

Fishery Management Report No. 14-50

**Annual Management Report for the 2013/2014
Southeast Alaska and Yakutat Tanner Crab Fisheries**

by

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Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries



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Weights and measures (metric)		General		Measures (fisheries)	
centimeter	cm	Alaska Administrative Code	AAC	fork length	FL
deciliter	dL	all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.	mid-eye to fork	MEF
gram	g	all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.	mid-eye to tail fork	METF
hectare	ha	at	@	standard length	SL
kilogram	kg	compass directions:		total length	TL
kilometer	km	east	E		
liter	L	north	N	Mathematics, statistics	
meter	m	south	S	<i>all standard mathematical signs, symbols and abbreviations</i>	
milliliter	mL	west	W	alternate hypothesis	H _A
millimeter	mm	copyright	©	base of natural logarithm	e
		corporate suffixes:		catch per unit effort	CPUE
Weights and measures (English)		Company	Co.	coefficient of variation	CV
cubic feet per second	ft ³ /s	Corporation	Corp.	common test statistics	(F, t, χ^2 , etc.)
foot	ft	Incorporated	Inc.	confidence interval	CI
gallon	gal	Limited	Ltd.	correlation coefficient (multiple)	R
inch	in	District of Columbia	D.C.	correlation coefficient (simple)	r
mile	mi	et alii (and others)	et al.	covariance	cov
nautical mile	nmi	et cetera (and so forth)	etc.	degree (angular)	°
ounce	oz	exempli gratia (for example)	e.g.	degrees of freedom	df
pound	lb	Federal Information Code	FIC	expected value	E
quart	qt	id est (that is)	i.e.	greater than	>
yard	yd	latitude or longitude	lat. or long.	greater than or equal to	≥
		monetary symbols (U.S.)	\$, ¢	harvest per unit effort	HPUE
Time and temperature		months (tables and figures): first three letters	Jan,...,Dec	less than	<
day	d	registered trademark	®	less than or equal to	≤
degrees Celsius	°C	trademark	™	logarithm (natural)	ln
degrees Fahrenheit	°F	United States (adjective)	U.S.	logarithm (base 10)	log
degrees kelvin	K	United States of America (noun)	USA	logarithm (specify base)	log ₂ , etc.
hour	h	U.S.C.	United States Code	minute (angular)	'
minute	min	U.S. state	use two-letter abbreviations (e.g., AK, WA)	not significant	NS
second	s			null hypothesis	H ₀
Physics and chemistry				percent	%
all atomic symbols				probability	P
alternating current	AC			probability of a type I error (rejection of the null hypothesis when true)	α
ampere	A			probability of a type II error (acceptance of the null hypothesis when false)	β
calorie	cal			second (angular)	"
direct current	DC			standard deviation	SD
hertz	Hz			standard error	SE
horsepower	hp			variance	
hydrogen ion activity (negative log of)	pH			population	Var
parts per million	ppm			sample	var
parts per thousand	ppt, ‰				
volts	V				
watts	W				

FISHERY MANAGEMENT REPORT NO. 14-50

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ALASKA AND YAKUTAT TANNER CRAB FISHERIES**

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ABSTRACT

This report reviews the commercial fishery for Tanner crab in Region I, which includes Registration Area A – Southeast Alaska and Registration Area D – Yakutat.

Tanner crab harvests in Region I totaled 1,256,739 pounds valued at \$3.18 million during the last completed season. The average dock price per pound for Tanner crab during the 2013/2014 season was \$2.53.

Most of the shellfish fisheries in Region I are fully developed. Tanner crab stocks are assessed in an annual Tanner crab pot survey, and in an annual red king crab pot survey. There have never been stock assessment surveys for Yakutat Tanner crab stocks. Yakutat stocks of Tanner crab have been designated as collapsed and recovering. The Yakutat Tanner crab fishery will remain closed until signs of recovery are apparent, and until a management plan and stock assessment plans are developed to provide for sustainable harvest.

The ability of Alaska Department of Fish and Game to manage for sustained yields varies among the fisheries due to different levels of stock assessment program development and management plans. Southeast Tanner crab has a developing stock assessment program. Over the past decade, Tanner crab stock analyses have changed as survey methods have changed and the quantity and quality of data have improved. Dockside sampling and skipper interviews are routinely conducted in Southeast Alaska.

At the January 2009 Board of Fisheries meeting on Southeast Shellfish, the board passed an amended proposal from the industry that outlined a Tanner crab harvest strategy for Southeast Alaska [5 AAC 35.113]. Under the current Tanner crab harvest strategy the commercial Tanner crab season length is determined by the number of registered pots at the start of the fishery and the overall mature male abundance estimate. There is also a mature male abundance threshold of 2.3 million pounds built into the harvest strategy.

Key words: Tanner crab, *Chionoecetes bairdi*, Southeast Alaska, Yakutat, fisheries management, crab, invertebrate fisheries, Region I, harvest statistics

CHAPTER 1: SOUTHEAST ALASKA TANNER CRAB FISHERY

INTRODUCTION

LIFE HISTORY

Tanner crab *Chionoecetes bairdi* embryos are hatched in late winter through early summer. Larvae are suspended in the water column for approximately 2 months through 3 stages of molts and settle as megalopae with a 6 to 7 mm carapace width (CW). This stage can last from 1 month to a year. The megalopae migrate to the ocean floor where they molt into their first instar around 3.5 mm CW. The females are estimated to complete 12 instars in about 5 years before they terminally molt to maturity and males are estimated to complete as many as 18 instars before they molt to maturity at 6 years (Donaldson et al. 1981).

The pubescent (first year) mating females terminally molt to maturity and mate with smaller males in shallow water from January to May. Females that have reproduced once (primiparous) and more than once (multiparous), mate in deeper water with larger males from April to May. The multiparous females form mating aggregations, which large males migrate towards (Stevens et al. 1994).

Male Tanner crab become reproductively mature at a size of 80 mm CW (Paul and Paul 1992) but the size of functional reproductive maturity is probably closer to 100 mm CW (Stone 1999; Stone et al. 2003). The size at which 50% of the males are morphometrically mature or large clawed (L_{50}) in Southeast Alaska is 138 mm. More recently, Tamone et al. (2007) provided evidence that these large males were terminal molts, indicating final growth once the males become large clawed. It is important for large clawed males to be present in the population because it is likely the quality of sperm reserves in small males is reduced. Studies on snow crab, *Chionoecetes opilio*, suggest that a disproportionate relative abundance of small to large males can cause variability in primiparous female sperm reserves, indicating a reduction in large males may decrease the quality of the sperm reserves rather than the number of females not receiving sperm (Rondeau and Sainte-Marie 2001; Sainte-Marie et al. 2002).

DISTRIBUTION

Tanner crab 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. In Southeast Alaska, it is likely the Tanner crab stocks are comprised of several distinct populations within limited geographic areas where most settled crab make localized movements. For example, the entrance into Glacier Bay is composed mostly of bedrock and it is considered a natural barrier to crab in their habitat (Taggart et al. 2008). Radiotagged male Tanner crab made large movements within Glacier Bay, but their general movements were local (Taggart et al. 2008). Other tagging studies have revealed more localized movements in male Tanner crab. In the Kodiak area, a 6 year tagging study found the movement of Tanner crab was contained within several defined geographic areas, irrespective of time of release to capture (1 month to 3.8 years) (Donaldson 1985). In fjord habitats of eastern Canada movements of male snow crab were restricted by local geomorphology (Brethes and Coulombe 1989; Taylor 1992). In the double fjord system of Bonne Bay, Newfoundland, radiotagged male snow crab moved several miles in a few days, but generally favored the same spots year-to-year (Conan et al. 1995).

COMMERCIAL FISHERY

Registration Area A (Southeast Alaska) encompasses all waters in Southeast Alaska within the Alexander Archipelago and offshore waters from Dixon Entrance to Cape Fairweather, divided into Districts 1 through 16 (Figure 1.1).

The male-only Tanner crab fishery starts in mid-February and occurs primarily in northern Southeast Alaska (Figure 1.2). Recently, the most productive fishing grounds have been classified as “core” while the less productive fishing grounds are classified as “non-core” areas. In order to redistribute effort back into less productive fishing areas, different preseason lengths have been set for core and non-core areas; this is a significant departure from the historic regional approach to Southeast Tanner crab management.

The policy objectives for biological concerns of this fishery are to minimize sorting of juveniles and females, to avoid fishing during molting periods, and to continue reproductive viability. These objectives are addressed by the regulations governing gear, season, and the legal size limit. Escape rings or panels of large mesh permit the escapement of female and sublegal crab and are required in regulation for Tanner crab pots. Also in regulation, the fishery begins and typically ends in February, which avoids the major male Tanner crab molt period from late March to early April (Stone 1999). Finally, only male Tanner crab 140 mm (5½ inches) or greater in carapace width can be legally harvested, allowing males at least one to two years of breeding before entering the fishery.

Historically, the principal management objective of the fishery was to attain the allowable harvest level. When inseason management was still possible, a rough harvest rate of 60% legal biomass was targeted by inseason depletion modeling of catch rate data. A guideline harvest level (GHL) of two million pounds was in effect from the 1999/2000 season through the 2008/2009 season. Beginning in the 2009/2010 season, management of the fishery has been dictated by a harvest strategy carried by the Alaska Board of Fisheries (board) at its 2009 meeting [5 AAC 35.113] incorporating an abundance threshold.

The Tanner crab fishery is generally pursued as a secondary, though seasonally important, source of income. Vessels used in the Tanner crab fishery range from smaller vessels from 35–50 feet in length, to limit purse-seiners and a few larger vessels up to about 80 feet. Smaller boats generally participate in the ring net fishery. Almost all the pot vessels have live-tanking capability. Currently, lighter cone or pyramid nesting pots that occupy less deck space are used more often than the heavier, seven by seven-foot stacking pots, which were originally designed for king crab in the Bering Sea fisheries.

FISHERY DEVELOPMENT AND HISTORY

COMMERCIAL FISHERY HISTORY

Pot Fishery

Although Tanner crab landings have been reported in Southeast Alaska since the early 1960s, they were not deliberately targeted until the early 1970s. Well into the mid-1970s, crab fishermen commonly discarded Tanner crab incidentally caught with red king crab.

The harvest of Tanner crab in Southeast Alaska in the 1970s averaged 1.5 million pounds (Table 1.1). The 1970s were characterized by gradual fishery development and corresponding

managerial response. Seasons during the 1970s averaged 9.7 months in length. Historically, most of the harvest from the major fishing grounds was taken from January through April of each year regardless of the length of the season (Table 1.2).

Southeast Tanner crab harvest in the 1980s averaged 1.6 million pounds. As fishing pace increased over this period, season length shortened to an average of 1.6 months. During the 1981/1982 season, when 74 vessels landed a record 3.3 million pounds between December 1, 1981 and April 16, 1982, about two-thirds of this total was reportedly caught in Icy Strait, where the previous long-term average harvest had been about 0.73 million pounds. The increasing product demand for Tanner crab, an earlier season opening in Southeast Alaska than in other registration areas in the north and west, open registration, and the record landing in 1981/1982 attracted 97 vessels to the fishery in the 1982/1983 season. Many larger crab vessels on their way to Kodiak and Bering Sea fisheries fished in Southeast Alaska first. The 1982/1983 season was closed after 2 weeks by an emergency order based on onboard observer catch-rate information collected during the first few weeks of the fishery from the Icy Strait fishing grounds. Both the fishing effort and exploitation rates were extremely high. Management could not respond effectively to the huge influx of effort into the Icy Strait fishery. Although the fishery was closed by emergency order after the shortest season on record up to that time, the stocks were depressed in District 14 for many subsequent years. There was no fishery in calendar year 1983. During the shellfish board meeting early in 1983 the season opening date in Southeast Alaska was changed to February 10 in order to match the rest of the state. This action, in itself, discouraged larger vessels from fishing in Southeast Alaska during the 1983/1984 season because the more lucrative north and west grounds opened at the same time.

Inseason management in the 1980s was predicated on depletion modeling. In this method, declines in the catch rate from fish ticket data were used to estimate an exploitation rate (the percent of legal crab harvested) inseason. The fisheries closed after the target exploitation rates were achieved. This method relies on multiple landings by the same vessel during the course of a season. Vessels land crab about once per week, so this management strategy is most appropriate for fisheries at least 21 days in length. The limitation of this method was the speed at which catch data could be obtained from the fleet and inseason management of seasons shorter than 21 days was problematic. The last season in which a fishery lasted 21 or more days was 1989/1990. The 1990/1991 season, which opened for 18 days, was barely long enough to allow this kind of management.

The harvest of Tanner crab in the 1990s increased to an average of 2.0 million pounds. During this period, the fishery continued to intensify and seasons further shortened to an average of 11.1 days. In association with these shortened seasons, effort became increasingly concentrated on the most productive fishing grounds. Many marginal Tanner crab grounds were ignored as searching for productive areas became increasingly difficult to justify economically with a very short season. Limiting preseason prospecting to more than 30 days prior to the start of the fishery exacerbated this concentration of effort. Nonetheless, the fleet adapted to short seasons in several ways. The use of tenders, the frequency of leasing larger vessels, crew size, pot pulling frequency, and bait volumes all increased. Thus, the fishery continued to intensify despite the exceptionally short seasons. The only factor that alleviated the intensity of this fishery was the increasing GHL of the golden king crab fishery which resulted in vessels focusing on that species in lieu of Tanner crab.

During the 1990s, inseason management by depletion modeling was no longer possible because the seasons were too short. Thus, beginning with the 1995/1996 season, the closure date was announced preseason based upon the estimated length of time to harvest two million pounds if stock abundance was average. Recognizing the risk of this harvest strategy, Alaska Department of Fish and Game (department) initiated a Tanner crab stock assessment survey in 1997. The goal of the survey is to establish preseason GHGs based on catch-survey estimates of stock biomass. The objective of setting and targeting abundance-based preseason GHGs is to allow harvest to be maximized while minimizing the risk of recruitment failure.

The harvest of Tanner crab in the 2000s (1999/2000 through 2013/2014 seasons) has averaged 1,422,096 pounds (Table 1.1). For most of the 2000s, much like the previous decade, closure dates were announced preseason based upon the estimated length of time to harvest two million pounds if stock abundance was average. By the end of the decade, catch survey estimates were refined to the point of setting pre-season GHGs based on those estimates. In the 2007/2008 season, the department set a GHG of 987,000 pounds. In the 2008/2009 season, the department set a GHG of 931,000 pounds. However, the current fishery regulations did not allow the opportunity for the department to target GHGs inseason, so closure dates were announced preseason based upon the estimated length of time needed to harvest the GHG. The 2009/2010 to 2013/2014 seasons were managed according to the Tanner crab harvest strategy [5 AAC 35.113] adopted at the 2009 board meeting.

Ring Net Fishery

With the beginning of the pot permit moratorium on January 1, 1984, newcomers who wished to harvest Tanner crab commercially were limited to legal ring net gear. New ring net permits could be obtained because the permit moratorium only limited issuance of permits for pot gear. Use of ring nets is most appealing when the abundance and price of crab is high because their use is labor intensive and efficiency is limited.

The number of ring net crab permit holders reporting landings increased from five in the 1984/1985 season to peak of 92 in the 1989/1990 season, and gradually declined to 44 by the 1993/1994 season. The total climbed again to 110 for the 1999/2000 season in expectation of higher prices. The number of ring net permits has gradually declined to an average of 19 in the past five seasons (Table 1.1).

Total ring net harvest increased from 1,451 pounds in the 1984/1985 season to 101,045 pounds, or 5.0% of the total harvest, during the 1989/1990 season. During the 1990 winter meeting, the board passed a number of restrictive regulations intended to cap the ring net portion of the total Tanner crab harvest at a maximum of four percent. Since adoption of these restrictions, ring net harvests were consistently below this level until the mid-1990s. Ring net harvest in the 1990s fluctuated between 33,544 and 89,211 pounds, exceeding the four percent cap in the 1996/1997, 1999/2000, and 2000/2001 seasons respectively at 4.3%, 5.2%, and 5.7% of the total harvest. Again, to avoid exceeding the four percent regulatory limit, the ring net season was shortened to 5 days relative to a 6-day pot season for the 2001/2002 season. As effort in the ring net fishery has declined in recent seasons, so has the overall harvest and percent of total harvest. For the five most recent seasons, average harvest in the ring net fishery is 24,310 pounds, which represents just over two percent of the total harvest.

EXPERIMENTAL FISHING

Exploratory Tanner Crab Fisheries

In 1988, in response to shorter seasons and requests by crab fishermen, the board adopted regulations for exploratory Tanner and red king crab fisheries so the fishing fleet could help the department assess the status of small stocks that were not fished during the short, regular seasons. In areas from which low harvests or no landings were reported during the regular fishery, fishing was allowed from July 1 through March 31, under conditions of a special permit. The board also established procedures for managing these fisheries.

In general, these fisheries were scheduled during periods of the year to minimize overlapping with traditional fisheries for red king and Tanner crab. A major assumption was that these fisheries would be of such low intensity that mortality associated with fishing during known molting and mating periods would be minimal. Special permits and logbooks were required because the primary purpose of this fishery was to provide information from areas that were not surveyed by the department.

After two seasons of exploratory fishing, it was obvious that interest in these fisheries was low, harvests were poor, and major unexploited populations had not been discovered. In addition, violations of regulations and permit conditions occurred. As a result, the board decided during its winter meeting in 1990 to revoke the regulations that provided for these fisheries.

Deepwater *Chionoecetes* Species Fisheries

Upon request by crab fishermen interested in exploratory fishing for deepwater species related to *Chionoecetes bairdi*, the department issued permits for *C. tanneri* (grooved Tanner crab) and managed a fishery by emergency order from September 16, 1983 through October 31, 1983, and December 5, 1983 through January 24, 1984. Harvest levels did not support development of an economically viable fishery at that time. Requests for permits for *C. tanneri* and *C. angulatus* (triangle Tanner crab) recurred in 1995. Permits were issued for the period from March 5, 1995 through April 30, 1995, and the fishery was managed by emergency order. The fleet expended additional effort and more areas were fished, however the results were discouraging. The number of crab per pot, pots pulled per hour, and crab meat-fullness were low, preventing the development of a viable fishery. A single permit was issued in 2000, again resulting in minimal harvest. In 2003, interest in this fishery was again expressed and a permit was issued, however, no fishing was conducted.

Bitter Crab Syndrome

During the 1984/1985 season processors handling crab from the extreme north end of Southeast Alaska, notably Lynn Canal, were receiving complaints from consumers of bitter tasting meat from some section-packed crab. Most management staff thought it was associated with a normal premolt condition in Tanner crab since the fishery during that historical period partially extended into the initial phases of the annual molt in some areas. However, a few samples of crab blood collected during the 1985/1986 season revealed that the bitterness was closely associated with the presence and concentration of a systemic parasite. This systemic parasite is a highly specialized dinoflagellate of the genus *Hematodinium* (Meyers et al. 1989).

Symptoms associated with bitter crab disease (BCD) had been reported since at least the early 1980s, with some anecdotal references to off-tasting Tanner crab dating back to the mid-1970s. It

has since been reported from most major fishing grounds in Southeast Alaska and sporadically from other areas as well (Meyers et al. 1990). Its definitive identification in Bering Sea Snow crab (*C. opilio*) stocks, with its economic implications, has accelerated research on *Hematodinium*.

Hematodinium infects all sizes and both sexes of Tanner crab and seems to kill them between 1 to 1.5 years. It severely reduces the vitality and reproductive capacity of crab, with egg clutches of infected females being greatly reduced in size (Meyers 1993). The mechanism and seasonal timing of *Hematodinium* transmission continues to be unknown (Eaton et al. 1991; Love 1991; Love et al. 1993). The disease may be spread by free-living, infective spores released by dying crab, or vegetative stage organisms passively transmitted during periods of crab aggregation, such as immediately before and during seasonal mating periods.

Crab in later stages of infection cannot be marketed because of the astringent taste and soft, chalky texture of the meat. These crab can be identified on the fishing grounds by characterizations such as an abnormal pink or pale coloration of their abdomens and ventral sides of their walking legs. Infected crab continue to be transported out of the areas in which they are caught because of need to transport crab to processors. This may have contributed to the spread of this disease.

Currently, the season occurs during a period that is generally felt to be the time of optimum meat condition in the majority of heavily fished stocks. Unfortunately, the season also occurs during a period when crab infected during the previous year have developed advanced symptoms of the disease, including the characteristic bitter taste.

Reported sorting rates as high as 80% bitter crab from some areas indicate the actual magnitude of the problem. There are no industry-wide standards, procedures, or regulations for safe disposal of infected crab. Control measures are limited to voluntary retention of bitter crab for later disposal in upland landfills, heat, or chemical disinfections before marine disposal, or hard freezing before marine disposal. Viability of the resource is still being risked by the continued transport and handling of infected crab.

The state has considered and attempted regulatory means to minimize the risks associated with catch and retention of infected crab. Part of District 15 was closed in 1988 to prevent fishing on crab heavily infected with bitter crab disease. This resulted in reduced fishing opportunity for golden king crab and a total closure has not been imposed on the fishery since then.

In the 1992/1993 season, product transfer restrictions were imposed on vessels fishing in District 15. Any Tanner crab caught in District 15 could only be shipped live out of the District if they were transferred onto tenders within the District and water from holding tanks on the tenders were not discharged while the crab were being transported to on-shore processors located in other districts. This requirement was intended to reduce handling of bitter crab and minimize the risk of spreading the infection to stocks between high incidence districts and processors. Enforcement of the restriction was difficult. There have been no comparable restrictions to fishing in District 15 since that season.

A generalized proposal for development of a fishery to evaluate the feasibility of an earlier season to improve marketability of bitter crab was approved by the board in 1990. The plan was repealed at the following board meeting because it was determined that this fishery would not be manageable and would not provide the information for which it was intended.

The bitter crab problem does not seem to be diminishing and in fact, the level of infection has appeared to remain constant over the past few seasons. High percentages of bitter crab, in excess of 30%, are observed in some districts and the parasite may expand its distribution to currently uninfected areas.

REGULATION DEVELOPMENT

The first regulations pertaining specifically to Tanner crab were adopted in 1954. Prior to 1954, there was no formal recognition of a commercial fishery for Tanner crab in Southeast Alaska.

FISHING SEASONS AND PERIODS

In 1963, the season for Tanner crab in Southeast Alaska was first set at January 1 through December 31. In 1969, the season was shortened in some areas, mostly to facilitate management of the red king crab fishery. In 1974, the season was closed by emergency order on May 15.

In 1974, the season start date was changed to September 1. During much of the 1970s, the season started on September 1 and closed by emergency order in April or early May. In 1981, the season started on December 1, 1981 and closed on April 16, 1982 by emergency order after a record harvest of over 3.0 million pounds. In 1982, the season was closed by emergency order in mid-December after two weeks of fishing, because of unprecedented effort and heavy concentration in District 14. In early 1983, the season start date was changed to February 10.

In 1987, the season start date was changed to January 15, in part to be consistent with the opening date in most of the state. The season changed again in 1989, starting on February 15, to reduce conflict with the January food and bait herring fishery in which many crab fishermen participated or tendered herring. Between 1989 and 2005, the season start date was February 15 and the length of the season was progressively shortened to about a week.

Starting with the 2003/2004 season, the department began setting different season lengths in “core” and “non-core” areas. Core areas are defined as those areas that have high levels of effort and Tanner crab catch or significant red king crab populations. Non-core areas have extended fishing time to allow for exploratory fishing into nontraditional fishing grounds. The fishery has been open in core fishing areas from four to eight days with an additional four to five days of fishing time in non-core areas. The season start date for Tanner was changed at the 2005 board meeting to the smallest Juneau tidal range between February 10 and February 17. This was intended to minimize gear loss in the golden king crab fishery, which opens concurrently with the Tanner fishery. The core and non-core areas were defined in regulation at the 2009 board meeting with the implementation of the Southeast Alaska Tanner crab harvest strategy [5 AAC 35.113]. In 2012, weather delay criteria were added to regulation to delay the fishery start date due to adverse weather conditions.

SEX AND SIZE LIMITS

The current minimum size limit of 5½-inches (140 mm) or greater carapace width for males was implemented in 1976. This size permits nearly all males at least 1 and possibly 2 seasons of reproductive activity prior to attaining legal size.

QUOTAS AND GUIDELINE HARVEST RANGES

A GHF of 1,750,000 pounds was first set in 1976. It was revised down to a guideline harvest range (GHR) of 750,000 to 1,500,000 pounds in 1978. In 1979, the GHR was revised to 750,000

to 2,500,000 pounds. In response to locally high harvest rates and the subsequent effects on the stocks in Icy Strait in the early 1980s, the GHR was then revised downward to between zero and 2 million pounds in 1985. This range was sufficient to provide a relatively stable harvest until the 1997/1998 season when an unanticipated shift in effort to nontraditional fishing grounds south of Petersburg and west of Wrangell pushed the total season harvest to over 2.7 million pounds. If the increased harvest from nontraditional grounds were discounted from the total harvest, the harvest from traditional districts would have totaled a little more than 2.0 million pounds. Following the board meeting in 1990, the GHL was changed to a maximum allowable harvest of 2.0 million pounds. At the 1999 board meeting, the maximum allowable harvest was changed to a GHL of 2.0 million pounds. Although the average Tanner crab harvest in Southeast Alaska for the 1990s was 2.0 million pounds, harvest since the 1999/2000 season has averaged 1.0 million pounds. At the 2009 board meeting, the 2.0 million pound GHL was repealed when the Southeast Alaska Tanner crab harvest strategy was implemented.

INSEASON MANAGEMENT TOOLS

Daily harvest logbooks have been mandatory since the start of the 1993/1994 season. Logbooks were one of the last remaining options left to managers trying to conduct inseason management. At the 1996 board meeting, the department was directed to assess the feasibility of using daily radio reports of catch and effort from all crab pot fishermen in the 1995/1996 and 1996/1997 seasons to support continuing inseason management based on real-time catch data. The reporting requirement was dropped after two seasons due to technological challenges and low compliance. At the 2002 board meeting, a regulation was established giving the department the authority to require inseason reporting of Tanner crab logbook data. Cell and satellite phone technology have now advanced to the point where the marine operator was discontinued in 2004, having been deemed unnecessary by the United States Coast Guard. Inseason reporting of logbook data has not been required since the 2003/2004 season.

FISHING GEAR

Pots

Gear restrictions, first imposed in 1954, permitted use of pots or trawl gear to harvest Tanner crab. Ring nets were added as legal gear in 1960. Scuba diving gear was legalized in 1966. Shrimp beam trawls were specified as legal gear and diving was rescinded in 1969. Although legal, trawl gear was rarely, if ever, used in this fishery during this period. Tanner crab pot gear was further restrictively defined in 1969, with four-inch tunnel heights and buoys having to be marked with the vessel registration number preceded by the letter "T." The next major changes occurred in 1973 when in-water storage restrictions were adopted, the "T" part of the buoy-marking requirement was dropped, and a pot limit of 60 was implemented for all inside waters. In 1974, tunnel heights were increased to five inches.

A major revision of the shellfish regulations was undertaken in 1975. Starting in 1976, escape panels incorporating a biodegradable seam have been required. In Southeast Alaska, south of the latitude of Cape Fairweather, Tanner crab pots had to have an entire vertical seam laced with biodegradable twine. In 1977, a 100-pot limit was put into effect in Southeast Alaska. Trawl gear was dropped as legal gear in 1977 leaving only pots and ring nets as options. In 1978, the vertical seam requirement was modified to be more flexible and applicable to different types of gear and tunnel eye definitions were clarified. Buoy stickers have been required since 1979 to facilitate

enforcement of pot limits. In 1985, two four and three-quarters inch diameter escape rings were required in each Tanner crab pot to reduce retention and sorting of small males and females and a moratorium on new pot permits was implemented. In 1987, escape rings were to be located within eight inches of the bottom of pots. Due in part to shorter soak times becoming prevalent in the fishery; the escape ring requirement was repealed in 1988. At the 1996 board meeting, the department had recommended reducing the pot limit to 50. The board adopted an 80-pot limit; this was implemented starting in the 1997 season.

At the 2002 board meeting, escape rings or panels of large mesh to permit the escapement of female and sublegal Tanner crab were again required in Tanner crab pots in Southeast Alaska only.

Ring nets

Between the mid-1980s and 1990, use of ring nets grew because pot permits were under moratorium. In 1990, the board adopted a comprehensive set of regulations to control the increasing use of ring net gear by people who did not receive limited entry permits for the pot fishery. The number of ring nets was limited to 20 per vessel, and ring net marking requirements were defined. Ring nets were also defined in more detail, with limits set on their size, and the longlining of ring nets was prohibited. The allowable ring net harvest was capped at 4 percent of the total harvest. Vessels could not concurrently be registered for both ring nets and pots. Wording was incorporated to prevent use of ring net gear to conduct preseason test fishing under the guise of subsistence or personal use fishing.

GEAR STORAGE AND OPERATION OF OTHER POT GEAR

Since 1981, in-water pot storage was permitted for 72 hours after the season closure. In 1984, fishing with pots or storing pots in the water during the 10 days before the start of the season was prohibited. In 1985, the prevention of preseason fishing was lengthened to 14 days. Also in 1985, post-season pot storage was extended to 7 days after closure of the entire registration area or 72 hours after closure of a portion of the area. Starting in 1986, a 10-day preseason, in-water storage period was allowed with some restrictions. Since 1987, preseason gear storage for a period of 10 days before the start of the season has been permitted under some conditions.

Beginning with the 1999/2000 season, vessels and persons registered for the commercial Tanner crab fishery could not fish with any commercial, sport, subsistence, or personal use gear except for commercial Dungeness and shrimp pot gear for 30 days prior to the start of the season. At the 2009 board meeting, the board carried a proposal extending pot storage from 72 hours to 5 days after the closure of a portion of the registration area.

LIMITED ENTRY

In response to a request by locally based vessel operators and processors, the Commercial Fisheries Entry Commission (CFEC) initiated a permit moratorium for the king and Tanner crab fisheries in Southeast Alaska on January 1, 1984.

The CFEC instituted a complex system of combined permits for Tanner crab and the 3 species of king crab. The full impact of the moratorium was not felt until the 1985/1986 season because many prospective entrants to the 1984/1985 fishery had exercised the two-year option on permit renewals and obtained their permits prior to January 1, 1984, which was the cutoff date for the moratorium on new permit issuance. Moreover, the CFEC was forced by their regulatory

guidelines to set the maximum number of permits to be allowed at 83, which was a relatively high level relative to historic participation. This has proved to have long-term implications, such as progressively shortened seasons as the efficiency of the fleet improved.

The Tanner crab pot fishery in Southeast Alaska was the first Tanner crab fishery in the state to be placed under limited entry. As of September 2014, 80 permits have been issued (CFEC permit category K49A, K59A, K69A, and T19A); 76 are permanent permits, and an additional 4 are interim-entry permits. There are 78 active permanent and interim permits issued that could potentially register a vessel in the pot fishery. Ring net gear (CFEC permit category T10A) is not under limitation.

REGISTRATION AND DELIVERY REQUIREMENTS

In 1974, Southeast Alaska and Yakutat were combined into a single nonexclusive registration area. In 1975, preseason hold inspections and vessel registrations were required. A preseason registration deadline was in effect in 1978. A registration deadline of 30 days prior to the season start was implemented in 1979. Also in 1979, the hold inspection requirement was dropped because it was considered unnecessary in Southeast Alaska and Yakutat.

Southeast Alaska was designated a superexclusive registration area during the spring board meeting in 1985. This was in reaction to the 1982/1983 season and was intended to discourage operators of larger vessels, whose primary sources of income were from crab fisheries in other registration areas, from fishing in Southeast Alaska. Vessels registered to fish for Tanner crab in Southeast Alaska cannot fish in any other registration area in Alaska for Tanner crab during the same registration year (August 1–July 31).

In 1986, the board adopted a regulation to restrict the boundaries of Southeast Alaska to those waters of the state between Dixon Entrance and Cape Fairweather. A new registration area, Registration Area D (Yakutat), was established for those waters between Cape Fairweather and Cape Suckling. Major restructuring of the Alaska Administrative Code was necessary to accommodate this change, which was first published in the 1988 shellfish regulation book.

It is unclear when the 30-day registration deadline was repealed but it was put back into regulation beginning in 2000.

In 1981, crab had to be delivered within 24 hours of the close of the season. In 1983, fishermen had 72 hours to deliver crab after the season closure. In 1986, this period was again shortened to 24 hours.

TASK FORCE STATUS

In 2000 the board developed the Southeast Alaska King and Tanner Crab Task Force (KTTF) with the original intent for this group and the department to work together to develop a management plan for Southeast Alaska Tanner crab, and methods to reduce harvest pressure in core Tanner crab areas. Currently, the department and KTTF conduct an annual joint meeting to review stock status of all Southeast Alaska king and Tanner crab and exchange information regarding management activities and plans.

MANAGEMENT CONCERNS

MANAGEMENT PLAN

For most of its history, there had been no management plan or harvest strategy outlined in regulation for Southeast Alaska Tanner crab stocks. From the 1990/1991 through 1998/1999 seasons, there was a maximum allowable harvest of 2.0 million pounds in regulation. At the 1999 board meeting, this maximum allowable harvest was changed to a 2.0 million pound GHL. Since the 2.0 million pound GHL went into effect, this level of harvest has never been reached.

Declines in survey abundance during the past 15 years indicate that current stocks cannot sustainably support a 2.0 million pound harvest. Recent advances in the modeling of stock assessment surveys have created the opportunity for abundance-based management approaches. Still needed are biological thresholds for critical stock components, set along with identifying appropriate harvest rates for varying stock sizes. Advances in survey modeling, along with assessing Tanner crab stocks by also using Tanner catch in the annual red king crab survey, led to GHLs being produced and targeted in the 2007/2008 and 2008/2009 seasons.

At the January 2009 board meeting, the board passed an amended proposal from industry that outlined a Tanner crab harvest strategy for Southeast Alaska [5 AAC 35.113]. Under this harvest strategy, a regional GHL is no longer targeted. The harvest strategy includes a mature male abundance threshold that is one-half of the long-term average. Under the current Tanner crab harvest strategy, the commercial Tanner crab season length is determined by the mature male abundance estimate and the number of registered pots at the start of the fishery.

FISHING EFFORT

Current pot limits for the fishery are set at 80 pots per vessel and it is not possible to manage the fishery inseason given the quick pace of the fishery. Season length is set prior to the season opening based on mature male abundance and the number of pots registered at the start of the fishery. Weather and tides also influence the pace of the fishery. In the last decade, managers have considered adverse weather conditions by postponing the start of the Tanner crab fishery in the 2007/2008, 2010/2011 and 2013/2014 seasons. Delaying the start of the Tanner crab and concurrent golden king crab fisheries provided for fair starts and more orderly fisheries for the 3 seasons in which delays were implemented. Other regions of the state have adapted to the quickening pace of Tanner fisheries by lowering pot limits based on targeted GHLs and in some cases have gone to daylight fishing hours which limits when pots can be set and retrieved. These measures along with mandatory or voluntary daily call-ins have allowed managers in those areas to use real-time fishery data to manage the fisheries inseason.

STOCK ASSESSMENT

Tanner crab stock assessment has evolved continually over the past 20 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. With the beginning of the Tanner crab survey in 1997, through its maturation in 2006, relative abundance was determined for survey areas as Tanner crab or red king crab survey catch per unit effort (CPUE). A catch-survey model was developed from survey data in 2005 (Zheng et al. 2006). Along with commercial logbook data, this model was used to estimate mature Tanner crab biomass for the 2006/2007 season (Siddon et al. 2009). The 2007/2008 season was the first for

which the CSA alone was used to provide an estimate of mature male Tanner crab biomass. After expansion of the biomass estimate to account for the proportion of harvest which comes from unsurveyed areas (29 percent on average), tiered harvest rates of 0, 5, 10, 15 or 20 percent of mature males or a maximum of 50 percent 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

Surveys are conducted in 14 separate survey areas throughout Southeast Alaska (Figure 1.3). Six surveyed areas exclusively target Tanner crab, and 8 target red king crab. The red king crab survey (RKCS) areas obtain significant bycatch of Tanner crab. Surveyed areas correspond with commercial fishing grounds that account for over 65% of the total Tanner crab harvest (25-year average). The methods are very similar between the two surveys and are detailed elsewhere, by Bednarski et al. (2008) for the Tanner crab survey (TCS) and Clark et al. (2003) for the red king crab survey. Each area is divided into 1 to 5 strata. For the RKCS, strata boundaries are determined based on historic RKC survey CPUE (Clark 2008). Prior to the 2013 TCS, the survey areas were stratified based on crab density and depth, similar to the density stratification currently in place for the red king crab survey areas (Clark 2008). Prior to this stratification, simple random sampling had occurred to determine pot placement in the survey areas. The goal of density-stratified sampling is to provide more confidence in CPUE estimates for use in the Catch Survey Analysis (CSA) model, which in turn provides more confidence in biomass projections. Survey sampling is currently performed by using these density strata to determine the randomized pot placement. The previous years' CPUE calculations and biomass estimates were also re-estimated to accommodate the changes in sampling methods. The primary differences between the TCS and RKCS methods are in timing and bait. The TCS is conducted in October and uses bait of half a round pink salmon in addition to chopped herring, while the RKCS is conducted in June and July, and uses only chopped herring bait.

SAMPLING

Commercial Tanner crab fishery landings are sampled dockside in Juneau, Petersburg, Sitka, and Wrangell. Separate sampling goals in terms of the number of deliveries are set for 4 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 Other Grounds (all other areas). Carapace width is measured and shell condition determined for 75-crab samples as crab are delivered to processors. Crab average weight is also determined for each delivery sampled and skippers are interviewed to determine fishing location and effort. Recruit composition of the harvest can be determined from carapace width and shell condition frequency.

Limited onboard sampling was conducted sporadically in the 1980s to collect specific inseason information needed for management. Since then, available personnel have concentrated more on collecting dockside sampling information.

LOGBOOKS

Logbooks are mandatory for pot boats and provide information on Tanner crab catch and effort by statistical area and date.

REGIONAL OVERVIEW

A Southeast Alaska Tanner Crab Harvest Strategy (Title 5 Alaska Administrative Code 35.113) went into effect beginning in the 2009/2010 season following board action during the 2009 board meeting. For the 2008/2009 through the 2013/2014 commercial seasons, the biomass estimate exceeded the harvest strategy closure threshold of 2.3 million pounds mature males and fisheries were opened for each of those seasons.

For the 2011/2012 season, Tanner crab biomass was estimated at 3.1 million pounds of mature males and 2.0 million pounds of legal males (Table 1.3). Beginning in the 2009/2010 season, stock health categories were increased from 3 (poor, moderate, and healthy) to 5 (poor, below average, moderate, above average, and healthy). Using this system, stock health was poor for 2, below average for 2, moderate for 7, and above average for 3 survey areas (Tables 1.4 and 1.5). Applying harvest rates consistent with stock health criteria to each area, the harvestable surplus was recommended at 0.31 million pounds (Table 1.3). Under the current harvest strategy, targeted GHs are no longer required or developed by department staff and this harvest recommendation is provided to evaluate fishery performance in context with stock health categories and may be of use, as more information becomes available, concerning the applicability and utility of the current harvest strategy.

Biomass for the 2012/2013 season increased to 4.3 million pounds of mature males and increased to 2.4 million pounds of legal males (Table 1.3). This is an increase of 0.26 million pounds of legal male Tanner crab (18%) from the 2011 estimate; predominantly due to biomass increases in Icy Strait, Holkham Bay, Glacier Bay, and Port Camden, countered by declines in Lynn, Gambier Bay, Port Frederick, North Juneau, and Pybus Bay. The stock health was poor for 1, below average for 1, moderate for 7, above average for 2, and healthy for 3 survey areas (Tables 1.4 and 1.5). Again, applying harvest rates consistent with stock health criteria to each area, the harvestable surplus was recommended at 0.56 million pounds (Table 1.3).

The stock biomass estimate marginally declined in the 2013/2014 season to 4.0 million pounds of mature males and increased to 2.5 million pounds of legal male crab (Table 1.3). This is an increase of 0.11 million pounds of legal male Tanner crab (7%) from the 2012 estimate, predominantly due to biomass increases in Peril Strait, Lynn Sisters, Stephens Passage, and Seymour Canal, countered by declines in Glacier Bay, Thomas Bay, Pybus Bay, and Icy Strait. Stock health was below average for two, moderate for six, above average for four, and healthy for two survey areas (Tables 1.4 and 1.5). Applying harvest rates consistent with stock health criteria to each area, the harvestable surplus was recommended at 0.52 million pounds, (Table 1.3), and again under the current harvest strategy, targeted GHs were no longer required or developed by department staff. The harvestable surplus may also be hindered by unmarketable bitter crab in Stephens Passage, Port Frederick, Excursion Inlet, Thomas Bay, and Holkham Bay survey areas.

The number of below average or poor areas has been reduced and the harvestable surplus has increased, and generally has remained stable in the last few years. This is because biomass is generally remaining the same for the TCS, which are the most productive commercial Tanner crab grounds, but are slightly increasing for the less productive RKCS areas (Figure 1.4). The regional legal male biomass estimate remains low relative to levels observed in the late 1990s, but has been slightly increasing since 2010/2011 (Figure 1.4). The mature male biomass has also increased since 2010, but decreased slightly in 2013/2014 due to a reduction of prerecruit crab in

a few of the surveyed areas (Tables 1.4 and 1.5). Overall, recruitment seems to be consistent regionwide and stock health has improved from previous years. Standardized commercial CPUE for the 2011/2012 through 2013/2014 seasons remained moderately stable (Figure 1.5). The heightened effort and increase in harvest of Tanner crab during the 2013/2014 season may be a result of the recent decline in the golden king crab fishery, open concurrently with the Tanner crab fishery.

RECENT SEASONS

2011/2012 SEASON SUMMARY

The 2011/2012 season opened at 12:00 noon AST, on February 16, 2012. The 2011/2012 season was the third in which the current harvest strategy [5 AAC 35.113] has been used. The season length was determined by the mature male biomass estimate and the number of pots registered at the start of the fishery. The mature male biomass of 3.1 million pounds (Table 1.3) exceeded the 2.3 million pound threshold in regulation, and 3,800 pots registered leading to the 2012/2013 season to closing after seven days in the core fishing areas on February 23, 2012 and after twelve days in the non-core areas on February 28, 2012. District 16 remained open for the 2011/2012 Tanner crab season. Daily logbooks remained mandatory and fishermen were required to submit logbooks to the department with each fish ticket.

A total of 1,109,784 pounds of Tanner crab were caught by 70 permit holders (Table 1.1). The major discard class was bitter crab, which accounted for 77,751 pounds followed by deadloss, which totaled 4,652 pounds. It was probable that the actual bitter crab catch was significantly higher, since an unknown amount were sorted and discarded on the fishing grounds. At \$2.50/pound, marketable product had a total exvessel value of \$2.78 million.

Of the 70 permits that participated in the fishery, 47 were pot permits and the remaining 23 were for ring nets. Pot gear accounted for 97.6% of the total harvest or 1,082,699 pounds while ring net fishermen caught at total of 27,085 pounds (Table 1.1).

A summary of the harvest by fishing area indicated that about 1,003,216 pounds (90.4%) of the total season's harvest was taken from the three major fishing areas; Icy Strait, Lynn Canal/Stephens Passage, and Frederick Sound (Table 1.6).

PORT SAMPLING DATA

Port sampling information summarized for the registration area for the 2011/12 season indicated that the overall size of crab harvested averaged 154.1 mm CW, or 2.6 pounds, with the average CW being the largest since the 2000/2001 season (Tables 1.7 and 1.8). The percent of recruits was 64.4%, up from the previous season's 57.8% but below the 68.4%, 10-year average (Table 1.7). Catch per unit effort was estimated at 11.9 crab per pot, the lowest CPUE since the 2007/2008 season (Table 1.8).

Crab from Icy Strait had an average size of 151.6 mm CW, or 2.5 pounds. The recruit percent of 75.1% was higher than the previous season's 71.9% (Tables 1.9 and 1.10). Crab from Lynn Canal were larger, with an average size of 158.7 mm CW, or 2.8 pounds, with the average CW being the largest since the 1998/1999 season. In 2011/12, Lynn Canal had the lowest percent recruit of 53.0% since the 2000/2001 season (Tables 1.11 and 1.12). Lynn Canal percent recruit was also lower than any other area. Average crab size for the Frederick Sound area was 152.9

mm CW or 2.6 pounds, similar to the previous seasons, while percent recruit was the highest since the 2004/2005 season at 72.7% (Tables 1.13 and 1.14).

2012/2013 SEASON SUMMARY

The 2012/2013 season opened at 12:00 noon AST, on February 17, 2013. Again, the season length was determined by the mature male biomass estimate and the number of pots registered at the start of the fishery as per the current harvest strategy [5 AAC 35.113]. The mature male biomass of 4.3 million pounds (Table 1.3) exceeded the 2.3 million pound threshold in regulation, and 4,290 pots registered leading to the 2012/2013 season closing after six days in the core fishing areas on February 23, 2013 and after eleven days in the non-core areas on February 28, 2013. District 16 remained open for the 2012/2013 commercial Tanner crab season.

A total of 1,242,433 pounds of crab were harvested during the 2012/2013 season (Table 1.1). This consisted of 1,153,182 pounds of marketable commercial; 473 pounds of personal use; 307 pounds of soft-shelled crab; 2,223 pounds of deadloss; 64 pounds discarded at sea, and 86,184 pounds of bitter crab. As in the past, an unknown additional amount of bitter crab were sorted and discarded on the fishing grounds. At roughly \$2.47/pound (Table 1.1), marketable product had an exvessel value of \$2.85 million.

Reported landings during the season came from 76 pot and ring net permits. Reported landings from 54 pot permit holders landed 1,211,607 pounds of crab, of which 1,124,123 pounds were marketable. Reported landings from 22 ring net permit holders totaled 30,826 pounds, or about 2.5% of the total Tanner crab harvest (Table 1.1). Marketable crab comprised 29,059 pounds of the total ring net harvest.

A summary of the harvest by fishing area indicated that about 1,096,579 pounds or 88% of the total season's harvest was taken from the three major fishing areas; Icy Strait, Lynn Canal/Stephens Passage, and Frederick Sound (Table 1.6).

PORT SAMPLING DATA

The overall crab size during the 2012/2013 season was 154.1 mm CW or 2.6-pound average weight, which was the same as the previous season. The percent of recruits was down from the previous season at 61.8%, and below the 66.8%, 10-year average (Tables 1.7 and 1.8). Catch rate was estimated at 13.7 crab per pot, which was up from the previous season (Table 1.8).

Crab from Icy Strait had an increased average size of 152.8 mm CW from the previous season, and a similar 2.5-pound average weight. The recruit percent of 58.9% was the lowest since the 1986/1987 season (Tables 1.9 and 1.10). Crab from Lynn Canal had a decreased average size of 157.6 mm CW, or 2.7-pound average weight, when compared to the previous season (Tables 1.11 and 1.12). Average crab size for the Frederick Sound area increased to 153.9 mm CW from the previous season, and had the same 2.6-pound average weight. The percent recruit was down to 67.4% from the previous season (Tables 1.13 and 1.14).

2013/2014 SEASON SUMMARY

The 2013/2014 season was set to open at 12:00 noon AST, on February 10, 2014, however, the season start date was subsequently delayed by 2 days due to bad weather forecasted throughout the region. The mature male biomass of 4.0 million pounds (Table 1.3) exceeded

the 2.3 million pound threshold in regulation, and 4,290 pots registered lead to the season closing in core fishing areas after six days on February 18, 2014 and non-core areas after eleven days on February 23, 2014. District 16 remained open for the 2013/2014 Tanner crab season.

A total of 1,256,739 pounds of crab were harvested during the 2013/2014 season (Table 1.1), making this season the highest for catch since 2000/2001. This consisted of 1,161,845 pounds of marketable commercial; 487 pounds of personal use; 1,654 pounds of soft-shelled crab; 2,875 pounds of dead loss; and 89,878 pounds of bitter crab. As in the past, an unknown additional amount of bitter crab were sorted and discarded on the fishing grounds. At \$2.53/pound (Table 1.1), marketable product had an exvessel value of \$2.94 million.

Eighty combined pot and ring net permits reported landings during the season. Reported landings from 59 pot permit holders landed 1,236,061 pounds of crab, of which 1,141,434 pounds were marketable. A total of 20,678 pounds of the total Tanner crab harvest was landed by 21 ring net permit holders, or about 1.7% of the total Tanner crab harvest (Table 1.1). Marketable crab comprised 20,411 pounds of the total ring net harvest.

A summary of the harvest by fishing area indicated that about 1,117,457 pounds, 89% of the total season's harvest was taken from the three major fishing areas; Icy Strait, Lynn Canal/Stephens Passage, and Frederick Sound (Table 1.6).

PORT SAMPLING DATA

The overall crab size during the 2013/2014 season was 153.5 mm CW or 2.6 pounds, which was down from the previous two seasons. The percent of recruits was also down and to its second lowest point in the last 10 years at 58.4% and below the 65.2%, 10-year average (Tables 1.7 and 1.8). Catch rate was estimated at 11.6 crab per pot, which was down from the previous season (Table 1.8).

Crab from Icy Strait had a decreased average size of 151.2 mm CW from the previous season, and the same 2.5-pound average weight (Tables 1.9 and 1.10). The recruit percent of 65.3% was up from the previous season (Table 1.10). Crab from Lynn Canal had a decreased average size of 156.5 mm CW from the previous season, and the same 2.7-pound average weight (Tables 1.11 and 1.12). Average crab size for the Frederick Sound area increased to 154.3 mm CW from the previous season, and had the same 2.6-pound average weight. The percent recruit was down to 64.4% from the previous season (Tables 1.13 and 1.14).

2014/2015 OUTLOOK

The annual Tanner crab survey will be conducted in October 2014. Once completed, Tanner crab catch from the Tanner survey, and Tanner catch in the red king crab survey, will be analyzed. Data will be presented to department staff in early December. An announcement will be issued in December to state whether the minimum threshold for a commercial season was reached. If the minimum threshold is reached, subsequent announcements will further explain fishery details and season length based on mature male biomass and number of pots registered in the fishery.

CHAPTER 1—TABLES AND FIGURES

Table 1.1—Traditional commercial Tanner crab pot and ring net harvest information for Registration Area A, 1968/1969 to present.

Year/ Season	Pot Fishery					Ring Net Fishery			Combined Gears				
	Permits Fished	Number of Crab	Total Pounds	Pots Lifted	CPUE	Permits Fished	Number of Crab	Total Pounds	Permits Fished	Number of Crab	Total Pounds	Average Weight	Price/ Pound
1968/69	29	70,892	177,825	—	—	0	0	0	29	70,892	177,825	2.5	—
1969/70	31	251,295	660,337	—	—	0	0	0	31	251,295	660,337	2.6	—
1970/71	12	62,704	167,378	—	—	0	0	0	12	62,704	167,378	2.7	—
1971/72	25	258,080	656,661	—	—	0	0	0	25	258,080	656,661	2.5	—
1972/73	31	614,443	1,597,838	—	—	0	0	0	31	614,443	1,597,838	2.6	—
1973/74	52	531,114	1,309,673	—	—	0	0	0	52	531,114	1,309,673	2.5	—
1974/75	51	340,361	863,751	—	—	0	0	0	51	340,361	863,751	2.5	—
1975/76	32	868,815	2,149,397	—	—	0	0	0	32	868,815	2,149,397	2.5	—
1976/77	55	1,078,454	2,563,710	—	—	0	0	0	55	1,078,454	2,563,710	2.4	—
1977/78	44	835,928	2,142,409	—	—	0	0	0	44	835,928	2,142,409	2.6	—
1978/79	38	589,781	1,559,769	—	—	0	0	0	38	589,781	1,559,769	2.6	—
1979/80	51	729,812	1,781,175	—	—	0	0	0	51	729,812	1,781,175	2.4	—
1980/81	59	851,281	2,013,276	—	—	0	0	0	59	851,281	2,013,276	2.4	—
1981/82	73	1,406,267	3,305,857	—	—	0	0	0	73	1,406,267	3,305,857	2.4	—
1982/83	95	446,283	1,101,630	—	—	2	*	*	97	446,449	1,101,630	2.5	—
1983/84	100	644,002	1,593,468	—	—	0	0	0	100	644,002	1,593,468	2.5	\$1.20
1984/85	78	472,669	1,129,473	—	—	5	660	1,451	83	473,329	1,130,924	2.4	\$1.20
1985/86	72	422,678	1,006,396	—	—	11	1,153	2,609	83	423,831	1,009,005	2.4	\$1.87
1986/87	67	462,702	1,120,373	—	—	7	1,605	3,601	74	464,307	1,123,974	2.4	\$2.01
1987/88	71	548,854	1,317,887	—	—	13	5,484	12,598	84	554,338	1,330,485	2.4	\$2.20
1988/89	77	631,705	1,583,711	—	—	63	25,501	62,621	140	657,206	1,646,332	2.5	\$2.32
1989/90	81	769,601	1,908,624	—	—	92	42,421	101,045	173	812,022	2,009,669	2.5	\$1.91
1990/91	72	850,706	2,182,813	—	—	36	23,728	58,780	108	874,434	2,241,593	2.6	\$1.45
1991/92	83	783,499	2,073,353	—	—	41	20,649	49,568	124	804,148	2,122,921	2.6	\$1.72
1992/93	83	614,958	1,536,143	—	—	51	13,771	33,544	134	628,729	1,569,687	2.5	\$1.51
1993/94	81	760,273	1,964,380	48,794	16	44	15,607	37,146	125	775,880	2,001,526	2.6	\$1.97
1994/95	91	940,233	2,433,571	55,771	17	82	29,685	73,576	173	969,918	2,507,147	2.6	\$3.21
1995/96	94	733,210	1,969,394	45,711	16	74	21,539	50,642	168	754,749	2,020,036	2.7	\$1.89
1996/97	94	688,431	1,818,884	41,898	16	70	33,974	81,935	164	722,405	1,900,819	2.6	\$1.73
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	\$1.60

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Table 1.1–Page 2 of 2.

Year/ Season	Pot Fishery					Ring Net Fishery			Combined Gears				
	Permits Fished	Number of Crab	Total Pounds	Pots Lifted	CPUE	Permits Fished	Number of Crab	Total Pounds	Permits Fished	Number of Crab	Total Pounds	Average Weight	Price/ Pound
1998/99	93	757,545	2,086,672	36,872	21	87	31,161	77,459	180	788,706	2,164,131	2.7	\$2.06
1999/00	92	588,428	1,616,945	34,432	17	110	34,276	89,211	202	622,704	1,706,156	2.7	\$2.13
2000/01	81	447,043	1,221,668	32,187	14	80	30,784	74,012	161	477,827	1,295,680	2.7	\$1.93
2001/02	83	356,704	935,026	29,035	12	57	12,312	29,810	140	369,016	964,836	2.6	\$1.71
2002/03	67	300,453	776,687	22,937	13	44	12,008	27,547	111	312,461	804,234	2.6	\$2.05
2003/04	68	328,814	811,647	23,463	14	30	8,049	20,511	98	336,863	832,158	2.5	\$2.13
2004/05	60	313,281	787,625	18,248	17	21	6,886	16,410	81	320,167	804,035	2.5	\$1.96
2005/06	53	341,115	866,037	18,839	18	19	8,376	20,484	72	349,491	886,521	2.5	\$1.42
2006/07	57	360,820	911,515	22,332	16	19	6,741	16,385	76	367,561	927,900	2.5	\$1.67
2007/08	49	235,789	594,735	16,295	14	18	3,948	10,327	67	239,737	605,062	2.5	\$1.69
2008/09	31	239,616	599,745	16,268	14	10	5,169	12,805	41	244,785	612,550	2.5	\$1.78
2009/10	33	365,525	944,639	18,871	19	11	7,212	18,871	44	372,737	961,681	2.6	\$1.63
2010/11	48	334,254	867,252	19,640	17	16	9,505	24,092	64	343,759	891,344	2.6	\$2.85
2011/12	47	417,791	1,082,699	23,520	18	23	10,772	27,085	70	428,563	1,109,784	2.6	\$2.50
2012/13	54	463,166	1,211,607	24,390	19	22	12,372	30,826	76	475,538	1,242,433	2.6	\$2.47
2013/14	59	461,774	1,236,061	25,240	18	21	8,296	20,678	80	470,070	1,256,739	2.7	\$2.53
5-year avg.	48	408,502	1,068,452	22,332	18	19	9,631	24,310	67	418,133	1,092,396	2.6	\$2.40

Note: If fewer than three permits were fished; information is confidential.

Source: Number of crab and pot lifts for pot fishery from 1993/1994 to present, are from logbooks; all other information from fish tickets.

Table 1.2—Traditional commercial Tanner crab harvest in thousands of pounds, by month and season in Registration Area A, 1968/1969 to present.

Season	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
1968/1969	0	0	0	0	10,008	8,277	13,137	60,424	34,999	34,195	*	8,595	177,825
1969/1970	24,421	30,619	17,488	18,695	19,691	97,188	214,401	149,620	21,002	*	*	*	660,337
1970/1971	913	*	6,694	7,079	21,265	41,440	56,239	*	0	0	0	0	167,378
1971/1972	0	29,914	30,951	39,046	29,367	17,946	91,576	203,460	148,496	58,539	*	1,034	656,661
1972/1973	5,359	39,096	83,806	86,733	50,707	140,770	376,634	554,558	228,712	26,617	*	*	1,597,838
1973/1974	29,402	91,781	94,821	87,290	69,476	126,267	314,656	416,168	89,811	0	0	0	1,309,673
1974/1975	*	77,220	70,645	56,565	71,647	74,368	180,565	225,790	102,605	0	0	0	863,751
1975/1976	13,256	110,312	125,429	107,128	159,655	367,402	634,649	460,031	171,535	0	0	0	2,149,397
1976/1977	3,861	76,151	277,031	209,229	338,272	393,722	695,293	458,008	112,143	0	0	0	2,563,710
1977/1978	29,434	162,649	139,499	176,005	149,876	303,768	592,475	504,744	83,959	0	0	0	2,142,409
1978/1979	6,590	47,585	76,675	91,665	200,058	189,220	465,356	422,280	60,340	0	0	0	1,559,769
1979/1980	60,702	55,748	74,471	61,002	153,949	440,029	615,468	282,356	37,450	0	0	0	1,781,175
1980/1981	26,144	52,621	48,540	60,071	315,911	504,091	627,344	350,454	28,110	0	0	0	2,013,276
1981/1982	0	0	0	870,816	597,721	712,698	809,360	315,187	0	0	0	0	3,305,857
1982/1983	0	0	0	1,102,009	0	0	0	0	0	0	0	0	1,102,009
1983/1984	0	0	0	0	0	866,004	727,464	0	0	0	0	0	1,593,468
1984/1985	0	0	0	0	0	531,064	599,860	0	0	0	0	0	1,130,924
1985/1986	0	0	0	0	0	577,662	426,397	0	0	0	0	0	1,009,005
1986/1987	0	0	0	0	635,358	488,616	0	0	0	0	0	0	1,123,974
1987/1988	0	0	0	0	787,725	524,760	0	0	0	0	0	0	1,330,485
1988/1989	0	0	0	0	0	1,087,935	552,783	0	0	0	0	0	1,646,332
1989/1990	0	0	0	0	0	1,233,415	740,708	0	0	0	0	0	2,009,669
1990/1991	0	0	0	0	0	1,598,811	642,782	0	0	0	0	0	2,241,593
1991/1992	0	0	0	0	0	1,730,820	392,101	0	0	0	0	0	2,122,921
1992/1993	0	0	0	0	0	1,268,195	301,492	0	0	0	0	0	1,569,687
1993/1994	0	0	0	0	0	1,559,853	441,673	0	0	0	0	0	2,001,526
1994/1995	0	0	0	0	0	2,507,147	0	0	0	0	0	0	2,507,147
1995/1996	0	0	0	0	0	2,020,036	0	0	0	0	0	0	2,020,036
1996/1997	0	0	0	0	0	1,900,819	0	0	0	0	0	0	1,900,819
1997/1998	0	0	0	0	0	2,701,322	0	0	0	0	0	0	2,701,322
1998/1999	0	0	0	0	0	2,164,131	0	0	0	0	0	0	2,164,131

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Season	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
1999/2000	0	0	0	0	0	1,704,408	0	0	0	0	0	0	1,704,408
2000/2001	0	0	0	0	0	1,295,680	0	0	0	0	0	0	1,295,680
2001/2002	0	0	0	0	0	964,836	0	0	0	0	0	0	964,836
2002/2003	0	0	0	0	0	804,234	0	0	0	0	0	0	804,234
2003/2004	0	0	0	0	0	832,158	0	0	0	0	0	0	832,143
2004/2005	0	0	0	0	0	804,035	0	0	0	0	0	0	804,035
2005/2006	0	0	0	0	0	886,521	0	0	0	0	0	0	886,521
2006/2007	0	0	0	0	0	927,900	0	0	0	0	0	0	927,900
2007/2008	0	0	0	0	0	605,062	0	0	0	0	0	0	605,062
2008/2009	0	0	0	0	0	612,550	0	0	0	0	0	0	612,550
2009/2010	0	0	0	0	0	961,681	0	0	0	0	0	0	961,681
2010/2011	0	0	0	0	0	891,344	0	0	0	0	0	0	891,344
2011/2012	0	0	0	0	0	1,109,784	0	0	0	0	0	0	1,109,784
2012/2013	0	0	0	0	0	1,242,433	0	0	0	0	0	0	1,242,433
2013/2014	0	0	0	0	0	1,256,739	0	0	0	0	0	0	1,256,739

Note: If fewer than three permits were fished; information is confidential.

Table 1.3–Biomass estimates, recommended exploitation rates, and guideline harvest levels (GHLs) for 14 surveyed areas, 2011/2012 through 2013/2014 seasons. See the stock health determination matrix in Tables 1.4 and 1.5 for a more detailed look at the data behind stock status determination. Recommended exploitation rates (ER) are 0% of estimated mature male biomass for poor stock status, 5% for below average, 10% for average, 15% for above average, and 20% for healthy stock health. An expansion factor of 71% (29% for non-surveyed areas) was used to determine total regional crab biomass. This expansion factor was based on the percent of commercial catch harvested in surveyed areas from 1980–2000.

Survey area	Estimated						Mature ER			Legal ER			Recommended harvest		
	Mature biomass			Legal biomass											
	11/12	12/13	13/14	11/12	12/13	13/14	11/12	12/13	13/14	11/12	12/13	13/14	11/12	12/13	13/14
Icy Strait	171,469	334,576	249,815	80,039	187,581	162,822	5%	10%	10%	11%	18%	15%	8,573	33,458	24,982
Glacier	452,488	796,817	323,113	227,644	298,634	148,054	10%	10%	5%	20%	27%	11%	45,249	79,682	16,156
Stephens	218,939	274,253	396,277	173,108	200,402	258,083	5%	10%	15%	6%	14%	23%	10,947	27,425	59,442
Thomas	161,099	141,952	105,719	93,531	98,522	57,887	10%	10%	10%	17%	14%	18%	16,110	14,195	10,572
Holkham	208,265	365,252	403,421	134,856	209,545	278,585	15%	20%	15%	23%	35%	22%	31,240	73,050	60,513
Camden	34,972	31,158	47,724	13,212	19,807	35,153	10%	10%	10%	26%	16%	16%	3,497	3,116	4,772
Seymour	249,924	301,223	377,225	183,962	213,312	265,852	10%	10%	15%	14%	14%	21%	24,992	30,122	56,584
N. Juneau	156,580	159,314	201,345	134,772	107,265	142,708	10%	15%	20%	12%	22%	28%	15,658	23,897	40,269
Excursion	240,803	324,537	287,763	167,244	159,930	178,250	10%	20%	10%	14%	41%	16%	24,080	64,907	28,776
Pybus	150,178	123,591	127,688	114,162	95,739	79,894	15%	20%	20%	20%	26%	32%	22,527	24,718	25,538
Gambier	28,147	23,490	40,202	23,545	16,472	18,799	0%	0%	5%	0%	0%	11%	0	0	2,010
Peril	96,952	122,695	239,599	43,751	50,181	138,336	15%	15%	15%	33%	37%	26%	14,543	18,404	35,940
Lynn	32,577	27,677	45,245	26,796	17,674	36,017	10%	10%	10%	12%	16%	13%	3,258	2,768	4,524
P. Fred.	11,120	10,333	15,101	9,192	6,857	9,279	0%	5%	10%	0%	8%	16%	0	517	1,510
Non-surveyed	904,111	1,240,410	1,168,266	582,449	686,982	739,182	–	–	–	–	–	–	90,134	160,891	151,099
Total	3,117,624	4,277,278	4,028,503	2,008,263	2,368,903	2,548,901	–	–	–	–	–	–	310,808	557,150	522,687

Table 1.4–Tanner crab stock health scores, 2011/2012–2013/2014 seasons for Tanner crab survey areas. Negative scores are significantly below the long-term (l-t) average or trending significantly down and vice versa. The long-term average is defined as available data from 1997–2010. Short-term (s-t) trends are based on individual regression analyses over the past 4 years, including the current year. Total score is the sum of scores (+1, 0, -1 for long-term; +.25, 0, -.25 for short-term) for each response variable. Stock health < -3.25 = poor, -3.25 to -1.26= below average, -1.25 to 1.25 = moderate, 1.26 to 3.25 above average, and > 3.25 = healthy.

Survey area	Season	Large / mature females		Prerecruits		Recruits		Postrecruits		Total score	Stock health		
		Clutch		CPUE									
		l-t	s-t	l-t	s-t	l-t	s-t	l-t	s-t			l-t	s-t
Icy Strait	2011/2012	1	0.25	-1	0	0	0	-1	0.25	-1	0	-1.50	Below Ave
	2012/2013	0	0	0	0	0	0	0	0	0	0	0.00	Moderate
	2013/2014	1	0	0	0	0	0	-1	0	-1	0	-1.00	Moderate
Glacier Bay	2011/2012	1	0	-1	0	-1	-0.25	0	0	0	0	-1.25	Moderate
	2012/2013	0	0	0	0	0	0	-1	0	0	0	-1.00	Moderate
	2013/2014	1	0	-1	0	-1	0	-1	0	-1	0	-3.00	Below Ave
Stephens Passage	2011/2012	1	0	0	0	-1	-0.25	-1	0	-1	0	-2.25	Below Ave
	2012/2013	1	0	0	0.25	0	0	-1	0	0	0	0.25	Moderate
	2013/2014	1	0	0	0	1	0.25	0	0.25	0	0.25	2.75	Above Ave
Thomas Bay	2011/2012	1	0	0	-0.25	0	0	0	0	0	0	0.75	Moderate
	2012/2013	0	0	0	0	-1	0	0	0	0	0	-1.00	Moderate
	2013/2014	1	0	0	0	0	0	-1	0	-1	0	-1.00	Moderate
Holkham Bay	2011/2012	1	0.25	0	0	0	0	1	0.25	0	0	2.50	Above Ave
	2012/2013	1	0.25	0	0.25	1	0	1	0	1	0	4.50	Healthy
	2013/2014	1	0	0	0	0	0	1	0	0	0.25	2.25	Above Ave
Port Camden	2011/2012	0	0	0	0	0	0	0	0	0	0	0.00	Moderate
	2012/2013	1	0	0	0	0	0	-1	0	0	0	0.00	Moderate
	2013/2014	0	-0.25	0	0	0	0	-1	0	0	0	-1.25	Moderate

Table 1.5—Tanner crab stock health scores, 2011/2012–2013/2014, red king crab survey areas. Negative scores are significantly below the long-term average (l-t) or trending significantly down and vice versa. The long-term average is defined as available data from 1993–2002. Short-term (s-t) trends are based on individual regression analyses over the past 4 years, including the current year. Total score is the sum of scores (+1, 0, -1 for l-t; +.25, 0, -.25 for s-t). Stock health < -3.25 = poor, -3.25 to -1.26= below average-1.25 to 1.25 = moderate, 1.26 to 3.25 above average, and > 3.25 = healthy.

Survey area	Season	Large / mature females				Prerecruits		Recruits		Postrecruits		Total score	Stock health
		Clutch		CPUE									
		l-t	s-t	l-t	s-t	l-t	s-t	l-t	s-t	l-t	s-t		
Seymour Canal	2011/2012	0	0	0	0	0	-0.25	0	0	0	0	-0.25	Moderate
	2012/2013	1	0.25	-1	-0.25	0	0	0	0	0	0	0.00	Moderate
	2013/2014	1	0.25	0	0	0	0.25	0	0.25	0	0.25	2.00	Above Ave
North Juneau	2011/2012	1	0	0	0	0	0	-1	0	0	0.25	0.25	Moderate
	2012/2013	1	0	1	0	1	0	0	0	0	0	3.00	Above Ave
	2013/2014	1	0	1	0	1	0.25	0	0	1	0.25	4.50	Healthy
Excursion Inlet	2011/2012	1	0	0	0	0	0	0	0	0	0.25	1.25	Moderate
	2012/2013	1	0	1	0	1	0	0	0	0	0.25	3.25	Healthy
	2013/2014	0	0	0	0	0	0	0	-0.25	0	0	-0.25	Moderate
Pybus Bay	2011/2012	0	0	0	0	1	0	1	0	1	0	3.00	Above Ave
	2012/2013	1	0	1	0	1	0	1	0	0	0	4.00	Healthy
	2013/2014	1	0	1	0.25	1	0	0	0	0	0	3.25	Healthy
Gambier Bay	2011/2012	1	0	-1	-0.25	-1	-0.25	-1	-0.25	-1	0	-3.75	Poor
	2012/2013	0	0	-1	0	-1	0	-1	0	-1	0	-4.00	Poor
	2013/2014	1	0	-1	0	-1	0.25	-1	0	0	0	-1.75	Below Ave
Peril Strait	2011/2012	0	0	0	0	1	0.25	0	0.25	0	0.25	1.75	Above Ave
	2012/2013	0	0	1	0	1	0.25	0	0.25	0	0	2.50	Above Ave
	2013/2014	1	0.25	1	0	0	0	0	0	0	0	2.25	Above Ave
Lynn Sisters	2011/2012	0	0	0	-0.25	0	-0.25	0	0	0	0	-0.50	Moderate
	2012/2013	0	0	-1	0	0	0	0	0	0	0	-1.00	Moderate
	2013/2014	0	0	-1	0	0	0	0	0	0	0	-1.00	Moderate
Port Frederick	2011/2012	0	0	-1	0	-1	0	-1	0	-1	0	-4.00	Poor
	2012/2013	0	0	-1	0	-1	0	-1	0	0	0	-3.00	Below Ave
	2013/2014	1	0.25	0	0.25	0	0.25	-1	0	0	0	0.75	Moderate

Table 1.6—Traditional commercial Tanner crab harvest in pounds by season, by fishing area in Registration Area A, 1971/1972 to present.

Season	Lynn Canal/Upper Stephens Passage ^a		Icy Strait ^b		Frederick Sound/Lower Stephens Passage ^c		Other ^d		Total
	Pounds	% of S.E. Harvest	Pounds	% of S.E. Harvest	Pounds	% of S.E. Harvest	Pounds	% of S.E. Harvest	
1971/1972	13,440	2.0	310,803	47.3	200,854	30.6	131,564	20.0	656,661
1972/1973	177,661	11.1	505,203	31.6	443,106	27.7	471,868	29.5	1,597,838
1973/1974	377,190	28.8	404,347	30.9	396,400	30.3	131,736	10.1	1,309,673
1974/1975	19,116	2.2	371,115	43.0	289,758	33.5	183,762	21.3	863,751
1975/1976	782,127	36.4	505,089	23.5	406,565	18.9	455,616	21.2	2,149,397
1976/1977	599,719	23.4	1,034,577	40.4	529,849	20.7	399,565	15.6	2,563,710
1977/1978	394,041	18.4	762,491	35.6	648,802	30.3	337,075	15.7	2,142,409
1978/1979	308,765	19.8	655,043	42.0	511,769	32.8	84,192	5.4	1,559,769
1979/1980	330,221	18.5	391,185	22.0	907,178	50.9	152,591	8.6	1,781,175
1980/1981	321,594	16.0	682,736	33.9	634,425	31.5	374,521	18.6	2,013,276
1981/1982	384,252	11.6	2,102,755	63.6	428,259	13.0	390,591	11.8	3,305,857
1982/1983	92,055	8.4	816,016	74.0	108,918	9.9	85,020	7.7	1,102,009
1983/1984	298,975	18.8	656,496	41.2	468,461	29.4	169,536	10.6	1,593,468
1984/1985	366,496	32.4	225,044	19.9	365,395	32.3	173,989	15.4	1,130,924
1985/1986	421,236	41.7	182,316	18.1	282,490	28.0	122,963	12.2	1,009,005
1986/1987	410,674	36.5	242,010	21.5	317,528	28.3	153,762	13.7	1,123,974
1987/1988	458,190	34.4	239,194	18.0	459,709	34.6	173,392	13.0	1,330,485
1988/1989	476,600	28.9	349,098	21.2	628,454	38.2	192,180	11.7	1,646,332
1989/1990	386,754	19.2	621,277	30.9	709,733	35.3	291,905	14.5	2,009,669
1990/1991	442,952	19.8	798,460	35.6	617,839	27.6	382,342	17.1	2,241,593
1991/1992	617,885	29.1	800,184	37.7	442,200	20.8	262,652	12.4	2,122,921
1992/1993	452,466	28.8	490,117	31.2	433,002	27.6	194,102	12.4	1,569,687
1993/1994	253,543	12.7	517,397	25.9	888,117	44.4	342,469	17.1	2,001,526

—continued—

Table 1.6–Page 2 of 2.

Season	Lynn Canal/Upper Stephens Passage ^a		Icy Strait ^b		Frederick Sound/Lower Stephens Passage ^c		Other ^d		Total
	Pounds	% of S.E. Harvest	Pounds	% of S.E. Harvest	Pounds	% of S.E. Harvest	Pounds	% of S.E. Harvest	
1994/1995	409,187	16.3	735,200	29.3	1,051,899	42.0	310,861	12.4	2,507,147
1995/1996	314,961	15.6	725,970	35.9	704,529	34.9	274,576	13.6	2,020,036
1996/1997	293,328	15.4	673,305	35.4	490,752	25.8	443,434	23.3	1,900,819
1997/1998	418,743	15.5	692,620	25.6	517,500	19.2	1,072,459	39.7	2,701,322
1999/2000	468,373	27.5	440,239	25.8	536,957	31.5	258,839	15.2	1,704,408
2000/2001	412,435	31.8	298,607	23.0	391,751	30.2	192,887	14.9	1,295,680
2001/2002	346,676	35.9	265,940	27.6	228,773	23.7	123,447	12.8	964,836
2002/2003	311,273	38.7	226,527	28.2	192,255	23.9	74,179	9.2	804,234
2003/2004	237,442	28.5	263,533	31.7	249,000	29.9	82,183	9.9	832,158
2004/2005	189,323	23.5	319,875	39.8	224,851	28.0	69,986	8.7	804,035
2005/2006	162,500	18.3	386,736	43.6	280,586	31.7	56,699	6.4	886,521
2006/2007	152,729	16.5	363,656	39.2	294,745	31.8	116,770	12.6	927,900
2007/2008	135,312	22.4	230,612	38.1	176,516	29.2	62,622	10.3	605,062
2008/2009	154,634	25.3	239,294	39.1	140,355	22.9	78,267	12.7	612,550
2009/2010	291,627	30.3	296,623	30.8	290,829	30.2	82,602	8.7	961,681
2010/2011	227,605	25.5	231,424	26.0	336,497	37.8	95,818	10.7	891,344
2011/2012	255,526	23.0	304,206	27.4	443,484	40.0	106,568	9.6	1,109,784
2012/2013	269,489	21.7	334,244	26.9	492,846	39.7	145,854	11.7	1,242,433
2013/2014	333,198	26.5	259,301	20.6	524,958	41.8	139,282	11.1	1,256,739

^a Includes all of District 15 and Subdistricts 111-30 through 111-99.

^b Includes all of District 14.

^c Includes all of District 10, Subdistricts 111-01 through 111-29, and Subdistricts 108-40 through 108-60.

^d Includes all other areas of Southeast Alaska.

Table 1.7—Summary of traditional commercial Tanner crab size frequency and shell condition data collected during dockside sampling in Registration Area A, 1970/1971 to present.

Season	Number sampled for size frequency		Carapace width (mm)		Recruitment	
	Boats	Crab	Mean	Range	% Recruits ^a	% Postrecruits ^b
1970/1971	1	99	157.0	137–177	76.5	23.5
1971/1972	4	235	144.5	121–180	81.4	18.6
1972/1973	3	429	156.9	128–183	88.1	11.9
1973/1974	9	1,658	153.0	111–190	80.9	19.1
1974/1975	4	616	157.9	127–190	74.7	25.3
1975/1976	12	1,663	154.1	116–190	75.7	24.3
1976/1977	25	3,753	154.4	124–192	60.6	39.4
1977/1978	34	4,786	155.3	124–192	28.2	71.8
1978/1979	26	3,273	154.9	129–198	48.1	51.9
1979/1980	43	4,509	154.6	128–193	70.5	29.5
1980/1981	45	4,223	152.1	125–192	71.0	29.0
1981/1982	59	6,556	149.7	129–193	71.1	28.9
1982/1983	55	5,808	150.8	123–185	78.8	21.2
1983/1984	24	2,444	152.0	135–187	81.6	18.4
1984/1985	23	3,211	152.6	135–197	82.4	17.6
1985/1986	50	5,453	151.0	128–191	80.1	19.9
1986/1987	61	6,984	152.2	133–188	79.9	20.1
1987/1988	104	10,933	150.8	134–186	72.4	27.6
1988/1989	93	10,030	152.9	133–194	65.1	34.9
1989/1990	121	12,806	150.8	129–185	67.5	32.5
1990/1991	133	13,050	152.3	131–193	79.7	20.3
1991/1992	110	11,568	154.9	129–190	67.5	32.5
1992/1993	99	11,175	151.9	130–192	71.1	28.9
1993/1994	127	14,731	150.1	130–190	79.6	20.4
1994/1995	149	18,235	151.7	99–191	79.6	20.4
1995/1996	119	15,085	153.7	132–189	77.4	22.6
1996/1997	129	13,123	152.4	132–196	77.2	22.8
1997/1998	152	11,345	153.8	127–190	74.1	25.9
1998/1999	121	9,306	154.2	125–193	65.1	34.9
1999/2000	138	9,195	155.0	69–193	68.5	31.5
2000/2001	116	9,096	154.7	134–197	64.3	35.7
2001/2002	126	9,194	152.9	118–197	75.1	24.9
2002/2003	111	7,864	152.7	133–190	77.8	22.2
2003/2004	96	6,925	152.1	131–189	74.7	25.3
2004/2005	92	6,841	150.9	127–192	65.4	34.6
2005/2006	85	6,268	151.6	126–185	73.4	26.6
2006/2007	84	6,200	152.4	129–190	69.4	30.6
2007/2008	65	4,761	151.5	132–186	60.8	39.2
2008/2009	46	3,350	151.5	136–185	73.8	26.2
2009/2010	60	4,488	152.5	136–195	66.8	33.2
2010/2011	48	3,588	152.9	135–188	57.8	42.2
2011/2012	61	4,388	154.1	133–189	64.4	35.6
2012/2013	67	4,834	154.1	132–199	61.8	38.2
2013/2014	65	4,793	153.5	134–195	58.4	41.6

^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 shell crab ≥ 140 mm carapace width.

Table 1.8—Tanner crab catch rate and weights in Registration Area A, 1974/1975 to present. Data were collected during dockside sampling and interviews.^a

Season	Number of			Mean number crab per pot	Range of number crab per pot	Weight (lb)		Estimated number of crab harvested ^b	Percent of harvest sampled ^c
	Boats inter-viewed	Pots lifted	Crab captured			Mean	Range		
1974/1975	2	—	—	—	—	2.7	2.1-3.2	324,648	0.2
1975/1976	10	—	—	—	—	1.9	1.7-2.1	1,153,110	0.1
1976/1977	20	58	1,400	24.1	24.1–24.1	2.5	2.0–3.0	1,014,551	0.4
1977/1978	40	270	6,805	25.2	16.0–43.1	2.5	1.6–3.1	840,881	0.6
1978/1979	20	4,096	122,784	30.0	17.2–48.6	2.6	2.3–2.8	610,816	0.5
1979/1980	25	8,047	306,017	38.0	7.7–93.0	2.3	2.1–2.8	777,310	0.6
1980/1981	34	4,113	59,620	14.5	2.3–27.1	2.4	2.1–3.2	833,775	0.5
1981/1982	33	6,266	197,787	31.6	8.1–111.6	2.3	2.0–2.5	1,424,520	0.5
1982/1983	57	2,043	30,321	14.8	4.9–29.2	2.3	1.9–3.0	474,611	1.2
1983/1984	18	680	7,380	10.9	6.9–14.0	2.5	2.3–2.7	638,523	0.4
1984/1985	19	1,555	17,326	11.1	3.9–16.5	2.6	2.3–3.0	435,249	0.7
1985/1986	50	6,990	94,784	13.6	1.8–47.2	2.4	1.8–3.1	415,708	1.3
1986/1987	61	15,452	191,786	12.4	2.9–32.0	2.5	2.1–2.8	451,523	1.5
1987/1988	99	23,497	278,085	11.8	1.1–32.9	2.4	2.0–2.7	558,059	2.0
1988/1989	106	26,288	389,997	14.8	0.4–42.7	2.5	2.1–3.1	652,278	1.5
1989/1990	126	35,352	389,983	11.0	0.2–34.6	2.4	1.6–3.0	823,038	1.6
1990/1991	135	41,706	604,723	14.5	0.9–40.3	2.5	2.1–3.1	883,237	1.5
1991/1992	115	33,978	411,104	12.1	0.8–99.2	2.7	2.1–3.1	799,838	1.4
1992/1993	95	28,569	307,225	10.8	0.5–31.7	2.5	2.0–3.0	625,073	1.8
1993/1994	127	28,408	355,379	12.5	0.3–47.5	2.4	1.9–2.9	824,186	1.8
1994/1995	144	27,846	369,490	13.3	0.3–59.5	2.5	2.0–3.0	1,002,415	1.8
1995/1996	115	22,426	461,886	20.6	0.5–284.8	2.6	2.1–3.2	771,905	2.0
1996/1997	128	20,799	332,706	16.0	0.4–65.8	2.5	2.1–3.1	745,996	1.8
1997/1998	151	28,592	564,853	19.8	0.4–91.6	2.6	2.0–3.9	1,028,370	1.1
1998/1999	121	25,736	442,061	17.2	0.3–60.6	2.6	2.1–3.3	823,499	1.1
1999/2000	139	25,526	326,463	12.8	0.3–62.5	2.7	2.1–6.2	636,523	1.5
2000/2001	116	26,821	319,114	11.9	0.1–32.6	2.7	2.2–3.4	484,896	1.9
2001/2002	126	28,194	299,031	10.6	0.3–64.9	2.6	2.1–3.1	371,710	2.5
2002/2003	111	20,469	248,123	12.1	0.2–44.6	2.5	1.8–3.0	323,381	2.4
2003/2004	96	19,223	247,274	12.9	0.5–41.3	2.5	2.1–3.1	334,054	2.1
2004/2005	92	18,783	247,799	13.2	0.6–41.5	2.4	2.0–2.9	329,784	2.1
2005/2006	85	20,311	334,479	16.5	0.5–63.0	2.5	2.2–3.0	357,983	1.8
2006/2007	84	25,262	367,483	14.5	0.6–57.3	2.5	1.9–2.9	371,697	1.7
2007/2008	63	13,212	147,907	11.2	0.4–34.6	2.5	1.9–3.0	246,722	1.9
2008/2009	46	10,948	142,871	13.0	0.6–31.4	2.5	2.1–3.0	243,176	1.4
2009/2010	60	14,893	236,303	15.9	0.8–47.0	2.5	2.1–2.9	382,679	1.2
2010/2011	48	8,046	116,427	14.5	0.4–36.2	2.6	2.3–3.0	348,553	1.0
2011/2012	43	12,251	146,329	11.9	0.6–31.9	2.6	2.1–3.2	426,840	1.0
2012/2013	67	13,403	183,803	13.7	0.1–43.5	2.6	2.2–3.1	477,859	1.0
2013/2014	65	10,770	125,029	11.6	0.4–38.4	2.6	2.2–3.1	483,361	1.0

^a Summary tables of all dockside sampling data includes data from Tables 1.9, 1.11, and 1.13 plus data collected that could not be assigned to a fishing area.

^b Calculated by dividing fish ticket weight data from Table 1.6 by dockside sampling mean weight per crab data.

^c Calculated by dividing number of crab sampled for size frequency by estimated number of crab harvested.

Table 1.9–Tanner crab catch rate and mean weight in Icy Strait, 1975/1976 to present. Data were collected during dockside sampling and interviews.

Season	Number sampled			Mean number of crab per pot	Range of number of crab per pot	Weight (lb)		Estimated number of crab harvested ^a	Percent of harvest sampled ^b
	Boats interviewed	Pots lifted	Crab captured			Mean	Range		
1977/1978	3	–	–	–	0.0–0.0	2.8	2.8–2.9	270,387	0.3
1978/1979	1	–	–	–	0.0–0.0	2.7	2.7–2.7	247,186	0.1
1979/1980	1	100	9,300	93.0	93.0–93.0	–	0.0–0.0	–	–
1981/1982	19	3,535	91,832	26.0	8.4–71.6	2.3	2.0–2.5	918,234	0.3
1982/1983	25	1,656	24,130	14.6	4.9–36.5	2.4	2.2–2.8	334,433	0.9
1983/1984	8	–	–	–	0.0–0.0	2.5	2.4–2.7	260,514	0.3
1984/1985	1	–	–	–	0.0–0.0	2.3	2.3–2.3	97,845	0.3
1985/1986	1	98	811	8.3	8.3–8.3	–	0.0–0.0	–	–
1986/1987	4	350	4,411	12.6	12.6–12.6	2.4	2.3–2.5	102,083	0.5
1987/1988	13	1,958	20,421	10.4	1.1–40.3	2.2	2.1–2.4	107,977	0.9
1988/1989	20	6,125	68,178	11.1	0.4–30.4	2.6	2.3–2.8	128,608	1.4
1989/1990	25	8,277	93,291	11.3	0.2–32.4	2.5	2.2–2.8	240,777	1.1
1990/1991	36	10,721	133,519	12.5	4.2–40.3	2.5	2.2–2.7	317,299	1.1
1991/1992	29	8,668	100,652	11.6	1.1–24.0	2.7	2.4–3.1	300,147	0.8
1992/1993	33	9,325	96,280	10.3	2.7–28.7	2.6	2.3–3.0	183,498	1.8
1993/1994	35	9,055	108,432	12.0	0.8–39.1	2.5	2.1–2.9	205,405	1.5
1994/1995	40	10,791	154,190	14.3	0.9–40.0	2.5	2.0–2.3	293,401	1.5
1995/1996	31	6,212	103,571	16.7	0.1–56.8	2.7	2.3–3.2	270,125	1.1
1996/1997	40	9,526	167,253	17.6	0.4–65.8	2.5	2.3–2.8	265,024	1.5
1997/1998	29	8,848	136,226	15.4	0.4–56.8	2.6	2.4–3.0	258,280	0.8
1998/1999	27	5,619	114,969	20.5	1.1–60.6	2.7	2.4–3.1	259,305	0.8
1999/2000	26	5,208	82,812	15.9	0.2–62.5	2.7	2.1–3.0	163,041	1.1
2000/2001	20	7,307	92,424	12.7	2.3–33.7	2.5	2.2–2.7	120,188	1.0
2001/2002	24	7,057	79,708	11.3	2.0–27.3	2.7	2.4–2.9	99,725	1.6
2002/2003	15	3,317	44,675	13.5	1.9–37.5	2.6	2.2–2.8	85,527	1.0
2003/2004	18	3,587	58,624	16.3	3.3–48.8	2.5	2.3–3.0	106,421	1.1
2004/2005	18	4,943	113,504	23.0	2.5–48.8	2.4	2.2–2.5	132,845	1.0
2005/2006	30	7,172	156,833	21.9	2.4–63.0	2.5	2.2–2.7	153,794	1.0
2006/2007	22	5,447	103,307	19.0	2.6–57.3	2.6	2.3–2.9	139,089	0.8
2007/2008	18	4,030	56,682	14.1	1.0–35.8	2.5	2.2–3.0	92,471	1.2
2008/2009	12	2,885	57,591	20.0	1.5–26.7	2.4	2.3–2.6	98,475	0.7
2009/2010	9	3,404	83,246	24.5	7.2–69.4	2.5	2.4–2.6	118,176	0.3
2010/2011	3	913	19,928	21.8	3.3–26.5	2.8	2.8–2.8	83,849	0.3
2011/2012	7	1,344	22,871	17.0	4.6–39.76	2.5	2.5–2.6	121,682	0.4
2012/2013	7	2,492	55,041	22.1	3.3–33.1	2.5	2.5–2.5	133,698	0.3
2013/2014	3	557	7,331	13.2	4.3–19.8	2.5	2.5–2.6	103,720	0.2

^a Calculated by dividing fish ticket weight (lb) data for Icy Strait from Table 1.6, by dockside sampling mean weight data.

^b Calculated by dividing number of crab sampled for size frequency for Icy Strait by estimated number of crab caught.

Table 1.10–Icy Strait summary of traditional commercial Tanner crab size frequency and shell condition, 1971/1972 to present. Data were collected during dockside sampling.

Season	Number of sampled		Carapace width (mm)		Recruitment	
	Boats	Crab	Mean	Range	% Recruits ^a	% Postrecruits ^b
1976/1977 ^c	1	101	155.2	140–179	82.2	17.8
1977/1978	4	828	157.6	126–190	24.7	75.3
1978/1979	1	200	156.0	138–182	82.5	17.5
1979/1980	2	207	152.6	138–179	71.4	28.6
1980/1981	1	104	149.4	137–175	90.3	9.7
1981/1982	21	2,626	149.0	130–181	68.4	31.6
1982/1983	29	3,002	151.0	129–178	78.9	21.2
1983/1984	8	803	152.4	137–181	73.6	26.4
1984/1985	2	309	146.6	136–165	59.8	40.2
1985/1986	1	118	148.3	138–180	85.6	14.4
1986/1987	4	485	148.4	136–176	44.4	55.6
1987/1988	10	1,017	149.0	137–184	70.4	29.6
1988/1989	17	1,770	152.1	135–184	72.7	27.3
1989/1990	25	2,576	151.1	135–183	76.3	23.7
1990/1991	34	3,572	149.9	132–180	86.8	13.2
1991/1992	25	2,496	154.8	132–187	78.3	21.7
1992/1993	31	3,301	152.1	135–189	80.3	19.7
1993/1994	28	3,114	151.1	131–185	87.8	12.2
1994/1995	37	4,324	150.6	135–190	91.8	8.2
1995/1996	28	3,061	152.8	137–185	89.7	10.3
1996/1997	37	3,954	151.2	133–186	89.0	11.1
1997/1998	29	2,153	154.1	130–190	87.4	12.7
1998/1999	26	2,158	154.8	133–187	85.7	14.3
1999/2000	22	1,743	154.2	135–189	84.4	15.6
2000/2001	16	1,197	151.4	138–183	90.1	9.9
2001/2002	21	1,563	153.8	137–182	88.6	11.4
2002/2003	12	842	153.3	136–178	85.3	14.7
2003/2004	16	1,210	150.7	135–182	91.3	8.7
2004/2005	16	1,348	149.6	128–177	69.3	30.8
2005/2006	21	1,575	151.0	134–174	83.8	16.2
2006/2007	15	1,122	153.7	138–184	76.6	23.4
2007/2008	15	1,124	151.5	132–181	64.5	35.5
2008/2009	9	675	150.0	139–175	82.2	17.8
2009/2010	5	375	152.2	138–188	80.8	19.2
2010/2011	3	225	151.0	135–172	71.9	28.1
2011/2012	7	525	151.6	135–179	75.1	24.8
2012/2013	5	375	152.8	135–184	58.9	40.3
2013/2014	3	226	151.2	138–182	65.3	34.7

^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.

^c The first season that legal size was 5½-inch (140 mm) carapace width.

Table 1.11—Tanner crab catch rate and mean weight in Lynn Canal/Stephens Passage, 1976/1977 to present. Data was collected during dockside sampling and interviews.

Season	Number sampled			Mean number of crab per pot	Range of number of crab per pot	Weight (lb)		Estimated number of crab harvested ^a	Percent of harvest sampled ^b
	Boats interviewed	Pots lifted	Crab captured			Mean	Range		
1976/1977	10	58	1,400	24.1	24.1–24.1	2.6	2.5–3.0	230,661	0.9
1977/1978	7	–	–	–	0.0–0.0	2.7	2.6–2.9	146,484	0.9
1978/1979	6	196	3,922	20.0	17.2–22.4	2.7	2.6–2.8	115,211	0.9
1979/1980	3	175	8,350	47.7	7.0–86.4	2.7	2.7–2.7	122,304	0.5
1980/1981	2	125	289	2.3	2.3–2.3	2.9	2.9–3.2	109,386	0.1
1981/1982	3	720	8,744	12.1	12.1–12.2	2.3	2.3–2.3	165,626	0.3
1982/1983	7	387	3,394	8.8	5.5–13.7	2.4	2.4–2.5	38,064	2.9
1983/1984	2	–	–	–	0.0–0.0	2.6	2.5–2.7	115,434	0.2
1984/1985	6	505	3,536	7.0	7.5–14.0	2.6	2.5–2.7	143,163	0.5
1985/1986	28	2,773	40,787	14.7	5.9–30.7	2.4	1.8–3.1	173,655	1.8
1986/1987	36	3,872	50,842	13.1	5.0–32.0	2.5	2.1–2.8	164,210	2.6
1987/1988	45	4,410	46,198	10.5	3.0–33.0	2.4	2.0–2.7	188,165	2.7
1988/1989	41	6,035	81,886	13.6	4.5–37.4	2.6	2.2–3.1	181,944	2.0
1989/1990	35	4,828	59,152	12.3	3.1–35.6	2.5	2.1–2.8	154,834	2.6
1990/1991	33	6,911	119,110	17.2	1.0–52.5	2.5	2.1–2.8	175,039	1.8
1991/1992	38	5,496	79,116	14.4	0.8–99.2	2.7	2.2–3.1	226,080	1.6
1992/1993	23	5,797	60,156	10.4	0.9–34.5	2.6	2.2–3.0	172,040	1.6
1993/1994	13	2,724	29,000	10.7	1.2–23.7	2.4	2.2–2.6	105,533	1.2
1994/1995	28	2,184	33,189	15.2	5.1–46.8	2.5	2.2–3.0	160,951	2.4
1995/1996	25	2,726	36,514	13.4	0.6–40.4	2.8	2.1–3.1	113,305	2.9
1996/1997	27	1,836	33,536	18.3	7.3–42.7	2.7	2.3–3.1	107,923	2.2
1997/1998	36	3,913	86,103	22.0	11.7–46.3	2.8	2.3–3.0	151,596	1.8
1998/1999	19	2,385	63,005	26.4	11.7–60.6	3.0	2.9–3.3	112,339	1.1
1999/2000	24	3,458	91,701	26.5	2.3–52.3	2.9	2.5–3.2	161,223	1.3
2000/2001	35	6,347	89,096	14.0	0.8–36.7	2.8	2.4–3.2	144,459	1.5
2001/2002	44	6,557	95,146	14.5	1.0–64.9	2.6	2.3–3.1	133,400	2.2
2002/2003	36	4,787	83,123	17.4	1.6–43.6	2.5	2.2–2.9	123,133	2.1
2003/2004	32	6,043	77,552	12.8	2.9–44.0	2.4	2.2–2.8	96,428	2.3
2004/2005	18	3,695	53,834	14.6	0.8–23.3	2.5	2.3–2.6	75,762	1.7
2005/2006	18	3,349	56,820	17.0	3.8–31.2	2.5	2.2–2.9	64,166	1.8
2006/2007	19	7,611	63,477	8.3	2.7–24.5	2.4	1.9–2.7	62,707	2.0
2007/2008	13	2,420	38,988	16.1	6.0–37.2	2.4	1.9–2.8	55,781	1.5
2008/2009	6	937	16,627	17.7	7.2–32.7	2.6	2.5–2.7	61,767	0.5
2009/2010	17	2,377	58,887	24.8	8.7–44.8	2.6	2.4–2.9	119,464	0.9
2010/2011	14	2,420	45,921	19.0	2.3–49.1	2.8	2.5–3.0	89,327	1.2
2011/2012	18	2,649	41,391	15.6	5.8–31.1	2.8	2.1–3.2	91,259	1.5
2012/2013	17	2,381	41,759	17.5	7.0–33.2	2.7	2.6–2.8	99,811	1.3
2013/2014	19	2,716	50,015	18.4	1.9–39.5	2.7	2.4–3.1	123,407	1.2

^a Calculated by dividing fish ticket weight data for Lynn Canal/Stephens Passage from Table 1.6, by dockside sampling mean weight data.

^b Calculated by dividing number of crab sampled for size frequency for Lynn Canal/Stephens Passage by estimated number of crab caught

Table 1.12–Lynn Canal/Stephens Passage summary of traditional commercial Tanner crab size frequency and shell condition, 1970/1971 to present. Data was collected during dockside sampling.

Season	Number of sampled		Carapace width (mm)		Recruitment	
	Boats	Crab	Mean	Range	% Recruits ^a	% Postrecruits ^b
1975/1976	4	555	155.7	126–182	54.8	45.2
1976/1977 ^c	14	2,149	154.6	124–191	54.0	46.0
1977/1978	9	1,281	155.7	131–187	23.9	76.1
1978/1979	8	1,013	154.4	129–191	55.0	45.0
1979/1980	5	555	153.3	128–186	81.7	18.3
1980/1981	4	155	149.9	136–182	47.6	52.4
1981/1982	4	416	150.9	131–176	79.5	20.5
1982/1983	11	1,103	151.0	135–177	82.2	17.8
1983/1984	2	204	153.8	139–177	74.1	25.9
1984/1985	7	750	153.6	136–183	86.9	13.1
1985/1986	29	3,166	151.6	135–191	77.6	22.4
1986/1987	38	4,232	152.8	133–188	81.1	18.9
1987/1988	49	4,979	151.8	135–185	77.4	22.6
1988/1989	33	3,595	155.0	133–194	85.5	14.5
1989/1990	35	3,945	151.9	129–185	74.4	25.6
1990/1991	30	3,181	153.8	134–188	80.3	19.7
1991/1992	36	3,539	157.0	129–190	62.3	37.7
1992/1993	26	2,830	155.3	135–192	61.7	38.3
1993/1994	12	1,296	151.7	130–190	72.8	27.2
1994/1995	29	3,803	152.7	131–191	76.7	23.4
1995/1996	23	3,310	155.9	136–189	66.6	33.4
1996/1997	25	2,372	156.2	134–196	60.1	39.9
1997/1998	35	2,679	157.9	136–189	62.2	37.8
1998/1999	18	1,275	159.7	125–193	59.1	40.9
1999/2000	23	2,157	157.9	129–188	55.2	44.8
2000/2001	30	2,128	158.1	136–197	45.9	54.1
2001/2002	40	2,993	152.8	118–197	67.2	32.9
2002/2003	34	2,545	155.4	133–190	74.7	25.3
2003/2004	30	2,219	152.7	131–189	72.5	27.5
2004/2005	17	1,275	153.4	136–190	67.5	32.5
2005/2006	15	1,106	153.1	130–180	69.6	30.4
2006/2007	17	1,250	152.9	137–188	69.2	30.9
2007/2008	12	899	153.3	135–181	59.2	40.8
2008/2009	4	300	156.0	136–183	84.2	15.8
2009/2010	14	1,050	154.6	137–195	65.7	34.3
2010/2011	14	1,050	155.9	137–188	60.3	39.7
2011/2012	20	1,338	158.7	133–189	53.0	46.9
2012/2013	18	1,250	157.6	138–199	62.0	38.0
2013/2014	19	1,425	156.5	134–195	51.5	37.9

^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 shell crab ≤ 140 mm carapace width.

^c The first season that the regulatory size was 5½-inch (140 mm) carapace width.

Table 1.13—Frederick Sound summary of traditional commercial Tanner crab CPUE and mean weight, 1974/1975 to present. Data was collected during dockside sampling and interviews.

Season	Number sampled		Mean number of crab per pot	Range of number of crab per pot	Weight (lb)		Estimated number of crab harvested ^a	Percent of harvest sampled ^b	
	Boats inter-viewed	Pots lifted			Crab captured	Mean			Range
1974/1975	1	—	—	—	3.2	3.2–3.2	89,987	0.6	
1976/1977	4	—	—	—	2.6	2.4–2.8	206,167	0.4	
1977/1978	14	—	—	—	2.7	2.5–3.1	236,789	0.8	
1978/1979	5	—	—	—	2.5	2.6–2.9	188,150	0.9	
1979/1980	1	—	—	—	2.8	2.8–2.8	323,992	1.2	
1980/1981	8	—	—	—	2.5	2.2–2.8	253,770	1.2	
1981/1982	6	—	—	—	2.4	2.2–2.5	176,238	1.2	
1982/1983	5	—	—	—	2.7	2.4–3.0	42,053	1.9	
1983/1984	4	—	—	—	2.4	2.3–2.6	192,782	0.4	
1984/1985	8	—	—	—	2.7	2.3–3.0	135,754	0.6	
1985/1986	15	2,992	21,651	7.2	1.8–47.2	2.5	2.1–2.7	115,041	1.3
1986/1987	10	2,179	17,323	8.0	2.9–17.0	2.5	2.1–2.9	129,076	0.9
1987/1988	34	8,103	76,247	9.4	2.4–32.0	2.4	2.2–2.7	190,676	1.3
1988/1989	34	6,619	107,571	16.3	2.8–59.6	2.4	2.3–2.8	245,835	1.4
1989/1990	48	9,423	83,539	8.9	1.0–36.0	2.5	1.6–3.0	269,714	1.6
1990/1991	47	11,310	122,867	10.9	0.9–28.9	2.6	2.2–3.0	231,054	1.8
1991/1992	30	7,876	71,863	9.1	0.8–20.0	2.7	2.3–3.0	158,978	1.6
1992/1993	27	5,931	66,961	11.3	1.4–31.7	2.5	2.1–2.8	173,208	1.3
1993/1994	56	11,608	175,553	15.1	0.6–68.3	2.4	1.9–2.9	356,388	1.8
1994/1995	51	8,252	79,355	9.6	0.4–59.5	2.5	2.0–3.0	401,831	1.4
1995/1996	49	7,020	158,017	22.5	0.5–284.8	2.7	2.1–2.9	258,073	2.2
1996/1997	39	4,286	57,385	13.4	3.8–32.0	2.6	2.1–2.9	186,461	1.8
1997/1998	35	4,366	86,792	19.9	0.5–54.6	2.5	2.2–3.1	196,591	1.3
1998/1999	25	7,378	112,153	15.2	1.1–54.9	2.5	2.1–2.9	211,257	0.9
1999/2000	51	11,948	148,149	12.4	0.5–69.2	2.6	2.2–3.3	190,398	1.8
2000/2001	44	9,448	106,877	11.3	0.2–32.9	2.8	2.3–3.3	137,832	2.5
2001/2002	39	8,371	76,916	9.2	0.6–38.0	2.7	2.1–3.1	80,771	3.0
2002/2003	37	8,371	71,339	8.5	0.5–44.6	2.6	1.8–3.0	69,523	3.5
2003/2004	36	7,009	88,212	12.6	0.7–34.0	2.6	2.2–3.1	92,872	2.8
2004/2005	34	6,699	88,029	13.1	0.5–34.0	2.5	2.1–2.9	90,302	2.6
2005/2006	28	7,001	102,133	14.6	1.1–39.6	2.5	2.2–3.0	110,904	1.8
2006/2007	25	7,227	103,586	14.3	0.6–31.1	2.6	2.2–3.0	115,135	1.4
2007/2008	16	4,271	46,987	11.0	1.3–18.5	2.6	2.1–3.0	69,222	1.6
2008/2009	20	4,165	54,315	13.0	1.0–34.4	2.5	2.1–2.8	56,595	1.9
2009/2010	29	6,527	101,912	15.6	0.8–47.0	2.5	2.3–2.9	114,500	1.5
2010/2011	22	3,426	40,486	11.8	0.4–29.7	2.6	2.3–2.8	131,960	1.0
2011/2012	21	4,548	64,456	14.2	0.7–32.0	2.6	2.3–2.9	170,571	0.7
2012/2013	25	4,613	70,382	15.3	0.1–43.6	2.6	2.2–3.1	189,556	1.0
2013/2014	15	3,242	46,076	14.2	0.4–29.3	2.6	2.3–3.0	201,907	0.5

^a Calculated by dividing fish ticket weight data for Frederick Sound from Table 2.6, by dockside sampling mean weight data.

^b Calculated by dividing number of crab sampled for size frequency by estimated number of crab caught

Table 1.14—Frederick Sound summary of traditional commercial Tanner crab size frequency and shell condition, 1971/1972 to present. Data was collected during dockside sampling.

Season	Number of sampled		Carapace width (mm)		Recruitment	
	Boats	Crab	Mean	Range	% Recruits ^a	% Postrecruits ^b
1971/1972	2	148	147.4	121–180	67.8	32.2
1972/1973	3	429	156.9	128–183	88.1	11.9
1973/1974	9	1,652	153.0	111–190	80.9	19.2
1974/1975	4	515	157.9	127–190	74.7	25.3
1975/1976	3	401	154.8	116–183	81.5	18.5
1976/1977 ^c	7	820	155.3	129–192	75.7	24.3
1977/1978	15	1,866	156.2	124–192	38.0	62.0
1978/1979	14	1,652	155.8	131–198	47.2	52.8
1979/1980	36	3,739	155.0	134–193	68.9	31.1
1980/1981	29	2,960	153.1	125–192	74.6	25.4
1981/1982	21	2,148	151.0	130–193	67.7	32.3
1982/1983	8	785	153.4	135–185	77.6	22.4
1983/1984	7	733	152.3	135–187	86.2	13.8
1984/1985	8	853	155.7	135–197	76.4	23.6
1985/1986	14	1,524	151.5	131–188	85.8	14.2
1986/1987	10	1,146	151.8	136–187	86.6	13.4
1987/1988	25	2,537	150.7	135–186	69.6	30.5
1988/1989	33	3,434	151.9	133–182	47.9	52.2
1989/1990	43	4,393	151.0	132–185	63.8	36.2
1990/1991	41	4,178	154.0	131–193	77.5	22.5
1991/1992	25	2,487	154.6	134–189	70.8	29.2
1992/1993	22	2,223	149.4	133–185	75.9	24.1
1993/1994	50	6,470	150.0	130–186	82.4	17.6
1994/1995	49	5,658	152.8	115–188	80.6	19.4
1995/1996	41	5,648	154.0	135–188	75.8	24.2
1996/1997	37	3,331	153.7	132–195	75.3	24.7
1997/1998	31	2,444	152.3	127–186	76.3	23.8
1998/1999	21	1,798	153.9	135–188	74.2	25.8
1999/2000	49	3,572	154.4	131–193	74.0	26.0
2000/2001	39	3,448	155.1	134–188	66.1	33.9
2001/2002	33	2,422	153.9	132–192	73.7	26.3
2002/2003	33	2,443	153.7	134–185	78.6	21.4
2003/2004	35	2,608	153.5	134–187	75.6	24.4
2004/2005	32	2,318	151.6	135–192	73.8	26.2
2005/2006	26	1,947	152.7	126–183	72.0	28.0
2006/2007	22	1,637	153.2	136–190	67.6	32.4
2007/2008	15	1,122	152.0	137–183	57.4	42.6
2008/2009	15	1,103	151.7	137–178	71.3	28.7
2009/2010	23	1,725	152.0	137–187	62.5	37.5
2010/2011	17	1,270	152.5	136–186	61.3	38.7
2011/2012	17	1,277	152.9	136–181	72.7	27.0
2012/2013	25	1,817	153.9	123–192	67.4	32.5
2013/2014	14	1,050	154.3	136–188	64.4	35.5

^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.

^c The first season that the regulatory legal size was 5½-inch (140 mm) carapace width.

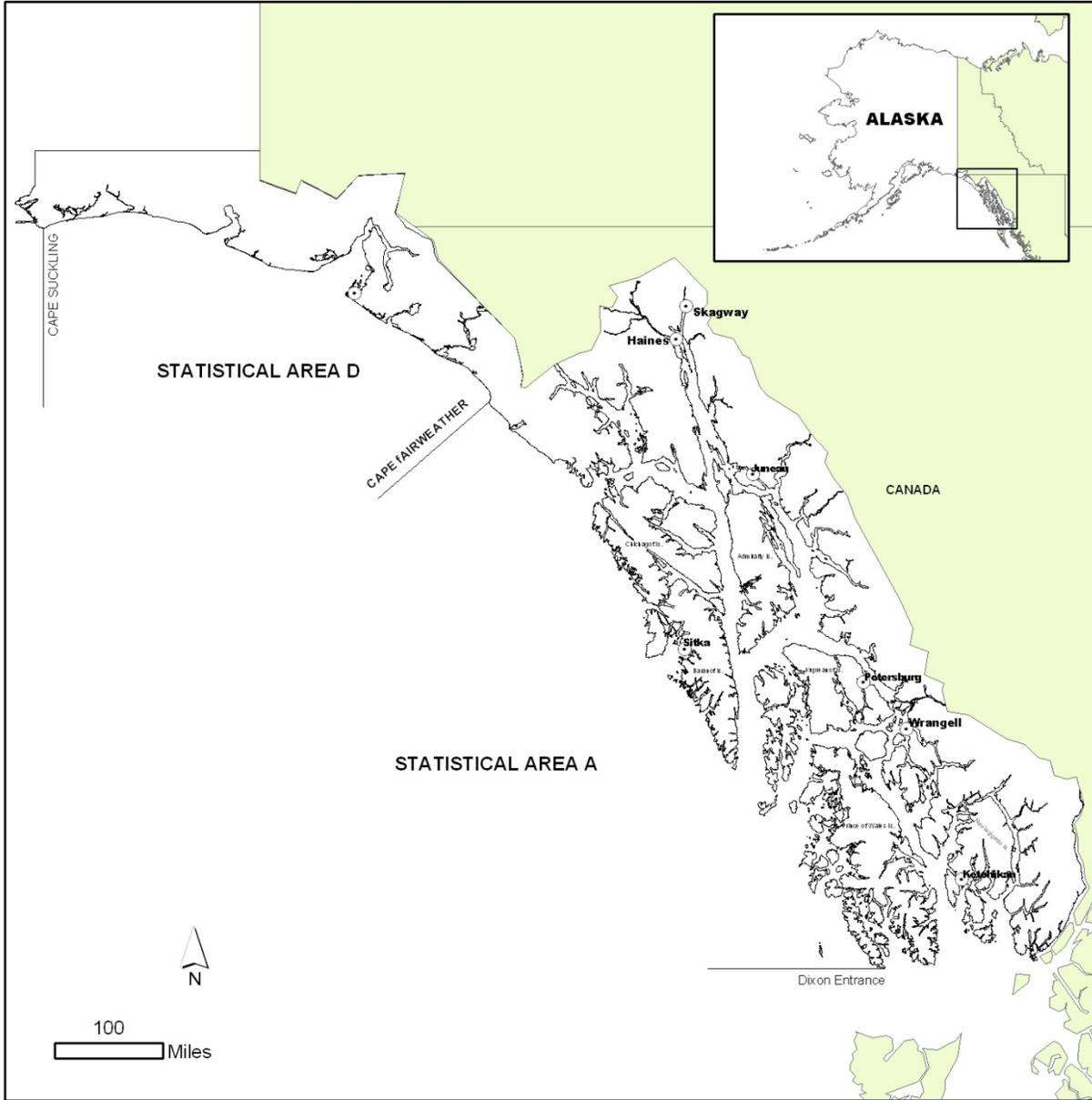


Figure 1.1—Registration Area A (Dixon Entrance to Cape Fairweather) and Registration Area D (Cape Fairweather to Cape Suckling).

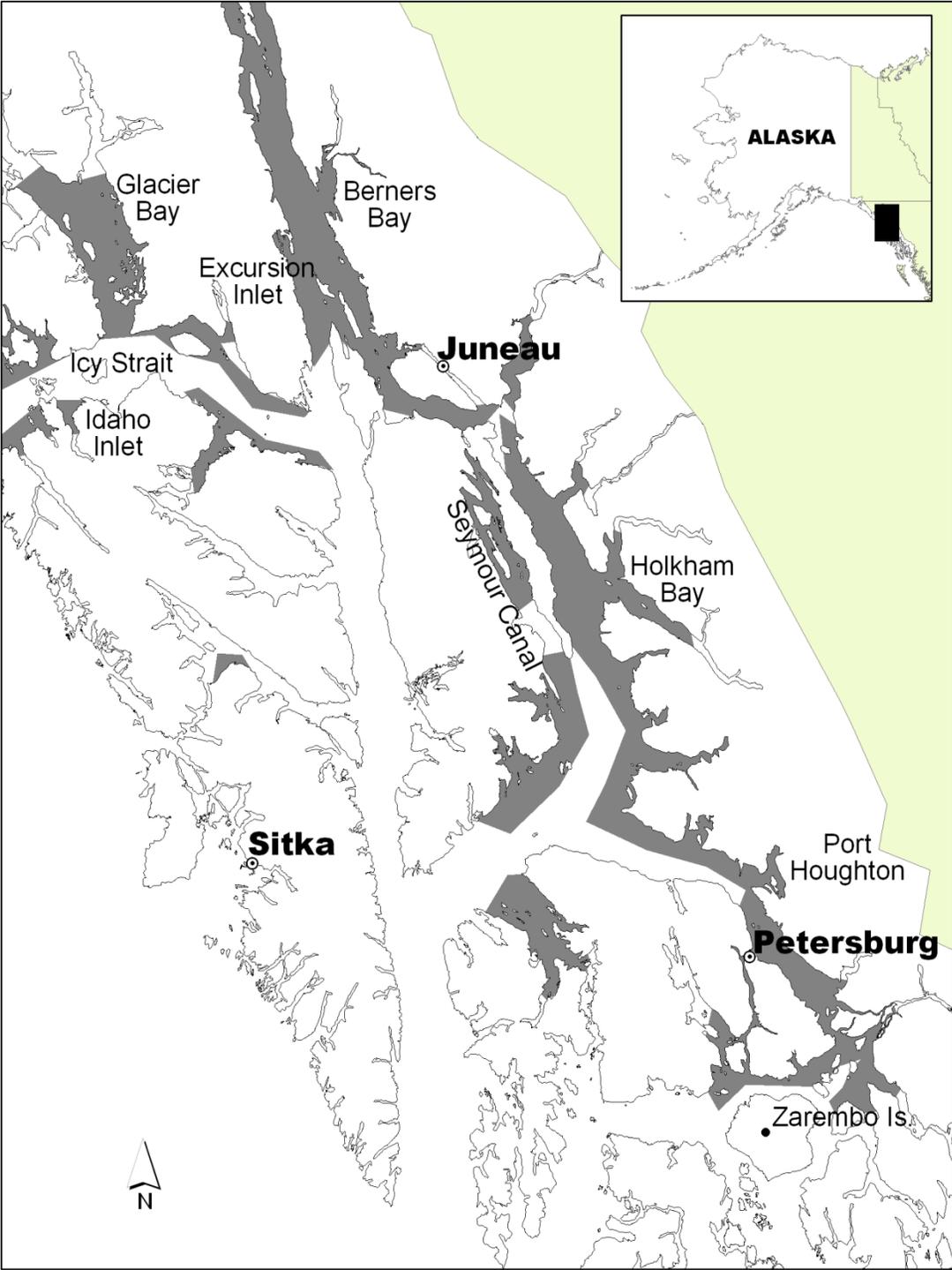


Figure 1.2–Map showing major Tanner crab fishing grounds in Southeast Alaska.

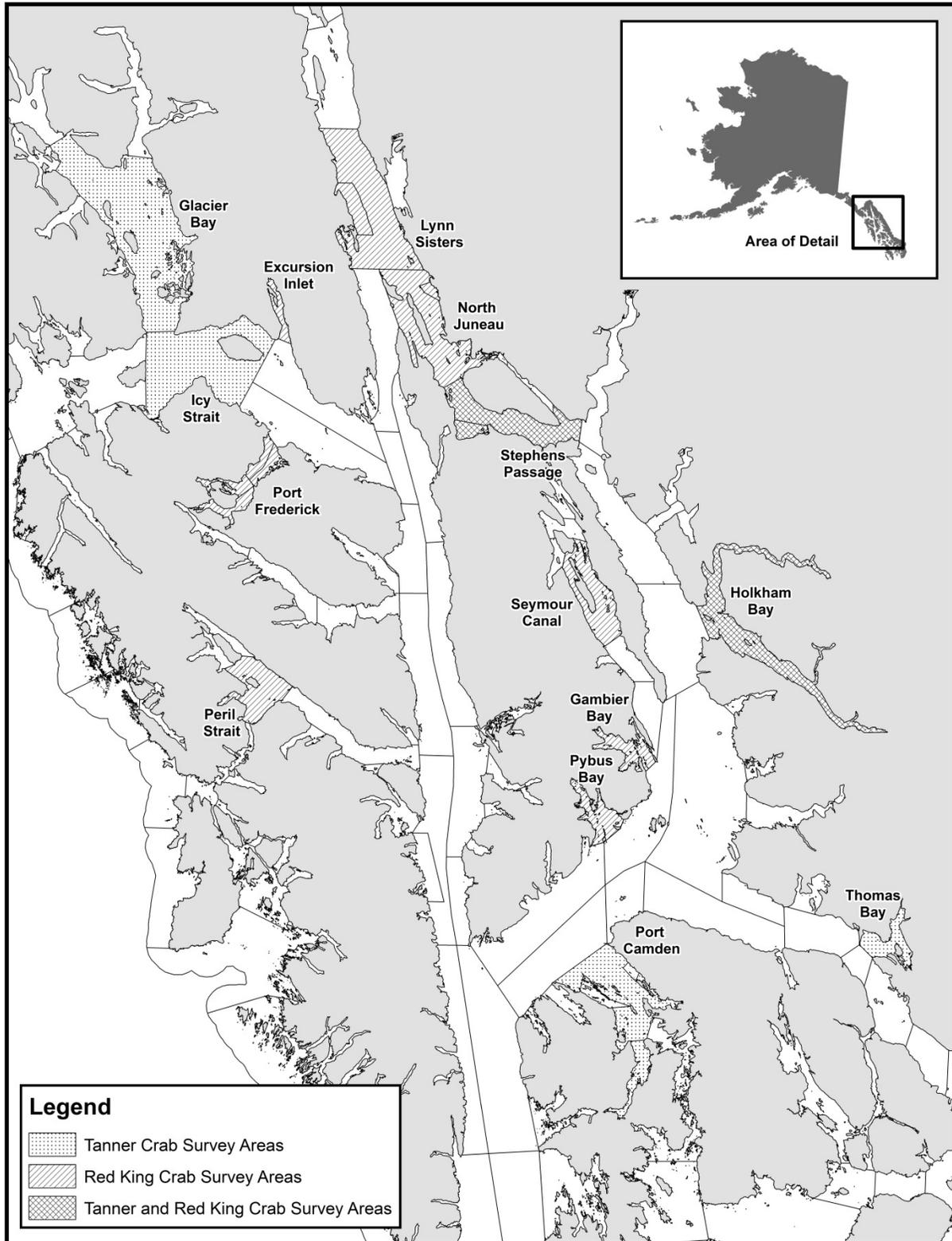


Figure 1.3–Red king and Tanner crab survey areas in Southeast Alaska, ADF&G Registration Area A.

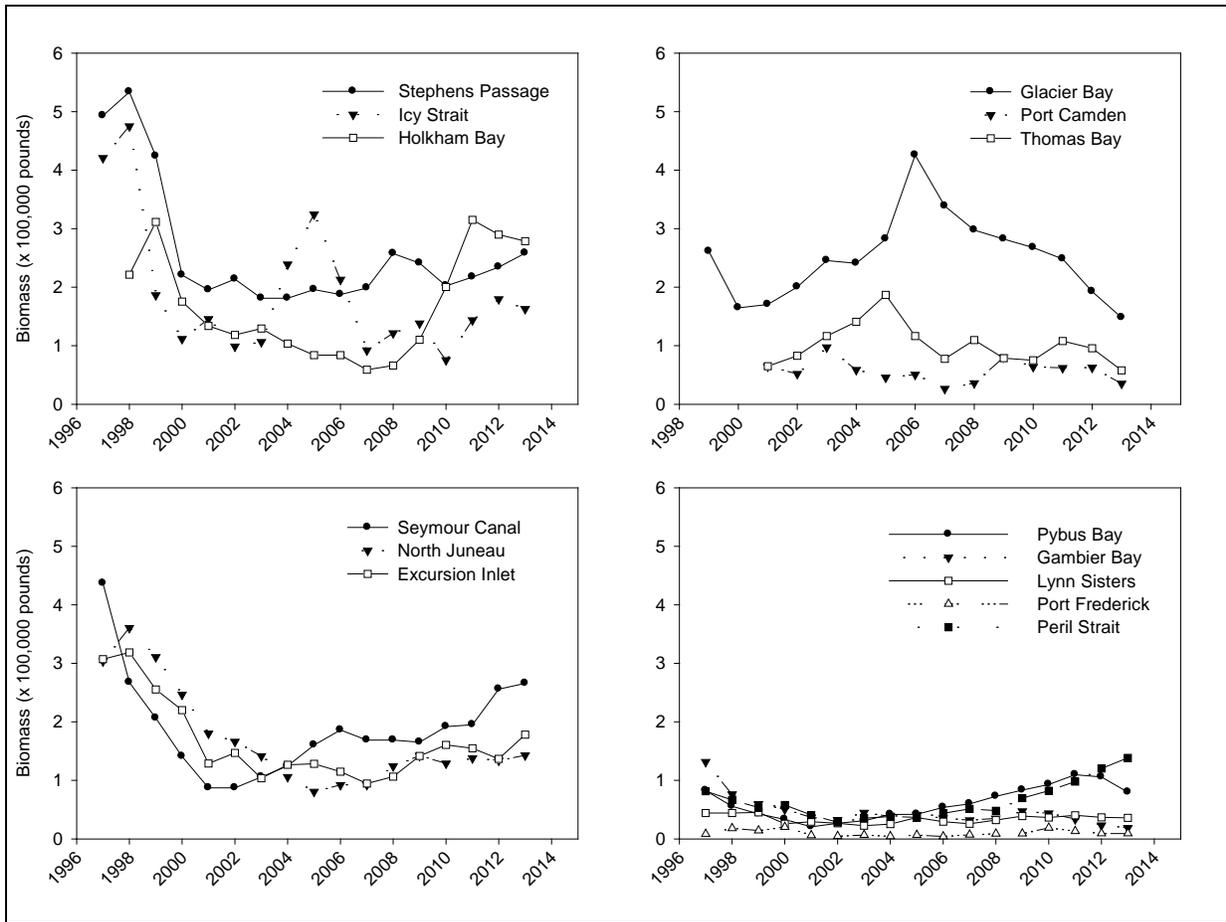


Figure 1.4—Tanner crab legal biomass estimates from catch-survey modeling of red king crab and Tanner crab survey data for 14 survey areas from 1997-2013.

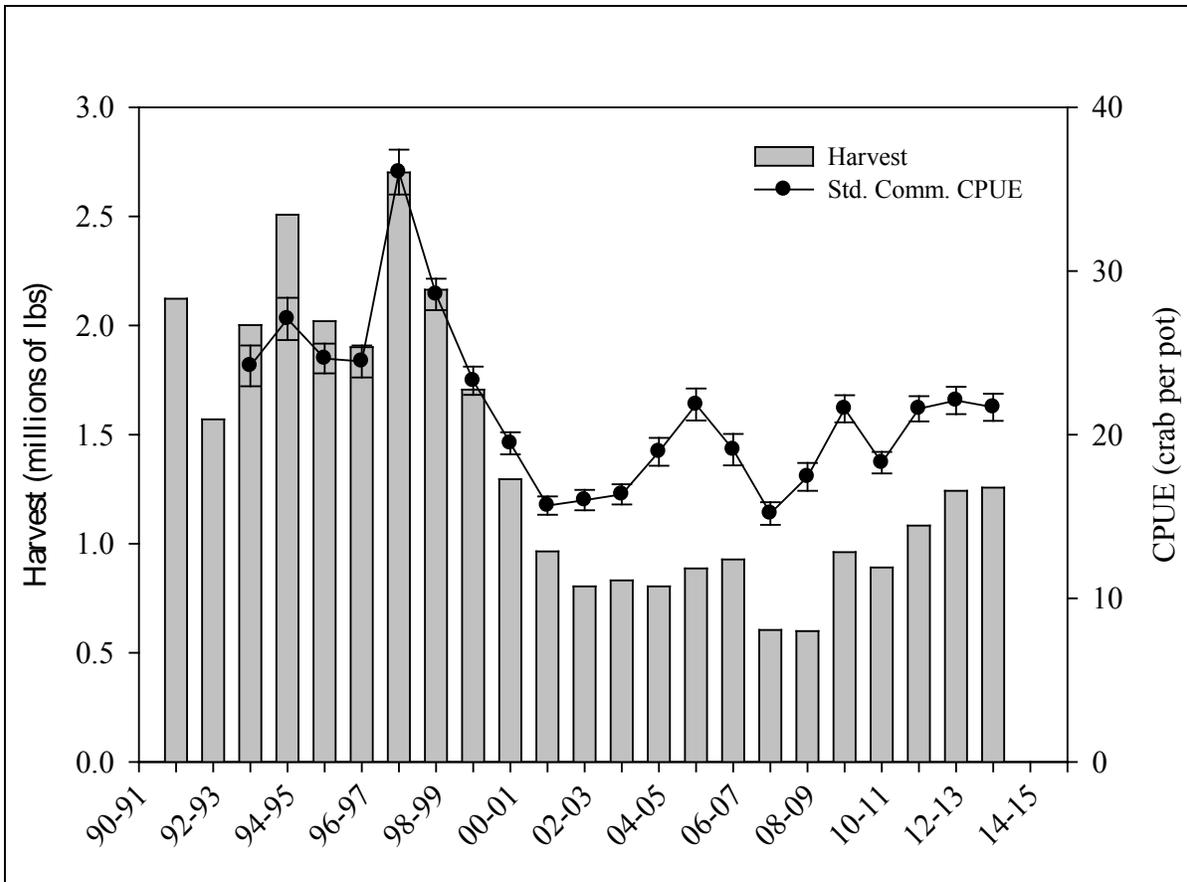


Figure 1.5–Tanner crab harvest and standardized CPUE for 1991/1992 through 2013/2014 commercial seasons.

CHAPTER 2: YAKUTAT TANNER CRAB FISHERY

INTRODUCTION

Tanner crab are a widely distributed brachyuran (true) crab that inhabits temperate and subarctic waters of the eastern Pacific Ocean from northern California to the Bering Sea.

COMMERCIAL FISHERY

The Yakutat Tanner crab fishery occurs in both the relatively protected major bays in the area, Icy Bay and Yakutat Bay, as well as in portions of the more exposed outside coast between Cape Fairweather and Cape Suckling (Figure 1.1). Most of the fishing occurs out to the 100-fathom contour. For reporting purposes, this area is divided into 4 major districts, 181, 183, 189, and 191. Districts 181, 183, and 191 encompass state waters within 3 miles, and District 189 includes waters under state management jurisdiction between 3 and 200 miles.

Yakutat is a nonexclusive registration area for Tanner crab, which means that a vessel fishing there may also fish in other nonexclusive registration areas in the same registration year (August 1 through July 31). The Yakutat fishery is also open to entry to any properly licensed, permitted, and registered participant.

Despite many indications of poor recruitment and low abundance, continued fishing was permitted throughout the late 1990s so that harvest data with which to assess stock condition were available. It was thought that a low level of fishing activity was tolerable as long as it did not significantly exceed that of recent seasons. However, a period of low harvest level persisted from the early 1980s to 2000. Since continued fishing on reduced brood stock could prolong the recovery period, a decision was made to close the fishery until stock recovery could be demonstrated. The Yakutat Tanner crab stock was designated as a “Collapsed and Recovering Fishery” (ADF&G 1999) prior to the January 2000 Alaska Board of Fisheries (board) meeting.

FISHERY DEVELOPMENT AND HISTORY

The Tanner crab fishery in Yakutat is much less developed than the Tanner crab fishery in Southeast Alaska. During the open seasons from 1995/1996 through 1999/2000, the fishery had been conducted either by smaller vessels based in Yakutat, fishing mainly in Yakutat Bay, or by larger vessels based in other ports that range widely throughout the Registration Area. Most of the vessels had live tanks, although some of those on the smaller vessels are simple drop-in tanks intended for day fishing. Most of the smaller vessels were used primarily for other fisheries during the rest of the year with winter crabbing for Tanner and other crab generally pursued as a secondary source of income. No more than 6 vessels of various sizes normally fished in any given season.

Lightweight cone or pyramid-shaped pots had been more commonly used than the heavier, 7-foot square pots originally designed for king crab. An additional factor favoring the lighter gear in Yakutat is the areawide prohibition on the use of side-loading pots.

Regulations in Yakutat include harvest of only male Tanner crab larger than 5½-inches (140 mm) carapace width during a January 15–May 1 season. In addition, a guideline harvest ceiling of 1,000,000 pounds, based on historic harvest trends, has been established for this area. Actual stock composition can only be inferred because no preseason stock assessments are conducted.

Port sampling of Tanner crab from Yakutat has been limited by the widespread, low-level nature of the fishery and limited staffing and funding. Available information demonstrates that Yakutat

crab are smaller, more often skip-molts, and generally less robust than those harvested in more productive areas to the east (Southeast Alaska) and west (Kodiak). These characteristics have been assumed to indicate more marginal habitat or environmental conditions for Tanner crab in Yakutat than other areas. Seasonal effort and total catch in the 1980s and 1990s have been an order of magnitude less than the 1970s harvests.

It was not until the early 1970s that significant Tanner crab fisheries developed in the Yakutat area (Table 2.1). As the overall market for Tanner crab slowly grew, landings from the Yakutat area also rose, averaging about 1,500,000 pounds per season between the 1972/1973 and 1979/1980 seasons. Following the record 2,435,000-pound catch during the 1979/1980 season the harvest steadily declined through most of the 1980s. Peak catches consistently occurred between the months of February and April (Table 2.2), although the season had extended from September 1 to May 15 during most of the early years of the fishery.

During the 1970s, this fishery attracted large, long-ranging vessels with live tanks in which many tons of crab could be kept alive for extended periods. Landings from this period suggest that much of the area was heavily fished (Table 2.3). Many of these vessels also participated in shellfish fisheries in other areas of Alaska.

The stocks could not sustain the levels of harvest of the 1970s and crashed between the 1979/1980 and 1980/1981 seasons. The early 1980s saw the use of side-loading pots prohibited, the starting date of the season changed to mid-winter, and a continued decline in the number of vessels, the catch per vessel, and the total catch. Catch during the 1980s averaged about 130,000 pounds per season. Many of the larger vessels left the fishery. Those remaining were forced by regulation to switch to top-loading conical or pyramidal pots. By the 1983/1984 and 1984/1985 seasons, only small, local vessels, operated by residents of Yakutat, were participating in this fishery. Reported landings were limited to the immediate vicinity of Yakutat Bay (Table 2.3).

In the 1985/1986 season, 2 larger crab vessels entered the fishery. The larger vessels experienced uniformly poor catches despite extensive exploratory fishing. In the 1986/1987 season, 5 large vessels based in Kodiak, Valdez, and Pelican registered for the fishery, along with the local fleet in Yakutat. Only 2 of the larger vessels actively participated in the fishery, and their disappointing landings discouraged the remaining 3 from entering the fishery. In the 1987/1988 season, only 1 large vessel and several of the smaller vessels fishing around Yakutat Bay reported any landings. In the 1988/1989 season, 1 large vessel and several of the smaller vessels, based in Yakutat, reported landings from the Yakutat area. Much of the detailed data from this fishery is considered confidential because of the few vessels that fished in this area.

During the 1989/1990 season, only a few local vessels, limited to the waters of Yakutat Bay, participated in the fishery. From the 1989/1990 season to the closure in the 1999/2000 season, a consistent fishing pattern was for 1 or 2 larger vessels a season to prospect throughout much of the area and land most of the catch while smaller vessels based in Yakutat fished Yakutat Bay. Catch averaged 80,000 pounds annually.

Because the Tanner crab stocks in the Yakutat area had not recovered since the crash in the early 1980s, the fishery was designated as “collapsed and recovering” at the January 2000 board meeting.

REGULATION DEVELOPMENT

FISHING SEASONS AND PERIODS

Fishing seasons in Yakutat started in the 1973/1974 season. By regulation, the season started on September 1 and ended on May 20, 1974. For most of the 1970s, the seasons started on September 1 and extended through May 15 of the following year.

The 1979/1980 and 1980/1981 seasons were shorter, closing by emergency order on April 20 in the 1979/1980 season and by regulation on May 1, 1981, respectively. Stocks began crashing in the 1980/1981 season, and subsequent changes to the season resulted in reduced fishing time. In 1981/1982 and 1982/1983, the season started on February 1 and closed on May 15. The season was further shortened in early 1982, starting on February 10 for the 1983/1984 season and ending on May 1, 1984. Increasing catch resulted in adoption of a 1984/1985 season that extended from January 15 to May 1, 1985. This season remained in effect until the fishery was closed by emergency order on January 31, 2000.

SEX AND SIZE RESTRICTIONS

A size restriction permitting harvest of only male crab over 5½-inches in carapace width was first implemented in the 1976/1977 season, and have remained the same since.

QUOTAS AND GUIDELINE HARVEST RANGES

A 3,000,000-pound guideline harvest ceiling (GHC) was instituted in 1976/1977 in response to the rapidly escalating fishery. It was amended to a GHR in 1978/1979, of between 500,000 and 3,000,000 pounds. This range remained unchanged through the 1983/1984 season. The GHR was revised for the 1984/1985 season to 200,000 to 1,000,000 pounds. The maximum allowable harvest was further revised to 1,000,000 pounds in 1986/1987 and has remained unchanged since. The last revision essentially reduced the lower end of the GHR to zero pounds and provided for closures if stock conditions did not support any harvest.

GEAR RESTRICTIONS

There were no gear restrictions during the 1973/1974 season. Between the 1974/1975 and 1976/1977 seasons, pots, ring nets, and shrimp trawls were legal. In 1976/1977, a pot limit was imposed for waters within Yakutat Bay. Only 60 pots could be used for king and Tanner crab within the bay when both seasons overlapped. During the closed season for Tanner crab, only 100 pots could be used for king crab. Starting in 1977/1978, gear was limited to either pots or ring nets and the pot limit in Yakutat Bay was changed to allow 100 pots for both Tanner and king crab fisheries. Tanner pots had to have a tunnel eye opening with a maximum height of 5 inches and a tunnel eye perimeter of greater than 30 inches. This distinguished Tanner pots from Dungeness pots. Buoy stickers for fishing in Yakutat Bay were required. In 1980/1981, the 100-pot restriction area was expanded to an area in Yakutat Bay east of a line from Cape Sitkagi to Ocean Cape, essentially including all productive waters within Yakutat Bay. Side-loading pots were prohibited from the entire registration area for the 1982/1983 season to reduce halibut bycatch. Consequently, some vessels that had been using side-loading king crab pots with Tanner boards were discouraged from entering the fishery. Two, 4¾-inch diameter escape rings were required for each pot during the 1984/1985 season. Starting in 1985/1986, gear storage was restricted to a period of 7 days after the season closure. The escape ring requirement was

repealed for the 1988/1989 fishery. Ring nets were prohibited starting with the 1991/1992 fishery, because of board action restricting their use in the state to Southeast Alaska.

OTHER RESTRICTIONS

Starting in 1979/1980, formal hold inspections and certifications were repealed. Starting in 1985/1986, preseason prospecting during a period 14 days before the season opening was prohibited and vessels were required to be at a processing plant within 24 hours after the closure of the season.

STOCK ASSESSMENT

There have never been stock assessment surveys for the Yakutat Tanner crab stock and the dockside sampling effort has been extremely limited. The fishery was re-opened for a 14-day fishing period within the waters of Yakutat Bay and 30-day period elsewhere during the 2003/2004 season. Participation was limited, no crab were landed, and there was no evidence of stock recovery.

RECENT SEASONS

The Yakutat Tanner fishery has been closed since the 1999/2000 season and was designated as “collapsed and recovering” prior to the January 2000 board meeting. The only sources of information at present are the ADF&G Sport Fish Division statewide personal use and sport harvest survey (e. g., Romberg et al. 2013), the bycatch of juvenile Tanner crab from the Yakutat scallop observer program, and anecdotal information from crab fishermen passing by Yakutat who set personal use pots. None of these sources indicate that the stock has begun to recover. The department does not intend to open the commercial Tanner crab fishery in the Yakutat area until stock status improves.

While it is probable that the collapse of the Yakutat Tanner crab fishery is due at least partially to over harvest, and excessive handling of the non-legal portion of the stock (ADF&G 1999), the changing oceanography of the Gulf of Alaska has also been implicated. Variations in recruitment of other Gulf of Alaska shellfish stocks have been related to oceanographic conditions (Zheng and Kruse 2000). Nonetheless, there is also an underlying relationship between brood stock abundance and recruitment (Zheng and Kruse 1998), especially when populations are low. The best management practice until stock recovery is apparent will be careful maintenance of existing brood stock populations.

CHAPTER 2—TABLES AND FIGURES

Table 2.1—Commercial Tanner crab catches in pounds, number of vessels, pounds per permit, number of landings and pounds per landing in Registration Area D, 1972/1973 season to present.

Year/Season	Number			Pounds per permit	Average weight
	Permits	Crab	Pounds		
1972/1973	7	74,636	222,441	31,777	3.0
1973/1974	11	934,100	1,872,357	170,214	2.0
1974/1975	13	876,889	1,972,752	151,750	2.2
1975/1976	5	861,569	1,762,589	352,518	2.0
1976/1977	7	433,994	966,650	138,093	2.2
1977/1978	8	437,542	1,003,116	125,390	2.3
1978/1979	15	753,248	1,691,941	112,796	2.2
1979/1980	23	1,089,820	2,435,123	105,875	2.2
1980/1981	14	289,880	642,608	45,901	2.2
1981/1982	7	32,521	71,302	10,186	2.2
1982/1983	10	72,784	151,621	15,162	2.1
1983/1984	4	4,958	11,142	2,786	2.2
1984/1985	5	1,728	3,665	733	2.1
1985/1986	5	1,185	2,379	476	2.0
1986/1987	3	23,575	48,877	16,292	2.1
1987/1988	*	*	*	*	
1988/1989	5	73,179	155,528	31,106	2.1
1989/1990	5	35,135	76,816	15,363	2.2
1990/1991	7	19,260	41,749	5,964	2.2
1991/1992	4	18,493	39,495	9,874	2.1
1992/1993	5	53,167	116,718	23,344	2.2
1993/1994	11	154,921	364,365	33,124	2.4
1994/1995	14	45,749	107,010	7,644	2.3
1995/1996	7	12,352	27,828	3,975	2.3
1996/1997	8	7,686	16,733	2,092	2.2
1997/1998	4	4,330	9,559	2,390	2.2
1998/1999	5	3,742	8,528	1,706	2.3
1999/2000	*	*	*	*	*
2000-2003			Seasons Closed		
2003/2004	*	0	0	0	0
2004-2014			Seasons Closed		

* Fewer than three permits were fished; information is confidential.

Table 2.2—Commercial Tanner crab catch in pounds by month and season in Registration Area D, 1972/1973 to present.

Season	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
1972/1973	0	*	*	0				*	122,912	*	0	17,224	222,441
1973/1974	0	0	0	0	*	*	313,787	990,247	558,047	0	0	0	1,872,357
1974/1975	0	0	0	0	*	*	592,145	839,397	481,855	0	0	0	1,972,752
1975/1976	0	0	0	*	*	*	661,843	456,738	*	0	0	0	1,762,589
1976/1977	0	0	0	0	*	*	486,130	*	0	0	0	0	966,650
1977/1978	0	*	14,537	31,555	161,674	206,022	254,174	279,030	53,124	0	0	0	1,003,116
1978/1979	*	*	0	*	63,661	185,056	412,844	766,267	238,068	0	0	0	1,691,941
1979/1980	0	10,242	16,442	27,877	56,929	524,077	1,220,869	572,219	*	0	0	0	2,435,123
1980/1981	0	0	0	*	6,157	181,891	392,739	60,836	0	0	0	0	642,608
1981/1982	0	0	0	0	0		16,390	47,076	7,836	0	0	0	71,302
1982/1983	0	0	0	0	0	50,187	73,934	27,500	0	0	0	0	151,621
1983/1984	0	0	0	0	0	*	5,848	3,580	0	0	0	0	11,142
1984/1985	0	0	0	0	0	0	0	3,665	0	0	0	0	3,665
1985/1986	0	0	0	0	*	*	1,117	*	0	0	0	0	2,379
1986/1987	0	0	0	0	0	*	48,151	*	0	0	0	0	48,877
1987/1988	0	0	0	0	0	*	*	*	*	0	0	0	*
1988/1989	0	0	0	0	*	*	70,291	36,772	47,102	0	0	0	155,528
1989/1990	0	0	0	0	*	29,204	37,493	7,369	0	0	0	0	76,816
1990/1991	0	0	0	0	*	8,663	14,109	15,887	0	0	*	0	41,749
1991/1992	0	0	0	*	18,882	14,237	5,803	0	0	0	0	0	39,495
1992/1993	0	0	0	0	0	*	81,964	31,574	*	0	0	0	116,718
1993/1994	0	0	0	0	7,604	207,315	109,399	30,966	9,081	0	0	0	364,365
1994/1995	0	0	0	0	54,039	35,653	7,336	7,405	2,577	0	0	0	107,010
1995/1996	0	0	0	0	12,958	6,693	4,283	3,894	0	0	0	0	27,828
1996/1997	0	0	0	0	2,325	4,735	1,877	4,503	*	0	0	0	16,733
1997/1998	0	0	0	0	*	4,481	2,153	*	*	0	0	0	9,559
1998/1999	0	0	0	0	1,080	*	*	2,708	0	0	0	0	8,528
1999/2000	0	0	0	0	*	0	0	0	0	0	0	0	*
2000-2014	Seasons Closed / No Harvest												

* Fewer than three permits were fished; information is confidential.

Table 2.3—Commercial Tanner crab catch in thousands of pounds by district and season in Registration Area D, 1972/1973 season to present.

Season	District						Total
	181	182	183	185	189	191	
1972/1973	120,230	0	102,211	0	0	0	222,441
1973/1974	963,274	*	292,603	0	615,959	0	1,872,357
1974/1975	1,329,936	0	*	0	*	428,043	1,972,752
1975/1976	1,448,504	0	*	0	*	*	1,762,589
1976/1977	513,935	0	452,715	0	0	0	966,650
1977/1978	0	0	1,003,116	0	0	0	1,003,116
1978/1979	718,047	0	404,571	*	0	544,013	1,691,941
1979/1980	1,330,149	0	153,995	0	112,794	838,185	2,435,123
1980/1981	163,965	0	150,992	0	65,372	262,279	642,608
1981/1982	0	0	51,201	0	0	*	71,302
1982/1983	8,399	0	83,821	0	*	*	151,621
1983/1984	0	0	11,142	0	0	0	11,142
1984/1985	0	0	3,665	0	0	0	3,665
1985/1986	0	0	2,379	0	0	0	2,379
1986/1987	*	0	*	0	0	0	48,877
1987/1988	0	0	*	0	0	*	*
1988/1989	*	0	7,878	0	*	*	155,528
1989/1990	27,915	0	*	0	0	*	76,816
1990/1991	16,193	0	25,556	0	0	0	41,749
1991/1992	*	0	13,972	0	0	0	39,495
1992/1993	*	0	53,318	0	0	0	116,718
1993/1994	320,574	0	28,573	0	15,218	0	364,365
1994/1995	77,436	0	29,574	0	0	0	107,010
1995/1996	10,181	0	17,647	0	0	0	27,828
1996/1997	*	0	11,866	0	0	0	16,733
1997/1998	0	0	9,559	0	0	0	9,559
1998/1999	0	0	8,528	0	0	0	8,528
1999/2000	0	0	*	0	0	0	*
2000-2014	Seasons Closed / No Harvest						

* Fewer than three permits were fished; information is confidential.

Table 2.4–Tanner crab size frequency and shell condition in Yakutat Area D, 1974/1975 to present. Data collected during dockside sampling (missing years had no boats sampled).

Season	Number of sampled		Carapace width (mm)		Recruitment	
	Boats	Crab	Average	Range	% Recruits ^a	% Postrecruits ^b
1974/1975	3	516	141.4	110–174	87.3	12.7
1975/1976	11	1,079	140.7	96–179	39.3	60.7
1976/1977 ^c	0	–	–	–	–	–
1977/1978	9	–	145.1	122–171	65.0	35.0
1978/1979	15	1,616	147.8	128–172	57.3	42.7
1979/1980	22	2,509	147.3	131–174	22.5	77.5
1980/1981	22	2,505	147.3	107–172	2.7	97.3
1981/1982	1	99	146.6	137–165	75.0	25.0
1982/1983	17	1,894	145.9	131–173	81.9	18.1
1983/1984	1	100	149.9	139–170	44.9	55.1
1986/1987	4	520	144.0	130–166	14.3	85.7
1987/1988	2	548	145.4	136–169	59.2	40.8
1988/1989	6	611	148.4	135–177	35.8	64.2
1989/1990	5	779	147.0	137–174	4.1	95.9
1991/1992	4	0	148.5	137–178	8.7	91.3
1993/1994	4	654	147.0	436–171	71.1	28.9
1999/2000	2	206	147.7	139–175	88.3	11.7
2000–2014	Seasons Closed / No Harvest					

^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.

^c The first season that the regulatory legal size was 5½-inches (140 mm) carapace width.

Table 2. 5–Summary of commercial Tanner crab CPUE and average weight in Yakutat Area D, 1975/1976 to present. Data collected during dockside sampling and interviews (missing years had no boats sampled).

Season	Number			Average catch/pot	Range of catch/pot	Weight (lb)		Estimated no. of crab caught ^a	Percent of catch sampled ^b
	Boats interviewed	Pots lifted	Crab captured			Average	Range		
1975/1976	11	–	–	–	–	1.9	1.7–2.1	947,628	0.1
1976/1977 ^c	2	–	–	–	–	2.1	2.0–2.2	460,310	–
1977/1978	4	–	–	–	–	2.2	2.0–2.5	451,854	0.5
1978/1979	7	3,810	160,164	34.1	20.1–48.6	2.3	2.3–2.4	729,285	0.2
1979/1980	21	8,802	322,624	40.9	7.7–79.0	2.3	2.1–2.4	1,082,277	0.2
1980/1981	12	3,688	51,765	17.8	10.2–27.1	2.3	2.1–2.7	280,615	0.9
1982/1983	16	–	–	–	–	2.1	1.9–2.2	72,895	2.6
1984/1985	1	–	–	–	–	2.4	–	1,521	–
1986/1987	3	1,460	18,629	15.5	10.0–19.8	–	–	–	–
1987/1988	2	840	17,850	23.3	18.6–28.0	2.1	–	–	–
1988/1989	5	705	12,429	9.8	1.4–38.1	2.1	–	74,061	0.8
1989/1990	4	142	1,621	11.3	7.9–16.3	2.2	2.1–2.3	35,076	2.2
1991/1992	5	597	8,335	7.6	1.2–16.6	2.3	–	16,168	3.5
1999/2000	2	*	*	*	*	*	*	*	*
2000–2014	Seasons Closed / No Harvest								

^a Calculated by dividing fish ticket weight data by dockside sampling average weight per crab data.

^b Calculated by dividing number of crab sampled for size frequency by estimated number of crab catch.

^c The first season that the regulatory legal size was 5½-inches (140 mm) carapace width.

* Fewer than three permits were fished; information is confidential.

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