
| 1985 | 7/01 - 7/14 | ADF&G | Pots | | | 4,645 | 181 | | | 907,579 | | | |
| 1985 | 9/16 - 10/01 | NMFS | Trawl | 63 | 94 | 139 | 139 | 466,858 | 707,140 | 1,051,857 | 58,598 | 71,999 | 87,931 |
| 1988 | 8/16 - 8/30 | NMFS | Trawl | 82(0) | 69(1) | 135(3) | 212(2) | 565,255 | 493,030 | 978,748 | 62,339 | 58,224 | 82,083 |
| 1991 | 8/22 - 8/30 | NMFS | Trawl | 39 | 42 | 166 | 105 | 294,801 | 303,682 | 1,287,486 | 46,648 | 46,960 | 98,101 |
| 1996 | 8/07 - 8/18 | ADF&G | Trawl | 39(36) | 32(17) | 53(14) | 98(70) | 452,580 | 325,699 | 536,235 | 52,324 | 47,338 | 69,647 |
| 1999 | 7/28 - 8/07 | ADF&G | Trawl | 9(3) | 64(38) | 103(63) | 64(18) | 103,832 | 940,198 | 1,594,341 | 40,841 | 120,449 | 129,864 |
| 2002 | 7/27 - 8/06 | ADF&G | Trawl | 34(18) | 42(23) | 61(29) | 116(35) | 427,703 | 518,638 | 771,569 | 73,494 | 80,741 | 85,303 |
| 2006 | 7/25 - 8/08 | ADF&G | Trawl | 77(3) | 37(16) | 51(18) | 66(1) | 775,076 | 569,833 | 726,251 | 91,812 | 82,883 | 92,590 |
| 2008 | 7/24 - 8/11 | ADF&G | Trawl | 51(18) | 46(19) | 53(15) | 90(2) | 795,777 | 697,442 | 811,727 | 100,778 | 91,542 | 103,155 |

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 A2.—Historical commercial harvest by statistical areas of red king crabs from Norton Sound Section, Eastern Bering Sea, 1977–2010 (catch in pounds).

| 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 |

-continued-

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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 | 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 | | 77,273 |
| 626401 | 23,113 | 94,130 | 118,202 | 61,704 | 96,327 | 103,043 | 52,054 | 811,959 |
| 626402 | | | | | | | | 40,347 |
| 636330 | | 126 | 26,680 | 10,253 | 2,350 | 5,026 | 2,584 | 60,119 |
| 636401 | 166,489 | 227,204 | 224,531 | 123,092 | 197,948 | 96,279 | 182,040 | 1,895,887 |
| 636402 | | | | | | | | 5,220 |
| 646301 | | | | | | | | 18,516 |
| 646330 | 2,226 | 4,097 | 2,629 | 5,290 | 1,505 | 933 | 1,205 | 39,358 |
| 646401 | 1,964 | 149 | 1,660 | | 18,728 | 46,264 | 77,437 | 500,795 |
| 646402 | | | | | | | | 292,779 |
| 656300 | 932 | | 284 | 1,909 | | | | 180,012 |
| 656330 | 46,288 | 47,411 | 17,752 | 4,911 | | 10,617 | 17,660 | 1,277,514 |
| 656401 | 21,579 | 9,405 | 28,434 | 70,065 | 68,968 | 107,557 | 82,747 | 2,355,476 |
| 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 | | 1,564,511 |
| 666401 | 42,452 | 727 | 600 | 2,498 | | 10,021 | | 2,836,616 |
| 666402 | 23,344 | 16,025 | 1,050 | 2,959 | | 6,228 | 1,577 | 1,392,792 |
| 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 | 16,260,681 |

Note: No summer commercial fishery occurred in 1991.

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