Fishery Management Report No. 24-25

Management Report for Southeast and Yakutat Dungeness, Tanner, Golden King, and Red King Crab Fisheries, 2021–2023

by

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Alaska Department of Fish and Game **Divisions of Sport Fish and Commercial Fisheries**

Symbols and Abbreviations

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Weights and measures (metric)

centimeter	cm
deciliter	dL
gram	g
hectare	ha
kilogram	kg
kilometer	km
liter	L
meter	m
milliliter	mL
millimeter	mm

Weights and measures (English)

cubic feet per second	ft^3/s
foot	ft
gallon	gal
inch	in
mile	mi
nautical mile	nmi
ounce	oz
pound	lb
quart	qt
yard	yd

Time and temperature

day	d
degrees Celsius	°C
degrees Fahrenheit	°F
degrees kelvin	K
hour	h
minute	min
second	s

Physics and chemistry

all atomic symbols	
alternating current	AC
ampere	A
calorie	cal
direct current	DC
hertz	Hz
horsepower	hp
hydrogen ion activity (negative log of)	pH
parts per million	ppm
parts per thousand	ppt, ‰
volts	V
watts	W

General

Alaska Administrative Code	AAC
all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.
all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.
at	@
compass directions:	
east	E
north	N
south	S
west	W
copyright	©
corporate suffixes:	
Company	Co.
Corporation	Corp.
Incorporated	Inc.
Limited	Ltd.
District of Columbia	D.C.
et alii (and others)	et al.
et cetera (and so forth)	etc.
exempli gratia (for example)	e.g.
Federal Information Code	FIC
id est (that is)	i.e.
latitude or longitude	lat or long
monetary symbols (U.S.)	$, ¢
months (tables and figures): first three letters	Jan,...,Dec
registered trademark	®
trademark	™
United States (adjective)	U.S.
United States of America (noun)	USA
U.S.C.	United States Code
U.S. state	use two-letter abbreviations (e.g., AK, WA)

Mathematics, statistics

all standard mathematical signs, symbols and abbreviations	
alternate hypothesis	H_A
base of natural logarithm	e
catch per unit effort	CPUE
coefficient of variation	CV
common test statistics	(F, t, χ^2, etc.)
confidence interval	CI
correlation coefficient (multiple)	R
correlation coefficient (simple)	r
covariance	cov
degree (angular)	°
degrees of freedom	df
expected value	E
greater than	>
greater than or equal to	≥
harvest per unit effort	HPUE
less than	<
less than or equal to	≤
logarithm (natural)	ln
logarithm (base 10)	log
logarithm (specify base)	$\log_2$, etc.
minute (angular)	′
not significant	NS
null hypothesis	H_O
percent	%
probability	P
probability of a type I error (rejection of the null hypothesis when true)	α
probability of a type II error (acceptance of the null hypothesis when false)	β
second (angular)	″
standard deviation	SD
standard error	SE
variance	
population	Var
sample	var

FISHERY MANAGEMENT REPORT NO. 24-25

MANAGEMENT REPORT FOR SOUTHEAST AND YAKUTAT DUNGENESS, TANNER, GOLDEN KING, AND RED KING CRAB FISHERIES, 2021–2023

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ABSTRACT

The Alaska Department of Fish and Game (ADF&G), Division of Commercial Fisheries, manages all commercial and personal use crab fisheries within Southeast Alaska (Registration Area A) and Yakutat Management (Registration Area D) areas. This report summarizes historical commercial crab fisheries: Dungeness crab *Cancer magister*, Tanner crab *Chionoecetes bairdi*, red king crab *Paralithodes camtschaticus*, and golden king crab *Lithodes aequispinus*, with a focus on management and regulatory changes, stock status, and harvest trends from 2020/21 through 2022/23 or 2023/24. Tanner crab fishery harvests have remained steady in recent years, corroborated by stock assessment, with the Dungeness fishery having more variable performance. For the golden king crab fishery, there has been an increase in CPUE and harvest in some areas the fishery, causing optimism for a population that does not have a fishery independent survey. Biomass estimates from the summer and fall crab surveys have shown low levels of red king crab, with the Juneau area (11-A) at a level that can sustain personal use harvest. The regional red king crab biomass estimates have not exceeded the threshold to allow a commercial fishery since 2018/19. The average exvessel value for the past 5 seasons is varied: Dungeness crab fishery value averaged $11.2 million (2019/20–2023/24), Tanner crab averaged $4.8 million (2018/19–2022/24), and golden king crab had an average value of $ 1.1 million (2019–2023). The Yakutat area Dungeness crab fishery will remain closed until stock status improves and a management and research program designed to provide sustained yields is implemented; there have been no registrants in recent years for the red king crab commercial fishery in the Yakutat area.

Keywords: Southeast Alaska, Area A, Yakutat, Area D, commercial fisheries, crab, harvest, management, exvessel value, Dungeness crab, Cancer magister, Tanner crab, *Chionoecetes bairdi*, red king crab, *Paralithodes camtschaticus*, and golden king crab, *Lithodes aequispinus*, management report

INTRODUCTION

The Alaska Department of Fish and Game (ADF&G or "the department") Division of Commercial Fisheries manages all commercial crab (Tanner, Dungeness, red king, blue king, and golden king crab [GKC]) fisheries in all waters of Alaska within Southeastern Alaska (Registration Area A) and Yakutat (Registration Area D), defined as those waters from the shoreline to 3 nautical miles offshore. Southeastern Alaska has its southern boundary at Dixon Entrance and the northern boundary is a line extending seaward from the western tip of Cape Fairweather (lat 58° 47.89 N, 137° 56.68 W long) out to the 3-mile territorial seaward limit. Yakutat (Registration Area D) has as its western boundary Cape Suckling (144° W long) and its southern boundary a line extending seaward from the western tip of Cape Fairweather to the intersection with the seaward limit of the 3 nautical mile territorial sea. In addition, Registration Area A is divided into 16 management districts, District 1 is on the southern end, and District 16 shares its boundary with Registration Area D (Figure 1).

For the waters of Alaska, the Alaska Board of Fisheries (BOF) establishes management regulations, and ADF&G uses its emergency order authority to make adjustments to fishing time and area. The BOF schedules regular meetings for area shellfish on a triennial basis.

Commercial crab harvests are primarily monitored inseason through required reporting on ADF&G fish tickets (5 AAC 39.130); additional information was derived from dockside sampling of the commercial catch, interviews with permit holders, and logbooks for some fisheries. Fish ticket information is collected both electronically through the eLandings systems and physically through the submission of conventional (paper) fish tickets. These records are reviewed and edited as needed by ADF&G staff, entered into the statewide fish ticket database, verified, and archived.

Dockside sampling involves the collection of biological data such as species, size, and shell condition. Interviews with permit holders are used to verify information about harvest location and effort. Reporting requirements specify that all crab retained but not delivered for sale, such as soft-shell crab or harvest that is retained for personal use, must be reported on an ADF&G fish ticket.

This process helps fisheries management through complete and accurate documentation of fisheries removals.

Legal gear types for crab fishing in the Southeast and Yakutat areas are pots with different definitions depending on the species. All of the commercial fisheries in this report have a limited number of participants (Limited Entry) meaning that there is a defined number of Commercial Fisheries Entry Commission (CFEC) permits for each of the fisheries, with the exception of the Tanner crab ring net fishery. Each season, permit holders must pay a fee to obtain the CFEC permit card. Following that, the permit holder must register a vessel with ADF&G local offices and pay for and receive buoy tags before fishing.

Commercial harvests reported here are representative of the current area definition (since being redefined in 1996) and summarize annual harvests generally (lb) between 1986 and 2023 with a focus on the fisheries information from 2020/21, 2021/22, and 2022/23 and an outlook for the 2023/24 season. For the most recent period of 2020 through 2023, the report describes harvest trends and management and regulatory changes based on BOF actions. Please refer to previous species-specific management reports for more detailed information.

DUNGENESS CRAB (REGISTRATION AREA A)

LIFE HISTORY

Dungeness crab, *Metacarcinus magister*, are members of the highly evolved brachyuran (true crab) infraorder of the subphylum Crustacea. They are commercially significant and widely distributed in coastal waters of the eastern Pacific Ocean from Santa Barbara, California, to the Pribilof Islands, Alaska (Jensen 1995). Dungeness crab are found throughout Southeast Alaska, which is near the northern limit of their range, in areas with mud and sand substrate at depths between 2 and 50 fathoms. Dungeness crab life history timing is less synchronous than other commercially important northern crab species.

The peak male molt period extends from the months of February through July, followed by a female molt period in August and September (G. H. Bishop, J. M. Rumble, and C. Siddon, ADF&G, ADF&G Division of Commercial Fisheries, Southeast Alaska Dungeness crab stock assessment survey, 2004, unpublished data; Shirley and Shirley 1988). Peak mating timing occurs from late summer through early fall (Shirley and Shirley 1988; Stone and O'Clair 2001) because Dungeness crab females only mate in the soft-shell condition (Hartnoll 1969). After molting and mating, females take approximately one month to harden, extruding eggs soon thereafter from October through December (Shirley et al. 1987). Dungeness female fecundity increases with body size, holding up to a maximum of about 2.5 million eggs and can store sperm for up to 2 years (Jensen et al. 1996). It appears that females at this latitude extrude eggs only on a biennial basis (Swiney et al. 2003).

FISHERY DEVELOPMENT

The first commercial harvest of Dungeness crab from Southeast Alaska occurred in the 1930s and has evolved into the modern fishery. There has been an increased demand for Alaska frozen sections, whole-cooked crab, and air-freighted live crab. The fishery grew from a small group of 30 to 45 ft vessels to a larger fleet that included skiff-sized vessels up to 30 ft in length (Bergmann et al. 2021). Increased participation led to a permit moratorium imposed by the CFEC in 1991 and the fishery became limited entry in 1997 with a tiered pot system.

Under this limited entry system, there are 271 active permanent and interim Dungeness crab limited entry permits; however, actual participation varies each season. During the most recent 5 full seasons (2019/19–2023/24), the number of permit holders that have registered and fished ranged from 157 (2023/24) to 212 (2021/22) (Table 1, Figure 2). Currently, most vessels are less than 58 ft in overall length; however, they have ranged in size from small skiffs to over 90 ft overall length. Almost all participants use standard, hatbox-shaped pots constructed with steel frames and webbed with stainless steel wire; the maximum circular pot size is 50 inches in diameter and 18 inches high. The maximum legal vessel gear limit is 300 pots per vessel. The fishery also allows for ring nets and diving as legal means to harvest Dungeness crab, although most participants utilize pot gear.

Alaska crab fisheries management operates under 3-S (six, sex, and season) management. This policy seeks to conduct fisheries outside the mating or molting seasons (Stone 1999) and to avoid harvesting female crabs because of their reproductive potential. The department uses 3-S management for the Dungeness crab fishery to help conserve reproductive potential and allow crabs to mate at least once prior to harvest; only male crabs with a minimum carapace width (CW) of 6.5 inches notch to notch may be harvested. Since the 1990/91 season, the Dungeness crab harvest has ranged from 1.9 million lb (2017/18) to 6.7 million lb (2020/21; Table 1, Figure 2).

There are 3 different commercial Dungeness crab fishing seasons in regulation. For Districts 1 and 2, and the portion of Section 13-B not in the Sitka Sound Special Use Area, there is a fall/winter season from October 1–February 28 (Figure 3). The portion of Section 13-B that is in the Sitka Sound Special Use area has a fall season October 1–November 30. The remainder of Southeast Alaska has a summer (June 15–August 15) and fall (October 1–November 30) season. Most of the harvest occurs during the summer fishery, averaging 79% from 2019/20 to 2023/24 seasons (Table 2).

From 2016/17 through 2023/24 seasons, District 11 (Admiralty Island and Juneau) and 8 (Stikine Flats and Wrangell) have had the most harvest: 22% and 19% of the total average harvest, respectively. Through the same period, District 10 (South Admiralty/Frederick Sound) contributed 11% of this average harvest, and all other districts had harvests less than 10%. Through these seasons, Districts 3, 5, and 16 have had minimal participation in the fishery and therefore, some or all of this information is confidential. District 4 has had no harvest during this time (Table 3, Figure 1).

REGULATION DEVELOPMENT

The *Southeastern Alaska Area Dungeness Crab Management Plan* (5 AAC 32.146) directs ADF&G to predict the entire season's harvest by no later than 14 days after the start of the summer season. If the predicted harvest is 1.5 million lb or less, the summer season closes no sooner than 21 days after the season opens. By regulation, the fall Dungeness crab fishing season does not open. If the predicted harvest is greater than 1.5 million lb but less than 2.25 million lb, the summer season ends no sooner than 28 days after the season opens with a curtailed fall season of 30 days. If the predicted harvest is greater than 2.25 million lb, the summer and fall seasons will open for the entire duration as defined in regulation. If ADF&G determines that harvest projections fail to meet this threshold due to soft-shell crab early in the summer Dungeness crab fishing season, ADF&G may open a full fall Dungeness crab fishing season as specified in regulation.

In addition to 3-S management, provisions in place limit participation and effort (limited entry and gear restrictions). To conserve reproductive potential and allow crab to mate at least once prior to harvest, only male crab with a minimum CW of 6.5 inches notch to notch may be harvested.

Primary regulatory elements of the commercial Dungeness crab fishery are as follows:

- Summer fishery is June 15-August 15, fall fishery is October 1-November 30, winter fishery is October 1–February 28 in portions of Southeast
- Limited entry fishery requires a CFEC permit
- Four different pot limit tiers (associated permits): 75, 150, 225, 300
- Size restriction of 6.5-inch minimum CW size, male only fishery
- Buoy tag requirement
- Mandatory area registration
- Escape ring and biodegradable line requirement

The summer season overlaps with a portion of the male molt period, and legal males are harvested prior to mating, shifting the burden of reproduction onto smaller males. Harvesting legal males prior to reproducing has the potential of creating genetic selection for crab to grow more slowly to avoid harvest (Kruse 1993). The prevalence of soft-shell crab in the catch and harvest during the summer fishery continues to be high in some areas and seasons, which could lead to a high level of handling mortality (Kruse et al. 1994).

Area closures and competition with sea otters have increased the spatial consolidation of the commercial fishery. Glacier Bay National Park and Preserve became permanently closed to the commercial Dungeness crab fishery in 1999. The conflict between user groups has been increasing as competitive pressure and gear saturation consolidate commercial gear onto grounds traditionally used by noncommercial fishing parties. This has resulted in commercial closed areas in numerous small areas around many communities in Southeast Alaska, including Juneau, Tenakee Springs, Elfin Cove, Point Baker, Thorne Bay, Gustavus, Ketchikan, Haines, Sitka, Hollis, Angoon, Hoonah, Whale Pass, Klawock, and Hydaburg (Figures 4 and 5).

Since their reintroduction in 1965, sea otter populations have expanded their range in Southeast Alaska. This expansion has been accompanied by drastic declines in Dungeness crab populations in Districts 3, 4, and 14 (Pitcher and Imamura 1990). Sea otters continue to expand their range into important Dungeness crab fishing grounds in Districts 5, 6, 8, 9, and 10, further consolidating the commercial fishery into less impacted areas.

RESEARCH

ADF&G has conducted Dungeness research in Southeast Alaska in the last 30 years, but no formal stock assessment has been made due to the lack of funding and the large extent of the population. Federal funding allowed some population assessment surveys in the most productive areas and provided for a tagging study to determine molt frequency and increment (Figure 14; G. H. Bishop, J. M. Rumble, and C. Siddon, ADF&G, ADF&G Division of Commercial Fisheries, Southeast Alaska Dungeness crab stock assessment survey, 2004, unpublished data). Other studies included onboard observer and sampling on the grounds, regular dockside sampling, and molt timing studies.

Since 1985, commercial Dungeness crab landings have been sampled in the ports of Petersburg, Wrangell, Sitka, Juneau, Ketchikan, and Haines. Port samplers measure the crab, determine shell condition, and check for damage to the carapace and legs (Messmer and Palof 2019). This

information is used by the department to determine the recruit class composition of the harvest (Tables 4 and 5). Port samplers also complete an interview with the permit holder during crab landings and ask additional questions about the legal, sublegal, and female components of the stock. Of the questions asked, the most important to management is the percentage of legal sized male crab too soft or light to bring to market. These data are analyzed for fall season fishery decisions when thresholds in the management plan are not met.

FISHERY OVERVIEW: 2021/22–2023/24 SEASONS

2021/22 Season Summary

The early season predicted harvest for the 2021/22 season was above the Dungeness crab management plan threshold, so the season length was not curtailed. During the 2021/22 fishery, 212 permit holders, the most since the 2002/03 season, harvested a total of 3.7 million lb of Dungeness crab (Table 1). The summer fishery made up 83% of the harvest, or 3.1 million lb, and the remaining 17%, or 627,975 lb, was taken during the fall/winter period (Table 2). District 8 was the largest producer when compared to other districts, with 741,140 lb harvested. District 11 followed with 716,658 lb harvested (Table 3). Port sampling data show that 73% of the recruit class crab was down 10% from the previous season and that the lowest percentage of recruit class crab in the harvest had been since the 1989/90 season (Table 4). Harvested crab sold for an average of $4.24 per lb, the highest average price in the fishery's history (Table 1), and averaged 2.2 lb each (Table 5). Total exvessel value of the 2021/22 fishery was $15.8 million, second only to the 2019/20 season as the most lucrative season in Southeast Alaska history (Table 1).

2022/23 Season Summary

The department projected the total season harvest based on landings and effort data from the first full week of fishing. The projection indicated that the total season harvest would not exceed 2.25 million lb, which fell near the upper end of the range (1.5 to 2.25 million lb) described in 5 AAC 32.146(2)(B). According to the management plan, ADF&G must close the commercial Dungeness crab summer fishing season no sooner than 28 days after the season opens when the projected full season harvest falls within this range. Thus, the 2022/23 summer season was closed on July 30, 2022, and there was a roughly 2-week reduction in fishing time.

The Dungeness crab management plan also stipulates a 30-day fall fishing season when the full season projection falls between 1.5 million and 2.25 million lb. However, 5 AAC 32.146(3) states that if ADF&G determines that harvest projections fail to meet the threshold due to soft-shell crab early in the commercial Dungeness crab summer fishing season, ADF&G may open the commercial Dungeness crab fishery for the full fall/winter fishing season. During the first week of the 2022/23 summer fishing season (landings made June 15–22, 2022), dockside interviews noted a 28% average per landing of soft-shelled legal crab not retained. However, some soft-shelled crab is typically caught in the first week. To determine the average amount of soft-shelled crab caught in the first week, the previous 3-year average of 17% was used as a proxy for a "normal" amount of soft-shelled crab. Since the 28% soft-shelled crab from the 2022/23 season exceeded the 3-year average of 17%, the difference of 11% (47,639 lb) was applied to the first week's harvest. This estimate determined the amount of poundage, more than normal, was not retained. Based on the regression model used to produce the full season harvest estimate, adding this poundage to the total for the first week was enough to produce a harvest estimate that exceeded the 2.25 million lb

threshold in regulation. Adding the additional soft-shelled crab increased the estimate to just over 2.25 million lb.

Based on the data from port sampling and fish tickets, ADF&G assessed that soft-shelled crab not retained during the first week of the season were a contributing factor in failing to meet threshold, similar to the determination made in 2013/14 (Stratman et al. 2014), which resulted in ADF&G recommending a fall fishing season for the standard duration. Since the management plan was put into regulation in 2000, the 2022/23 season is only the third season (along with the 2013/14 and 2017/18 seasons), and the threshold for a typical season described in regulation was not met.

During the 2022/23 fishery, 196 permit holders harvested a total of 2.0 million lb of Dungeness crab, the smallest Dungeness season harvest since the 2017/18 fishery when management action was also taken to reduce harvest pressure on the stock (Table 1). The summer fishery made up 63% of the harvest, or 1.3 million lb; this percentage is in part driven down by the management action taken to reduce harvest pressure on the stock during the summer season (Table 2). The remaining 37%, or 740,316 lb, was taken during the fall/winter fishery (Table 2). Districts 11, 8, and 10 had the largest harvests when compared to the other districts (Table 3, Figure 1). Port sampling data show 81.1% recruit class crab, up from the previous season (Table 4). For the entire 2022/23 season, 0.3% of the commercial harvest was sampled and landed crab averaged 2.1 lb (Table 5). With an average price of $2.69 per lb, the harvest yielded a total exvessel fishery value of $5.4 million, down significantly from the previous 2 seasons (Table 1).

2023/24 Season Summary

ADF&G projected total season harvest based on landings and effort data from the first full week of the fishery. The projection indicated that total season harvest would exceed the 2.25 million lb regulatory threshold described in 5 AAC 32.146(2)(B). During the 2023/24 fishery, 157 permit holders, the fewest since the 2013/14 season, harvested a total of 3.2 million lb of Dungeness crab (Table 1). The summer fishery made up 80% of the harvest, or 2.6 million lb, and the remaining 20%, or 663,030 lb, was taken during the fall and winter fishery (Table 2). District 11 was the largest producer with 1,576,889 lb harvested (Table 3). Port sampling data show 82% recruit class crab, the highest since the 2020/21 season (Table 4). Harvested crab sold for an average of $2.24 per lb, the lowest since the 2020/21 season (Table 1), and averaged 2.1 lb each (Table 5).

YAKUTAT DUNGENESS CRAB (REGISTRATION AREA D)

FISHERY DEVELOPMENT

From the mid-1920s to the mid-1960s, Southeast Alaska and Yakutat were managed as a single unit. Prior to the 1960s, harvest from much of the Gulf of Alaska were combined into a single total; Yakutat contributions were significant, but the exact percentages are unavailable. In the 1960s and the 1970s, participation was low, and harvests ranged from 530,000 to 2.1 million lb per season in the 1960s and ranged from 130,000 lb to 2.3 million lb per season in the 1970s (Bergmann et al. 2021)

In the 1980s, effort and harvest generally increased. Harvest in the 1980s ranged from 371,237 lb (1985/86) to 5.2 million lb (1982/83; Table 6). The rising demand in the early 1980s coincided with the entry of a large recruit class into the fishery and a decline in harvests from Washington, Oregon, and California.

Following the 1991/92 season, harvest and effort declined. Fish ticket and dockside sampling data provided the first indications of low stock abundance, and the 1997/98, 1998/99, and 1999/00 fishing seasons were closed early. In the 1999/00 season, 10 permits fished for a harvest of less than 66,000 lb (Table 6). The fishery was closed beginning in the 2000/01 season and has remained closed since that time.

Historically, as many as 67 permits fished annually in the Yakutat area (Table 6). For 3 seasons preceding the closure of the fishery, an average of 23 permits were fished. Most participating vessels were 50 ft in overall length or larger, with some vessels up to 90 ft in overall length. Almost all fishery participants have used standard, hatbox-shaped pots constructed with steel frames and webbed with stainless steel wire.

REGULATION DEVELOPMENT

Regulations in the Yakutat Area Dungeness crab fishery have been documented since 1924; these included size limits, restricting harvest to males, and specifying a season that avoids known sensitive molting and mating periods. The current May 15–July 14 and November 1–February 28 season was developed to avoid the major molts to the extent possible while maximizing economic returns. There are few alternatives to a summer season in Yakutat because the most productive grounds are exposed to extreme weather conditions in the winter.

The department uses 3-S management for the Registration Area D (Yakutat) Dungeness crab fishery with gear limited to no more than 60 pots per vessel. Only male crab with a minimum CW of 6.5 inches notch to notch may be harvested to conserve reproductive potential. Although the Yakutat Dungeness crab fishery is classified as an open entry fishery, Yakutat is a super-exclusive registration area for Dungeness crab; a vessel registered to fish in this area cannot register or fish in any other area in Alaska during the same calendar year.

RESEARCH

Surveys of Yakutat Dungeness crab grounds were conducted in 2004, 2012, and 2013 by contracting commercial fishery participants to determine the catch rate of legal males, collect size and sex data, and quantify shell hardness in male crabs. These surveys showed no evidence of stock recovery.

In 2004, the contractor set 605 pots, and a total of 53 legal male crab were captured (Table 7). In 2012, a contracted survey was repeated. The contractor set 600 pots in late May/early June; a total of 188 legal male and 446 sublegal crab were captured (Table 7). Most sublegal males were prerecruit-class crab. In 2013, another contracted survey occurred. The contractor set 600 pots in late May/early June in the same 5 statistical areas sampled in 2012 (Table 7). The distribution of pots within the 5 statistical areas was very similar to the previous year's survey. Only 21 legal male crab were caught (Table 7). ADF&G attempted to contract a survey in 2014 but received no bids. Funding for the Yakutat Dungeness crab survey was eliminated from the 2015 fiscal year budget and to date has not been restored.

Port sampling in Yakutat began in the mid-1970s and was conducted opportunistically for the first few seasons (Bergmann et al. 2021). Sporadic dockside sampling of the landed harvest in Yakutat was conducted from the 1980/81 season until the fishery closed in 1999. For the Yakutat fishery, the wide range of landing ports (as far away as Cordova) and very sporadic deliveries make it difficult to schedule dockside sampling of deliveries. The Yakutat area Dungeness crab fishery

will remain closed until stock status improves and a management and research program designed to provide sustained yields is implemented.

TANNER CRAB

LIFE HISTORY

Tanner crab *Chinooecetes bairdi* are a widely distributed brachyuran (true) crab that inhabit temperate and subarctic waters of the eastern Pacific Ocean from northern California to the Bering Sea. Females and males mate from January to May. Embryos are subsequently hatched in late winter to early summer. Larvae are suspended in the water column for approximately 2 months through 3 stages of molts and settle as megalopae; the megalopae migrate to the ocean floor where they continue to molt and grow for approximately 5 years for females and 6 years for males before they terminally molt to maturity (Donaldson et al. 1981). In Southeast Alaska, Tanner crab stocks are likely composed of several distinct populations within limited geographic areas where most settled crab make localized movements (Donaldson 1985; Taggart et al. 2008).

FISHERY DEVELOPMENT AND HISTORY

Tanner crab have been harvested since the early 1960s and were incidentally caught during the red king crab commercial fishery. Fishery participants began targeting Tanner crab in the 1970s when the harvest averaged 1.6 million lb. In the 1980s, the fishing pace increased, resulting in shortened seasons. By 1982/83, the season was less than 2 weeks. In 1984, the CFEC initiated a permit moratorium for the king and Tanner crab fisheries in Southeast Alaska at the request of locally based vessel operators and processors over fishery conservation concerns.

The CFEC instituted a complex system of combined permits for Tanner crab and the 3 species of king crab that went into effect in the 1985/86 season. CFEC set the maximum number of permits at 83, which was high relative to historical participation. This had long-term implications, such as progressively shortened seasons as fleet efficiency improved. The fleet adapted to short seasons in several ways, including using tenders; leasing larger vessels; and increasing crew size, pot pulling frequency, and bait volumes.

The Tanner crab pot fishery in Southeast was the first Tanner crab fishery in the state to have limited entry. As of January 2024, 75 permanent and interim permits have been issued and could potentially register a vessel in the pot fishery. These CFEC pot permit types include K49A (red/blue king and Tanner crab), K59A (golden king and Tanner crab), K69A (red/blue/golden and Tanner crab), and T19A (Tanner crab). The ring net fishery (T10A) is open access and not under limitation.

Vessels participating in the fishery range from 35 to 80 ft in length. Smaller boats generally participate in the ring net fishery. Almost all vessels using pot gear have the capability to keep the crab alive in their fish holds. Lighter cone or pyramid nesting pots that occupy less deck space are used more often than the heavier, 7 by 7 ft square stacking pots, originally designed for king crab in the Bering Sea fisheries.

With the beginning of the pot permit moratorium in 1984, new entrants who wished to harvest Tanner crab commercially were limited to ring net gear only. The use of ring nets is most appealing when the abundance and price of crab is high because their use is labor-intensive and less efficient than pots. As effort in the ring net fishery has declined in recent seasons, so has the overall harvest

and proportion of total harvest. For the 5 most recent seasons, the average harvest in the ring net fishery is 6,890 lb, less than 1% of the total harvest (Table 8).

Following 1994/95, the total commercial Tanner crab harvest ranged from 605,062 lb in 2007/08 to 2.7 million lb in 1997/98 (Table 8). For most of the 2000s, closure dates were announced preseason based upon the estimated length of time to harvest 2 million pounds. By the end of the decade, catch survey estimates had become reliable enough to set preseason guideline harvest levels (GHLs). Fishery regulations did not allow the department to target GHLs inseason, so closure dates were announced preseason based upon the estimated length of time needed to harvest the GHL. The Tanner crab harvest strategy regulation (5 AAC 35.113) changed in 2009 to provide a minimum season length and additional days to the season in core, noncore, and exploratory areas based on the number of pots registered for the fishery.

The core and noncore areas were defined in regulation at the 2009 BOF meeting, and outside exploratory areas were defined in 2018. In 2012, weather delay criteria were added into regulation to allow delay of the fishery start date due to adverse weather conditions. The BOF revisited the Tanner crab fishery management areas and added the inside exploratory areas (Districts 1–4) to the Tanner crab harvest strategy at the 2022 BOF meeting (Figure 8).

There are 3 main fishery areas in the Tanner crab commercial fishery: Lynn Canal/Upper Stephens Passage, Icy Strait, and Frederick Sound/Stephens Passage. In the past 5 seasons, Lynn Canal/Upper Stephens Passage had the highest average harvest (475,460 lb), Icy Strait followed with 367,062 lb, and Frederick Sound/Lower Stephens Passage had the lowest with 311,659 lb (Table 9).

The Yakutat Tanner crab commercial fishery has been closed since 2000 and is collapsed and recovering (ADF&G 2002). Information regarding the Yakutat Tanner crab commercial fishery history, development, and collapse is reported by Wood et al. (2017).

DOCKSIDE SAMPLING

Commercial Tanner crab fishery landings are sampled dockside in Juneau, Petersburg, Sitka, and Ketchikan for important biological information. Dockside samples were also collected in Wrangell, prior to the ADF&G office closure in 2020. Separate sampling goals in terms of the number of deliveries are set in 4 fishery areas: Icy Strait (District 14), Lynn Canal/Upper Stephens Passage (combined Districts 11 and 15), Frederick Sound/Lower Stephens Passage (combined Districts 8, 9, and 10), and all other areas. Carapace width is measured, and shell condition is determined for 75 crab samples as crabs are delivered to processors. Crab average weight is also estimated for each delivery, and skippers are interviewed about fishing location and effort. Recruit composition of the harvest is estimated from CW and shell condition frequency (Table 10).

REGULATION DEVELOPMENT

The current commercial Tanner crab fishery occurs in Registration Area A (Southeast) and is divided into Districts 1–16 (Figure 1). The Southeast Tanner Crab Harvest Strategy guides fishery management, and its elements are based on the *State of Alaska Policy on King and Tanner Crab Resource Management* (90-04-FB). To open a commercial fishery, there is a minimum stock threshold of 2,300,000 lb of mature male Tanner crab. Then, depending on how many permit holders (and pots) are registered for the fishery, additional days may be added. At the end of the first period of fishing in the core areas (Figure 8), noncore and exploratory areas will remain open

for 5 days; following that period, the exploratory areas will remain open for 14 days, and the outside exploratory area will stay open until May 31. The most productive fishing grounds are classified as "core" areas while less productive fishing grounds are classified as "noncore" areas, "inside exploratory" areas, and "outside exploratory" areas (Figure 8).

Under 3-S management for Southeast Tanner crab, males with a minimum legal size of 140 mm (5.5 inches CW) may be harvested, allowing at least 1 to 2 years of reproducing before entering the fishery (Stone et al. 2003).

The Southeast Alaska Tanner crab commercial fishery regulations are as follows:

- Opens on the smallest Juneau tidal range between February 10 and 17, concurrently with golden king crab fishery
- Weather delay criteria for season start
- Five-day minimum season if mature male threshold is met
- Core and noncore areas season lengths vary depending on the number of vessels registered
- 80 pot limit per vessel
- Size restriction of 140 mm minimum CW, male only fishery
- Buoy tag requirement
- Mandatory registration and logbook, super-exclusive registration area
- Escape ring and biodegradable line requirement

Mature male abundance estimates and the number of registrants determine additional fishing days.

STOCK ASSESSMENT

Tanner crab stock assessment has evolved continually over the past 27 years. Prior to 1997, stock assessment analyses consisted of simple summary statistics and trends (Clark et al. 2001) based solely on fishery-dependent data from dockside sampling, logbooks, and fish tickets. From the beginning of the Tanner crab survey in 1997 through its maturation in 2006, relative abundance was determined using CPUE from either the Tanner crab survey or the red king crab survey (Figure 10).

A catch-survey analysis (CSA) from survey data began in 2005 (Zheng et al. 2006). Along with commercial logbook data, this model estimated mature Tanner crab biomass for the 2006/07 season (Siddon et al. 2009). The 2007/08 season was the first for which the CSA alone was used to provide an estimate of mature male Tanner crab biomass. In previous seasons, trends in short and long-term CPUE by recruit class composition were used to assess stock health in surveyed areas (Figures 10 and 11; Siddon et al. 2009). After the expansion of the biomass estimate to account for the proportion of harvest that comes from non-surveyed areas (29% prior to 2015, 34% after 2015), tiered harvest rates of 0, 5, 10, 15, or 20% of mature males or a maximum of 50% of legal males, depending upon stock health, are used to determine the harvestable surplus. Improvements to the survey and modeling methods will continue as the time series lengthens.

Surveys

Crab stock assessment surveys are conducted exclusively in 4 survey areas in the fall (Icy Strait, Glacier Bay, Holkham Bay, and Thomas Bay) and in 7 summer survey areas (Juneau, Lynn Sisters, Excursion Inlet, Seymour Canal, Pybus Bay, Gambier Bay, and Peril Strait); both these surveys catch Tanner and red king crab (Figure 9). In 2023, Peril Strait was moved to a biennial survey schedule due to budget constraints. Surveyed areas correspond with commercial fishing grounds,

accounting for over 65% of the total Tanner crab harvest (25-year average). The methods are similar for the summer and fall surveys (Rebert et al. 2020; Stratman et al. 2019). Crab surveys are stratified using the density of historical survey catches. Stratified sampling methods provide greater reliability in CPUE estimates for application in the CSA, which in turn provides greater reliability in biomass projections (Table 11, Figure 10). Pots are located randomly within each density strata.

KING AND TANNER TASK FORCE

The King and Tanner Task Force (KTTF) is an industry group that was formed in the early 2000s to provide direction and assistance to ADF&G regarding Southeast Alaska king and Tanner crab management. This has included providing input on stock assessment methods and bringing forward management issues of concern. In addition, the KTTF has worked to get consensus within the group and with ADF&G regarding proposed regulation changes taken up by the BOF. The group structure was designed to reflect the demographics of the king and Tanner crab permit holders. The KTTF and the department meet at least once a year, sometimes twice if there are pressing issues. The meetings in the fall include ADF&G annual season fisheries summaries and results from summer and fall crab surveys.

RECENT SEASONS

2020/21 Season Summary

For the 2020/21 season, Tanner crab biomass was estimated to be 5.0 million lb of mature males (CW >108 mm) and 3.1 million lb of legal males (CW >140 mm). The mature male biomass showed a decrease of approximately 9% from the previous year due to decreases in Glacier Bay, Holkham Bay, Icy Strait, Seymour Canal, North Juneau, and Lynn Sisters. However, it was balanced by increases in Stephens Passage, Thomas Bay, Excursion Inlet, Pybus Bay, Gambier Bay, and Peril Strait. The stock health in surveyed areas was poor in Icy Strait and Gambier Bay; below average in Glacier Bay and Seymour Canal; moderate in Excursion Inlet and Peril Strait; above average in Holkham Bay, North Juneau, Pybus Bay, and Lynn Sisters; and healthy in Stephens Passage and Thomas Bay (Table 11).

The commercial fishery opened on February 17, 2021. Regulations dictated a 6-day fishery in the core areas, an 11-day fishery in the noncore areas, and a 25-day fishery in the exploratory areas because the mature male biomass exceeded the 2.3 million lb threshold in regulation and 4,640 pots registered at the start of the fishery.

A total of 1,265,246 lb of Tanner crab were caught by 70 permit holders with a total exvessel value of $4.3 million (Table 8). Of the 70 permits that participated in the fishery, 58 were pot permits and 12 were ring nets (Table 8, Figure 7). Pot gear accounted for almost all the total harvest, or 1,260,264 lb, while ring net fishers caught 4,982 lb (Table 8). The standardized CPUE has not varied a lot since 2000/01, including this season (Figure 11). Lynn Canal/Upper Stephens Passage area had the most harvest and participation, 499,507 lb, or 40% of the total harvest (Table 9).

Tanner crab sampled from Icy Strait had an average size of 151.4 mm CW and 2.5 lb (Table 10). The percent of recruit-sized crab was 73%. Crab from Lynn Canal and Stephens Passage were larger, with an average size of 153.1 mm CW and 2.5 lb, and 75% were recruit-sized crab, the highest since the 2008/09 season. The average crab size for the Frederick Sound area was 150.1 mm CW and 2.4 lb, higher than previous seasons, with a percent recruit of 77% (Table 10).

2021/22 Season Summary

For the 2021/22 season, Tanner crab mature male biomass increased from the previous season to 5.8 million lb and 3.6 million lb of legal males. This is a 17% increase from the mature male Tanner crab biomass estimate from the previous year. This increase from the 2020 estimate is due to legal biomass increases in Stephens Passage, Thomas Bay, Seymour Canal, North Juneau, Excursion Inlet, and Gambier Bay. It is balanced by legal biomass decreases in Icy Strait, Glacier Bay, Holkham Bay, Pybus Bay, Peril Strait, and Lynn Sisters (Table 11).

The commercial fishery opened on February 11, 2022. The mature male biomass exceeded the 2.3 million lb threshold in regulation, and 5,120 pots were registered at the start of the fishery. The season closed after 7 days in the core fishing areas on February 18, after 12 days in the noncore areas on February 23, and after 26 days in the exploratory areas on March 9.

A total of 1,401,123 lb of crab were harvested by 85 permit holders (Table 8, Figure 7), with an exvessel value of $9.3 million (Table 8). Reported landings during the season came from 64 pot permits and 21 ring net permits. Pot permit holders landed 1,389,469 lb of crab (99.2%). Ring net permit holders harvested 11,654 lb, or 0.8% of the total Tanner crab harvest (Table 8). About 1,311,682 lb or 93.6% of the total season's harvest was taken from the 3 major fishing areas: Icy Strait, Lynn Canal/Stephens Passage, and Frederick Sound (Table 9). Once again, the Lynn Canal/Stephens Passage area had the most harvest, 43% of the total season's harvest, with 600,988 lb (Table 9). There was a small decrease in the standardized CPUE from the previous season (Figure 11).

Tanner crab sampled from Icy Strait had an average size of 150.4 mm CW, an average weight of 2.5 lb, and a recruit percentage of 74%; crab from Lynn Canal had an average size of 154.6 mm CW and averaged 2.5 lb. The average crab size for the Frederick Sound area was 150.3 mm CW, similar to the previous season. The average weight was 2.5 lb, up slightly from the previous season, and the percentage of recruits increased slightly to 79% (Table 10).

2022/23 Season Summary

The Tanner crab biomass estimate declined approximately 0.6 million lb in 2022 to 5.2 million lb of mature males and 3.2 million lb of legal males (Table 11, Figure 10). This is a decrease of 0.46 million lb of legal males from the 2021 estimate, predominantly due to biomass decreases in Icy Strait, Stephens Passage, Thomas Bay, Holkham Bay, North Juneau, Excursion Inlet, Peril Strait, and Lynn Sisters, but balanced by legal biomass increases in Glacier Bay, Seymour Canal, and Gambier Bay. Stock health in the surveyed areas was below average in Excursion Inlet, moderate in Icy Strait, Glacier Bay, Thomas Bay, Pybus Bay, Gambier Bay, Peril Strait, and Lynn Sisters, above average in North Juneau, and healthy in Holkham Bay, Stephens Passage, and Seymour Canal (Table 11). None of the survey areas had a poor stock health rating.

The harvestable surplus has remained stable over the last few years. Recently, surveyed areas showed a mix of increasing and decreasing abundances, stabilizing the overall regional abundance. The regional legal male biomass estimate is similar to levels observed in the late 1990s and has generally increased since 2011 (Figure 10). Overall, recruitment appeared consistent regionwide, and stock health has improved from previous years. Standardized commercial fishery CPUE for the 2020/21–2022/23 seasons remained moderately stable (Figure 11).

The commercial fishery opened on February 12, 2023, with a mature male biomass exceeding the 2.3 million lb threshold in regulation, and 4,440 pots registered at the start of the season. This

resulted in the season closing in core fishing areas after 6 days on February 18, noncore areas closing after 11 days on February 23, the inside exploratory areas closing after 25 days on March 9, and outside exploratory areas closing on March 31.

A total of 954,540 lb of crab were harvested by 62 permit holders (Table 8, Figure 7) with a total exvessel value of $2.5 million. Reported landings during the season came from 53 pot and 9 ring net permits. Pot permit holders landed 949,157 lb of crab, almost all of the harvest. Ring net permit holders landed a total of 5,383 lb, or 0.6% of the total Tanner crab harvest. About 914,536 lb, or 95.8% of the total season's harvest, was taken from the three major fishing areas: Icy Strait, Lynn Canal/Stephens Passage, and Frederick Sound, once again Lynn Canal/Stephens Passage had the most harvest and effort, 453,448 lb (Table 9).

Crab sampled from Icy Strait increased to an average size of 151.7 mm CW and weight of 2.5 lb from the previous season. Crab from Lynn Canal had an average size of 153.7 mm CW, a 2.4 lb average weight, and 73% of them were of recruit size. The average crab size for the Frederick Sound area increased slightly to 152.3 mm CW from the previous season. However, the 2.6 lb average weight was the same as the previous season. Percent recruit was 62%, down from the previous season (Table 10).

2023/24 Season Outlook

The Tanner crab biomass estimate declined slightly in the 2023/24 season to 5.1 million lb of mature males and 3.0 million lb of legal males (Table 11). The decrease in biomass from the previous season is attributed to declines in Icy Strait, Thomas Bay, Stephens Passage, North Juneau, Gambier Bay, and Excursion Inlet. Overall, stock health is mixed, with some areas improving and others declining from the previous year. Stock status is poor in 2 areas, below average in 2 areas, moderate in 2 areas, and above average in 5 areas. Peril Strait was not surveyed in 2023 and will be on a biennial survey schedule. None of the areas have a stock status rating of healthy.

The commercial fishery opened on February 17, 2024, with mature male biomass exceeding the 2.3 million lb threshold in regulation. The regulation provides for a minimum season length in the core areas of 5 days, with additional days dependent upon the number of registered pots at the start of the fishery.

GOLDEN KING CRAB

LIFE HISTORY

Golden king crab (*Lithodes aequispinus*) are a deep-water crab species that is widely distributed across the North Pacific (Japan, Russia, Bering Sea, Aleutian Islands, Prince William Sound, Southeast Alaska, and British Columbia (Butler and Hart 1962; Jewett et al. 1985; Nizyaev 2005; Olson et al. 2018; Somerton and Otto 1986; Stevens and Lovrich 2014). The biology of golden king crab is poorly understood, but they are thought to have a 20-month reproductive cycle (Long and Van Sant 2016; Paul and Paul 2001a), asynchronous timing of mating and molting (McBride et al. 1982; Otto 1984; Sloan 1985), and large yolk-rich eggs with low fecundity of approximately 30,000 (Jewett et al. 1985; Long and Van Sant 2016).

Size at morphometric maturity for male golden king crab increases by latitude across management areas within Southeast Alaska (Olson et al. 2018). Management areas with the largest size at morphometric maturity include Icy Strait, Northern, and Southern, whereas areas with the smallest

estimates include North Stephens Passage and Mid- and Lower Chatham Strait (Olson et al. 2018) (Figures 12 and 13). The average molt increment of adult male crab is 16.3 mm carapace length (CL) for Southeast Alaska (Koeneman and Buchanan 1985). Genetic variability in populations of golden king crabs does not show a regional difference between western and eastern population groups along the Aleutian Islands, or genetic differences among north-south population groups in Southeast Alaska (Grant and Siddon 2018).

FISHERY DEVELOPMENT

The development of the Southeast Alaska golden king crab fishery began in the 1960s and 1970s as a bycatch fishery in the commercial red king crab fishery, and developed into a directed golden king crab fishery in the 1980s (Stratman et al. 2017). Harvest has fluctuated annually for the past decade from high to low harvest and rebounding back to higher levels (Table 12, Figure 14).

Commercial vessels currently participating in the golden king crab fishery are primarily salmon tenders, salmon purse seine vessels, and a few large drift gillnet boats. Fishing gear has gradually evolved to include side-loading king crab pots (7 ft × 7 ft × 30 in) and top-loading conical or pyramid-style pots. Because of challenging fishing conditions, commercial fishing operators prefer heavier gear and use different line and buoy train set-ups. Soak times are generally longer than red king or Tanner crab fishing because of the depth of fishing and tides. Conical pots are more easily moved between areas and when fishery performance allows for shorter soak times, they are competitive with square pots.

The golden king crab commercial fishery is managed based on 3-S management that restricts harvest to males only, a legal size limit of 7-inch CW, and a February through December season. Golden king crabs are separated into 7 different management areas: Northern, Icy Strait, North Stephens Passage, East Central, Southern, and Mid- and Lower Chatham Strait (Figures 12 and 13). Participation and gear (80 pots) is limited. GHLs are set annually across 7 management areas within a defined guideline harvest range (GHR), with an allowance for closure of management areas if there are stock health concerns. The golden king crab commercial fishery is data-limited and information that is collected is fishery dependent. Managers rely on harvest amounts, logbook CPUE, biological information (CL, recruit composition, weight, and shell condition) collected from dockside sampling, and fishery observer (1998–2016) data to inform management decisions. No stock assessment projects have been conducted on golden king crab stocks in Southeast Alaska.

A personal use golden king crab fishery occurs in both Southeast Alaska and Yakutat, and a subsistence fishery occurs only in Yakutat. Effectively targeting golden king crab in the personal use and subsistence fisheries is difficult due to the great depths that golden king crab inhabit and heavy pot gear that is necessary. Generally, golden king crab are caught as bycatch when personal use fishermen are targeting red or blue king crab.

REGULATION DEVELOPMENT

Golden king crab fishery regulation development has generally paralleled that of the red king and Tanner crab fisheries. Limited information on golden king crab life history timing suggests that molting and mating are asynchronous, resulting in liberal fishing seasons. Recently, fishery areas have closed from March through November, depending upon effort, harvest rates, and recruitment levels, and have closed by emergency order when there are conservation concerns. In 2018, the BOF expanded the king crab registration areas in Southeast Alaska and Yakutat by establishing

regulations to allow king crab fishing in the exclusive economic zone (the area 3 to 200 miles offshore) under a commissioner's permit.

Before 1986, commercial fishing for golden king crab in Yakutat was allowed under an exploratory fishery opened by emergency order with other exploratory areas in Southeast Alaska. The Yakutat registration area, Registration Area D, was split into its own registration area separate from the rest of Southeast Alaska in 1986, but the emergency order opening requirement for the golden king crab fishery remained. In 2015, the golden king crab fishery opening requirement was changed from an emergency order to a commissioner's permit.

By regulation, the fishery begins the day with the smallest Juneau tidal range between February 10 and 17, concurrent with the start of the commercial Tanner crab fishery. Weather delay criteria have delayed the fishery start date 2 seasons since its implementation in 2012 due to adverse weather conditions. The minimum legal size of 7 inches for golden king crab was established to protect sexually mature male king crab from harvest during the early years of sexual maturity.

In 1990, the BOF adopted a regulation allowing the harvest of any king crab infected with the parasitic barnacle *Briarosaccus* spp., regardless of sex or size. Crab infected with this parasite are incapable of reproduction and may experience reduced growth (Hawkes et al. 1986, 1987). Hence, the removal of infected crabs may improve stock reproduction and growth. There are different species of rhizocephalan barnacle, with *B. regalis* infecting red and blue king crab, and *B. auratum* infecting golden king crab (Noever et al. 2016).

Commercial golden king crab fishery management in Southeast Alaska is based on a management plan and policies reviewed and approved by the Alaska BOF. Regulations include the following:

- Opens on the smallest Juneau tidal range between February 10 and 17, concurrently with the Tanner crab fishery
- Weather delay criteria for season start
- Management area GHRs are based on historical harvest levels
- Seven management areas
- 80 pot limit per vessel
- Size restriction of 7 inches minimum width, male-only fishery
- Buoy tag requirement
- Mandatory registration and logbook
- Escape ring and biodegradable line requirement

The personal use golden king crab fishery occurs in both Southeast and Yakutat, but the subsistence golden king crab fishery occurs only in Yakutat due to its Customary and Traditional (C&T) finding for king crab. The Southeast personal use golden king crab fishery is a male-only fishery occurring July 1 through June 15 with a legal size of 7 inches or greater CW. The bag and possession limit is 3 male king crab per person, which applies to all king crab species (red, blue, and golden) in combination. Thus, golden king crab bag and possession limits depend on current red and blue king crab bag and possession limits. Unlike the golden king crab, red and blue king crab bag and possession limits can be adjusted based on stock health. Overall, the maximum personal use bag and possession limit for king crab is 3.

The Yakutat personal use and subsistence golden king crab fisheries are male-only fisheries with a legal size of 7 inches or greater CW. There is no closed season, and the bag and possession limit for all species of king crab combined is 2 crab per person. Operators of a commercially licensed

and registered king crab fishing vessel are required to obtain a permit from ADF&G before harvesting golden king crab for personal use, subsistence, or both purposes in the waters of Yakutat Bay.

STOCK ASSESSMENT

There has never been an independent stock assessment program for Region 1 (Registration Area A and D) golden king crab. Assessment of the stock's health and area-specific GHLs are dependent on data collected inseason: fish ticket harvests, logbook CPUE, and dockside biological information. GHLs are set and adjusted based on temporal trends in these data. Logbook information is used for monitoring fishery performance inseason. Beginning in 2000, ADF&G has required vessels participating in the golden king crab fishery to maintain a daily logbook of their catch and effort throughout the season. Information in the logbooks includes date, area description, statistical area, number of pot lifts, number of legal golden and blue king crab, and gear type. Beginning in 2020, logbooks also included soak time.

Since 1970, ADF&G personnel have sampled dockside deliveries of golden king crab to document CL and shell condition at various ports throughout the region. Length frequency data are used to monitor recruitment trends and to determine the relative contribution of various recruit classes of crab. ADF&G personnel began collecting average weight data dockside in 1974; these data provide additional insight into stock dynamics.

HARVEST STRATEGY

The golden king crab fishery complexities led ADF&G to develop a collaborative harvest strategy with the industry. This harvest strategy is a living document meant to establish the framework for a consistent and transparent inseason and postseason approach to determine GHLs and close fisheries when warranted. The harvest strategy is consistent with the Alaska Board of Fisheries' *Policy on King and Tanner Crab Resource Management* (90-04-FB, March 1990; 5 AAC 34.080), the Southeast Alaska Golden King Crab Management Plan (5 AAC 34.114) and is a guideline for managing GKC flexibly and not a detailed step by step approach. Many factors and sources of information play into determining GHLs or closing fisheries that cannot be captured in a prescriptive framework.

The primary goal for developing the Southeast Alaska GKC harvest strategy was to improve and stabilize fishery performance using transparent and repeatable metrics (and their rationale) by evaluating stock health and measuring fishery performance for more consistent inseason and postseason management. Objectives include minimizing and mitigating ecological risks from fishing related activities; maintaining desirable size and age compositions that allow long-term reproductive viability; minimizing handling and unnecessary mortality of nonlegal golden king crab and nontarget species; and reducing dependency on future recruitment.

The primary performance indicator used in this harvest strategy is commercial GKC CPUE from mandatory logbooks that are completed by every vessel each season. Secondary performance indicators include biological, local ecological knowledge, and other anecdotal information that may not be captured quantitatively. Target reference points are set for each management area with some exceptions; upper and lower trigger points are calculated and, if reached, will prompt management actions.

Preseason GHLs are set, inseason decisions are made, and postseason analyses are all guided by this golden king crab harvest strategy; the strategy is meant to provide guidance to managers and show transparency to stakeholders regarding the management process.

FISHERY OVERVIEW: 2021–2023

2021 Season Summary

For the 2021 season, all management areas were open for the fishing season. Sixteen permit holders harvested 60,559 lb of GKC (Table 12, Figure 14) for an exvessel value of $699,071. Most of the harvest came from the Southern and North Stephens Passage areas (Table 13; Figures 12 and 13). The first inseason closure occurred for the North Stephens Passage area shortly after the season opened in February, achieving the GHL in just 2 days of fishing. The Icy Strait area closed next in early March when the GHL was reached. The Northern area closed in early April for stock health concerns and did not achieve the GHL. The Southern and East Central area closed in late April and early May achieving both GHLs. The Mid and Lower Chatham Strait areas closed at the end of the GKC season without reaching the GHL. The harvested GKC had an average size of 170.3 mm CL from dockside sampling (Table 14).

2022 Season Summary

During the 2022 season, 21 permit holders harvested 81,172 lb of GKC with a value of $1.5 million (Table 12, Figure 14). There was a preseason closure for the Northern area because of conservation concerns. The first inseason closure occurred for the North Stephens Passage area shortly after the season opening in February, achieving the GHL in just 2 days of fishing. The Icy Strait and East Central areas closed next after reaching the GHL in mid/late February, with the Mid-Chatham area closing in mid-March and the Southern area closing in late April; both areas reached their GHLs. The Lower Chatham Strait area was the last to close at the regulatory end of the GKC commercial season and did not reach its GHL. The North Stephens Passage and Southern areas had the highest harvest levels, followed by East Central and Icy Strait (Table 13). The fishery-wide average size of harvested GKC was 168.2 mm CL (Table 14).

2023 Season Summary

For the 2023 season, 24 permit holders harvested 169,617 lb with an exvessel value of $2.1 million (Table 12, Figure 14), with all management areas open. East Central area was the first to close after 4 days; it had the highest CPUE compared to historical harvest. The Icy Strait area closed after 7 days, followed closely by North Stephens Passage, Mid-Chatham Strait, and the Northern area, which closed in late February/early March. The Southern area closed in early May, and Lower Chatham closed in December at the end of the season. The East Central area had the highest harvest, followed by Icy Strait and the Southern areas (Table 13). The fishery-wide average size from port sampling information was 170.0 mm CL (Table 14).

2024 Season Outlook

Fishery performance has increased overall specifically in the East Central, Icy Strait, and Mid-Chatham Strait management areas, causing the department to reevaluate the GHLs for the 2024 season, making them in line with the historically high fishery CPUEs. The remaining areas will have GHLs based on the current management plan. A study was designed to collect prerecruit information from pots with closed escape rings in East Central, but no fishery participants agreed to participate, even though there was a stipend for the study. This information would have

given the department an idea of the abundance of GKC that will be available for harvest in upcoming seasons by providing prerecruit, juvenile, and female GKC abundance levels.

RED AND BLUE KING CRAB (REGISTRATION AREA A)

LIFE HISTORY

Red king crab (*Paralithodes camtschaticus*) are far ranging from British Columbia north to the Bering Sea southwest to Korea. In Southeast Alaska and British Columbia, they are found throughout fjords and channels. Typically, they are the largest king crabs, with some exceeding 20 cm in CL (Stevens and Lovrich 2014). They can weigh up to 24 lb (with a leg span of 5 feet); females typically weigh less than males. It is estimated that they can live between 20 and 30 years. Diet varies depending on the stage of red king crab: larvae eat phytoplankton and zooplankton, juveniles eat algae and small animals, and larger crabs eat worms, clams, mussels, barnacles, crabs, fish, and almost anything else they can capture and crush in their claws.

Red and blue king crab have 4 zoeal stages and a postlarval stage before transitioning into juvenile crabs and settling to the ocean floor (Stevens and Lovrich 2014). Research in Southeast Alaska found that juveniles can inhabit the intertidal zone of the ocean, and the range of habitat for the species is from the intertidal to the continental shelf; the more mature animals inhabit deeper waters. In the spring, female king crabs molt and then mate (Webb 2010), typically after their previous clutch has hatched. Red king crab females can produce up to 400,000 eggs in their clutches each year, which are held externally under their abdominal flap. King crabs form aggregations called pods where the animals stack up on one another in a behavior thought to be a defense against predators. Pods can be several feet high and consist of thousands of crabs.

FISHERY DEVELOPMENT

Commercial Fishery History

Red king crab are harvested primarily in the protected bays, inlets, and adjacent shorelines in Southeast Alaska north of Petersburg; few red king crab are caught from the southern portion of Southeast. Red king crab generally inhabit depths less than 200 fathoms. Historically, important red king crab fishing grounds have included Gambier Bay, Pybus Bay, Seymour Canal, the Juneau area, Lynn Canal, Holkham Bay, Excursion Inlet, and Peril Strait (Figure 9). Blue king crab (*P. platypus*) may be taken only during the open fisheries for red and golden king crab, and Tanner crab. Small quantities of blue king crab are harvested incidentally during those fisheries. Commercial vessels participating in the red king crab fishery are primarily salmon tenders, salmon purse seine vessels, and larger drift gillnet boats. Fishing gear has evolved to include both side-loading king crab pots (7 ft x 7 ft x 30 in) and top-loading pyramid or conical-style pots with 5 to 8 ft bases.

Commercial king crab fishing has been documented in Southeast Alaska since 1960, with harvest peaking at 2.2 million lb in 1968. During the 1970/71 season, harvest declined substantially to 389,373 lb, resulting in the minimum legal size to be increased from 6.5 to 7 inches CW (Table 15). The number of permits participating peaked at 97 in 1983. Due to a declining harvest and low stock abundance indicated by department surveys, the fishery was closed for 8 seasons (1985/86–1992/93). The fishery was reopened for the 1993/94 season with a minimum threshold of 300,000 lb and was open for the following 4 seasons before closing again for the 1998/99 season. In

2002/03, the BOF reduced the minimum threshold to 200,000 lb, and since that time, the fishery has been open sporadically with historically low harvest (Table 15). The harvest over the last 3 open seasons (2005/06, 2011/12, and 2017/18) ranged from 120,002 lb (2017/18) to 209,799 lb (2005/06).

Personal Use Fishery History

The personal use red king crab fishery in Southeast Alaska has been important to residents near city centers and outlying areas where populations can be found. The most popular personal use fishery is located near the largest population center in Southeastern Alaska, Juneau. For the seasons that the Section 11-A (Figure 15) fishery was open following 1996/97, the number of personal use red and blue king crab fishery permits issued has ranged between 1,250 (2007/08) and 3,312 (2003/04; Table 16). The percentage of those permits returned has ranged from 66% to 94%, with compliance above 80% in the past 6 years (Table 16). Reported harvest from the permits peaked in 2003/04 at 11,519 crabs, corresponding to the highest number of permits issued. Most of the harvest occurs during the summer (over 70%), except for the 2017/18 and 2018/19 seasons, when 46% and 54% of the harvest was in the summer, respectively. In the past 6 seasons that Section 11-A has been open to personal use fishing, the harvest was within the allocation (65% to 96%), except for the 2017/18 season harvest that exceeded the allocation by 2% (Table 18).

As previously mentioned, permits for areas outside of Section 11-A have been required since 2018. Since then, the estimated number of crabs harvested has ranged from 770 (2022/23) to 1,615 (2018/19; Table 17).

REGULATION DEVELOPMENT

Management of the commercial red king crab fishery is based on the Southeast Alaska Red King Crab Management Plan (5 AAC 34.113) and policies that establish a season to avoid sensitive life history stages. Management considers the timing of reproduction, mating, and molting (November–January), restricts harvest to males only with a minimum legal-size limit of 7 inches CW, implements gear restrictions, limits participation, and sets annual GHLs based on appropriate harvest rates and results of an annual stock assessment survey. The harvest of king crab infected with parasitic barnacle species *Briarosaccus auratum* (that only infects golden king crab) and *B. regalis* (which only infects red and blue king crab) regardless of sex or size is allowed because these parasites hinder reproduction and suppress the growth of king crab (Noever et al. 2016).

Within Section 11-A, management of the personal use red and blue king crab fishery is based on the Section 11-A Red and Blue King Crab Management and Allocation Plan (5 AAC 34.111), which allocates 40% of the harvest to the commercial fishery and 60% to the personal use fishery based on stock assessment results. In addition, Section 11-A personal use fishery has allocations for a winter and summer season to provide greater opportunity for the public at 10% and 50%, respectively. The personal use fishery requires separate harvest permits for Section 11-A and for the remainder of the region to record harvest and effort to manage the fishery. The regionwide permit was implemented in 2018 and is required for all king crab species (red, blue, and golden), whereas Section 11-A is required for only red and blue king crab.

The personal use king crab fishery developed from the subsistence fishery. The BOF has not recognized customary and traditional subsistence use of king crab resources in Southeast Alaska; currently all noncommercial utilization occurs under personal use regulations. Given the limited king crab resources available, there has been no allocation for nonresident sport users and there is

no sport fishery for king crab. The Section 11-A fishery is conducted according to a management and allocation plan adopted by the BOF during the 1995/96 meeting cycle and modified in subsequent BOF sessions.

There have been regulatory adjustments and management actions for personal use red and blue king crab fisheries in Section 11-A (Appendix A1). Permit procedures and bag and possession limits have been revised each season to more precisely achieve allocation and management objectives specified in the Section 11-A red and blue king crab management and allocation plan. Many of the management actions taken for the personal use fisheries were made to comply with the BOF's direction to have the summer and winter personal use seasons last as long as possible

Fishing Seasons – Last 10 Years

Commercial fishing seasons have evolved through time. The current regulatory season extends from November 1–January 24; this avoids the molting and mating season. Section 11-A (Juneau area; Figure 15) has been managed with a separate GHL beginning with the 1996/97 season. Fishing time has varied seasonally and there have been closures in surveyed areas and Section 11-A. There have also been changes in management area descriptions.

The fishery closed from the 2012/13 through 2016/17 seasons. The 2017/18 fishery opened for 24 hours in survey areas that were determined to have a low level of harvestable surplus and all non-surveyed areas (Table 15). After a 4-day stand-down period, the nonsurveyed areas reopened. The nonsurveyed areas were split into a northern section and a southern section to allow for exploration of the nonsurveyed southern area which has shown low effort historically. The nonsurveyed northern area closed after 23 days of fishing, reaching its 100,000-pound GHL. The nonsurveyed southern area closed after 41 days following low effort and catch rates. The fishery did not open for the 2018/19 through the 2022/23 seasons.

Quotas and Guideline Harvest Ranges

Commercial quotas changed in the early years/season, along with combining all king crab and the separation of the species. Quotas were replaced by GHRs after 1977. Since the 1980/81 season, allowable harvests, expressed as either GHLs or GHRs, have been based on results from the red king crab stock assessment survey that determines an index of abundance. The available harvestable surplus is determined by applying a harvest rate. Beginning in 1988, a threshold of 300,000 lb of surplus legal-sized crab had to be available before the commercial fishery would be opened. In 2002, this threshold was reduced to 200,000 lb by the BOF in response to an industry proposal. At the time, the industry stated that a threshold under 200,000 lb would not be economically viable. Part of this threshold reduction included a 3-year sunset clause. The sunset clause was removed in 2005, and the current 200,000 lb threshold has been in place since that time.

Fishing Gear

The amount of gear that has been allowed to fish has changed over the years/seasons (Palof et al. 2021). Current regulations provide for between 20 and 50 pots per vessel based on a "sliding scale" system that is dependent on the allowable harvestable surplus or GHL.

To reduce the capture of undersized crab, all pots must have either 9.5 inches stretch mesh along one panel or four 6.25-inch escape rings. In order to reduce "ghost fishing" by lost pots, regulations require degradable twine or a timed galvanic release device that will allow caught crab to escape after a short period of time. Tunnel height on standard side-loading pots must be a minimum of 8

inches in the vertical dimension. There are restrictions on pot storage before and after fishing seasons, and each stored pot or stack of pots must be buoyed and marked. Marking requirements for pot buoys include sequentially numbered tags, which are purchased from the department. In 2005, escape ring placement was amended to clarify how escape rings were to be optimally located to allow the escape of undersized and female crab.

Management Plan

In 1993, the BOF adopted a comprehensive management plan for red king crab in Southeast Alaska. There are several key elements of the management plan:

- Provisions to maintain an adequate abundance of various size classes of males and females necessary to provide for sustained harvests and stock conservation.
- Application of a harvest rate based on both legal males and mature males.
- A GHL based on stock conditions for each fishing district.
- A minimum harvest threshold of legal males.
- Conduct of an orderly fishery.
- Conservative management when biological and fishery independent information is lacking.

If the fishery opens, pot limits are based on the GHL, and range between 20 and 50 pots per vessel. Additional elements used to manage the fishery are included in regulations concerning lawful gear, closed waters, mandatory logbooks, and allocation between commercial and personal use fishermen in Section 11-A. A mandatory call-in program was implemented for all seasons after success with a voluntary call-in program during the 2001/02 season. This management plan was designed to be consistent with the BOF's *Policy on King and Tanner Crab Resource Management* (90-04-FB).

STOCK ASSESSMENT

Management of the regionwide commercial and personal use red king crab fishery in Southeast Alaska is abundance-based and requires annual surveys to assess stock size (Stratman et al. 2019). Stock assessment requires 3 types of data: commercial harvest, personal use harvest, and CPUE and length/weight relationships from the stock assessment survey. These data, along with estimates of growth and natural mortality, are used as input to a 3-stage CSA model to determine survey area and regional biomass estimates of mature and legal red king crab and apply exploitation rates to determine harvestable surplus levels for the commercial and personal use fisheries (Palof and Stratman 2022).

Outside Section 11-A, red and blue king crab personal use fisheries are managed by size, sex, season, and bag limit. No allocations are specified in regulation, as GHLs are not established. However, stock assessment information is used to guide decisions on closing areas to personal use fishing and to establish personal use bag and possession limits.

Management relies on port sampling data to make in-season management decisions. This data includes average CL and average individual crab weights (Table 19).

Surveys

The department has surveyed red king crab abundance in Southeast Alaska since 1979. The survey provides indices of crab abundance by sex and recruit class in terms of crab per pot. The survey is conducted in areas where the majority of red king crab harvest occurs (summer survey, Figure 9). Significant improvements, resulting in successive decreases in the CV of CPUE data, have been

achieved over the 30-year survey time series. These include a move from fixed to random pot locations and stratification of survey areas in 1986; a gradual shift from square to cone pots over the period 1995–1999 (Zhou and Shirley 1997); restratification of the survey to redefine strata boundaries based upon the CPUE of legal, sublegal, and female red king crab in 2005 (Clark 2008); and, most recently, an increase in the number of pots set in each surveyed area to improve the precision of survey area estimates. A detailed timeline and methods of survey development is outlined in Clark (2008) and Clark et al. (2003).

Due to industry concerns about the red king crab stock assessment program, the department initiated an external review in 2005 (Quinn et al. 2006). Several suggestions for improvements were made, including delaying the start date of the survey to avoid nonfeeding molting crab, restratification of the survey design for more precise pot placement (Clark 2008), comparing mark–recapture abundance estimates to the CSA (Palof and Stratman 2021), implementing a tagging study to help determine molt increments and movements, deploying temperature loggers on each pot, and assessing clutch fullness each year in each bay (Stratman et al. 2019). Even with these improvements, and because of continued industry concerns, the department and industry cooperatively operated a project from 2010–2018 to independently estimate red king crab population size using mark–recapture methods. Expansion factors for each survey area were calculated and applied to set preseason GHLs.

FISHERY OVERVIEW: 2020/21–2022/23

2020/21 Season Summary

The commercial fishery GHL for the 2020/21 season was 97,881 lb of red and blue king crab, which did not exceed the 200,000 lb threshold in regulation; therefore, the commercial red and blue king crab fishery in Southeast Alaska did not open for the 2020/21 season (Table 15).

The red and blue king crab personal use fishery opened by regulation on July 1, 2020, in non-surveyed areas with bag and possession limits of 1 red or blue king crab per day and continued closures of personal use red and blue king crab fishing in Peril Strait, Gambier Bay, Seymour Canal, Pybus Bay, and Lynn Sisters based on 2019 survey results (Appendix 1). Results of the 2020 survey suggested that Excursion Inlet's stock status could not sustain any harvest; thus, the personal use red king crab fishery closed in September. Survey results from the Section 11-A red king crab 2020 stock assessment survey data indicated that stock status in the Juneau area had improved slightly (Figure 17). As such, a 7% harvest rate was set, providing a total Section 11-A personal use GHL of 1,832 crabs (Table 18). The allocation of this harvest was 1,527 crabs for the summer personal use season and 305 crabs for the winter season. The harvest was estimated to be 1,581 crabs, slightly over the goal (Table 18).

2021/22 Season Summary

The commercial fishery GHL for the 2021/22 season was 90,973 lb of red and blue king crab, which did not exceed the 200,000 lb threshold in regulation; therefore, the commercial red and blue king crab fishery in Southeast Alaska did not open for the 2021/22 season (Figure 16, Table 15).

The red and blue king crab personal use fishery opened by regulation on July 1, 2021, in non-surveyed areas with bag and possession limits of one red or blue king crab per day. Continued closures of personal use red and blue king crab fishing occurred in Peril Strait, Gambier Bay, Seymour Canal, Pybus Bay, Lynn Sisters, and Excursion Inlet based on 2020 survey results.

Results of the 2021 survey suggested that these survey areas had not improved enough to warrant reopening. The 2021 Section 11-A red king crab stock assessment survey information indicated that stock status in the Juneau area had improved slightly (Figure 17). With this result, a 7% harvest rate was set, providing a total Section 11-A personal use GHL of 1,921 crabs: 1,601 crabs for the summer personal use season and 320 crabs for the winter season (Table 18). The estimated personal use harvest was 1,452 crabs, 75% of the goal.

2022/23 Season Summary

The commercial fishery GHL for the 2022/23 season was 94,687 lb of red and blue king crab. This did not exceed the 200,000 lb threshold in regulation; therefore, the commercial red and blue king crab fishery in Southeast Alaska did not open for the 2022/23 season (Figure 16).

The red and blue king crab personal use fishery opened by regulation on July 1, 2022, in non-surveyed areas with bag and possession limit of 1 red or blue king crab per day. Continued closures of personal use red and blue king crab fishing occurred in Peril Strait, Gambier Bay, Seymour Canal, Pybus Bay, and Lynn Sisters based on 2022 survey results. Results of the 2023 survey suggested that these survey areas had not improved enough to warrant reopening. The 2023 Section 11-A red king crab stock assessment survey information indicated that stock status in the Juneau area had improved (Figure 17); therefore, an 8% harvest rate was set, providing a total GHL of 1,637 crabs (Table 18). The allocation of this harvest was 1,364 crabs for the summer personal use season and 273 crabs for the winter season. The estimated personal use harvest for Section 11-A was 1,450 crabs, 89% of the goal.

2023/24 Season Outlook

The GHL for the 2023/24 season was 97,881 lb of red and blue king crab, which did not exceed the 200,000 lb threshold in regulation; therefore, the commercial red and blue king crab fishery in Southeast Alaska did not open for the 2023/24 season (Figure 16).

The red and blue king crab personal use fishery opened by regulation on July 1, 2023, in non-surveyed areas with bag and possession limits of 1 red or blue king crab per day and continued closures of personal use red and blue king crab fishing in Peril Strait, Gambier Bay, Seymour Canal, Pybus Bay, Lynn Sisters, and Excursion Inlet based on 2022 survey results. Results of the 2023 survey suggested the previously mentioned survey areas had not improved enough to warrant reopening. Findings of the 2023 Section 11-A red king crab stock assessment survey data indicated that stock status in the Juneau area had improved. As such, a 10% harvest rate was set, providing a total Section 11-A personal use GHL of 2,842 crabs. The allocation of this harvest was 2,274 crabs for the summer personal use season and 568 crabs for the winter season.

YAKUTAT RED AND BLUE KING CRAB (REGISTRATION AREA D)

FISHERY DEVELOPMENT

Red and blue king crab in Yakutat are harvested in small numbers during a season from October 24 through December 31. Harvest is limited by low abundance of both species in the Yakutat area. Yakutat is an exclusive registration area, and the king crab fishery is not under limited entry. Depending on the circumstances in other crab fisheries in the state, the fishery attracts skiffs as well as an occasional Bering Sea–class crabber. However, most of the participating vessels are

small vessels locally based in Yakutat. Fishing effort is limited by severe winter weather in Yakutat Bay and its associated fjords. The current red and blue king crab management approach is to avoid fishing during sensitive life history stages, to harvest only male crab, and to require a minimum legal CW of 7 inches for red and blue king crab.

Harvest and effort in this fishery has been relatively low and intermittent. Since 1972, there have been reported harvests during 21 seasons, with a maximum of 4 participating vessels, and resulting harvest has ranged between 391 lb in 2000/01 and 18,652 lb in 1980/81 (Table 20). Both red and blue king crab have been landed. The harvest peak in the 1980s was primarily red king crab, although more recent seasons' harvests, peaking in the early 1990s, have consisted of a larger proportion of blue king crab.

Stock assessment surveys are not conducted in the Yakutat area. The average harvest in the 1990s was approximately 3,000 lb. There are some seasons when no harvest weas reported. The last season with reported harvest was 2000/01 when 391 lb were harvested by 3 permit holders. Vessels registered for the 2013/14 and 2017/18 seasons, but no harvest occurred (Table 20).

Fishing opportunities are provided by regulation. Past fishing efforts and harvests have been limited, resulting in harvests far below the upper range of the GHR. Despite an open season, there has been no harvest since the 2000/01 season. The single vessel registered in 2013/14 did not fish. A GHL of 5,000 lb was established for the 2017/18 season. The vessel registered in 2017/18 did fish but harvested no crab. There were no registrants in the 2020/21 and 2022/23 seasons (Table 20).

REGULATION DEVELOPMENT

Fishing seasons have changed over the years/seasons. Currently, the existing fishing season of October 24–December 31 was established in August of 1999. In 2018, the BOF adopted a proposal that expanded the king crab registration area in Yakutat from 3 to 200 miles offshore to allow for exploration in areas that had otherwise been unfished.

Quotas were established and eventually changed to GHRs. In 2005, a GHR of 0 to 20,000 lb was adopted in regulation. Harvest has never approached the top end of the GHR.

There have been many changes over the years in allowable gear, marking requirements, number of pots allowed, pot dimensions, required escape mechanisms, and pot storage. In 2015, the BOF passed multiple proposals pertaining to Yakutat king crab. After December 31, 2017, king crab cannot be taken with pots that have tunnel eye openings located on the vertical plane of the pot (i.e., square pots). In the waters of Russell Fjord and Yakutat Bay a pot reduction proposal was passed changing the pot limit from 100 to 40 pots. Logbooks and reporting requirements were also implemented for king crab fishing in all waters of Registration Area D.

The BOF adopted a customary and traditional use finding for shellfish, including king crab, in the waters of Yakutat Bay, establishing a subsistence fishery with a possession limit of 2.

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TABLES AND FIGURES

Table 1.–Southeast Alaska (Registration Area A) commercial Dungeness crab fishery harvest, effort, and value by season, 1990/91–2023/24.

Season	Number				Harvest (lb) per permit	Pots lifted	CPUE	Average weight (lb)	Price per lb ($)	Exvessel value (million)
	Permits	Landings	Crab	Harvest (lb)						
1990/91	243	2,339	1,293,500	2,662,151	10,955	329,916	3.9	2.1	1.44	3.8
1991/92	318	3,386	2,260,678	4,707,106	14,802	462,425	4.2	2.1	1.21	5.7
1992/93	245	2,497	1,424,742	3,095,419	12,634	313,522	3.7	2.2	0.84	2.6
1993/94	198	1,956	1,167,481	2,536,701	12,812	271,474	3.6	2.2	0.92	2.3
1994/95	184	1,787	927,878	1,921,739	10,444	230,595	4.0	2.1	1.10	2.1
1995/96	200	2,737	2,176,200	4,404,519	22,023	460,378	4.2	2.0	1.62	7.1
1996/97	203	2,896	2,406,434	5,005,840	24,659	399,472	4.9	2.1	0.96	4.8
1997/98	232	4,043	1,921,545	4,062,543	17,511	616,608	2.8	2.1	2.18	8.9
1998/99	244	3,134	1,132,885	2,329,499	9,547	481,214	2.2	2.1	1.47	3.4
1999/00	197	2,862	1,611,136	3,280,503	16,652	474,986	2.8	2.0	1.64	5.4
2000/01	199	2,380	1,254,573	2,565,410	12,892	400,616	2.7	2.0	1.50	3.8
2001/02	209	3,059	2,099,643	4,104,128	19,637	539,636	3.9	2.0	1.73	7.1
2002/03	220	3,561	3,512,242	7,332,665	33,330	785,936	4.5	2.1	1.07	7.8
2003/04	209	2,931	2,184,724	4,537,049	21,708	609,085	3.6	2.1	1.32	6.0
2004/05	198	2,412	2,239,892	4,587,631	23,170	564,417	4.0	2.0	1.36	6.2
2005/06	189	2,203	2,039,101	4,205,480	22,251	468,400	4.4	2.1	1.21	5.1
2006/07	171	2,074	2,228,852	4,503,970	26,339	468,426	4.8	2.0	1.38	6.2
2007/08	193	2,841	2,657,986	5,408,355	28,023	647,401	4.2	2.0	2.13	11.5
2008/09	207	2,816	2,351,764	4,731,668	22,858	647,204	3.6	2.0	2.18	10.3
2009/10	195	2,441	1,770,701	3,569,697	18,306	535,292	3.3	2.0	1.72	6.1
2010/11	176	2,208	1,588,622	3,245,265	18,439	445,348	3.6	2.0	1.78	5.8
2011/12	162	2,014	1,252,387	2,594,897	16,018	377,162	3.3	2.1	2.22	5.8
2012/13	160	2,199	1,144,095	2,359,309	14,746	398,172	2.9	2.1	2.50	5.9
2013/14	150	2,224	1,288,148	2,589,872	17,266	393,227	3.3	2.0	2.49	6.4
2014/15	192	3,305	2,504,931	5,063,854	26,374	623,948	4.0	2.0	2.99	15.1
2015/16	205	3,006	1,545,614	3,259,362	15,899	545,458	2.8	2.1	2.99	9.7

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Table 1.–Page 2 of 2.

Season	Number				Harvest (lb) per permit	Pots lifted	CPUE	Average weight (lb)	Price per lb ($)	Exvessel value (million)
	Permits	Landings	Crab	Harvest (lb)						
2016/17	208	2,544	1,135,953	2,358,645	11,340	464,519	2.4	2.1	3.04	7.2
2017/18	193	1,842	937,701	1,914,417	9,919	343,696	2.7	2.0	3.02	5.8
2018/19	184	2,783	2,070,589	4,089,015	22,223	557,345	3.7	2.0	2.99	12.2
2019/20	199	3,424	2,650,484	5,332,534	26,797	647,443	4.1	2.0	2.97	15.8
2020/21	199	3,304	3,283,021	6,706,685	33,702	607,786	5.4	2.0	1.73	11.6
2021/22	212	3,339	1,775,805	3,728,824	17,589	559,145	3.2	2.1	4.24	15.8
2022/23	196	1,788	988,513	2,018,862	10,300	305,200	3.2	2.0	2.69	5.4
2023/24	157	1,931	1,559,265	3,249,823	20,700	345,600	4.5	2.1	2.24	7.3
5-year average	193	2,757	2,051,418	4,207,346	21,818	493,035	4.1	2.0	2.77	11.2

Table 2.–Southeast Alaska (Registration Area A) commercial Dungeness crab fishery harvest by season, 1990/91–2023/24.

Season	Summer harvest (lb)	Fall/winter harvest (lb)	Total harvest (lb)	Summer %	Fall/Winter %
1990/91	1,868,326	793,331	2,662,151	70%	30%
1991/92	3,636,461	1,070,645	4,707,106	77%	23%
1992/93	2,799,356	290,698	3,095,419	91%	9%
1993/94	2,164,739	371,962	2,536,701	85%	15%
1994/95	1,542,956	377,422	1,921,739	80%	20%
1995/96	3,470,373	934,146	4,404,519	79%	21%
1996/97	3,919,227	1,086,613	5,005,840	78%	22%
1997/98	3,151,525	911,018	4,062,543	78%	22%
1998/99	1,709,252	620,247	2,329,499	73%	27%
1999/00	2,704,940	575,563	3,280,503	82%	18%
2000/01	2,108,896	456,514	2,565,410	82%	18%
2001/02	3,095,444	1,008,684	4,104,128	75%	25%
2002/03	5,936,856	1,395,809	7,332,665	81%	19%
2003/04	3,346,776	1,190,273	4,537,049	74%	26%
2004/05	3,690,534	897,097	4,587,631	80%	20%
2005/06	3,205,190	1,000,290	4,205,480	76%	24%
2006/07	3,496,951	1,007,019	4,503,970	78%	22%
2007/08	3,597,048	1,811,307	5,408,355	67%	33%
2008/09	3,755,556	974,093	4,731,668	79%	21%
2009/10	2,620,083	949,614	3,569,697	73%	27%
2010/11	2,672,837	567,889	3,245,265	82%	17%
2011/12	2,033,440	560,697	2,594,897	78%	22%
2012/13	1,844,332	513,027	2,359,309	78%	22%
2013/14	1,580,646	1,007,084	2,590,022	61%	39%
2014/15	4,061,800	993,938	5,063,854	80%	20%
2015/16	2,688,849	570,513	3,259,362	82%	18%
2016/17	1,933,956	395,438	2,358,645	82%	17%
2017/18	1,445,293	469,124	1,914,417	75%	25%
2018/19	3,007,618	1,081,397	4,089,015	74%	26%
2019/20	4,207,703	1,117,673	5,332,534	79%	21%
2020/21	5,871,175	825,658	6,706,685	88%	12%
2021/22	3,100,849	627,975	3,728,824	83%	17%
2022/23	1,278,546	740,316	2,018,862	63%	37%
2023/24	2,586,793	663,030	3,249,823	80%	20%
Recent 5-year average	3,409,013	794,930	4,207,346	79%	21%

Table 3.–Southeast Alaska (Registration Area A) commercial Dungeness crab fishery harvest by District (1–16) for 2016/17–2023/24.

District	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	Average	Percent (%) of average
1	130,508	67,673	85,718	95,221	90,607	79,389	57,478	80,169	85,845	2
2	74,477	76,087	70,125	98,241	82,376	80,651	46,178	60,867	73,625	2
3	*	*	*	*	*	*	*	0	3,459	<1
4	0	0	0	0	0	0	0	0	0	0
5	*	0	*	*	*	0	*	*	*	*
6	272,295	204,242	535,309	632,713	541,916	153,976	71,444	110,466	315,295	8
7	147,310	129,598	183,482	245,332	150,059	95,905	84,959	109,500	143,268	4
8	583,958	437,281	730,854	1,117,565	1,303,149	741,140	324,509	349,186	698,455	19
9	117,392	16,412	84,114	97,122	258,711	98,921	20,797	*	90,756	2
10	165,182	49,574	343,576	516,843	1,020,664	494,488	220,283	395,750	400,795	11
11	217,783	205,892	909,634	1,097,562	1,011,261	716,658	692,251	1,576,889	803,491	22
12	200,946	121,841	295,991	467,690	650,256	399,753	127,918	101,427	295,728	8
13	77,578	224,554	328,055	260,125	351,272	173,764	182,819	79,752	209,740	6
14	103,776	220,241	340,300	219,757	616,763	228,284	73,439	98,957	237,690	6
15	261,035	147,570	178,626	480,210	627,054	459,477	110,934	259,284	315,524	8
16	0	*	0	0	0	*	0	0	*	*
Total	2,358,645	1,914,417	4,089,015	5,332,534	6,706,685	3,728,824	2,018,862	3,249,823	3,735,569	

Note: * = Confidential data.

Table 4.–Southeast Alaska (Registration Area A) commercial Dungeness crab port sampling information: average size (mm), size range, number of vessels and crab sampled, 1985/86–2022/23.

	Number sampled		Carapace width (mm)		Recruitment	
Season	Vessels	Crab	Average	Range	Recruit[a] (%)	Postrecruit[b] (%)
1990/91	166	16,399	174.9	156–223	84	11
1991/92	172	16,897	178.6	153–230	86	12
1992/93	146	14,262	180.2	157–215	77	21
1993/94	81	7,628	181.8	155–226	78	21
1994/95	79	7,832	176.2	160–222	84	12
1995/96	136	13,621	175.6	158–228	89	9
1996/97	222	11,196	178.5	154–215	81	17
1997/98	200	10,263	179.2	156–220	80	18
1998/99	196	10,145	176.9	101–216	74	22
1999/00	262	13,257	176.2	110–212	77	19
2000/01	338	16,913	176.9	87–213	82	15
2001/02	494	24,704	174.7	153–219	88	6
2002/03	424	21,331	178.9	140–225	89	9
2003/04	425	21,590	178.5	93–224	86	12
2004/05	433	21,876	178.0	140–215	89	8
2005/06	397	19,910	177.8	90–233	90	7
2006/07	455	22,771	176.8	157–230	94	4
2007/08	400	20,948	177.4	123–229	89	8
2008/09	354	18,926	177.7	160–225	89	8
2009/10	376	20,214	177.1	140–223	89	8
2010/11	354	18,912	178.8	159–216	90	8
2011/12	366	20,012	178.4	93–219	87	10
2012/13	346	18,614	177.9	154–219	88	9
2013/14	292	16,133	175.4	157–219	89	7
2014/15	163	10,405	177.3	153–216	86	12
2015/16	177	10,787	178.9	158–228	82	15
2016/17	140	8,413	177.6	161–227	87	10
2017/18	112	6,778	175.9	148–225	89	7
2018/19	130	7,535	175.3	155–211	89	6
2019/20	96	5,511	176.4	161–205	92	5
2020/21	81	4,565	178.0	160–213	83	14
2021/22	101	5,901	180.6	160–219	73	24
2022/23	56	3,095	177.1	160–225	81	16
2023/24	61	3,418	177.7	128–214	82	14
Recent 5-year average	79	4,498	178		82	14

[a] Recruit = all new and soft-shell crab ≥165 mm and ≤194 mm carapace width excluding spines.

[b] Postrecruit = all new and soft-shell crab >194 mm and old- and very old-shell crab ≥165 mm carapace width.

Table 5.–Southeast Alaska (Registration Area A) commercial Dungeness crab port sampling interview information: catch per unit effort and other statistics, 1990/91–2023/24.

Season	Vessels interviewed	Pots lifted	Crab captured	Average number crab/pot	Harvest percent (%) sampled
1990/91	166	40,802	173,431	4.3	1.2
1991/92	177	54,269	270,611	5.0	0.8
1992/93	146	34,288	152,641	4.5	1.0
1993/94	81	16,616	59,540	3.6	0.7
1994/95	79	17,448	62,640	3.6	0.8
1995/96	136	40,967	231,165	5.6	0.6
1996/97	222	54,835	303,170	5.5	0.5
1997/98	195	52,778	151,957	2.9	0.5
1998/99	194	49,340	144,884	2.9	0.9
1999/00	261	66,992	254,327	3.8	0.8
2000/01	339	99,052	322,024	3.3	1.4
2001/02	494	160,978	743,736	4.6	1.2
2002/03	423	160,698	761,474	4.7	0.6
2003/04	422	143,519	606,003	4.2	1.0
2004/05	433	181,955	725,892	4.0	1.0
2005/06	395	129,471	618,833	4.8	1.0
2006/07	455	144,864	759,336	5.2	1.0
2007/08	400	136,926	606,900	4.4	0.8
2008/09	353	130,617	513,144	3.9	0.8
2009/10	376	139,095	486,999	3.5	1.1
2010/11	354	109,371	396,471	3.6	1.2
2011/12	365	103,796	355,477	3.4	1.6
2012/13	346	101,231	299,359	3.0	1.7
2013/14	293	83,685	352,878	4.2	1.2
2014/15	163	65,762	300,282	4.6	0.4
2015/16	177	55,026	198,676	3.6	0.7
2016/17	140	48,885	138,936	2.8	0.7
2017/18	112	42,522	136,466	3.2	0.7
2018/19	129	46,351	186,003	4.0	0.4
2019/20	96	33,618	167,309	5.0	0.2
2020/21	81	32,810	203,849	6.2	0.1
2021/22	101	35,585	120,926	3.4	0.3
2022/23	56	15,478	59,179	3.8	0.3
2023/24	61	22,595	124,788	5.5	0.2
Recent 5-year average	79	28,017	135,210	4.8	0.2

Table 6.–Yakutat (Registration Area D) commercial Dungeness crab fishery catch, effort, and value, 1980/81–2023/24.

Season	Number permits	Number landings	Harvest (crab)	Harvest (lb)	Harvest (lb) per permit	Pots lifted	CPUE	Average weight (lb)
1980/81	10	73	411,293	895,220	89,522	ND	ND	2.2
1981/82	28	169	1,323,791	3,228,301	115,296	ND	ND	2.4
1982/83	35	346	2,046,436	5,160,135	147,432	ND	ND	2.5
1983/84	67	511	1,110,413	2,666,383	39,797	ND	ND	2.4
1984/85	39	236	325,420	774,828	19,867	ND	ND	2.4
1985/86	32	175	172,166	371,237	11,601	66,258	2.6	2.2
1986/87	22	116	363,764	755,912	34,360	49,248	7.4	2.1
1987/88	28	220	1,257,033	2,725,040	97,323	135,919	9.2	2.2
1988/89	32	253	1,549,275	3,494,368	109,199	186,574	8.3	2.3
1989/90	29	227	712,424	1,701,859	58,685	124,857	5.7	2.4
1990/91	36	327	867,031	2,101,676	58,380	177,984	4.9	2.4
1991/92	67	506	1,133,583	2,853,322	42,587	252,606	4.5	2.5
1992/93	49	265	541,961	1,392,700	28,422	176,345	3.1	2.6
1993/94	44	253	352,151	815,969	18,545	119,496	2.9	2.3
1994/95	47	251	393,371	915,523	19,479	108,923	3.6	2.3
1995/96	46	277	239,602	557,528	12,120	95,419	2.5	2.3
1996/97	27	155	111,930	244,825	9,068	42,362	2.6	2.2
1997/98	30	87	74,810	156,072	5,202	34,177	2.2	2.1
1998/99	29	92	62,525	121,478	4,189	26,178	2.4	1.9
1999/00	10	52	31,966	65,386	6,539	14,630	2.2	2.0
2000/01–2023/24	Closed							

Note: ND = no data

Table 7.–Yakutat Dungeness crab ADF&G survey information from 2004, 2012, and 2013 surveys.

	Number					
Year	Pots set	Pots sampled	Sublegal males	Legal males	Females	Legal males per pot
2004	605	425	31	53	33	0.12
2012	600	600	446	188	155	0.31
2013	600	599	147	21	76	0.04

Table 8.–Southeast Alaska (Registration Area A) commercial Tanner crab harvest (lb), effort, and value by season and gear type, 1994/95–2022/23.

	Pot fishery					Ring net fishery			Combined pot and ring net				
Season	Permits fished	Harvest (# crab)	Harvest (lb)	Pots lifted	CPUE (crab/ pot)	Permits fished	Harvest (# crab)	Harvest (lb)	Permits fished	Harvest (# crab)	Total harvest (lb)	Average weight	Exvessel value ($)
1994/95	91	940,233	2,433,571	55,771	17	82	29,685	73,576	173	969,918	2,507,147	2.6	8,383,539
1995/96	94	733,210	1,969,394	45,711	16	74	21,539	50,642	168	754,749	2,020,036	2.7	3,859,839
1996/97	94	688,431	1,818,884	41,898	16	70	33,974	81,935	164	722,405	1,900,819	2.6	3,319,328
1997/98	92	981,437	2,614,166	41,332	24	93	35,154	87,156	185	1,016,591	2,701,322	2.7	4,324,992
1998/99	93	757,545	2,086,672	36,872	21	87	31,161	77,459	180	788,706	2,164,131	2.7	4,482,289
1999/00	92	588,428	1,616,945	34,432	17	110	34,276	89,211	202	622,704	1,706,156	2.7	3,636,954
2000/01	81	447,043	1,221,668	32,187	14	80	30,784	74,012	161	477,827	1,295,680	2.7	2,512,022
2001/02	83	356,704	935,026	29,035	12	57	12,312	29,810	140	369,016	964,836	2.6	1,656,403
2002/03	67	300,453	776,687	22,937	13	44	12,008	27,547	111	312,461	804,234	2.6	1,654,440
2003/04	68	328,814	811,647	23,463	14	30	8,049	20,511	98	336,863	832,158	2.5	1,776,171
2004/05	60	313,281	787,625	18,248	17	21	6,886	16,410	81	320,167	804,035	2.5	1,572,494
2005/06	53	341,115	866,037	18,839	18	19	8,376	20,484	72	349,491	886,521	2.5	1,255,141
2006/07	57	360,820	911,515	22,332	16	19	6,741	16,385	76	367,561	927,900	2.5	1,553,521
2007/08	49	235,789	594,735	16,295	14	18	3,948	10,327	67	239,737	605,062	2.5	1,020,665
2008/09	31	239,616	599,745	16,268	14	10	5,169	12,805	41	244,785	612,550	2.5	575,718
2009/10	33	365,525	944,639	18,871	19	11	7,212	18,871	44	372,737	963,510	2.6	699,271
2010/11	48	334,254	867,252	19,640	17	16	9,505	24,092	64	343,759	891,344	2.6	2,324,727
2011/12	47	417,791	1,082,699	23,520	18	23	10,772	27,085	70	428,563	1,109,784	2.6	3,045,748
2012/13	54	463,166	1,211,607	24,390	19	22	12,372	30,826	76	475,538	1,242,433	2.6	2,825,708
2013/14	59	461,774	1,236,061	25,240	18	21	8,296	20,678	80	470,070	1,256,739	2.7	3,177,955
2014/15	64	543,157	1,403,610	29,973	18	20	7,388	18,253	84	550,545	1,421,863	2.6	2,746,307
2015/16	60	514,288	1,293,876	32,495	16	14	5,273	12,540	74	519,561	1,306,416	2.5	2,919,671
2016/17	59	400,023	974,320	28,540	14	14	8,384	19,294	73	408,407	993,614	2.4	2,683,963
2017/18	58	482,183	1,186,891	29,972	16	15	5,448	12,660	73	487,631	1,199,551	2.5	3,682,606

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Table 8.–Page 2 of 2.

	Pot fishery					Ring net fishery			Combined pot and ring net				
Season	Permits fished	Harvest (# crab)	Harvest (lb)	Pots lifted	CPUE (crab/ pot)	Permits fished	Harvest (# crab)	Harvest (lb)	Permits fished	Harvest (# crab)	Total harvest (lb)	Average weight	Exvessel value ($)
2018/19	61	509,032	1,279,648	30,695	16	8	2,779	6,443	69	511,811	1,286,091	2.5	4,197,946
2019/20	62	477,090	1,206,739	29,820	15	14	2,637	5,986	76	479,727	1,212,725	2.5	3,894,498
2020/21	58	502,267	1,260,264	28,194	17	12	2,102	4,982	70	504,369	1,265,246	2.5	4,264,882
2021/22	64	546,917	1,389,469	37,445	14	21	4,731	11,654	85	551,648	1,401,123	2.5	9,298,490
2022/23	53	374,357	949,157	24,179	15	9	2,242	5,383	62	376,599	954,540	2.5	2,515,374
5-year average	59	481,933	1,217,055	30,067	15	13	2,898	6,890	72	484,831	1,223,945	2.5	4,834,238

Note: The number of crab and pot lifts for pot fishery from 1993/1994 to the present are from logbooks; all other information is from fish tickets.

Table 9.–Southeast Alaska (Registration Area A) commercial Tanner crab harvest (lb) by season and fishing area, 1994/95–2022/23.

Season	Lynn Canal/Upper Stephens Passage[a] Harvest (lb)	Percent (%) of total	Icy Strait[b] Harvest (lb)	Percent (%) of total	Frederick Sound/Lower Stephens Passage[c] Harvest (lb)	Percent (%) of total	Other[d] Harvest (lb)	Percent (%) of total	Total harvest (lb)
1994/95	409,187	16	735,200	29	1,051,899	42	310,861	12	2,507,147
1995/96	314,961	16	725,970	36	704,529	35	274,576	14	2,020,036
1996/97	293,328	15	673,305	35	490,752	26	443,434	23	1,900,819
1997/98	418,743	16	692,620	26	517,500	19	1,072,459	40	2,701,322
1998/99	339,264	16	691,595	32	559,075	26	574,197	27	2,164,131
1999/00	468,373	28	440,239	26	536,957	32	258,839	15	1,704,408
2000/01	412,435	32	298,607	23	391,751	30	192,887	15	1,295,680
2001/02	346,676	36	265,940	28	228,773	24	123,447	13	964,836
2002/03	311,273	39	226,527	28	192,255	24	74,179	9	804,234
2003/04	237,442	29	263,533	32	249,000	30	82,183	10	832,158
2004/05	189,323	24	319,875	40	224,851	28	69,986	9	804,035
2005/06	162,500	18	386,736	44	280,586	32	56,699	6	886,521
2006/07	152,729	17	363,656	39	294,745	32	116,770	13	927,900
2007/08	135,312	22	230,612	38	176,516	29	62,622	10	605,062
2008/09	165,867	28	239,294	40	140,355	23	54,206	9	599,722
2009/10	291,627	30	296,623	31	290,829	30	82,602	9	961,681
2010/11	227,605	26	231,424	26	336,497	38	95,818	11	891,344
2011/12	255,526	23	304,206	27	443,484	40	106,568	10	1,109,784
2012/13	269,489	22	334,244	27	492,846	40	145,854	12	1,242,433
2013/14	333,198	27	259,301	21	524,958	42	139,282	11	1,256,739
2014/15	581,152	41	209,969	15	528,303	37	102,439	7	1,421,863
2015/16	414,221	32	221,820	17	542,007	42	128,186	10	1,306,416
2016/17	338,123	34	204,681	21	339,722	34	111,088	11	993,614
2017/18	316,907	26	313,034	26	449,164	37	120,446	10	1,199,551
2018/19	426,169	33	361,291	28	432,269	34	66,362	5	1,286,091
2019/20	397,189	33	452,072	37	293,915	24	69,549	6	1,212,725
2020/21	499,507	40	432,213	34	250,065	20	83,461	6	1,265,246
2021/22	600,988	43	365,459	26	345,235	25	89,441	6	1,401,123
2022/23	453,448	48	224,276	24	236,812	25	40,004	3	954,540
5-year average	475,460	39	367,062	30	311,659	26	69,763	5	1,223,945

[a] Includes all of District 15 and Subdistricts 111-30–111-99.

[b] Includes all of District 14.

[c] Includes all of District 10, Subdistricts 111-01–111-29, and Subdistricts 108-40–108-60.

[d] Includes all other areas of Southeast Alaska.

Table 10.–Southeast Alaska (Registration Area A) commercially harvested Tanner crab dockside sampling information with average weight from fish tickets, 2020/21–2022/23.

		Number		Average		Percent (%)	
Area	Season	Vessels	Crab	Carapace width (mm)	Weight (lb)	Recruits[a]	Postrecruits[b]
Icy Strait	2020/21	11	825	151.4	2.5	73	27
	2021/22	7	525	150.4	2.5	74	26
	2022/23	5	375	151.7	2.5	75	24
Lynn Canal/ Stephens Passage	2020/21	18	1,350	153.1	2.5	75	25
	2021/22	23	1725	154.6	2.5	78	22
	2022/23	14	1,054	153.7	2.4	73	27
Frederick Sound	2020/21	12	918	150.1	2.3	77	23
	2021/22	18	1,358	150.3	2.5	79	21
	2022/23	4	302	152.3	2.6	62	38

[a] Recruits = all new and soft-shell crab ≥140 mm and ≤164 mm carapace width.

[b] Postrecruits = all new and soft-shell crab ≥165 mm and old and very old crab ≥140 mm carapace width.

Table 11.–Southeast Alaska (Registration Area A) Tanner crab mature and legal male biomass estimates (lb) and stock trend ratings for 12 surveyed areas, 2020/21–2022/23.

Survey area	Estimated biomass (lb)						Stock trends		
	Mature males			Legal males					
	2020/21	2021/22	2022/23	2020/21	2021/22	2022/23	2020/21	2021/22	2022/23
Icy Strait	199,719	231,052	186,472	151,016	124,737	111,496	Poor	Above Average	Moderate
Glacier Bay	541,494	500,559	448,175	363,919	207,710	225,991	Below Average	Moderate	Moderate
Stephens Passage	651,612	952,645	685,205	437,161	705,192	534,899	Healthy	Healthy	Healthy
Thomas Bay	297,548	327,339	190,138	131,223	205,683	99,658	Healthy	Healthy	Moderate
Holkham Bay	354,245	345,277	386,991	244,930	235,972	191,006	Above Average	Above Average	Healthy
Seymour Canal	303,672	472,933	741,913	173,358	287,294	439,651	Below Average	Moderate	Healthy
N. Juneau	191,424	288,184	223,277	129,556	201,552	166,735	Above Average	Healthy	Above Average
Excursion Inlet	314,294	340,699	207,050	179,469	219,643	135,849	Moderate	Moderate	Below Average
Pybus Bay	92,766	42,737	63,694	45,033	35,208	35,385	Above Average	Below Average	Moderate
Gambier Bay	49,693	58,644	94,095	19,692	37,934	45,265	Poor	Poor	Moderate
Peril Strait	211,880	203,676	166,306	99,381	94,076	65,182	Moderate	Healthy	Moderate
Lynn Sisters	59,635	68,392	55,557	45,372	40,626	44,041	Above Average	Above Average	Moderate
Non-surveyed	1,683,505	1,974,132	1,776,692	1,040,663	1,234,110,	1,079,324	NA	NA	NA
Total	4,951,487	5,806,270	5,225,564	3,060,773	3,629,736	3,174,482			

Note: NA = Not available

Table 12.–Southeast Alaska (Registration Area A) commercial golden king crab harvest, number of landings, number of permits, and harvest (lb) per landing, 1986–2023.

Season	Total harvest (lb)	Number		Harvest per landing (lb)	Price per lb ($)	Exvessel value ($)
		Landings	Permits			
1986	698,249	211	61	3,309	3.01	2,520,922
1987	1,016,011	222	51	4,577	3.23	2,521,533
1988	949,205	235	56	4,039	3.58	3,289,424
1989	968,296	228	59	4,247	3.68	3,965,902
1990	632,872	260	63	2,434	3.84	2,265,541
1991	426,882	221	40	1,932	3.56	1,442,388
1992	229,242	154	33	1,489	3.22	612,993
1993	103,781	80	18	1,297	2.32	208,725
1994	30,318	51	13	594	2.54	76,917
1995	39,344	65	19	605	3.60	141,635
1996	15,845	40	11	396	2.94	46,662
1997	67,164	62	16	1,083	3.96	265,695
1998	244,484	87	18	2,810	3.63	887,702
1999	367,782	105	30	3,503	2.90	1,065,981
2000	*	143	46	3,919	2.99	1,675,674
2001	*	189	45	2,808	3.58	1,901,004
2002	*	211	45	2,889	3.62	2,207,978
2003	562,395	190	48	2,960	4.14	2,328,905
2004	557,251	144	45	3,843	4.02	2,241,449
2005	557,725	130	42	4,290	4.00	2,231,324
2006	563,615	165	37	3,416	4.32	2,432,494
2007	581,101	131	34	4,436	4.27	2,480,210
2008	638,582	104	33	6,140	4.47	2,855,908
2009	*	134	36	5,214	4.03	2,817,618
2010	732,127	147	38	4,980	4.20	3,076,723
2011	687,505	172	40	3,997	6.77	4,656,267
2012	599,723	205	36	2,925	7.87	4,718,581
2013	511,229	219	33	2,334	10.10	5,164,636
2014	234,891	175	30	1,342	12.02	2,824,089
2015	129,822	141	33	921	12.10	1,570,403
2016	*	94	21	817	11.26	865,064
2017	61,586	78	18	790	10.86	668,798
2018	60,371	52	13	1,161	10.85	655,020
2019	57,491	47	15	1,223	11.17	641,890
2020	47,165	35	14	1,348	9.38	442,753
2021	60,559	50	16	1,211	11.54	699,071
2022	81,172	54	21	1,503	18.73	1,520,632
2023	169,617	67	24	2,532	12.59	2,134,844
Recent 5-year average	83,201	51	18	1,563	12.68	1,087,838

Note: * = Confidential data.

Table 13.–Southeast Alaska (Registration Area A) commercial golden king crab harvest and effort, by management area and season, 2000–2023.

	Mid-Chatham		East Central		North Stephens Passage		Northern		Icy Strait		Lower Chatham		Southern	
Year	Harvest	Permits	Harvest	Permits	Harvest	Permits	Harvest	Permits	Harvest	Permits	Harvest	Permits	Harvest	Permits
2000	79,208	6	299,585	21	11,678	11	34,706	6	101,111	14	25,407	5	*	*
2001	126,579	10	196,810	25	11,563	11	108,058	18	41,221	10	37,560	4	*	*
2002	113,426	10	267,637	29	23,335	10	131,277	19	50,080	8	11,848	4	*	*
2003	78,284	15	226,905	23	26,085	7	178,938	22	45,106	16	5,630	6	1,436	3
2004	55,107	7	233,655	24	19,608	10	181,154	23	53,034	12	*	*	*	*
2005	61,841	4	261,035	25	18,580	8	142,449	20	62,843	13	*	*	*	*
2006	81,463	5	249,330	16	16,366	3	142,455	19	61,290	13	*	*	*	*
2007	78,416	5	243,675	18	19,450	5	152,145	15	71,058	13	7,736	3	*	*
2008	89,873	6	251,004	14	27,441	7	184,227	17	58,453	14	*	*	*	*
2009	123,626	8	303,811	19	22,770	10	156,261	17	51,026	10	20,004	3	*	*
2010	141,558	10	308,013	24	20,568	7	176,782	22	42,136	9	22,328	5	20,742	3
2011	114,966	10	305,659	20	20,714	8	161,522	21	44,882	10	17,786	5	21,976	4
2012	106,620	9	223,616	19	15,657	6	150,453	19	45,244	11	*	*	*	*
2013	99,101	9	265,049	23	5,323	3	102,351	12	8,185	6	*	*	*	*
2014	43,475	4	81,375	17	7,644	4	39,802	9	19,583	6	23,376	3	19,636	3
2015	30,910	7	25,259	17	6,280	11	7,226	11	12,359	8	26,424	4	21,364	5
2016	9,228	5	9,052	12	5,321	8	6,939	7	10,255	3	*	*	19,167	5
2017	*	*	972	4	16,558	7	5,610	8	7,007	6	*	*	16,722	4
2018	*	*	Closed		10,345	6	1,852	4	6,458	3	*	*	19,908	3
2019	4,481	3	6,749	6	17,581	8	Closed		*	*	*	*	20,105	4
2020	Closed		Closed		19,769	8	Closed		6,833	6	Closed		20,557	5
2021	*	*	8,744	4	1,7267	6	3,632	6	8,833	4	*	*	21,546	3
2022	*	*	17,029	13	21,073	6	Closed		14,377	7	*	*	21,050	4
2023	*	*	78,921	8	18,489	7	11,789	8	27,569	6	*	*	21,142	4
Average	79,898	7	180,236	17	16,564	7	103,392	14	35,950	9	19,188	4	18,684	4

Note: * = Confidential data.

Table 14.–Southeast Alaska commercial golden king crab port sampling information: average size (carapace length, mm), size range, number of vessels, and crab sampled, 1986–2023.

	Number sampled		Carapace length (mm)	
Season	Vessels	Crab	Average	Range
1986	17	1,765	166.6	148–198
1987	43	4,609	168.0	143–210
1988	63	5,408	173.4	148–214
1989	76	7,120	172.7	142–210
1990	86	7,880	176.7	146–211
1991	80	7,108	175.4	147–214
1992	61	5,157	172.8	146–213
1993	18	1,454	171.8	148–211
1994	13	1,080	171.1	133–206
1995	13	1,037	171.1	137–208
1996	15	351	172.2	146–208
1997	19	1,585	165.9	143–206
1998	31	2,390	166.1	147–212
1999	35	2,401	166.7	145–210
2000	59	4,154	166.9	138–203
2001	85	5,717	168.9	143–206
2002	71	4,858	171.2	148–210
2003	76	5,494	169.7	137–204
2004	60	2,854	170.5	145–206
2005	63	3,097	168.9	147–210
2006	65	3,211	169.6	138–214
2007	66	3,358	170.0	148–205
2008	40	2,022	169.1	148–210
2009	33	1,692	170.2	147–205
2010	57	2,917	171.6	142–215
2011	74	3,850	175.0	143–221
2012	71	3,517	176.4	147–217
2013	65	3,310	176.1	148–220
2014	58	2,937	175.8	146–215
2015	71	3,294	172.9	140–214
2016	48	2,129	171.1	143–207
2017	27	1,021	170.1	149–203
2018	18	856	167.4	147–203
2019	16	704	166.7	105–197
2020	9	668	172.1	141–206
2021	6	576	170.3	150–202
2022	10	692	168.2	151–205
2023	19	1,505	170.0	149–206

Table 15.–Southeast Alaska (Registration Area A) commercial red king crab harvest and effort by season, 1968–2022/23.

Season	Harvest (lb)	Number of landings	Number of permits
1968[a]	2,199,722	NA	19
1969	1,899,930	122	39
1969/70	1,438,226	401	33
1970/71	389,373	150	20
1971/72	670,645	183	19
1972/73	528,025	198	19
1973/74	758,103	234	29
1974/75	535,534	201	46
1975/76	356,771	170	32
1976/77	328,145	174	35
1977/78	234,494	138	34
1978/79	443,639	165	34
1979/80	658,087	229	39
1980/81	532,674	193	35
1981/82	524,109	171	46
1982/83	412,605	115	58
1983/84	280,681	119	97
1984/85	270,495	121	95
1985/86–1992/93		Fishery closed	
1993/94	202,384	180	83
1994/95	256,267	246	84
1995/96	357,815	203	73
1996/97	428,549	218	79
1997/98	308,322	187	76
1998/99		Fishery closed	
1999/00	289,548	215	77
2000/01		Fishery closed	
2001/02	296,967	177	77
2002/03	233,630	154	75
2003/04	193,759	93	67
2004/05		Fishery closed	
2005/06	209,799	112	58
2006/07–2010/11		Fishery closed	
2011/12	176,402	103	54
2012/13–2016/17		Fishery closed	
2017/18	120,002	119	48
2018/19–2022/23		Fishery closed	

Note: NA = Not available

[a] Season totals include all 3 species of king crab (red, blue, and golden) from all of Southeast Alaska, including Yakutat.

Table 16.–Southeast Alaska (Registration Area A) Section 11-A red and blue king crab personal use fishery information by season, 1996/97–2022/23.

Season	Permits issued	Permits returned	Permits returned (%)	Reported harvest	Summer harvest (%)
1996/97	2,117	1,600	76	6,229	83
1997/98	1,418	939	66	5,309	92
1998/99	1,649	1,394	85	6,432	84
1999/00	1,908	1,563	82	8,161	84
2000/01	2,035	1,846	91	9,002	82
2001/02	2,070	1,942	94	9,298	87
2002/03	3,039	2,681	88	8,604	82
2003/04	3,312	3,049	92	11,521	89
2004/05	3,224	2,931	91	9,739	86
2005/06	2,977	2,383	80	9,301	88
2006/07	2,697	1,843	68	6,326	93
2007/08	1,250	912	73	2,192	100
2008/09			Fishery closed		
2009/10			Fishery closed		
2010/11	1,538	1,341	74	1,290	77
2011/12	1,431	1,341	94	1,275	79
2012/13-2016/17			Fishery closed		
2017/18	2,584	2,421	94	3,627	46
2018/19	1,197	1,029	86	2,567	54
2019/20	1,789	1,638	92	1,542	93
2020/21	1,611	1,379	86	1,352	88
2021/22	1,524	1,306	86	1,241	95
2022/23	1,484	1,391	94	1,459	83

Table 17.–Southeast Alaska (Registration Area A), Section 11-A, red and blue king crab personal use and commercial harvest and effort.

	Personal Use		Commercial		
Season	Section 11-A (crabs)	Other areas (crabs)	Harvest in Section 11-A	Permits fished in Section 11-A	Harvest in other Southeast Alaska areas (number of crab)
1996/97	6,229	*	2,842	11	55,302
1997/98	5,309	*	2,830	12	36,764
1998/99	6,432	*	0	0	0
1999/00	8,161	*	11,173	16	27,061
2000/01	9,002	*	0	0	0
2001/02	9,298	*	8,525	29	31,022
2002/03	8,604	*	5,165	31	24,905
2003/04	11,521	*	6,987	30	18,424
2004/05	9,739	*	0	0	0
2005/06	9,301	*	7,079	24	19,296
2006/07	6,326	*	0	0	0
2007/08	2,192	*	0	0	0
2008/09	0	*	0	0	0
2009/10	0	*	0	0	0
2010/11	1,290	*	0	0	0
2011/12	1,275	*	960	7	16,098
2012/13	0	*	0	0	0
2013/14	0	*	0	0	0
2014/15	0	*	0	0	0
2015/16	0	*	0	0	0
2016/17	0	*	0	0	0
2017/18[a]	3,627	*	2,516	13	13,644
2018/19[a]	2,476	1,615	0	0	0
2019/20[a]	1,542	1,103	0	0	0
2020/21[a]	1,352	1,257	0	0	0
2021/22[a]	1,244	883	0	0	0
2022/23[a]	1,449	770	0	0	0

Note: * = Historical harvest data (1996–2017) from the statewide harvest survey. Values range from 18 to 5,295 crabs per year; permit information, beginning in 2018, is more accurate.

[a] Reported numbers, not estimated.

Table 18.–Southeast Alaska (Registration Area A) Section 11-A red and blue king crab commercial and personal use total allowable harvest, allocations, and estimated harvest in number of crabs.

	Commercial fishery		Summer personal use fishery		Winter personal use fishery		Total allowable personal use harvest	
Season	Allocation	Harvest	Allocation	Harvest*	Allocation	Harvest*	Goal	Estimated harvest
1996/97	3,825	2,842	3,900	6,866	765	1,376	8,490	11,084
1997/98	3,750	2,830	3,800	7,342	750	678	8,300	10,850
1998/99	6,533	0	6,678	6,435	1,307	1,171	14,518	7,606
1999/00	4,964	11,173	6,200	8,393	1,241	1,570	12,405	21,136
2000/01 Initial allocation	4,140	0	5,176	–	1,035	–	–	0
2000/01 Reallocation	0	0	8,626	8,177	1,725	1,761	10,351	9,938
2001/02	7,189	8,525	8,986	8,576	1,797	1,328	17,972	18,429
2002/03	4,503	5,165	5,600	7,955	1,100	1,779	11,203	14,899
2003/04	6,462	6,987	8,078	11,131	1,616	1,382	16,156	19,500
2004/05 Initial allocation	3,868	0	4,836	–	967	–	–	0
2004/05 Reallocation	0	0	7,737	9,326	1,934	1,569	9,671	10,895
2005/06	7,161	7,079	8,952	10,078	1,790	1,399	17,903	18,556
2006/07 Initial allocation	1,720	0	2,149	–	430	–	–	0
2006/07 Reallocation	0	0	3,439	8,574	860	682	4,299	9,256
2007/08	0	0	0	2,993	0	0	0	2,993
2008/09	0	0	0	0	0	0	0	0
2009/10	0	0	0	0	0	0	0	0
2010/11	1,094	0	1,494	1,342	298	409	1,792	1,751
2011/12	853	960	1,023	1,081	256	284	2,132	2,325
2012/13-2016/17	Both Commercial and Personal Use closed							
2017/18	2,410	2,516	3,012	1,735	602	2,148	6,024	6,339
2018/19	1,735	0	2,168	1,866	434	1,634	2,602	3,500
2019/20	1,253	0	1,566	1,614	313	105	1,879	1,719
2020/21	1,222	0	1,527	1,369	305	212	1,832	1,581
2021/22	1,281	0	1,601	1,377	320	74	1,921	1,452
2022/23	1,247	0	1,364	1,304	273	256	1,637	1,560

Note: * = harvest estimated by multiplying the number of crab per returned permit and the number of non-returned permits. Reallocation of the personal use portion of the fishery is denoted with en dashes.

Table 19.–Southeast Alaska (Registration Area A) red king crab commercial fishery dockside sampling information from 1970/71–2022/23.

	Number		Average		Percent	
Season	Vessels sampled	Crab sampled	Carapace length[a] (mm)	Weight (lb)	Recruit[b]	Postrecruit[c]
1970/71	29	2,264	161.0	8.6	40	60
1971/72	10	742	160.2	–	48	52
1972/73	30	3,032	158.7	–	54	47
1973/74	15	1,438	161.6	–	28	72
1974/75	20	2,181	166.3	–	28	72
1975/76	21	1,969	160.3	8.4	49	51
1976/77	18	1,460	160.6	8.0	50	50
1977/78	32	3,161	156.7	7.5	30	70
1978/79	18	1,712	155.4	7.2	62	39
1979/80	30	3,082	156.1	7.4	56	45
1980/81	49	4,103	156.3	7.2	53	47
1981/82	37	3,425	158.8	7.2	47	53
1982/83	30	2,821	159.4	7.7	46	54
1983/84	42	3,521	158.4	7.0	52	48
1984/85	36	3,641	159.6	7.4	48	52
1985/86–1992/93			Fishery closed			
1993/94	116	8,601	162.9	8.1	31	70
1994/95	124	7,974	162.8	8.0	35	66
1995/96	73	5,882	159.4	7.5	56	44
1996/97	132	7,744	161.5	7.8	39	61
1997/98	111	5,919	164.4	8.3	28	72
1998/99			Fishery closed			
1999/00	136	6,320	161.1	7.6	45	56
2000/01			Fishery closed			
2001/02	105	5,162	160.1	7.7	40	60
2002/03	66	3,217	161.4	7.9	41	59
2003/04	53	2,619	159.9	7.7	49	51
2004/05			Fishery closed			
2005/06	58	2,873	163.7	8.0	30	70
2006/07–2010/11			Fishery closed			
2011/12	66	3,194	166.1	8.6	19	81
2012/13–2016/17			Fishery closed			
2017/18	42	1,810	161.0	–	33	67
2018/19–2023/24			Fishery closed			

Note: Recruitment is expressed as a percentage of the given size classes.

[a] Sublegal and female crab may be harvested if they are infected with *B. callosus* parasite.

[b] All new- and soft-shell crab ≥145 mm and ≤161 mm carapace length.

[c] All new- and soft-shell crab ≥162 mm, and old-shell crab ≥145 mm.

Table 20.–Yakutat (Registration Area D) red and blue king crab harvest and effort by season, 1972/73–2022/23.

Season	Harvest (lb)	Permits	Landings
1972/73	*	1	*
1973/74		No harvest	
1974/75	*	1	*
1975/76		No harvest	
1976/77		No harvest	
1977/78	*	2	*
1978/79	*	1	*
1979/80	13,915	4	17
1980/81	18,652	3	5
1981/82	*	2	*
1982/83	4,118	4	14
1983/84	1,248	4	4
1984/85		No harvest	
1985/86	*	2	*
1986/87–1989/90		No harvest	
1990/91	*	2	*
1991/92	1,216	3	*
1992/93	*	2	*
1993/94	7,378	3	8
1994/95	2,174	3	7
1995/96	4,276	3	18
1996/97	4,467	3	17
1997/98	4,208	3	13
1998/99	2,053	4	10
1999/00	*	1	*
2000/01	391	3	4
2001/02–2022/23		No harvest	

Note: * = Confidential data.

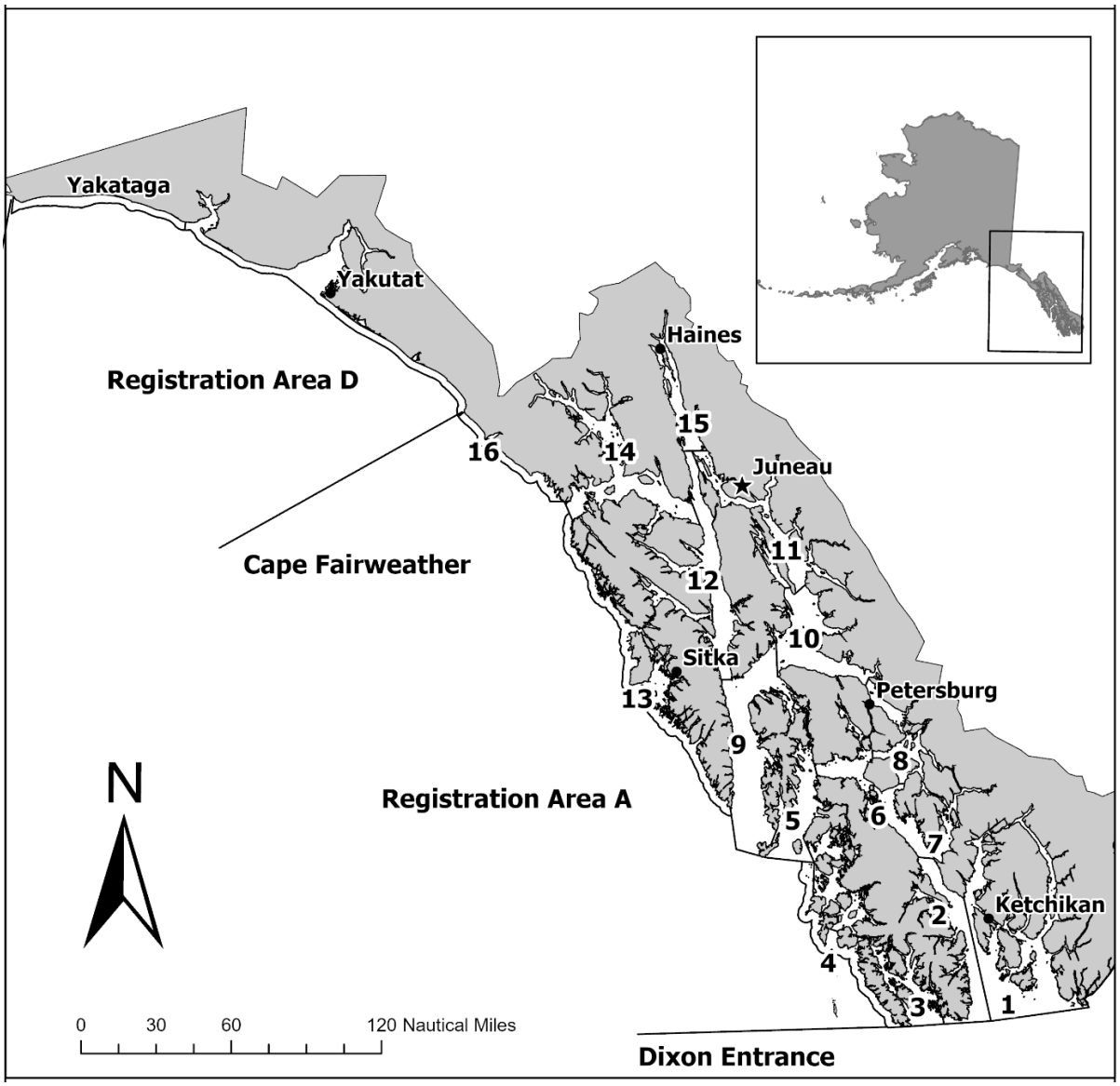

Figure 1.–Shellfish Districts 1–16 in Southeast Alaska (Registration Area A) and Yakutat (Registration Area D).

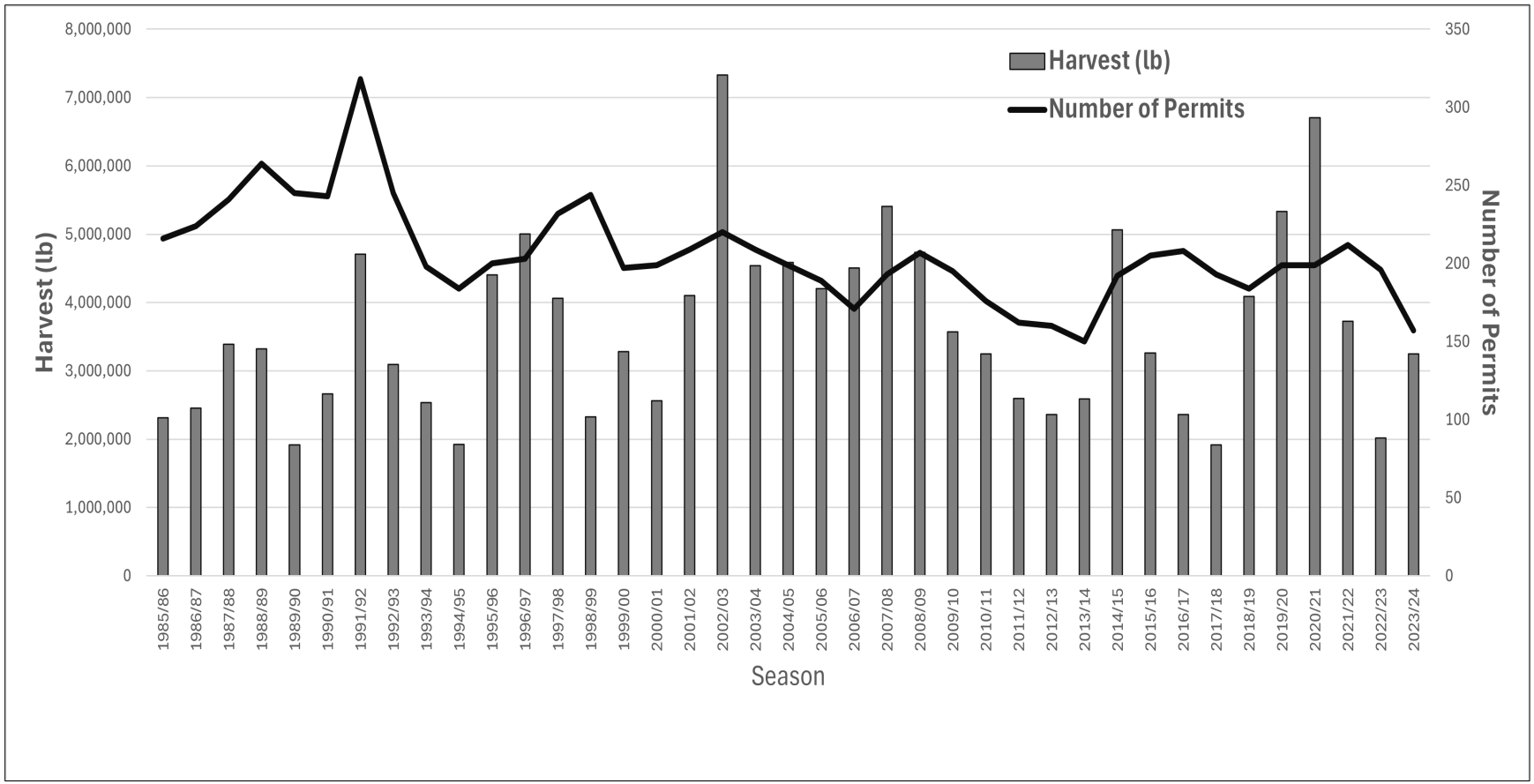

Figure 2.–Southeast Alaska (Registration Area A) Dungeness crab commercial harvest (lb) and effort, 1985/86–2023/24.

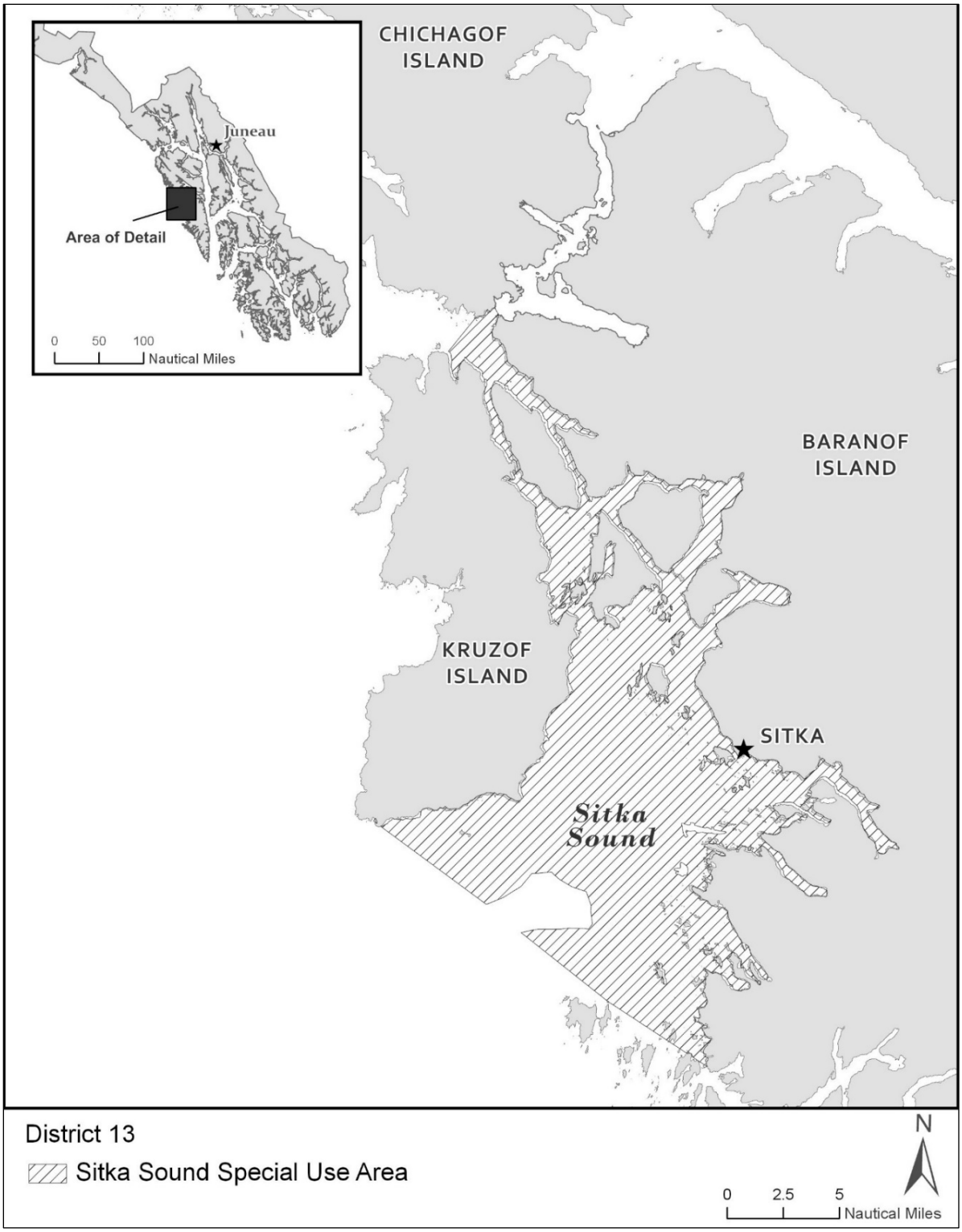

Figure 3.–Sitka Sound Special Use Area within District 13 open for commercial Dungeness crab fishing.

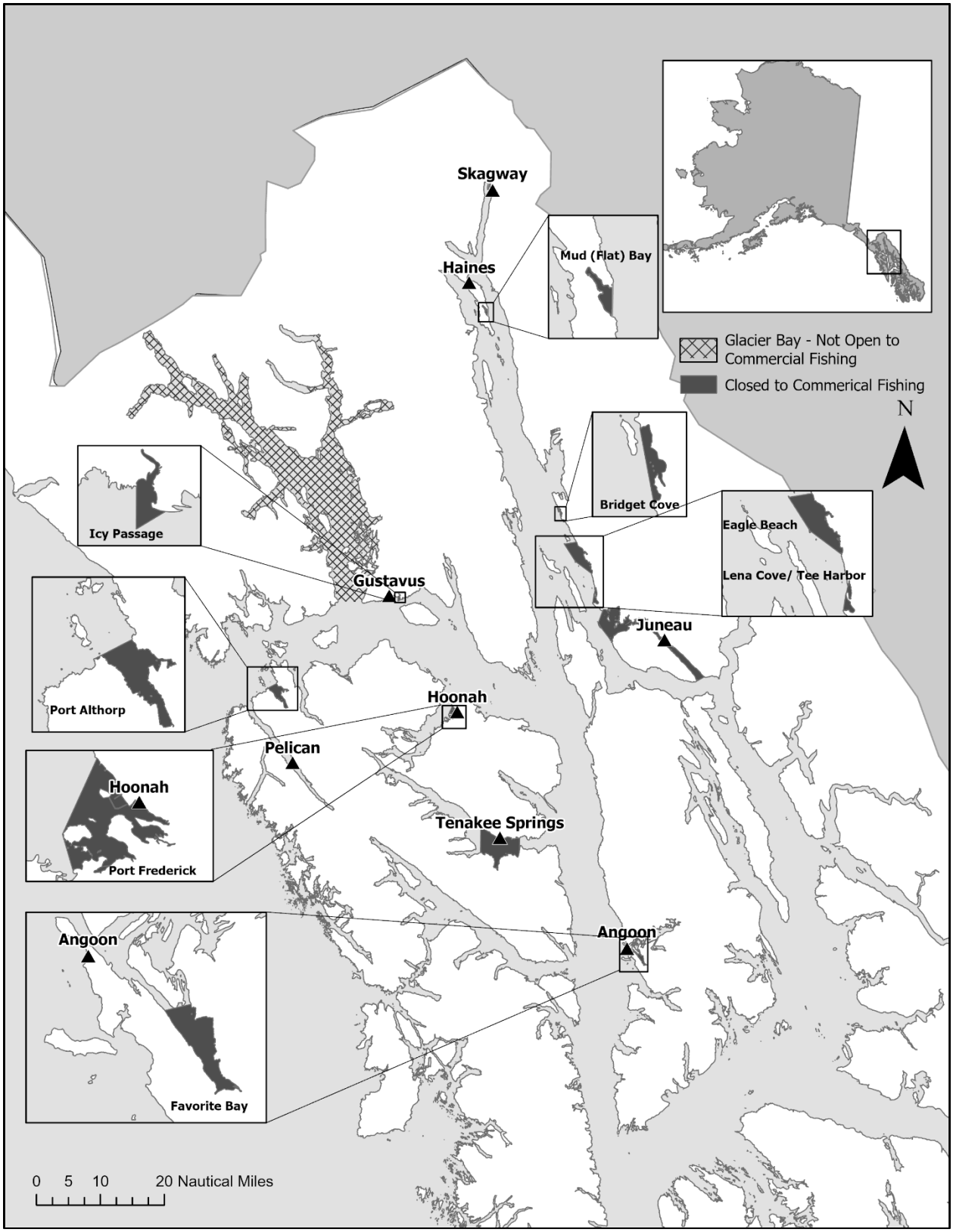

Figure 4.–Southeast Alaska (Registration Area A) areas closed to commercial Dungeness crab fishing in northern area.

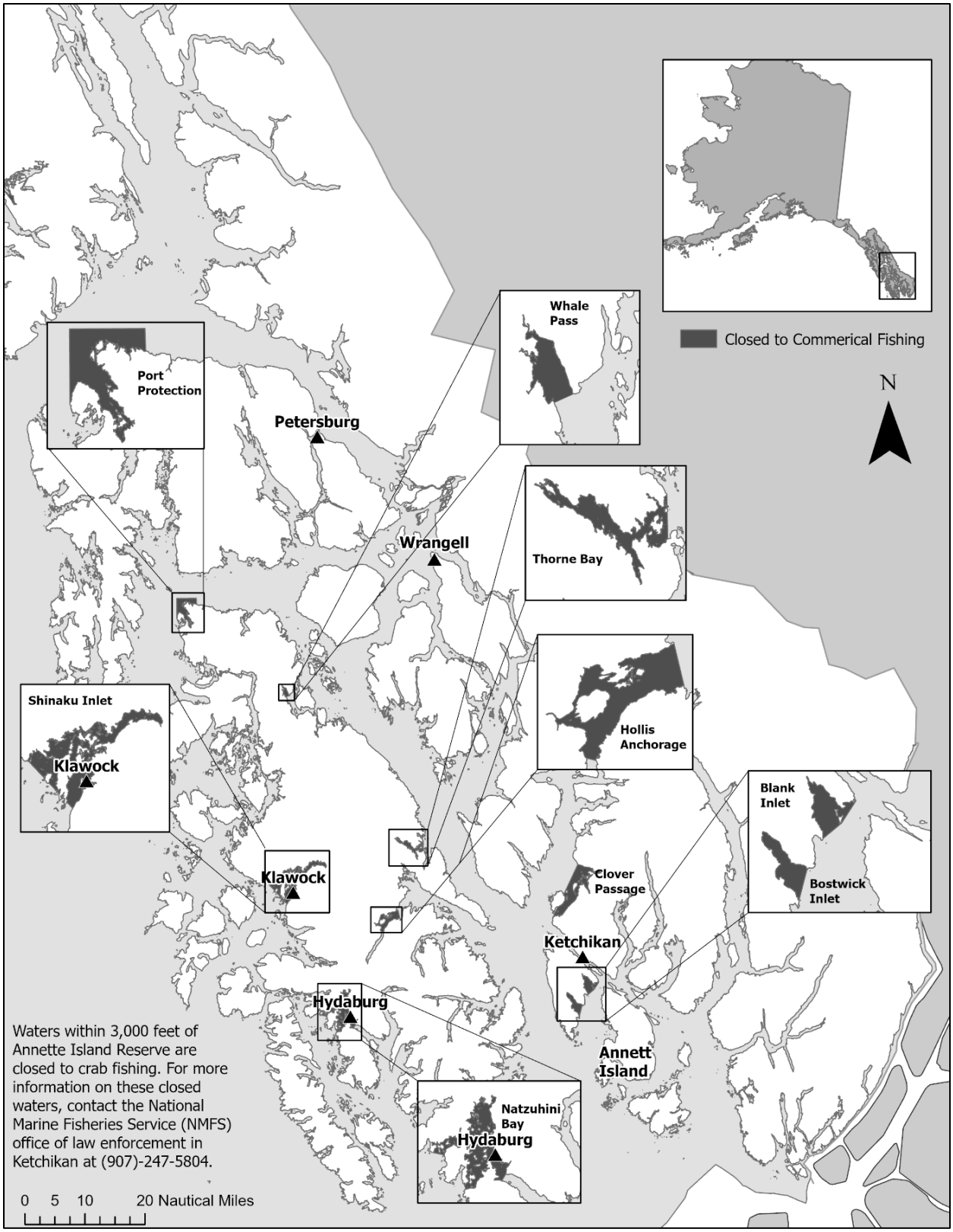

Figure 5.–Southeast Alaska (Registration Area A) areas closed to commercial Dungeness crab fishing in the southern area.

Figure 6.–Dungeness crab survey locations in Southeast Alaska, 1987–2004.

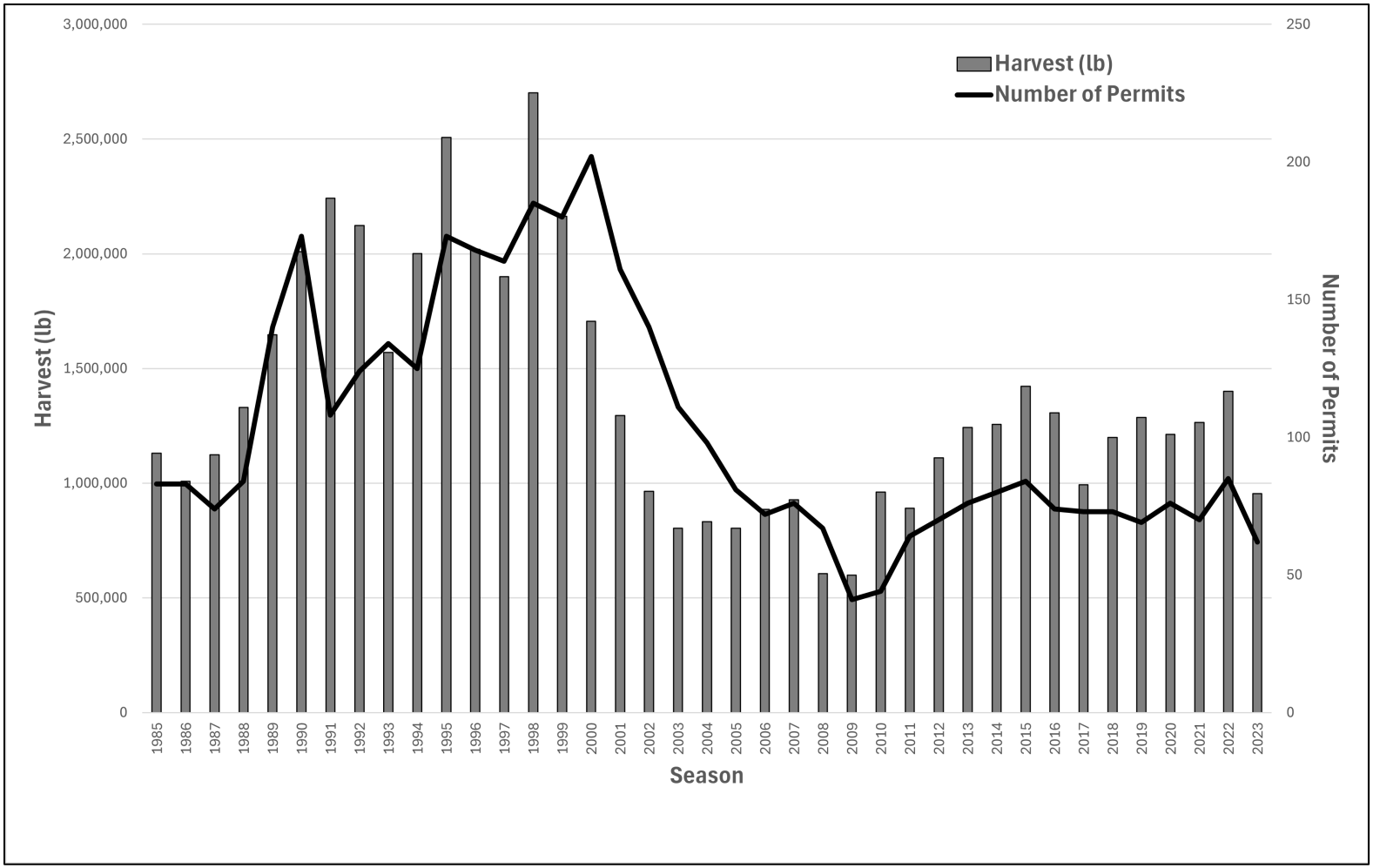

Figure 7.–Southeast Alaska (Registration Area A) Tanner crab commercial harvest (lb) and effort, 1985/86–2022/23.

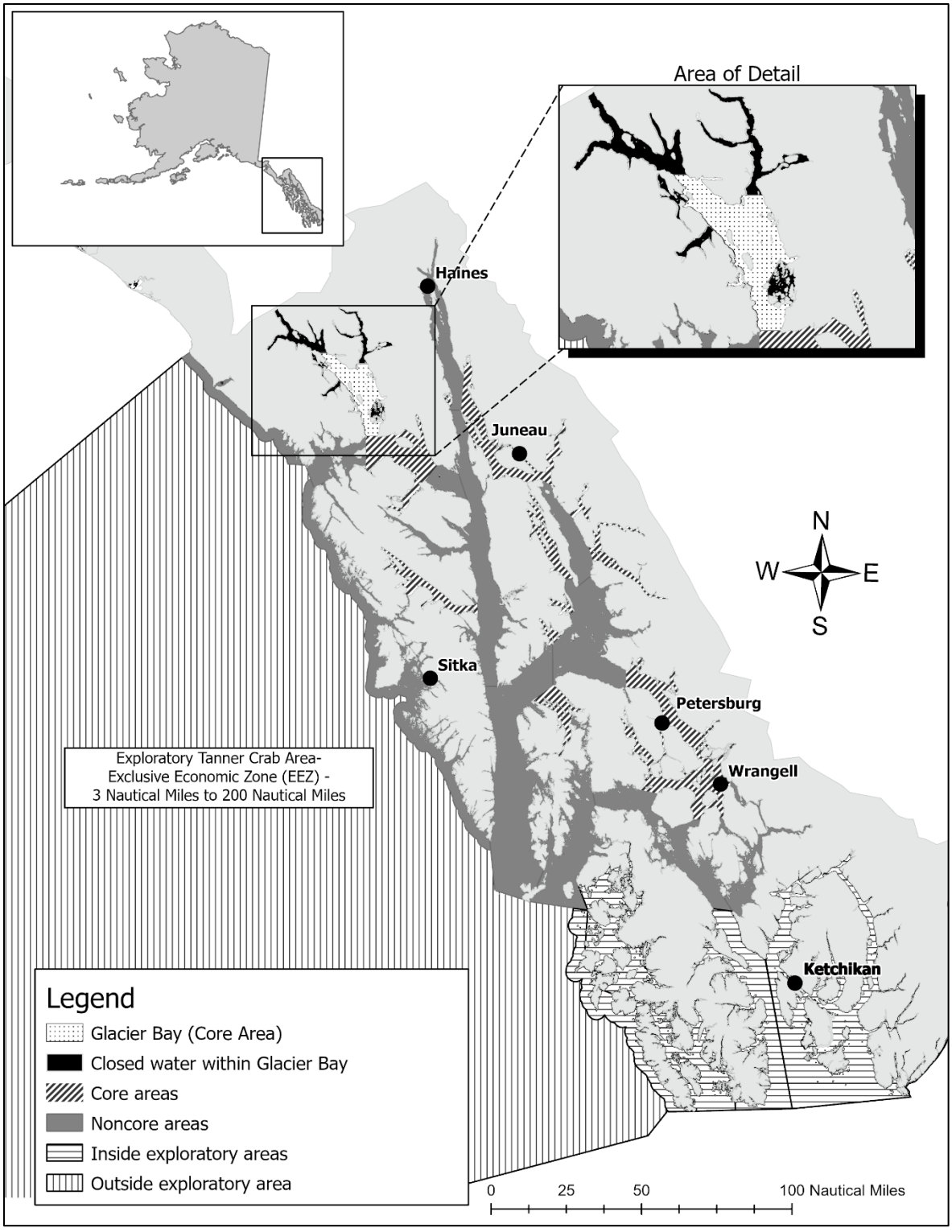

Figure 8.–Southeast Alaska (Registration Area A) commercial Tanner crab fishery and closed areas.

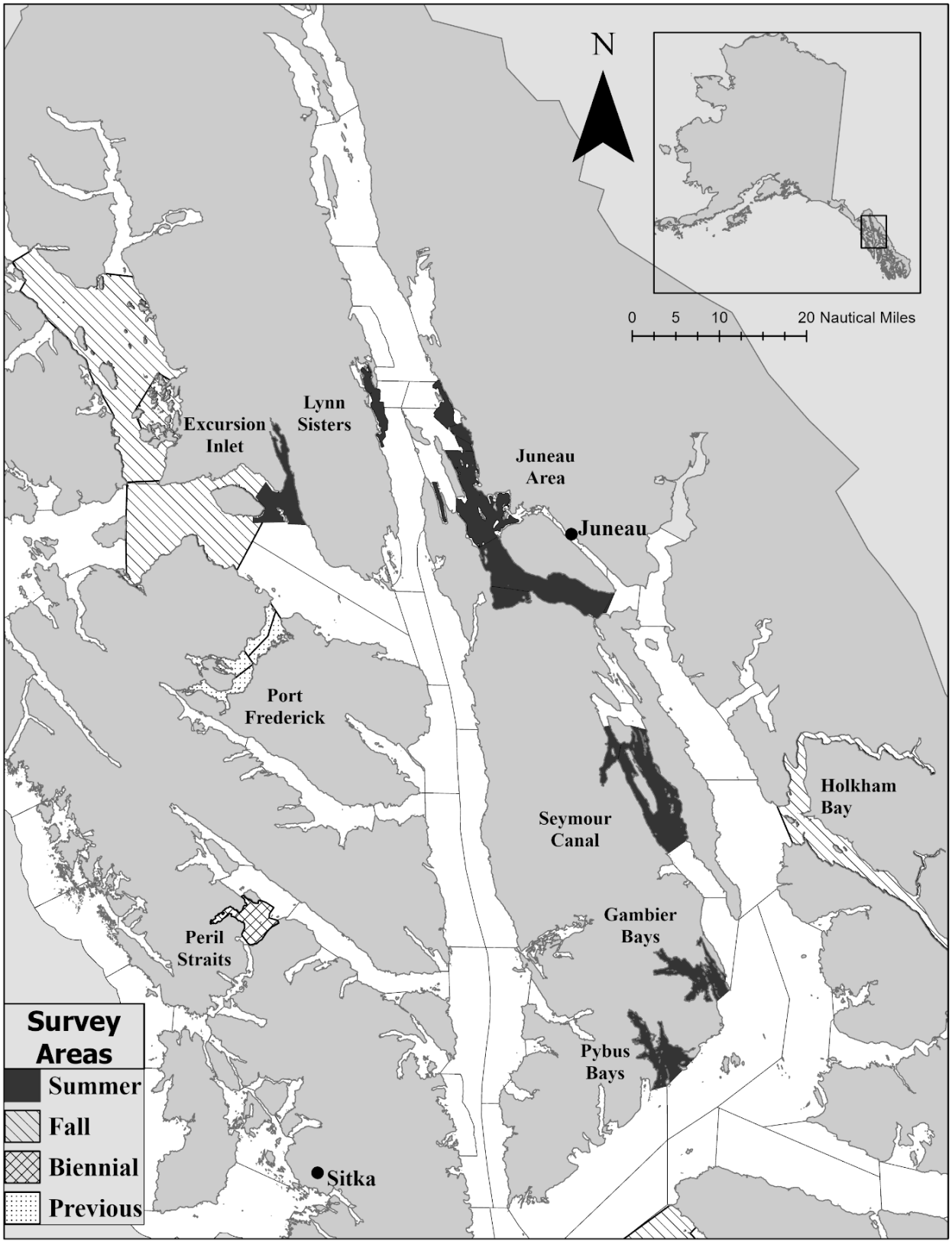

Figure 9.–Southeast Alaska (Registration Area A) summer and fall survey areas for Tanner and red king crab.

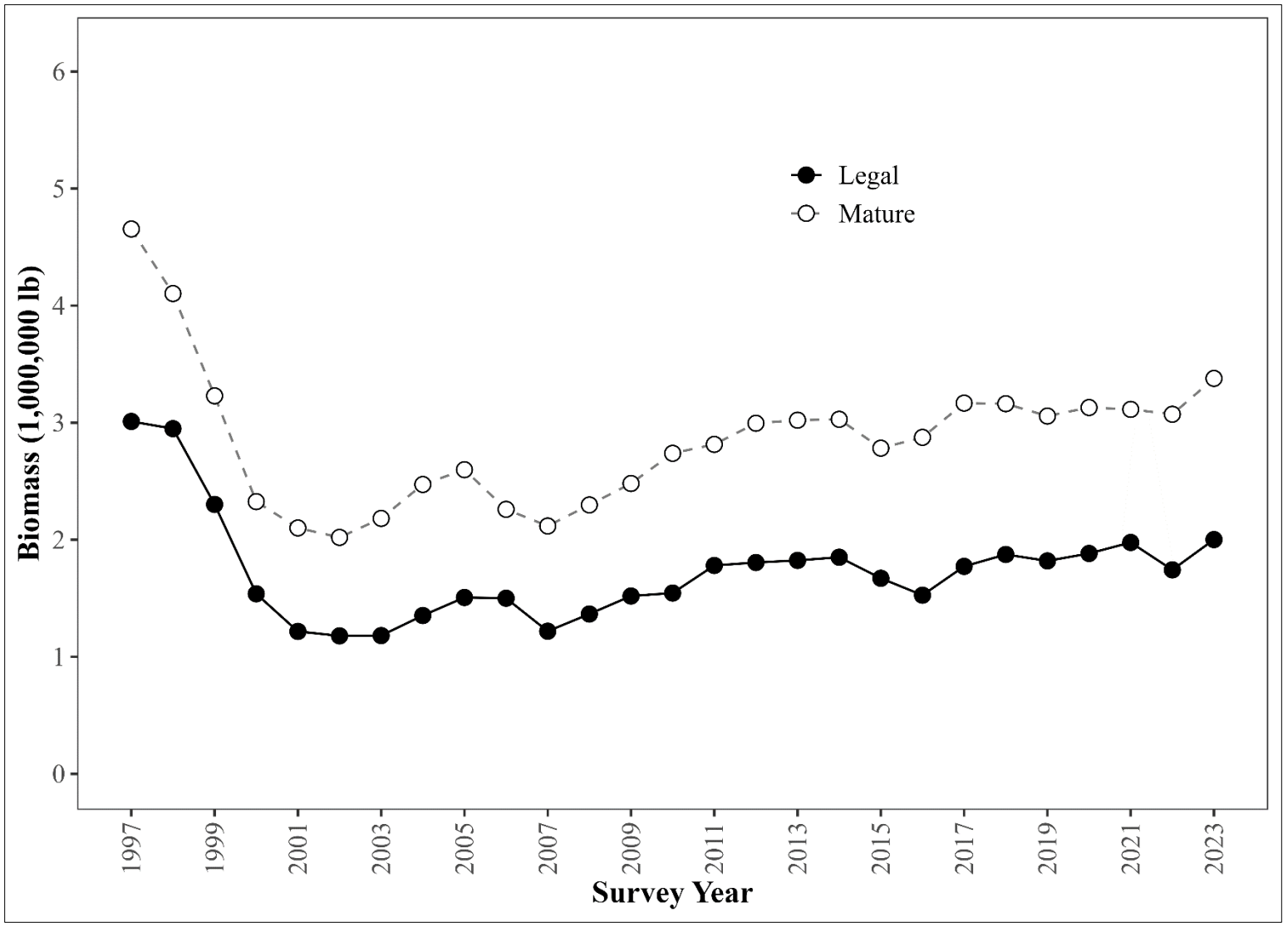

Figure 10.–Southeast Alaska Tanner crab mature and legal biomass estimates for the surveyed areas, 1997–2023.

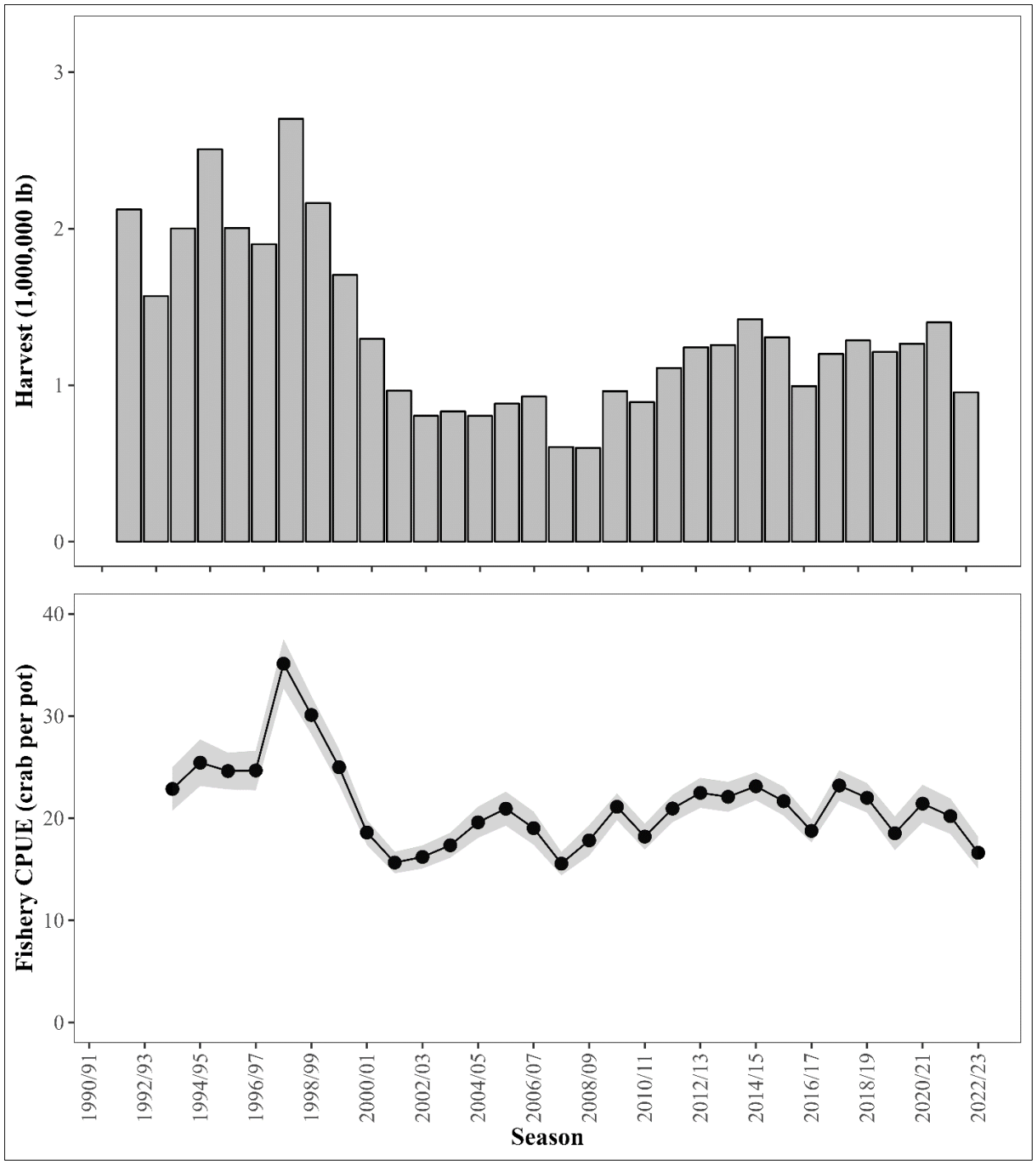

Figure 11.–Southeast Alaska commercial Tanner crab harvest (1991/92–2022/23) and standardized fishery CPUE (1993/94–2022/23).

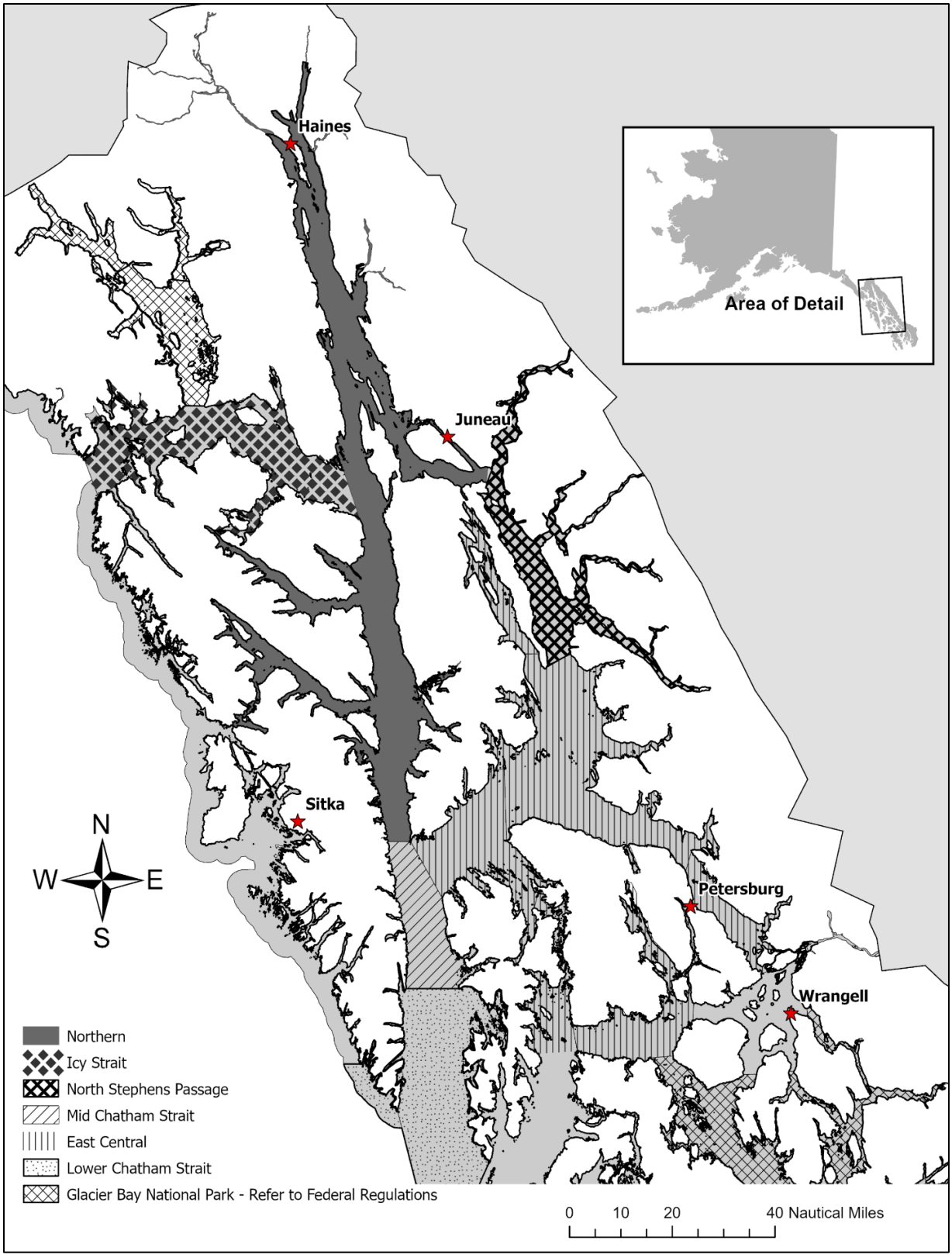

Figure 12.–Southeast Alaska (Registration Area A) golden king crab management areas, northern region.

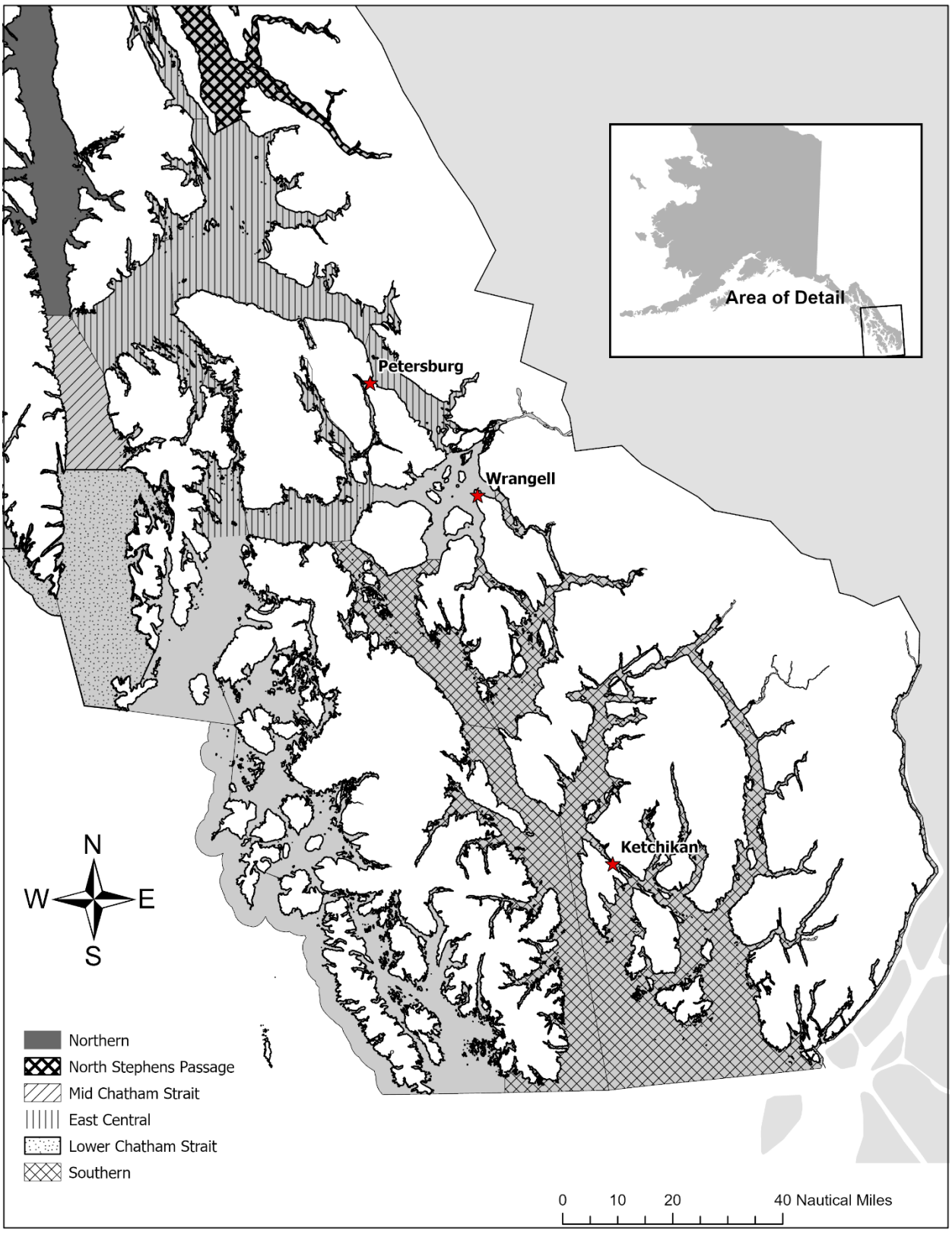

Figure 13.–Southeast Alaska (Registration Area A) golden king crab management areas, southern region.

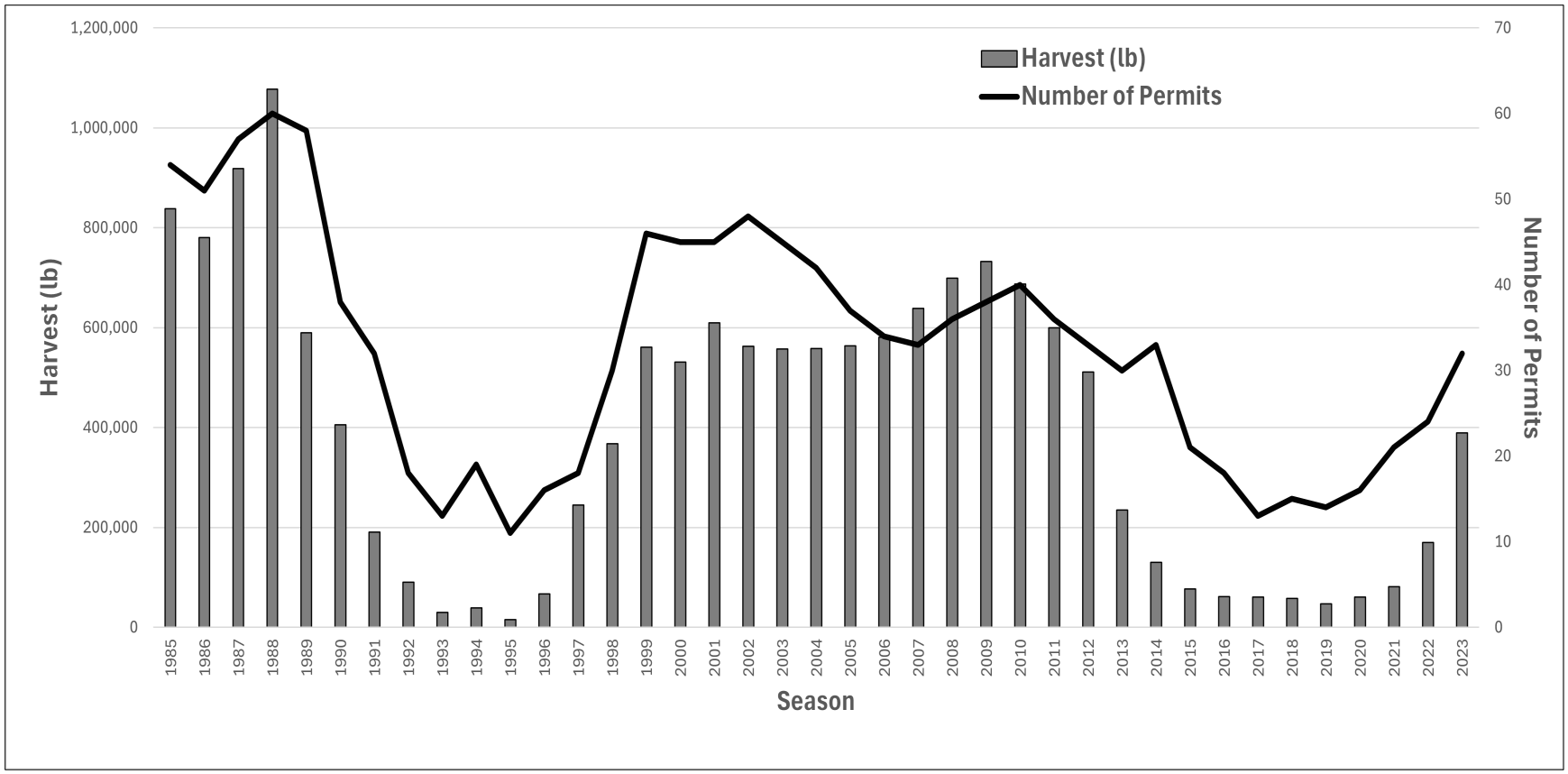

Figure 14.–Southeast Alaska (Registration Area A) commercial golden king crab harvest (lb) and effort (permits), 1985–2023.

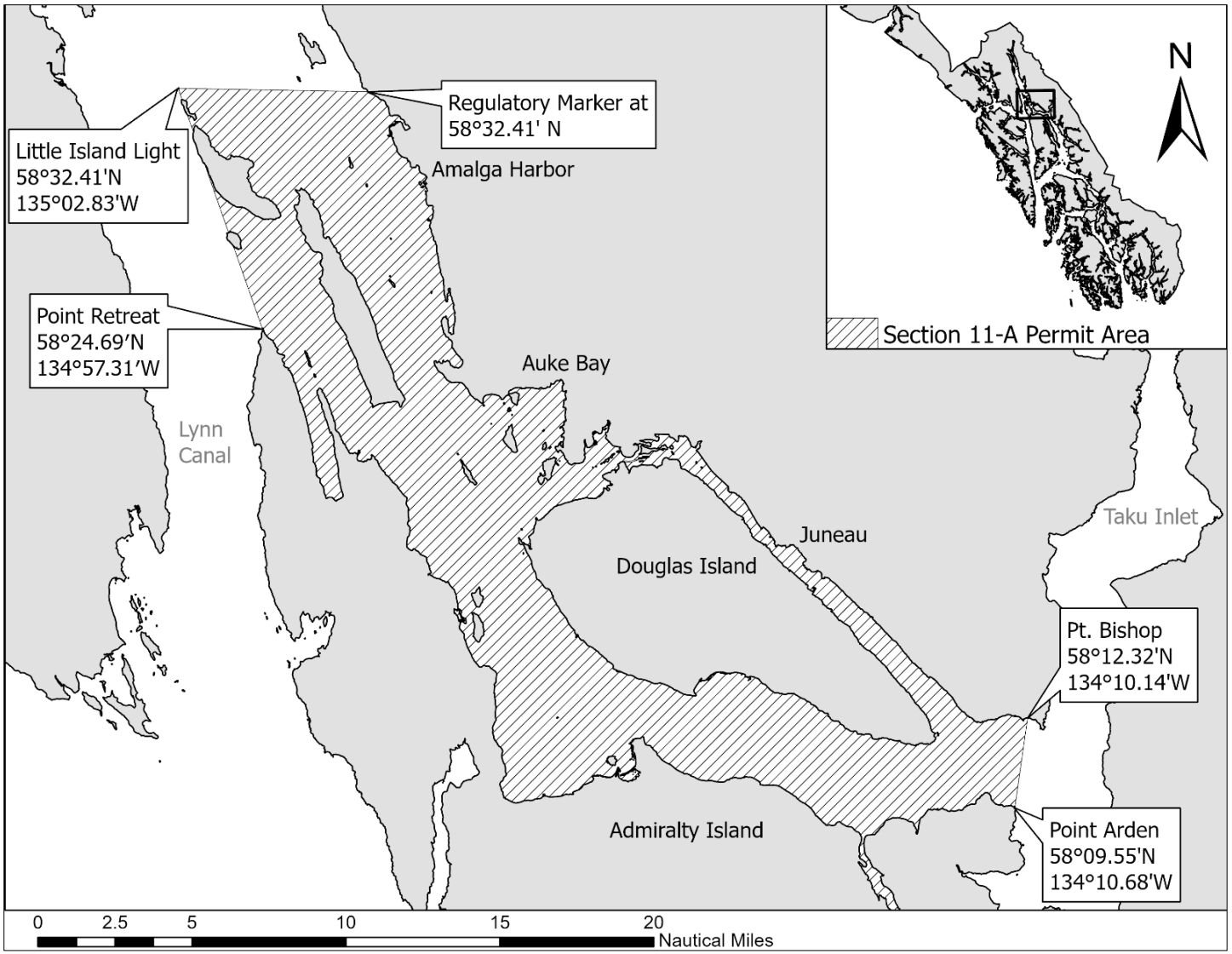

Figure 15.–Southeast Alaska (Registration Area A) - Section 11-A boundaries including waters closed to commercial red king crab fishing.

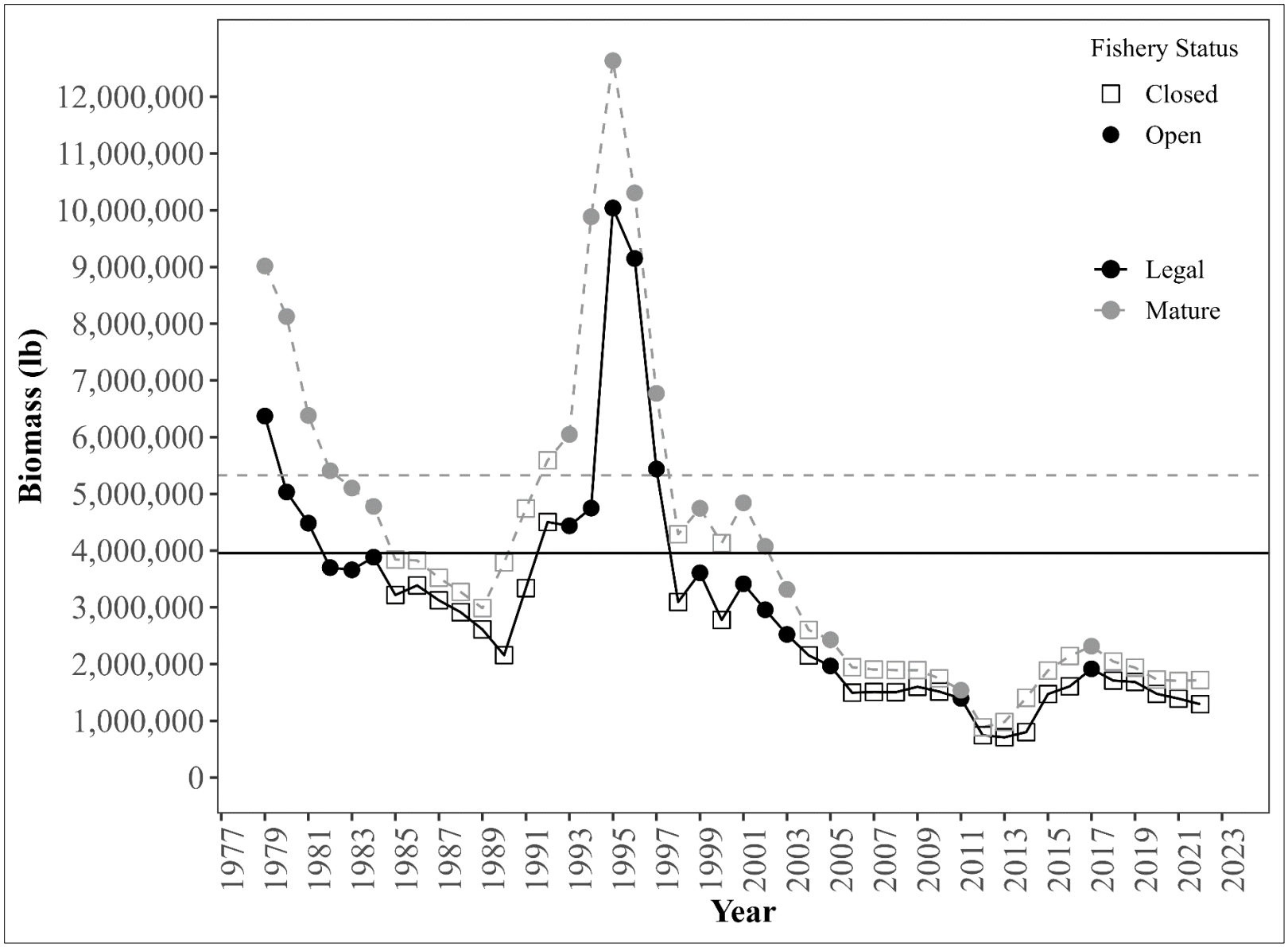

Figure 16.–Southeast Alaska (Registration Area A) red king crab biomass estimates (lb) of mature and legal red king crab for surveyed areas.

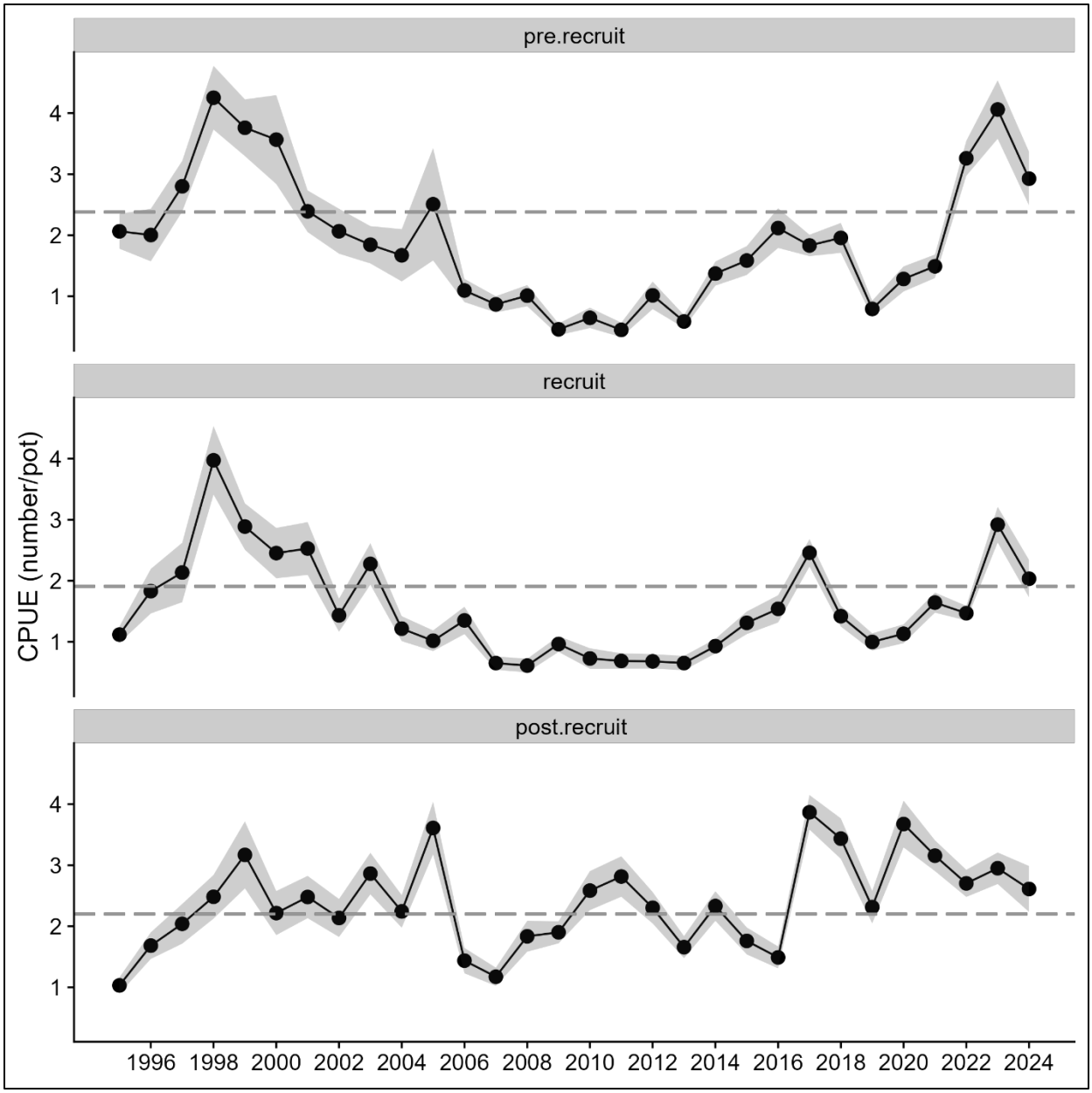

Figure 17.–Juneau Area (Section 11-A) survey CPUE (# crab per pot) for male recruits and postrecruits and female red king crab, 1995–2024. The horizontal reference lines indicate long-term averages, defined as the average CPUEs from 1995–2007.

APPENDIX A

Appendix A1.–Section 11-A Red and blue king crab personal use openings and fishery regulations from 1996/97–2022/23.

Season	Type of permit	Bag limit	Season limit
1996/97 Summer			
1996/97 Winter	Individual	3 crab/person	
1997/98 Summer			
1997/98 Winter			No limit
1998/99 Summer			
1998/99 Winter			
1999/00 Summer			
1999/00 Winter		2 crab/person	10/20 crab per individual/ household for summer and winter season
2000/01 Summer (Opening 1)		1 crab/person	5/10 crab per individual/household in summer
2000/01 Summer (Opening 2)		2 crab/person	10/20 crab per individual/household in summer
2000/01 Summer (Opening 3)	Seasonal household	3 crab/person	20/40 crab per individual/household in summer
2000/01 Winter			
2001/02 Summer			
2001/02 Winter			10/20 crab per individual/household in winter
2002/03 Summer		2 crab/person	
2002/03 Winter		1 crab/permit	
2003/04 Summer		2 crab/person	
2003/04 Winter		1 crab/permit	
2004/05 Summer		2 crab/person	
2004/05 Winter		1 crab/permit	
2005/06 Summer		2 crab/person	
2005/06 Winter		1 crab/permit	
2006/07 Summer		2 crab/person	20 crab per household
2006/07 Winter	Either winter or	1 crab/permit	6 crab per household
2007/08 Summer	summer household	2 crab/permit	10 crab per household

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Season	Type of permit	Bag limit	Season limit
2007/08 Winter			
2008/09 Summer/Winter			
2009/10 Summer/Winter			Season closed
2010/11 Summer	Summer household	2 crab/permit	
2010/11 Winter	Winter household	1 crab/permit	
2011/12 Summer	Summer household	2 crab/permit	
2011/12 Winter	Winter household	1 crab/permit	2 crab per household
2012/13 Summer/Winter			
2013/14 Summer/Winter			
2015/16 Summer/winter			
2016/17 Summer/winter			Season closed
2017/18 Summer	Summer household	2 crab/permit	2 crab per household
2017/18 Winter	Winter household	2 crab/permit	6 crab per household
2018/19 Summer	Summer household	2 crab/permit	2 crab per household
2018/19 Winter	Winter household	2 crab/permit	3 crab per household
2019/20 Summer	Summer household	2 crab/permit	2 crab per household
2019/20 Winter	Winter household	1 crab/permit	1 crab per household
2020/21 Summer	Summer household	2 crab/permit	2 crab per household
2020/21 Winter	Winter household	1 crab/permit	1 crab per household
2021/22 Summer	Summer household	2 crab/permit	2 crab per household
2021/22 Winter	Winter household	1 crab/permit	1 crab per household
2022/23 Summer	Summer household	3 crab/permit	3 crab per household
2022/23Winter	Winter household	1 crab/permit	1 crab per household