FEDERAL FISHERIES CLOSURE REVIEW
FCR27-08

Issue

Fisheries Closure Review FCR27-08 is a standard review of a Federal fishery closure to King Crab harvest by non-federally qualified users in the Kodiak and Afognak areas (**Figure 1**). It is the Federal Subsistence Board's (Board) policy that Federal public lands and waters should be reopened as soon as practicable once the conditions that originally justified the closure have changed to such an extent that the closure is no longer necessary. The purpose of this closure review is to determine if the closure is still warranted and to ensure the closure does not remain in place longer than necessary.

Closure Location and Species: Kodiak Area and Afognak Area – King Crab

Current Federal Regulation

§___.28(i)(4) Kodiak Area

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(iv) In the subsistence taking of King Crab:

(A) The annual limit is three crabs per household; only male king crab with shell width of 7 inches or greater may be taken or possessed

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(D) You may take king crab only from June 1 through January 31, except that the subsistence taking of king crab is prohibited in waters 25 fathoms or greater in depth during the period 14 days before and 14 days after State open commercial fishing seasons for red king crab, blue king crab, or Tanner crab in the location

(E) The waters of the Pacific Ocean enclosed by the boundaries of Womens Bay, Gibson Cove, and an area defined by a line 1/2 mile on either side of the mouth of the Karluk River, and extending seaward 3,000 feet, and all waters within 1,500 feet seaward of the shoreline of Afognak Island are closed to the harvest of King Crab except by federally qualified subsistence users.

Closure Dates: Year-round

Current State Regulation

Subsistence Regulations

5 AAC 02.005. Subsistence fishing permitted

Shellfish may be taken for subsistence purposes at any time in any area of the state by any method unless restricted by the subsistence fishing regulations in this chapter.

Kodiak Area

5 AAC 02.420. Subsistence King Crab fishery

(a) In the subsistence taking of King Crab,

(1) the annual limit is three King Crab for a household;

(2) all King Crab pots used for subsistence fishing and left in saltwater unattended longer than a two-week period shall have all bait and bait containers removed and all doors secured fully open;

(3) notwithstanding 5 AAC 02.010(i), no more than one King Crab pot per person or per vessel may be used to take King Crab; in addition to the marking requirements specified in 5 AAC 02.010(e), a King Crab pot must have "King Crab" legibly inscribed on the keg or buoy attached to the King Crab pot;

(4) King Crab may be taken only from June 1 through January 31, except that the subsistence taking of King Crab is prohibited in waters 25 fathoms or more in depth during the 14 days immediately before the opening of a commercial king or Tanner crab fishing season in the location;

(5) only male King Crab seven inches or greater in width of shell may be taken or possessed.

(b) In this section, "King Crab pot" is a pot that is no more than 10 feet long by 10 feet wide by 42 inches high with rigid tunnel eye openings that individually are no less than five inches in any one dimension, with tunnel eye opening perimeters that individually are more than 36 inches or a pot that is no more than 10 feet long by 10 feet wide by 42 inches high and that tapers inward from its base to a top consisting of one horizontal opening of any size.

Sport Regulations

Kodiak Area

5 AAC 64.022 Waters; seasons; bag, possession, annual, and size limits; and special provisions for the Kodiak Area

(a) Unless otherwise specified in this section, 5 AAC 64.051, or 5 AAC 64.060, or by an emergency order issued under AS 16.05.060, the following are the bag, possession, annual, and size limits, and special provisions for finfish and shellfish in the waters of the Kodiak Area:

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(10) King Crab: no open season; may not be retained or possessed;

Regulatory Year Initiated: 1995

Extent of Federal Public Waters

For the purposes of this discussion, the phrase "Federal public waters" is defined as those waters described under 36 CFR 242.3 and 43 CFR 51.3 The entirety of this closure area falls within the U.S. Fish and Wildlife managed waters of the Alaska maritime National Wildlife Refuge. This closure pertains specifically to waters of the Pacific Ocean enclosed by the boundaries of Women's Bay, Gibson Cove, and an area defined by a line 1⁄2 mile on either side of the mouth of the Karluk River, and extending seaward 3,000 feet, and all waters within 1,500 feet seaward of the shoreline of Afognak Island (**Figure 1**).

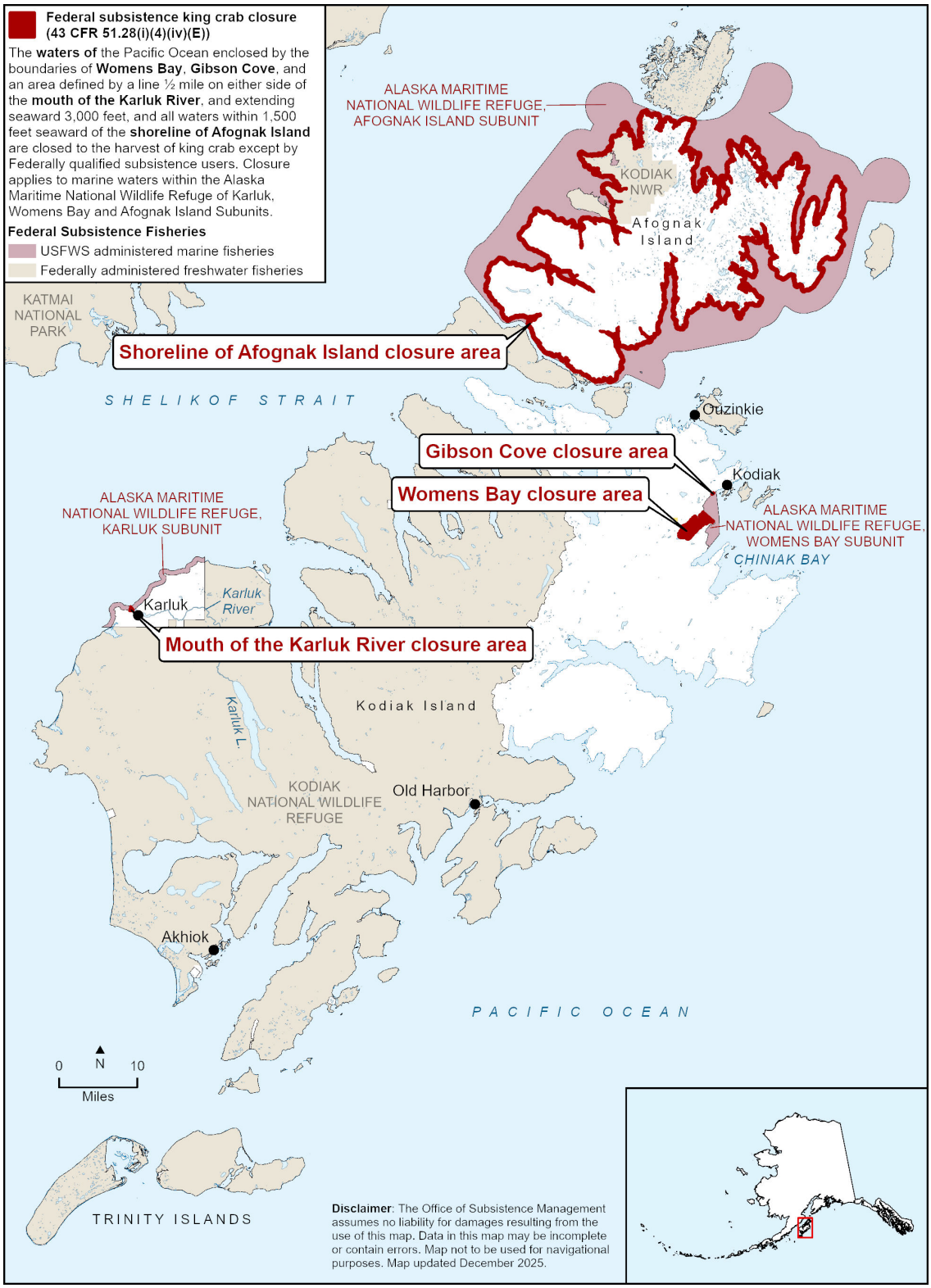

Figure 1. Womens Bay, Gibson Cove, ½ mile on either side of the mouth of the Karluk River and extending seaward 3,000 feet, and all waters within 1,500 feet seaward of the shoreline of Afognak Island are closed to the harvest of King Crab.

Customary and Traditional Use Determination

Residents of the Kodiak Island Borough, except those residing on the Kodiak Coast Guard Base, have a customary and traditional use determination for King Crab in the Kodiak Area, excluding Semidi Island, and the North and South Mainland sections.

Regulatory History

The Federal Subsistence Board (Board) closed the King Crab fishery to non-federally qualified subsistence users on November 14, 1994 (FSB 1994). The regulation was initially published in the Federal Register (60 FR 10317) in February 1995, and the final regulation was published in June 1995.

The initial closure was the result of Board deliberations on RFR94-03 submitted by the Alaska Department of Fish and Game (ADF&G), requesting that Federal subsistence harvests of Red King Crab be restricted to males with a shell size greater than or equal to seven inches. This would have aligned Federal regulations with existing State regulations. However, the Board instead closed Federal public waters to non-federally qualified users in accordance with the recommendation of the Interagency Staff Committee due to conservation concerns (FSB 1994).

In 2002, the Board acted on FP03-07, submitted by the Kodiak National Wildlife Refuge, which requested a decrease in the annual harvest limit from six to three male Red King Crab per household and adoption of a seven-inch shell width minimum size limit (FSB 2002). Following the recommendation of the Kodiak/Aleutians Subsistence Regional Advisory Council (Council), the Board adopted the minimum shell width requirement along with a gear reduction limit of one pot of any size but did not reduce the harvest limit. This action aligned Federal regulations for shell size and gear with State regulations, but it maintained the closure to non-federally qualified subsistence users and allowed a greater harvest limit for federally qualified subsistence users.

While the State has closed commercial fishing, it still allows subsistence fishing for Red King Crab in the Kodiak Area. However, in 1996, the Alaska Board of Fisheries (BOF) reduced the subsistence daily bag and possession limit for Red King Crab from six per person to three per household per year due to conservation concerns. The State has continued to oppose proposals seeking an increase in these harvest limits. For example, the 2005 BOF regulatory proposal 434, which sought to increase the subsistence annual household limit for Red King Crab in the Kodiak Area from three to ten, was opposed by the ADF&G (ADF&G 2005) and subsequently failed to pass at the BOF meeting for conservation concerns (ABF 2005).

The Board voted on February 1, 2023, to maintain status quo on the current King Crab closure (FCR23-21) in deference to the Council (FSB 2023). The Board acknowledged that the closure remained necessary due to conservation concerns and the continuance of subsistence uses.

Closure Last Reviewed: 2023 – FCR23-21

Justification for Original Closure (ANILCA Section 815 (3) criteria)

The closure was made for resource conservation concerns. This population of Red King Crab has shown a consistently low to declining trend in both population estimates and female:male ratios since the population crashed in the 1980's coincident with expanded commercial harvest.

> Section §815(3) of ANILCA states: *Nothing in this title shall be construed as – (3) authorizing a restriction on the taking of fish and wildlife for nonsubsistence uses on public lands (other than national parks and monuments) unless necessary for the conservation of healthy populations of fish and wildlife, for the reasons set forth in section 816, to continue subsistence uses of such populations, or pursuant to other applicable law…*

Council Recommendation for Original Closure

The Council did not discuss or recommend closure of this fishery in its review of RFR94-03, but it did recommend rejection of the proposed seven-inch minimum size limit.

State Recommendation for Original Closure

The State did not request, recommend, or support a closure to non-federally qualified users in 1994, but had requested adoption of a seven-inch minimum size limit (RFR94-03). The State had already adopted a seven-inch minimum size limit for Kodiak Area subsistence Red King Crab fisheries in 1990.

Biological Background

Red King Crab (*Paralithodes camtschaticus*) are a long-lived, cold-water species with a complex life history tied closely to temperature, habitat, and predation. They reproduce in spring through broadcast mating, with females carrying tens of thousands of eggs under their abdominal flap for nearly a year before releasing larvae into the water column. The larvae drift for several months as plankton, progressing through multiple zoeal stages before settling to the seafloor as juveniles. Young crabs rely on structured habitats such as cobble, shell hash, and kelp for protection from predators, gradually moving into deeper, more open areas as they grow. Adults can live over 20 years, undertake seasonal migrations to inshore spawning areas and offshore feeding grounds, and experience periodic strong year classes driven by favorable environmental conditions (NPFMC 2018). Their populations are highly sensitive to shifts in ocean temperature, predation, and recruitment variability, which together shape the boom-and-bust cycles characteristic of Alaska's Red King Crab stocks (Szuwalski 2021).

Large-mesh bottom trawl surveys are conducted in known crab habitat of the Kodiak Area using a fixed-grid station design developed in 1988 (**Table 1**; Spalinger and Silva 2025). Total station area surveyed was approximately 15,500 km², at depths greater than 20 fathoms. In 2024, 371 successful bottom trawl hauls were conducted in 371 stations. Red King Crab were caught in 6.6% of Kodiak

Area hauls (previously 13% in 2021), totaling 261 males and only 13 females (Spalinger and Silva 2025). Crab catch per haul ranged from 0 to 213, with 98.2% of the total King Crab catch coming from inside Alitak Bay. More than 90% of crabs surveyed were mature, regardless of sex. Estimated abundance of female King Crab in the Kodiak Area declined by over 75% between 2023 and 2024 reaching 5,088, the lowest female crab abundance estimated since the survey began in 1983. Legal male King Crab abundance was estimated at 80,886 in the 2024 survey, which was greater than the 28,672 male crabs estimated in 2023 (**Table 1**).

Mean Red King Crab size in the 2024 Kodiak Area survey was 158.9 mm (6.3 in) carapace length (CL) for males, and 135.4 mm (5.3 in) CL for females. During the 2024 survey, 50.0% (n=5) of all mature females examined had an egg clutch that was more than half full, which was lower than the 69.2% observed in 2023 (Spalinger and Silva 2025).

No specific management objective has been set for either the Federal or State Red King Crab subsistence fisheries in the Kodiak Area. However, the State does set a total threshold abundance of fertilized females for determining when to reopen the commercial fishery (Pengilly and Schmidt 1995). State trawl survey estimates have continued to remain well below the threshold level.

Women's Bay has been recognized as an important nursery area for Red King Crab. Studies have shown that Women's Bay has much higher numbers of juveniles than two nearby bays (Dew 1991, Dew et al. 1992, FSB 2002, Cummiskey et al. 2008).

Since relatively few Red King Crabs are captured in the State trawl survey each year, it is not possible to accurately determine trends since small differences in catches result in large differences in population estimates (Spalinger 2009). However, these surveys show that the Red King Crab stock in the Kodiak Area has remained at very low abundance with no indication of rebuilding, consistent with earlier analyses documenting chronic recruitment failure and lack of recovery despite decades of fishery closure (Jackson 1999, Bechtol 2009, Bechtol and Kruse 2009, Kruse et al. 2010).

Table 1. Kodiak Red King Crab survey and population dynamic information for 2021–2024 (Spalinger and Knutson 2022; Spalinger and Silva 2023, 2024, 2025). Number of trawls conducted, percent of trawls with King Crab as a component of catch, number of total males and females caught, estimates of legal males and total females based on catch, percent of total catch occurring within Alitak bay and mature female crabs as a percentage of total female crabs are reported.

Year							Alitak	
			Males	Females	Legal	Total		
2024	371	6.6	261	13	80,886	5,088	98	74
2023	322	6.8	61	36	28,672	20,724	86	75
2022	369	10	70	54	40,009	31,093	77	92
2021	337	13	179	220	45,930	133,295	75	49

Cultural Knowledge and Traditional Practices

The subsistence practices of the rural residents of the Kodiak area reflect the cultural traditions of the Alutiiq/Sugpiaq, the Koniag/Qikertarmiut, and Eastern European and American settlers. Indigenous populations have lived in the area for at least 7,000 years, developing a ritually elaborate maritime hunting and fishing culture with many connections to other groups through trade and warfare (Mason 1995, Clark 1998). Subsistence economies in the area have long been based on the harvesting of marine mammals (whales, seals, sea lions, and sea otters), near-shore fisheries, shellfish, sea or littoral birds and their eggs, and salmon (Mason 1995, Clark 1998: 176). Salmon are a major dietary staple for all Alutiiq groups, with great quantities traditionally harvested and dried for use in the winter (Mason 1995).

The indigenous population of Kodiak Island was estimated to be around 8,000 people when Russian colonists founded a settlement near present-day Old Harbor in 1784 (Mason 1995, Black 2004, Keating et al. 2024). This settlement became a base for the expanding fur trade, and many Alutiiq residents were conscripted to hunt and process sea otter pelts, fish for salmon, and hunt whales for the Russians during this period (Black 2004, Keating et al. 2024). The Russians moved their base of operations to what is now Kodiak City in 1793, seeking better access to lumber (Mason 1995). By the end of the Russian colony in 1867, hardship, starvation, and introduced diseases had reduced the indigenous population of Kodiak to about 2,000 people (Mason 1995).

Alaskans and traders from the continental United States tried to continue the fur trade following the Alaska Purchase, but sea otters had been hunted to near-extinction by the end of the 19th century (Mason 1995, Keating et al. 2024). People attempted to develop several other industries following the demise of the fur trade, but salmon fishing proved to be the most successful and lasting (Mason 1995). Alutiiq residents became increasingly involved in commercial salmon fishing after 1900, coordinating commercial fishing with more traditional hunting and fishing efforts (Mason 1995).

The eruption of Mount Katmai in 1912 destroyed the communities of Katmai and Douglas, and people from these communities were initially relocated to Afognak (Mason 1995). The eruption also covered Kodiak in eighteen inches of volcanic ash, killing vegetation, clogging salmon streams, and halting commercial salmon operations for the year (Mason 1995). However, communities in the area rebounded along with the salmon fisheries. Commercial halibut, herring, and cod fisheries also became well established in Kodiak waters by the 1920s (Mason 1995).

A naval base was constructed on Kodiak in the late 1930s, and World War II drastically increased military presence and the total population of the island (Keating et al. 2024). After the war, the Kodiak naval base was transferred to the U.S. Coast Guard (USCG), eventually becoming the largest USCG base in the country (Marchioni et al. 2016). The 1964 Good Friday earthquake and subsequent tsunami destroyed Afognak, much of Old Harbor and Ouzinkie, and the downtown area of Kodiak, resulting in 19 deaths in the Kodiak Island Borough (Mason 1995, Keating et al. 2024). Much of the commercial fishing industry in the area was also destroyed by the earthquake and tsunami (Mason 1995). The canneries at Old Harbor and Ouzinkie were never rebuilt following the disaster, but the redevelopment

of Kodiak led to its emergence as preeminent King Crab producer because processing operations were consolidated in the town (Mason 1995, Keating et al. 2024). Production of Kodiak King Crab peaked in the 1960s, but the fishery was essentially exhausted by the early 1980s (Keating et al. 2024), and it has yet to recover. In 1989, the *Exxon Valdez* oil spill had substantial impacts on commercial fisheries and subsistence harvesting throughout the area, primarily due to concerns about the safety of eating potentially contaminated foods (Mason 1995, Fall and Field 1996, Fall 2006, Keating et al. 2024).

Yet, the people of Kodiak and many of its fisheries remain resilient. Today, as Keating and colleagues (2024: 9) note, "Kodiak is one of the largest fishing ports in the state and country, home to over 700 commercial fishing vessels representing multiple gear groups and ranking third for volume of landings in 2020." Kodiak is the hub for the six off-road communities in the archipelago, as well as the transportation center for the Southwest Region (Keating et al. 2024). The Kodiak Island Borough had a population of approximately 12,570 residents as of 2024 (ADCCED 2025). Though King Crab stocks have been low for many years, residents throughout the area still depend upon many types of shellfish and other marine invertebrates as key components of their subsistence base (Keating et al. 2024).

A 2018 study found that King Crab were one of the most regularly used subsistence shellfish species in Akhiok, Old Harbor, and Larsen Bay (Sill et al. 2021). However, King Crab have not composed a significant portion of local subsistence diets in the Kodiak area since the drastic decline in stocks witnessed in the 1980s (Sill et al. 2021). As Bruce Short explained at a winter Kodiak/Aleutians Council meeting (KARAC 2019: 152, also Keating et al. 2024), overharvesting and the emergence of sea otters has played a dramatic role in the decline of King Crab and other shellfish in the Kodiak Area:

> "When I got old enough to have my own boat and everything I always went out and caught crab, and eventually I bought a place in Anton Larsen Island and wanted to live kind of a subsistence lifestyle – small boat fisheries. And the place was loaded with crab. There were King Crab, Tanner Crab, Dungeness, lots of butter clams, lots of steamers. I thought I was in hog heaven. But, I saw the first otter in 1979, out at Craig Point which is over by Kukak Bay. By the mid '80s, they'd moved into Anton Larsen Bay, the bay where I live. It ices over in the winter, so it's a good place for marine mammals to haul out. We have lots of seals that come in there now too. But I commercially fished in there one year in 1980 with my dory. I mean, there were so many crab in there I could -- I pulled by hand, didn't have hydraulics or anything, just a little boat. But, it was enough to make, you know, a good living there. And I fished commercially in '83 which was the last year that there was a King Crab season here. And my impression was really that it had been overfished because the end of the season everyone had their pots, I mean, crab are a schooling animal, and all the pots were just three spots out in Marmot that was the only place there were any crab left. There were a few after that that survived inside the bay and I always caught some of those and there were always Dungeness, but once the otters moved in in the mid '80s, and we had 200 coming in there in the wintertime, they essentially wiped out all the crab. They started with the crab, then they went to the clams, they got the gaper clams, then they went to the butter clams, and now there's none of that in Anton

> Larsen, absolutely none. The otter population has dwindled, there's probably 70 or 80 that over-winter there now. There's more seals, there are up to 200 seals sometimes that overwinter there…"

Womens Bay has also been an important location for the harvesting of shellfish like King Crab due to its historical productivity and current proximity to the Kodiak Island road network (KARAC 2010). This ease of access at Womens Bay is particularly important for older residents for whom travel to more remote sites can be difficult (KARAC 2010). However, Womens Bay and Gibson Cove have also been identified as key nurseries within the greater Chiniak area for juvenile King Crab, leading to ongoing discussions about the best ways to maintain these nurseries to promote the recovery of King Crab stocks (KARAC 2010).

In 2021, during the most recent comprehensive subsistence survey, Tanner Crab accounted for the greatest proportion of marine invertebrate harvest (41%) in the Kodiak Area, and more Kodiak households used Tanner and Dungeness crabs than any other species (Keating et al. 2024). The winter months have traditionally been a favored time for harvesting shellfish and marine invertebrates, which can be particularly important food sources when fish and other game animals are scarce (Mishler 2001, Keating et al. 2024). Access for shellfish harvesting is often obtained through social networks, and shellfish are regularly shared between community members (Mishler 2001, Sill et al. 2021). These subsistence practices form a key basis of cultural identity, family life, and community well-being in the area (Fall 1999). When shellfish are scarce, area residents must turn to secondary subsistence resources and/or store-bought foods (Mishler 2001).

Harvest History

Historically, there were large numbers of Red King Crab in the Kodiak Management Area, and this species supported a large commercial fishery along with other uses (Mattes and Spalinger 2007). In the 1970s, the commercial harvest of Red King Crab in the Kodiak Area ranged between 12 and 24 million pounds. A near peak commercial harvest of Red King Crab occurred in the 1980/81 season, but three years later, the harvest precipitously declined. The four top historical producing areas were closed to commercial Red King Crab fishing for the first time in 1983, but the stocks have still not recovered.

Subsistence crab harvests in the Kodiak Area dropped dramatically with the decline of the Red King Crab stock. The estimated annual subsistence harvest for the Kodiak vicinity was almost 18,000 Red King Crabs in 1982, but total annual subsistence harvest declined to less than 6,000 Red King Crabs by the 1990s (FSB 1994, 2002). Harvest information compiled by ADF&G indicates that Red King Crab harvest in the Chiniak Bay area—which includes Federal public waters of Womens Bay and Gibson Cove—has steadily declined since the mid-1990s. Long et al. (2014) reported that annual subsistence harvest in Chiniak Bay ranged from 10 to 1,178 crabs between 1995 and 2012, with the highest recorded harvest occurring early in the time series. In subsequent years, harvest levels frequently fell to one-quarter or less of those earlier highs, reflecting both reduced availability of legal-sized Red King Crab and sustained low population abundance in the bay. These findings are consistent with broader

regional assessments showing persistent recruitment failure and no indication of stock rebuilding in the Kodiak Area.

Subsistence Red King Crab harvests in the Kodiak Area have been very small since the collapse of the stock (FSB 2002). An ADF&G subsistence permit is required to participate in the Federal subsistence crab fishery, and annual harvests documented through these permits have often been well under 100 Red King Crabs per year.

Alternatives Considered

An alternative considered was to modify the closure to apply to both federally qualified and non-federally qualified subsistence users. In this scenario, the King Crab fishery under Federal jurisdiction would be closed to all harvesters, regardless of their rural/non rural status. This would allow for slight conservation measures while precluding rural preference under Title VIII of section 804 of ANILC. Given that the majority of Red King Crab are concentrated in discreet areas outside of Federal jurisdiction, further reducing harvest within Federal jurisdiction is unlikely to significantly affect population recovery.

Effects

If the closure is retained, federally qualified subsistence users would continue to be allowed a limited harvest of King Crab under Federal regulations, while non-federally qualified users would be prohibited from harvesting King Crab. This would maintain a rural priority for subsistence use while restricting nonsubsistence use due to low crab stocks.

If the closure is rescinded, non-federally qualified users would still not be allowed to harvest King Crab in these areas because this fishery is currently closed under State regulations.

OSM CONCLUSION

X Retain the Status Quo
_ Rescind the Closure
_ Modify the Closure
_ Defer Decision on the Closure or Take No Action

Justification

There continues to be significant conservation concern for King Crab populations in the Kodiak Area, which includes the Federal public waters of Womens Bay, Gibson Cove, and near shore waters around the Karluk River mouth and Afognak Island. Kodiak Area King Crab stock remains consistently low with no indication of improvement over the near term. Marine waters under Federal jurisdiction in Womens Bay are a known nursery area for the larger Chiniak Bay, and these waters are easy to access from the Kodiak road system. Restricting the harvest of King Crab in these Federal public waters for nonsubsistence uses is necessary for the conservation of the King Crab resource and to help ensure the continuation of Federal subsistence uses of this resource. The vast majority of mature King Crab are taken by commercial harvesters operating outside of these Federal marine waters, and it is therefore unlikely that a continued limited harvest by federally qualified subsistence users will detrimentally impact the overall population stability of King Crab in the Kodiak Area.

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