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2025–2026 Southeast Alaska Red King Crab Stock Assessment and Management Plan

by

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Alaska Department of Fish and Game **Division of Commercial Fisheries**

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Weights and measures (metric)

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

Weights and measures (English)

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

Time and temperature

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

Physics and chemistry

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

General

Alaska Administrative Code	AAC
all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.
all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.
at	@
compass directions:	
east	E
north	N
south	S
west	W
copyright	©
corporate suffixes:	
Company	Co.
Corporation	Corp.
Incorporated	Inc.
Limited	Ltd.
District of Columbia	D.C.
et alii (and others)	et al.
et cetera (and so forth)	etc.
exempli gratia (for example)	e.g.
Federal Information Code	FIC
id est (that is)	i.e.
latitude or longitude	lat or long
monetary symbols (U.S.)	$, ¢
months (tables and figures): first 3 letters	Jan,...,Dec
registered trademark	®
trademark	™
United States (adjective)	U.S.
United States of America (noun)	USA
U.S.C.	United States Code
U.S. state	use 2-letter abbreviations (e.g., AK, WA)

Mathematics, statistics

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

REGIONAL INFORMATION REPORT NO. 26-01

2025–2026 SOUTHEAST ALASKA RED KING CRAB STOCK ASSESSMENT AND MANAGEMENT PLAN

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ABSTRACT

This document presents the annual stock assessment and management plan for Southeast Alaska red king crab. In 2025, regional legal biomass increased by 55% and mature biomass increased by 42% from 2024. The Juneau area (Section 11-A) had healthy stock health; Lynn Sisters, Gambier Bay, and Seymour Canal had moderate stock health; and Excursion Inlet and Pybus Bay had poor stock health. Stock health considers all age/sex classes of the population (mature males, juveniles, and females). The Juneau area, Gambier Bay, Seymour Canal, and Lynn Sisters showed increases in both legal and mature biomass from 2024. The expanded regional legal biomass estimate was below the long-term median and above 50% of the long-term median. The 2025 commercial fishery opened for the first time since 2017 because there was a harvestable surplus above the regulatory 200,000 lb threshold.

Keywords: red king crab, *Paralithodes camtschaticus*, stock assessment, catch per unit effort (CPUE), Southeast Alaska.

OVERVIEW

The Alaska Department of Fish and Game (ADF&G) annually evaluates stock status and establishes the guideline harvest levels (GHLs) for the Southeast red king crab (RKC) and blue king crab (BKC) fishery using data from fishery independent surveys (pot gear), commercial fishery catch per unit of effort (CPUE), and biological data (length, weight, and shell condition) collected from the surveys and the fishery. The Southeast Alaska management area (Registration Area A) consists of all waters defined in 5 AAC 34.100 (Figure 1).

For the 2025–2026 season, the estimate of regional legal male biomass was 2.65 million lb and regional mature male biomass was 3.72 million lb (Table 1 and Figure 2). These values were determined using mark–recapture adjustments and the historical expansion factor applied to the non-surveyed areas (Table 2). The mature male biomass estimate was below the baseline level, which is defined as the average biomass from 1995–2007, but there was a short-term increasing trend in recent years. The legal male biomass estimate was less than the long-term median (3.0 million lb) but greater than 50% of the long-term median (1.5 million lb; Figure 2).

The 2025–2026 Southeast commercial RKC fishery GHL was 211,573 lb of legal male RKC, surpassing the 200,000 lb minimum threshold [5 AAC 34.113] required to open a commercial fishery; 4 of the 7 surveyed areas had increases in both legal and mature biomass. Therefore, the commercial fishery opened for the 2025–2026 season (Table 1 and Figure 2).

The personal use RKC and BKC fishery opened July 1, 2025, in non-surveyed areas with a daily bag and possession limit of 1 RKC or BKC per person. Results from the annual stock assessment survey in the Juneau Area indicated that overall stock health status was healthy, with both legal and mature biomass estimated to be above the long-term average. The personal use summer fishery in Section 11-A opened on August 15, 2025, for 10 days with a seasonal household limit of 3 crab and daily bag and possession limit of 3 crab to target 25,558 lb (3,446 crab) of legal male RKC. On November 1, 2025, the daily bag and possession limit for the regional RKC personal use fishery increased to 3 RKC or BKC per person.

2025 SOUTHEAST RED KING CRAB STOCK ASSESSMENT

SUMMARY OF STOCK STATUS

The Southeast RKC stock assessment regional biomass estimates for the 2025–2026 season were 2.65 million lb of legal male crab and 3.72 million lab of mature male crab, using the historical

expansion factor (Table 1). The 2025 legal biomass estimate increased 55% and the mature biomass increased 42% from 2024 using the 2025 model estimates (Figure 2).

Survey area biomass was estimated using a 3-stage catch survey analysis (CSA) model and adjusted using the mark–recapture expansions where available (Stratman et al. 2019; Palof et al. 2025). The *legal* crab component is composed of recruit and postrecruit crab and defined as those crab greater than or equal to 145 mm in carapace length. The *mature* crab component is composed of prerecruit, recruit, and postrecruit crab, and defined as crab greater than or equal to 129 mm in carapace length. Biomass estimates from the survey areas were expanded based on assumptions of how representative these areas are of the entire population in Southeast (Table 1 and Figure 3). Holkham Bay has not been surveyed since 2015 due to survey funding reductions and therefore is no longer included in determining survey biomass estimates. Port Frederick was not surveyed from 2015 to 2024 but was surveyed in 2025. Port Frederick was not included in the 2025 survey biomass estimate but may be included in the estimate after additional years of survey data collection.

Both mature and legal survey biomasses declined an average of 6% annually from 2001–2013 (Figure 2). In 2015, legal and mature biomasses showed regionwide increases for the first time since 2008. These increases continued until 2017. In 2017, the commercial fishery opened and the regionwide stock decreased until 2022. From 2023 to present, the legal and mature regional biomasses both increased annually. In 2025, 4 of the 7 surveyed areas (Juneau area, Gambier Bay, Seymour Canal, and Lynn Sisters) had increases in both legal and mature biomass, while Pybus Bay and Excursion Inlet had decreases in both legal and mature biomass (Figures 4–17). Peril Strait was not surveyed in 2025, and Port Frederick did not have recent data for comparison.

The CPUEs of both juvenile males and females were not significantly different from the long-term average in 2 of 7 areas surveyed in 2025 (Seymour Canal and Juneau) and were below the long-term average in 3 of the 7 areas surveyed (Pybus Bay, Lynn Sisters, Excursion Inlet; Table 3). Gambier Bay had juvenile male CPUE below the long-term average and juvenile female CPUE not significantly different from the long-term average (Figure 7). This suggested the possibility of low recruitment in the future and the need for continued monitoring of juvenile abundance. However, this survey was not designed to target juveniles, and thus this assessment may not be an accurate estimate of juvenile abundance.

The CPUE values for some or all of the mature male size and sex classes were below average for Pybus Bay, Gambier Bay, and Excursion Inlet (Figures 4, 5, 6, 7, 16, and 17). Pybus Bay and Excursion Inlet had low values in all mature male CPUEs (Figures 4 and 16). Gambier Bay had CPUE values for one of the 3 mature male size classes significantly below the long-term average (Figure 6). Seymour Canal and Lynn Sisters had mature male CPUE values non-significantly different from their long-term averages (Figures 8 and 14). The Juneau area mature male CPUEs were above their long-term averages (Table 2). Sample sizes and numbers of pots set and sampled varied among the survey areas and determined using a Neyman allocation based on the variance of total crab CPUE survey estimates by stratum between 2021 and 2023, which is updated using new data every 3 years (Table 4).

Recruitment, in the form of prerecruit CPUE, was significantly below long-term average levels for 2 of the survey areas: Pybus Bay and Excursion Inlet (Table 3). Gambier Bay, Seymour Canal, and Lynn Sisters were at the long-term average for prerecruit CPUE, and only the Juneau area was significantly above the long-term average.

A matrix of stock health indicators provides an objective and repeatable evaluation of the survey data. For the past 5 survey years, Excursion Inlet received a stock status rating of poor all of the years (Tables 5 and 6); Pybus Bay has been rated poor for the last 3 years; the Juneau area has been rated healthy for the past 4 years, and the other areas have had varied ratings. The methods used to calculate stock health indicators are described in Siddon et al. (2009); note that stock health score categories changed after 2008.

MARK–RECAPTURE EXPERIMENT ADJUSTMENTS

All survey areas (Excursion Inlet, Lynn Sisters, Peril Strait, Pybus Bay, Gambier Bay, and Seymour Canal; Figure 3), except Juneau, due to its expansive area, have a biomass adjustment that is calculated from mark–recapture studies (Table 2). Two of the 6 survey areas have a single mark–recapture event, while the other 4 have 2 events; therefore, the estimate of biomass using this method does not consider the extensive interannual variability or variability in population size for all areas and should be applied with caution. ADF&G has completed work on a second mark–recapture estimate for the 4 larger survey areas and does not currently plan to continue with additional mark–recapture studies. Mark–recapture attempts in 2013 and 2014 (Lynn Sisters and Excursion Inlet) did not have sufficient sample sizes to produce usable biomass estimates according to the sample size metrics recommended by Robson and Regier (1964). Pybus Bay, Seymour Canal, Excursion Inlet, and Gambier Bay were successfully resampled in 2014, 2015, 2016, and 2017 respectively.

Adjustments based on a weighted average of the 2 sampling events were used to determine the mark–recapture adjustment applied to this year's estimates (Table 2). The biomass estimates presented in this analysis are the 2025 CSA model estimates adjusted by these values.

EXPANSION OPTION FOR NON-SURVEYED AREAS

Regional biomass is estimated from the 7 survey areas and extrapolated to the entire region using an expansion factor defined as the proportion of the population that lies within the non-surveyed areas (Table 1, Figure 2). In 2015, the surveyed areas were adjusted since surveys in Port Frederick and Holkham Bay were discontinued due to reduced funding. The removal of Port Frederick from the survey was accounted for by placing it in the non-surveyed area designation. Port Frederick was surveyed in 2025 but will be treated as a non-surveyed area until more years of recent data are available. A biomass estimate has never been produced for Holkham Bay due to the inconsistency of the data. Holkham Bay has always been included as a non-surveyed area, and thus no changes to the biomass estimation were needed after removing Holkham Bay from the survey.

The expansion factor, or an estimate of the percentage of the population found in the non-surveyed areas using historical harvest data, has not been consistent over time (Palof and Stratman 2020). In the past, 2 expansion factors have been used that represented historical harvests from 1974–1984 (with 47.2% of the harvest coming from the non-surveyed areas), and harvests during the formerly used baseline years 1993–2007 (with 36.1% of the harvest coming from the non-surveyed areas). The historical harvest time frame (1974–1984) was chosen to be the most appropriate for the 2025 assessment since it includes harvest years before management actions dictated spatial closure or influenced fleet behavior. Note that time frame assumes that the spatial distribution of RKC in Southeast Alaska has remained consistent over time and with varying population sizes.

Expanding to the non-surveyed areas using the historical harvest time frame results in a regional biomass of 2.65 million lb for legal crab and 3.72 million lb for mature crab (Table 1).

HARVEST RATES

The final decision about harvest rates is made by management staff. A study of appropriate harvest rates for RKC in Southeast Alaska provides 2 approaches that serve as guidelines for recommended harvest rates, one with higher risk of leading to population decline and one with a lower risk (Palof and Stratman 2020). This guideline range recognizes the difficulty of determining appropriate harvest rates for the different survey areas given inconsistent recruitment and varying population health. The harvest rates used in 2025 (Table 1) fall within the recommended range.

STOCK ASSESSMENT CONCERNS AND RECOMMENDATIONS

Over the past decade, most of the survey areas—except for the Juneau area and Lynn Sisters—recovered slowly (Figures 4-17). Most areas, apart from for Peril Strait, had increasing biomass estimates from 2015–2017. Both legal and mature biomass decreased in 2018 in all survey areas that experienced personal use and commercial harvest in the previous season (2017–2018) (Figures 4-17). The impact of the commercial fishery opening in the 2017–2018 season is confounded by potentially increased personal use harvest in the survey areas, but this is hard to quantify because we do not have personal use harvest estimates before 2018 in any area except Section 11-A.

In 2025, both regional legal and mature biomass levels increased from 2024, although both were still below the mean baseline levels (Figure 2). Juneau and Lynn Sisters were the only survey areas in which legal and mature biomass were above their baseline levels (Figures 12 and 14). The Juneau stock was at historically high biomass levels (Figure 12), and the biomass of the Gambier Bay, Seymour Canal, and Lynn Sisters stocks increased in recent years (Figures 6, 8, and 14).

The recent regulation revision [5 AAC 34.113] added commercial fishery opportunities based on the long-term median of the legal biomass estimate. The years 1995–2007 were chosen to represent the long-term median; this time period captures a high and low period of population biomass and these years are already used as the baseline when calculating the long-term mean. The 2025 legal biomass estimate of 2.65 million lb falls between the long-term median (3,001,030 lb) and 50% of the long-term median (1,500,515 lb; Figure 2).

The RKC and BKC commercial fishery and personal use fishery outside of Section 11-A are managed separately and there are no regulatory thresholds or allocations that combine estimated harvest for both user groups. Personal use harvest outside of Section 11-A is not considered when calculating the commercial GHLs for each area to determine whether the total commercial GHL meets the 200,000 lb threshold in regulation for a commercial fishery. A personal use permit requirement was implemented in 2018 for the regional (outside Section 11-A) personal use fishery and reported harvests are shown in Appendix A. In the past 3 harvest years, the only survey area that has seen substantial harvests under the regional personal use permit is Lynn Sisters.

SURVEY AREA STOCK STATUS AND HARVEST RATE RECOMMENDATION

STOCK STATUS BY SURVEY AREA

This section contains the results by survey area; significance in long-term (Table 3) or short-term (Table 7) trends is defined as a p-value < 0.05. Long-term trends compare the current year's value to the long-term baseline mean (1995–2007); and short-term trends regress the last 4 years of survey data to determine whether a significant increasing or decreasing trend is present. Estimates of legal and mature mark–recapture biomass (adjusted legal/adjusted mature) for the entire biomass time series for each area were added to the legal biomass graphs, along with their associated long-term baseline (1995–2007; solid black line for legal and grey dotted line for mature) estimates (Figures 4–17). Graphs for each area reflect biomass estimates from the 2025 CSA model.

Pybus Bay (poor)

Pybus Bay stock health remained at poor status (Table 4, Figures 4 and 5). All size/sex class CPUEs were significantly below their long-term averages (Table 3). Mature female, juvenile male, and juvenile female CPUEs had short-term decreasing trends (Table 7). Legal biomass decreased 32% from the 2024 model estimate and mature biomass decreased 36% (Figure 4). Both biomass estimates remained low compared to historical levels in this area. Female egg percentage decreased from 2024 and the poor clutch percentage has increased. The mature biomass estimate was 93% below the baseline value and the legal biomass estimate was 92% below the baseline value.

Due to these trends and the low level of stock biomass in Pybus Bay, no harvest was recommended for the 2025–2026 season (Tables 1 and 5).

Gambier Bay (moderate)

Gambier Bay stock health increased to moderate status in 2025 (Table 5, Figures 6 and 7). Postrecruit and juvenile male CPUEs were significantly below their long-term averages (Table 3). Juvenile and mature females, prerecruits, and recruits were not significantly different from their long-term averages. There were significant short-term increasing trends in prerecruit and recruit CPUEs and significant decreasing trends in postrecruit, juvenile male, and juvenile female CPUEs (Table 7).

Prerecruit and recruit male biomass and CPUEs tended to increase for this population in recent years (Figure 6). Indicators of female stock health were good, as seen by the low proportion of poor clutches and high clutch fullness (Figure 7). Legal biomass increased 56% and mature biomass increased 73% from the 2024 model estimate (Figure 6). The legal adjusted biomass estimate was still below the baseline, but mature adjusted biomass estimate was not significantly different from the baseline. The mature biomass estimate was 1% above and the legal biomass was 29% below the baseline values.

Stock health improved in Gambier in 2025 and is categorized as moderate (Table 5).

Seymour Canal (moderate)

The overall stock health for Seymour Canal remained at moderate in 2025 (Table 5), an improvement from past years. All size and sex class CPUEs were not significantly different from the long-term averages (Table 3). Recruit and postrecruit male CPUEs showed significant short-term increasing trends (Table 7). Indicators of female stock health were good, with a high mean clutch size and low percentage of poor clutches (Figure 9). Estimated legal biomass increased 233% and mature biomass increased 102% from the 2024 model estimates (Figure 8). The mature biomass estimate was 26% below and the legal biomass estimate was 36% below the baseline value. Under sampling had been a concern in recent years but did not appear to have occurred in 2024 or 2025 (Table 4). The biomass estimates were still below baseline values.

Peril Strait (unsurveyed)

In 2024, the stock status for Peril Strait was poor (Table 5, Figures 10 and 11). Peril Strait was not surveyed in 2025, as this area has been moved to a biennial survey schedule.

In 2024, the mature biomass estimate was 82% and the legal biomass estimate was 64% below the baseline value (Figure 10). Due to recent concerns about the Peril Strait stock status, no harvestable surplus was recommended for the 2025–2026 season.

Juneau (healthy)

The stock status for the Juneau area remained healthy in 2025 (Table 5). Prerecruit males, recruit males, postrecruit males, and mature female CPUEs were significantly above their long-term averages; juvenile male and female CPUEs were not significantly different from the long-term averages (Table 3). There were significant short-term increasing trends in mature female, prerecruit male, recruit male, and postrecruit male CPUEs, and a significant short-term decreasing trend in juvenile male and female CPUEs (Table 7). When compared to the 2024 model estimate, legal biomass increased 12%, while mature biomass increased 28.6% (Figure 12). Indicators of female stock health remained good as indicated by the low proportion of poor clutches and high clutch fullness (Figure 13). Both legal and mature biomass were above their long-term baseline values, with mature biomass 77% above the baseline and legal biomass 67% above the baseline (Table 3 and Figure 12).

The 2025 annual Section 11-A RKC stock assessment survey found both the legal and mature biomasses increased compared to 2024. Male CPUEs increased from the 2024 survey. Due to the increases in the biomass estimates and the survey CPUEs, the decision was made in July to set the harvest rate at 10% of the legal male biomass for the 2025–2026 season (Table 1).

Lynn Sisters (moderate)

Stock health in the Lynn Sisters area improved to moderate status in 2025 (Table 5). CPUEs for juvenile males and females were below their long-term averages, while none of the other size/sex classes were significantly different from the long-term averages (Table 3). The only significant short-term trend was a decrease in juvenile male CPUE (Table 7). Female clutch fullness decreased and continued monitoring is recommended (Figure 15). The poor clutch percentage remained low. Legal biomass decreased 1%, while mature biomass was unchanged from the 2024 model estimates (Figure 14). Both legal and mature biomass were above their long-term baseline values, with mature biomass 49% and legal biomass 101% above the baseline value, respectively.

Lynn Sisters stock biomass increased from 2018 to 2021 and was relatively stable between 2021 and 2025. Legal and mature biomass estimates were both above long-term baselines in 2025 (Figure 14).

Excursion Inlet (poor)

The stock health of Excursion Inlet did not improve from poor status (Table 5). CPUEs of all sex/size classes were significantly below their long-term averages (Table 3). There were significant short-term decreases in postrecruit male CPUE, and no short-term trends for the other size/sex classes (Table 7). Females had a low proportion of poor clutches but marginal clutch fullness, less than 75% (Figure 17). Estimated legal biomass and mature biomass both decreased 35% from the 2024 model estimates (Figure 16). The mature biomass estimate was 93% and the legal biomass estimate was 85% below the baseline value.

Stock health declined in Excursion Inlet, as evident from negative trends in stock health (Table 5). In 2025, CPUEs of all mature male size classes were below long-term baselines for the 7th consecutive season (Table 3). Mature and legal biomass estimates decreased and both were below long-term baselines with no short-term increasing trends (Figure 16 and Table 7). Considering these trends, there was not a harvestable surplus of RKC for the 2025–2026 season in Excursion Inlet (Table 1).

Port Frederick (reintroduced to survey in 2025)

Port Frederick was surveyed in 2025 for the first time in 10 years. Given the 10-year gap in survey data, Port Frederick was considered part of the non-surveyed areas for the 2025 stock assessment. The area may be re-incorporated into the surveyed areas biomass estimate in future years, once more years of recent survey data are available. From 1979 to 2004 (the years used to expand the survey biomass to the non-surveyed areas), Port Frederick contributed 2.4% of the harvest. The previous percent expansion of 65.2% survey areas and 34.8% non-surveyed areas was adjusted. Excluding Port Frederick, 62.8% of the harvest is from survey areas and 37.2% from non-surveyed areas. Adjusting the expansion factor allows for consistency between previous years' estimates and the current year; all comparisons regionally were performed with a time series of estimates that were adjusted to not include Port Frederick.

Non-Surveyed Areas

Information used to assess non-surveyed areas for the 2025–2026 commercial fishery recommendation includes the current CSA and historical harvest data, by statistical area, from fish tickets. The percentage of historical harvest that occurred within the surveyed areas from the 1974–1975 to 1984–1985 seasons was used to expand the harvestable surplus from the surveyed area to non-surveyed areas. Since 2015, when Port Frederick was removed from the survey, a historical harvest of 52.8% from surveyed areas has been used; the remaining 47.2% of harvest is from the non-surveyed areas. Summing up the mature biomass estimates for the surveyed areas and using this 52.8%/47.2% ratio yields an adjusted legal biomass estimate of 1,242,535 lb for non-surveyed areas. Applying a 10.0% harvest rate (a percentage which is close to the average equilibrium harvest rate for all surveyed areas in combination) to this estimate provides a harvestable surplus of 123,254 legal lb in the non-surveyed areas (Table 1).

2025–2026 RKC MANAGEMENT ACTIONS

The total management-recommended regional RKC commercial GHL was 211,573 lb (Table 1). This GHL was more than the 200,000 lb commercial threshold specified in regulation [5 AAC 34.113], so a competitive fishery was opened for the 2025–2026 season.

POOR STOCK STATUS AREAS: PYBUS BAY, PERIL STRAIT, EXCURSION INLET

Stock status in Pybus Bay, Peril Strait, and Excursion Inlet was rated *poor*, with details mentioned previously for each area. Therefore, no harvest was recommended in these areas for the 2025–2026 season (Table 1).

GAMBIER BAY (MODERATE)

Legal and mature male biomass has been increasing since 2023 in Gambier Bay (Figure 6). Prerecruit, recruit, and postrecruit male CPUE all increased from 2024 to 2025 with postrecruit CPUE below the long-term average. Male recruit and prerecuit CPUEs were above the long-term average and showed a significant increasing trend. For the GHL calculation, management recommended using a harvest rate of 8% for the 2025–2026 season (Table 1).

SEYMOUR CANAL (MODERATE)

Both legal and mature male biomasses increased since 2023 in Seymour Canal. Recruit and postrecruit male CPUEs increased from 2024 to 2025 (Figure 8). Seymour Canal has caused sampling concerns in the past due to 1) the wide area of suitable habitat, 2) the Dungeness crab fishery that takes place during the survey period, which may lead to pot competition, and 3) the large expansion factor from the mark–recapture study. For the GHL calculation, management recommended using a 7% harvest rate for the 2025–2026 season (Table 1).

JUNEAU (HEALTHY)

The annual Section 11-A RKC stock assessment survey found both the legal and mature male biomasses have been increasing in the Juneau since 2020, with biomasses above the long-term average for both categories since 2022 (Figure 12). Male CPUEs increased for all categories from the 2024 survey and all were above the long-term averages. 2025 was the third consecutive year in which male CPUEs were all above the long-term average. Taking into account these stabilized trends, management recommended a 10% harvest rate for the 2025-2026 season. (Table 1). In accordance with regulation, harvest was split between the personal use component (60%) and the commercial sector (40%).

LYNN SISTERS (MODERATE)

Both legal and mature male biomass estimates were above their long-term baseline values in Lynn Sisters, with a general increasing trend since 2016 for both classes (Figure 14). Prerecruit and recruit CPUEs decreased from 2024 to 2025 while postrecruit CPUE increased. Personal use fishing has continued to take place in a sliver of open area outside the survey area. This small area has become increasingly popular, and hosts high personal use harvests compared to other survey areas within the region.

Lynn Sisters proper has continued to be closed to personal use and commercial harvest. For the GHL calculation, management recommended no harvest for the 2024–2025 season (Table 1).

NON-SURVEYED AREAS

For the 2025–2026 GHL calculation, management used the ratio of 52.8%/47.2% (surveyed to non-surveyed) and a harvest rate of 10% (Table 1).

FISHERY MANAGEMENT CONCERNS

The commercial fishery and personal use fishery for red and blue king crab are managed separately outside of Section 11-A, and there are no regulatory thresholds or allocations that combine estimated harvest for both user groups. Personal use harvest outside of Section 11-A is not considered when calculating the commercial GHLs for each area to determine whether the total commercial GHL meets the 200,000 lb threshold in regulation for a commercial fishery. The permit system for the personal use fishery, implemented in 2018, will provide managers with better information on the level of personal use harvest outside of Section 11-A. This permit information will improve future CSA estimates and inform potential Alaska Board of Fisheries decisions.

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TABLES AND FIGURES

Table 1.–2025 Southeast Alaska commercial RKC fishery guideline harvest level (GHL) calculations for the surveyed areas and non-surveyed areas.

Survey area	Legal biomass (adjusted lb)	Mature biomass (adjusted lb)	Legal harvest rate	Total GHL (lb)	PU harvest (lb)	Commercial GHL (lb)
Pybus Bay	30,589	32,538	0.00	0	0	0
Gambier Bay	124,344	249,622	0.08	9,948	0	9,948
Seymour Canal	638,637	823,693	0.07	44,705	0	44,705
Peril Strait	23,474	23,515	0.00	0	0	0
Juneau Area	511,158	743,688	0.10	51,116	30,670	20,446
Lynn Sisters	47,973	66,966	0.00	0	0	0
Excursion Inlet	13,780	14,194	0.00	0	0	0
BKC	14,734	20,715	0.00	796	0	796
Other areas	1,242,535	1,746,951	0.11	136,679	1,000	135,679
Total	2,647,223	3,721,881		243,243	22,913	211,573

Table 2.–Southeast Alaska red king crab legal crab biomass adjustments to catch–survey analysis (CSA) based on Chapman mark–recapture estimates.

Survey area	Study years	Adjustment
Lynn Sisters	2009	1.75
Pybus Bay	2010, 2014	3.08
Gambier Bay	2010, 2017	3.93
Excursion Inlet	2010, 2016	2.95
Seymour Canal	2011, 2015	9.17
Peril Strait	2011	2.75
Port Frederick	2011	4.27

Table 3.–Comparisons of 2025 survey CPUE values to long-term averages by size/sex class and survey area.

Location	Juvenile male	Juvenile female	Mature female	Prerecruit	Recruit	Postrecruit
Pybus Bay	-1	-1	-1	-1	-1	-1
Gambier Bay	-1	0	0	0	0	-1
Seymour Canal	0	0	0	0	0	0
Juneau	0	0	1	1	1	1
Lynn Sisters	-1	-1	0	0	0	0
Excursion Inlet	-1	-1	-1	-1	-1	-1

Note: 1 = significantly above long-term average; 0 = not significantly different from long-term average; -1 = significantly below long-term average.

Table 4.–2025 Southeast Alaska red king survey crab sample sizes by area.

	Excursion Inlet	Gambier Bay	Juneau Area	Lynn Sisters	Pybus Bay	Seymour Canal	Port Frederick
Juvenile males	5	202	1,363	16	0	101	23
Small females	10	371	1,741	25	0	263	10
Large females	2	638	2,561	178	4	531	62
Prerecruits	1	383	1,009	62	3	185	9
Recruits	1	172	807	32	2	320	16
Postrecruits	1	50	824	35	2	154	34
Number of pots	55	78	214	27	50	67	55

Table 5.–Southeast Alaska red king crab stock health designations and scores for 2021-2025 by survey area.

Survey area	2021	2022	2023	2024	2025
Pybus Bay	Below average (-4.00)	Below average (-2.50)	Poor (-5.75)	Poor (-5.25)	Poor (-7.00)
Gambier Bay	Below average (-2.75)	Moderate (0.75)	Moderate (1.25)	Below average (-2.75)	Moderate (-1.25)
Seymour Canal	Poor (-5.00)	Below average (-4.00)	Below average (-3.00)	Moderate (-0.50)	Moderate (0.50)
Peril Strait	Below average (-2.25)	Below average (-2.75)	Unsurveyed	Poor (-7.00)	Unsurveyed
Juneau Area	Above average (3.50)	Healthy (5.00)	Healthy (7.75)	Healthy (4.5)	Healthy (5.5)
Lynn Sisters	Moderate (1.25)	Moderate (1.00)	Above average (3.25)	Below average (-2.5)	Moderate (-1.25)
Excursion Inlet	Poor (-5.00)	Poor (-6.00)	Poor (-5.75)	Poor (-5.5)	Poor (-6.25)

Table 6.–Southeast Alaska red king crab stock health scores and associated categories used for 2006–2008 and for 2009-2025.

Score	2006–2008 categories	2009–2025 categories
-7.00 to -4.50	Poor	Poor
-4.25 to -1.75	Poor	Below average
-1.50 to 1.50	Moderate	Moderate
1.75 to 4.25	Healthy	Above average
4.50 to 7.00	Healthy	Healthy

Note: scores are calculated in 0.25 increments.

Table 7.–Short-term trends in survey CPUE by size/sex class and survey area.

Location	Juvenile male	Juvenile female	Mature female	Prerecruit	Recruit	Postrecruit
Pybus Bay	-1	-1	-1	0	0	0
Gambier Bay	-1	-1	0	1	1	-1
Seymour Canal	0	0	0	0	1	1
Juneau	-1	-1	1	1	1	1
Lynn Sisters	-1	0	0	0	0	0
Excursion Inlet	0	0	0	0	0	-1

Note: 1 = significantly positive trend; 0 = no significant trend; -1 = significantly negative trend.

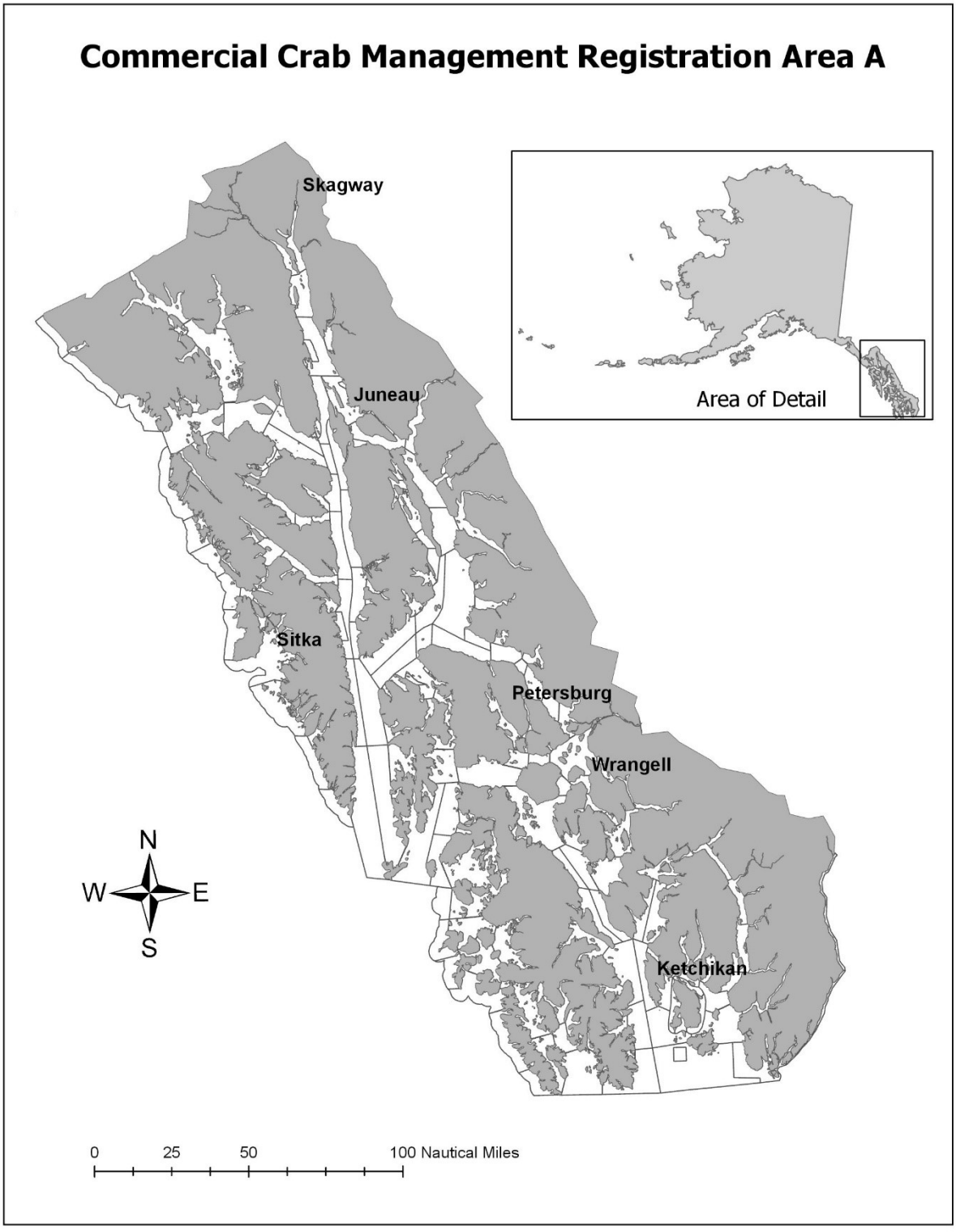

Figure 1.–Southeast Alaska (Registration Area A) commercial fishery boundaries.

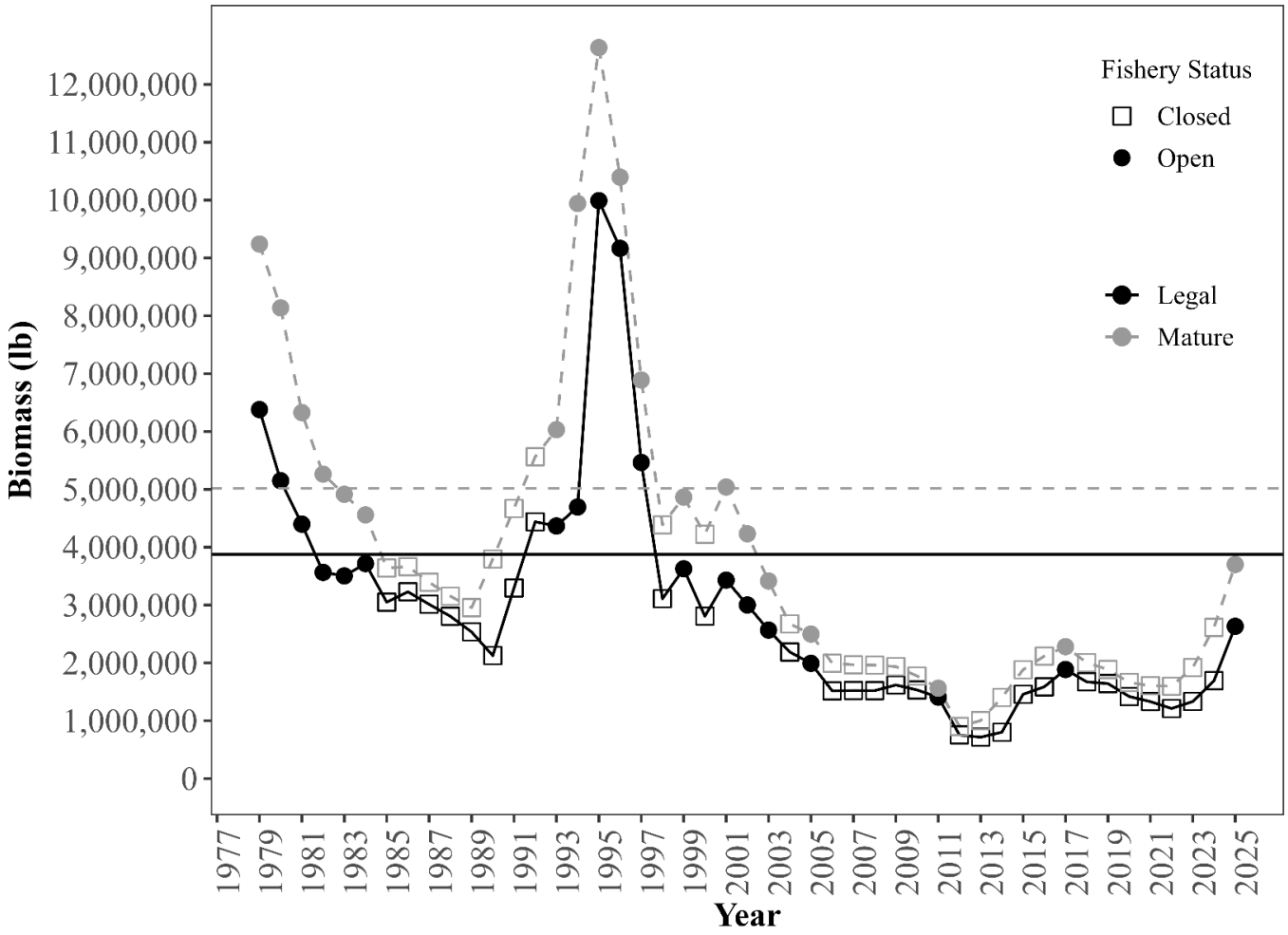

Figure 2.–Southeast Alaska red king crab total biomass estimates (expanded regional estimates) of mature male (gray points and gray dashed line) and legal male crab (black points and black solid line). The gray dashed and black solid horizontal reference lines represent the long-term baselines for mature and legal biomasses, respectively.

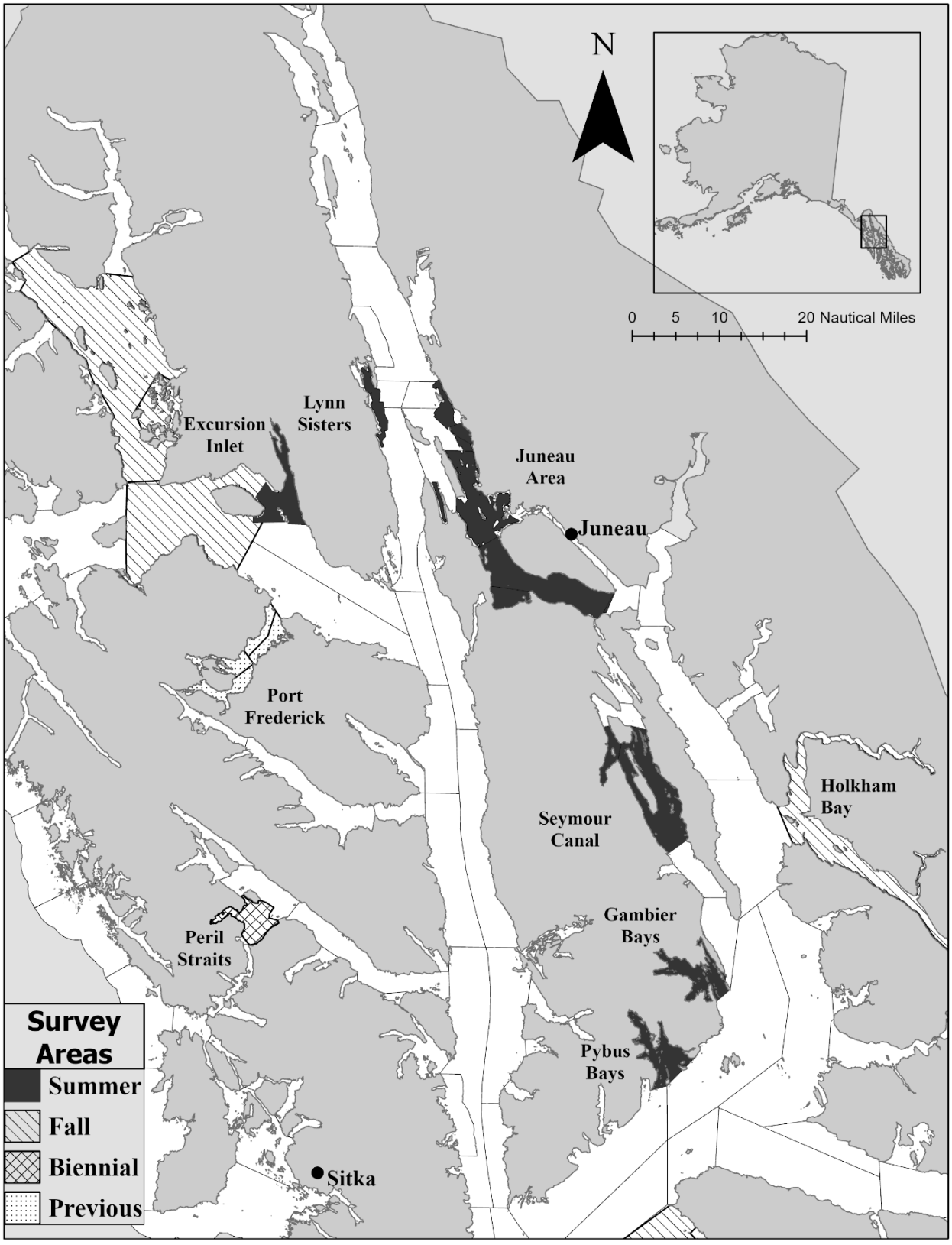

Figure 3.–Southeast Alaska (Registration Area A) summer and fall survey areas for Tanner and red king crab.

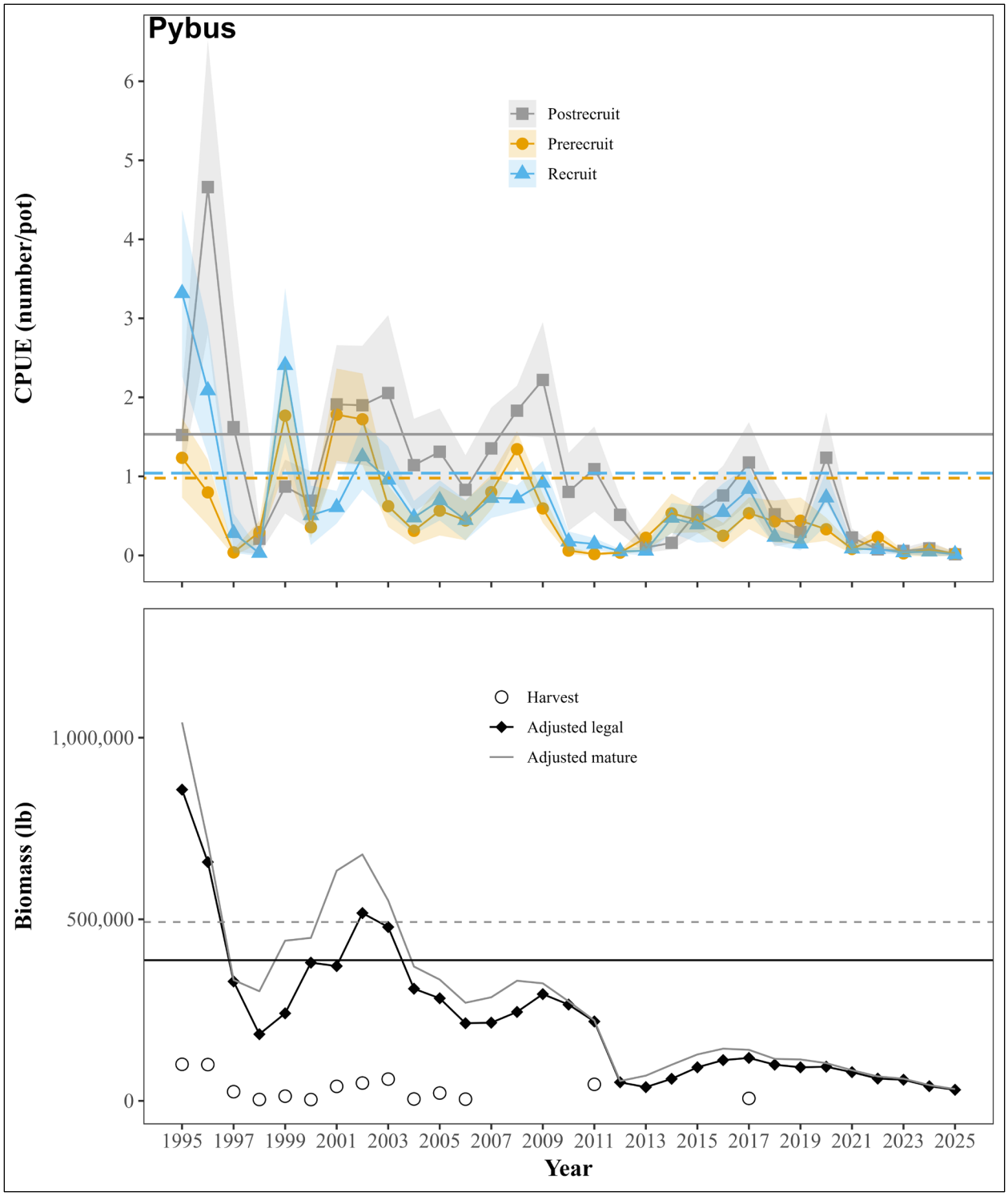

Figure 4.–Pybus Bay CPUEs for mature male size/sex classes of red king crab (top panel), and biomass estimates from the current year's CSA model with the annual harvest (bottom panel). The horizontal reference lines in the top panel represent long-term baselines for each male maturity class (1995–2007). The gray dashed and solid black horizontal reference lines in the bottom panel represent the long-term baseline for mature and legal biomasses, respectively.

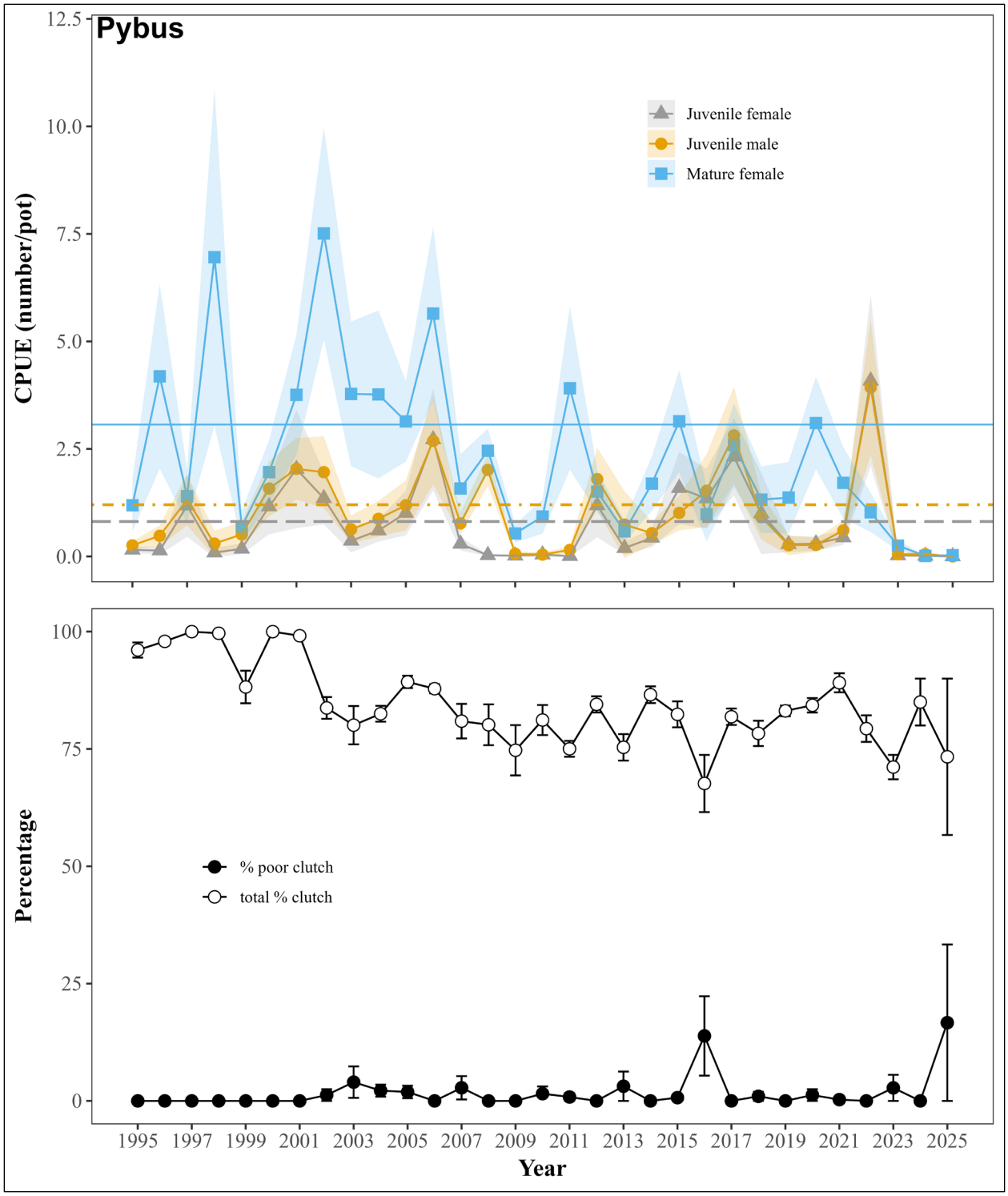

Figure 5.–Pybus Bay CPUEs for mature and juvenile female and juvenile male size/sex classes of red king crab (top panel), and clutch fullness and proportion of poor clutches (bottom panel). The reference lines in the top panel represent the long-term baselines for each size/sex class (1995–2007).

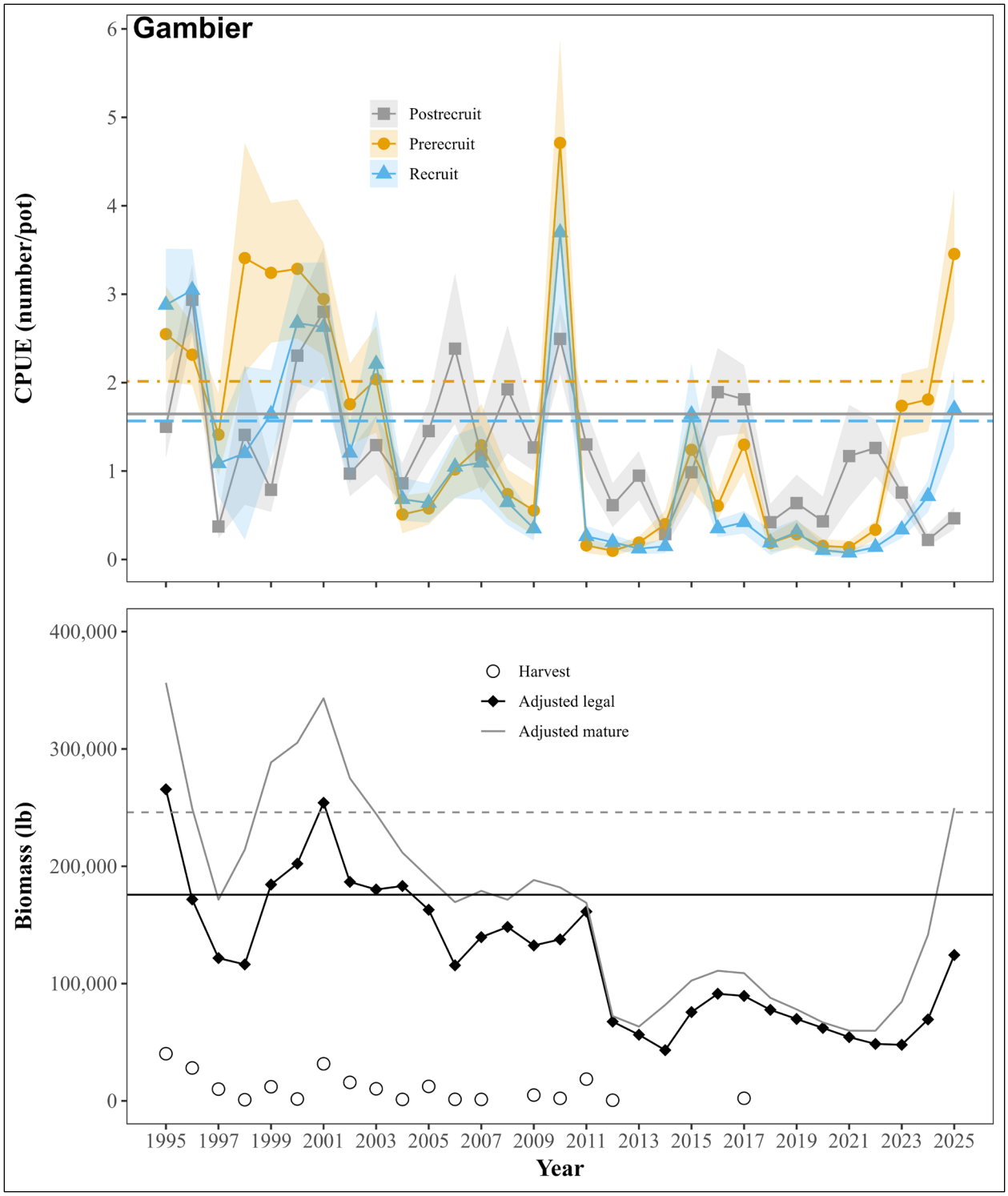

Figure 6.–Gambier Bay CPUEs for mature male size/sex classes of red king crab (top panel), and biomass estimates from the current year's CSA model with the annual harvest (bottom panel). The horizontal reference lines in the top panel represent long-term baselines for each male maturity class (1995–2007). The gray dashed and solid black horizontal reference lines in the bottom panel represent the long-term baseline for mature and legal biomasses, respectively.

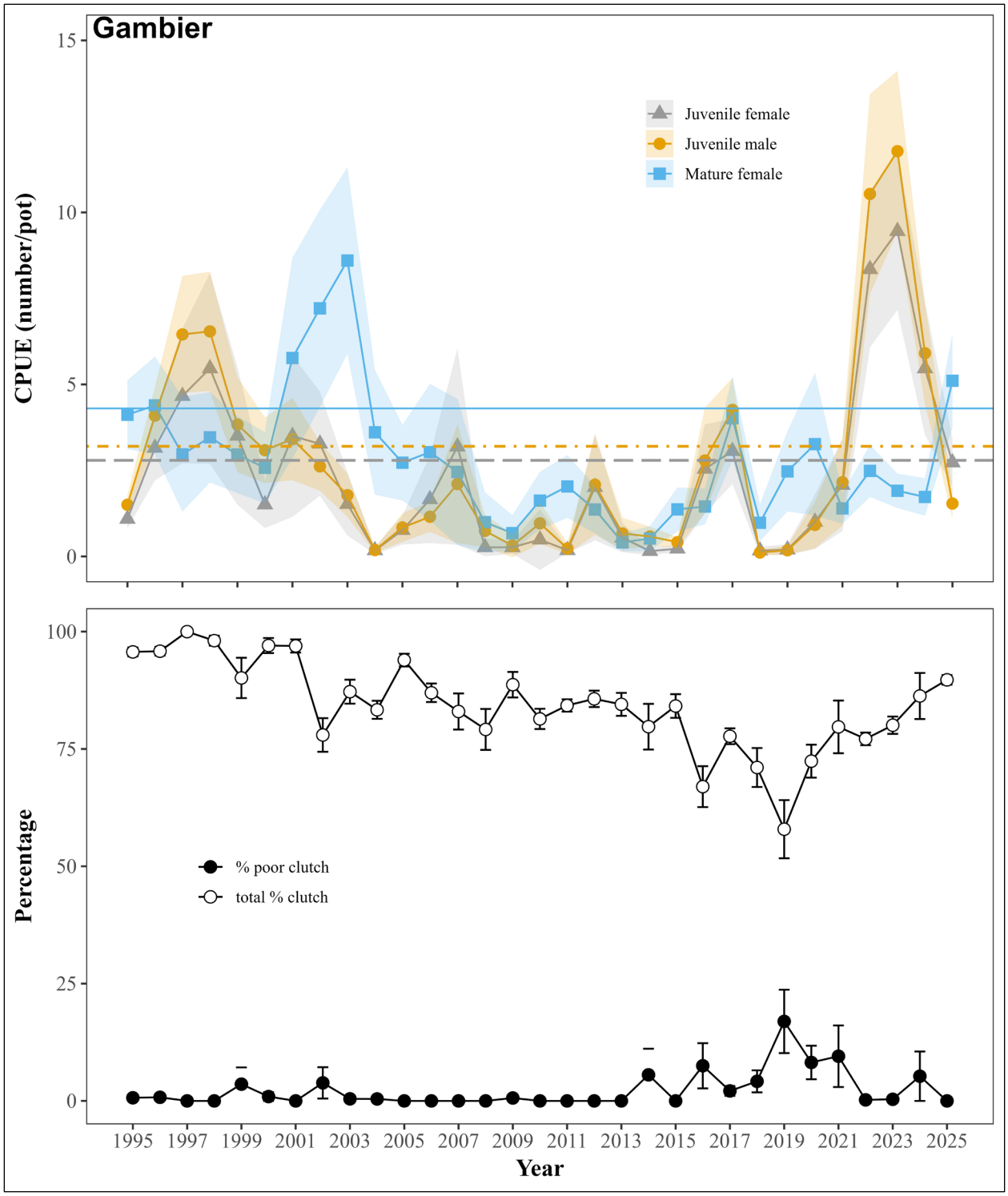

Figure 7.–Gambier Bay CPUEs for mature and juvenile female and juvenile male size/sex classes of red king crab (top panel), and clutch fullness and proportion of poor clutches (bottom panel). The reference lines in the top panel represent the long-term baselines for each size/sex class (1995–2007).

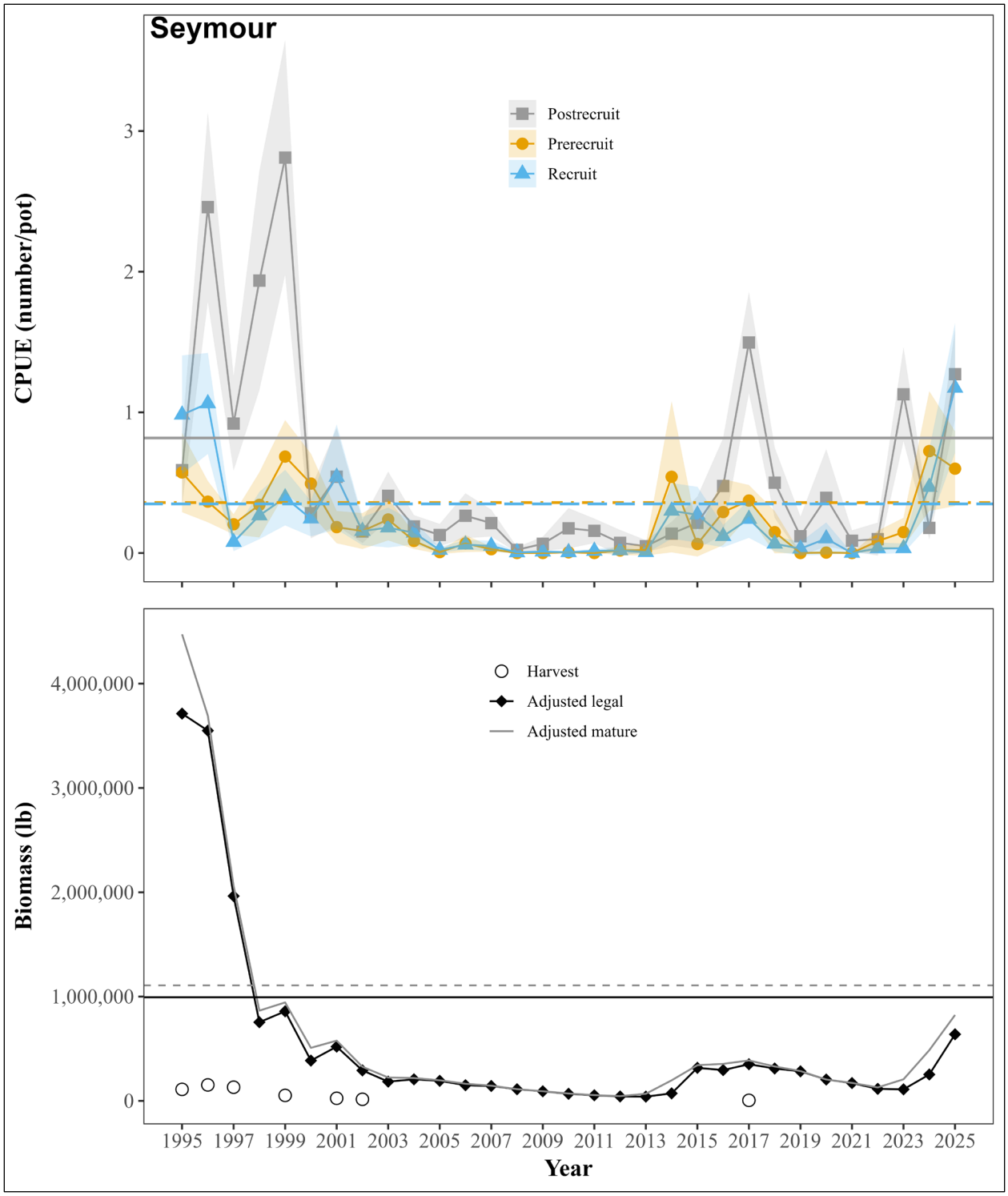

Figure 8.–Seymour Canal CPUEs for mature male size/sex classes of red king crab (top panel), and biomass estimates from the current year's CSA model with the annual harvest (bottom panel). The horizontal reference lines in the top panel represent long-term baselines for each male maturity class (1995–2007). The gray dashed and solid black horizontal reference lines in the bottom panel represent the long-term baseline for mature and legal biomasses, respectively.

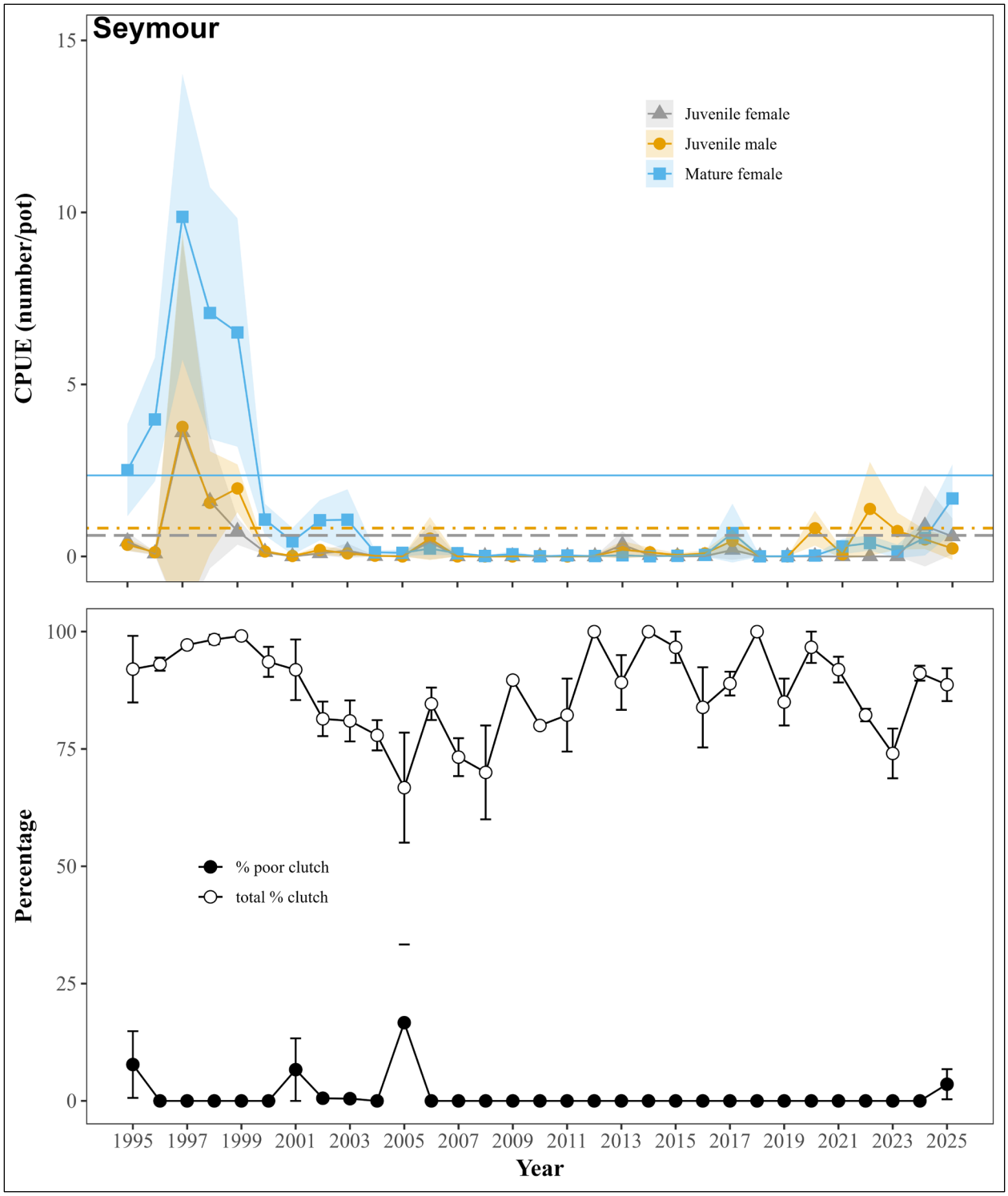

Figure 9.–Seymour Canal CPUEs for mature and juvenile female and juvenile male size/sex classes of red king crab (top panel), and clutch fullness and proportion of poor clutches (bottom panel). The reference lines in the top panel represent the long-term baselines for each size/sex class (1995–2007).

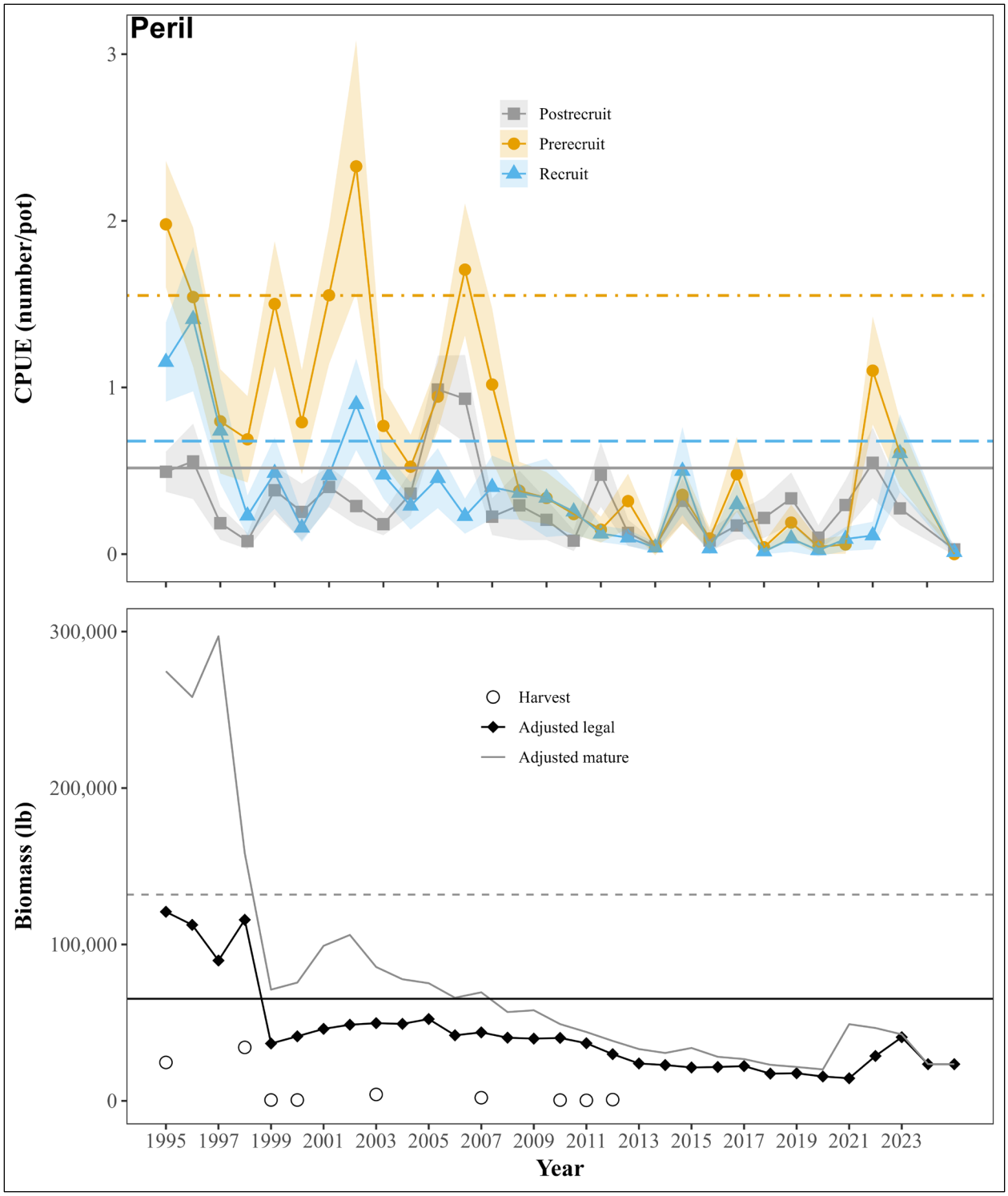

Figure 10.–Peril Strait CPUEs for mature male size/sex classes of red king crab (top panel), and biomass estimates from the current year's CSA model with the annual harvest (bottom panel). The horizontal reference lines in the top panel represent long-term baselines for each male maturity class (1995–2007). The gray dashed and solid black horizontal reference lines in the bottom panel represent the long-term baseline for mature and legal biomasses, respectively.

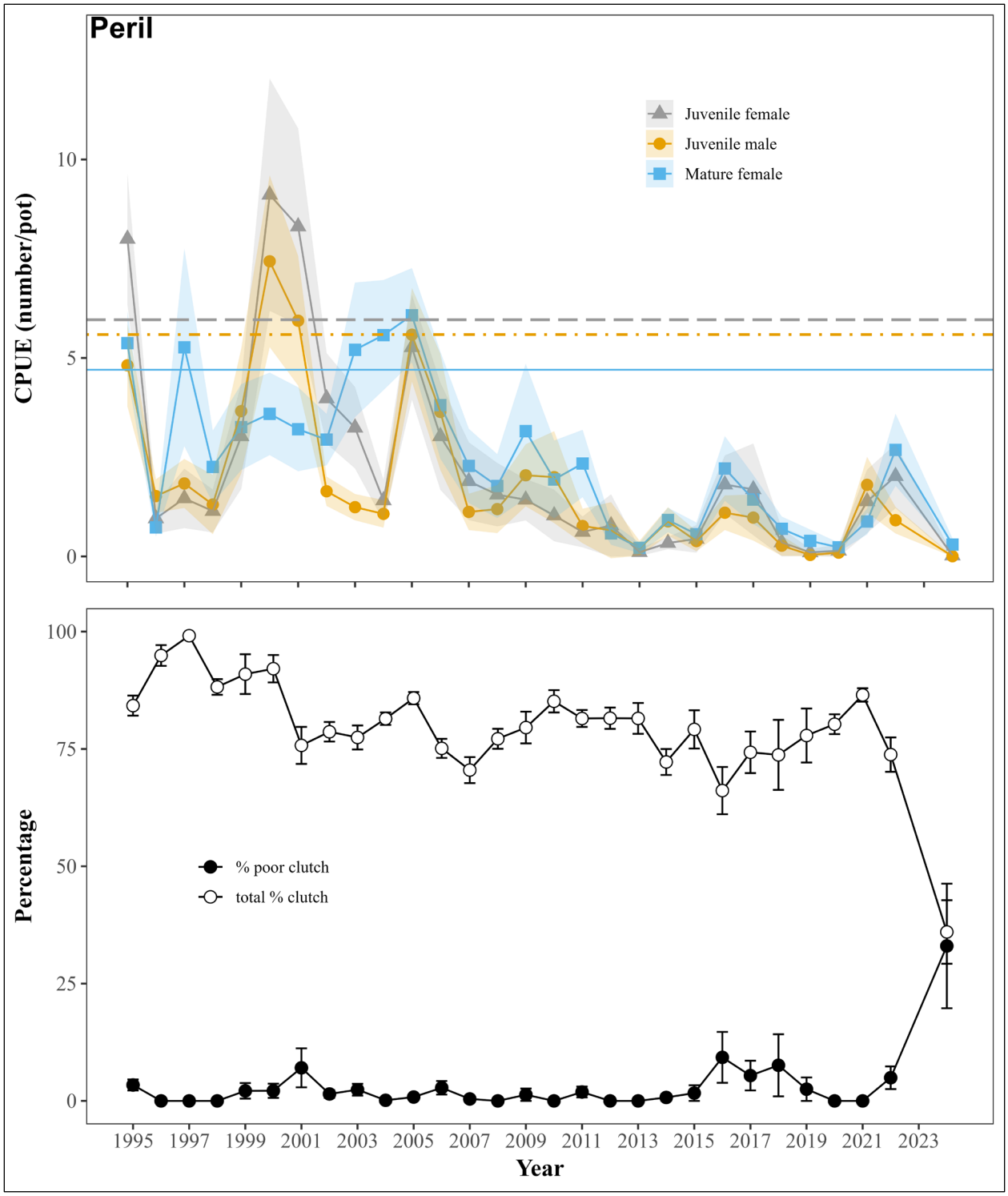

Figure 11.–Peril Strait CPUEs for mature and juvenile female and juvenile male size/sex classes of red king crab (top panel), and clutch fullness and proportion of poor clutches (bottom panel). The reference lines in the top panel represent the long-term baselines for each size/sex class (1995–2007).

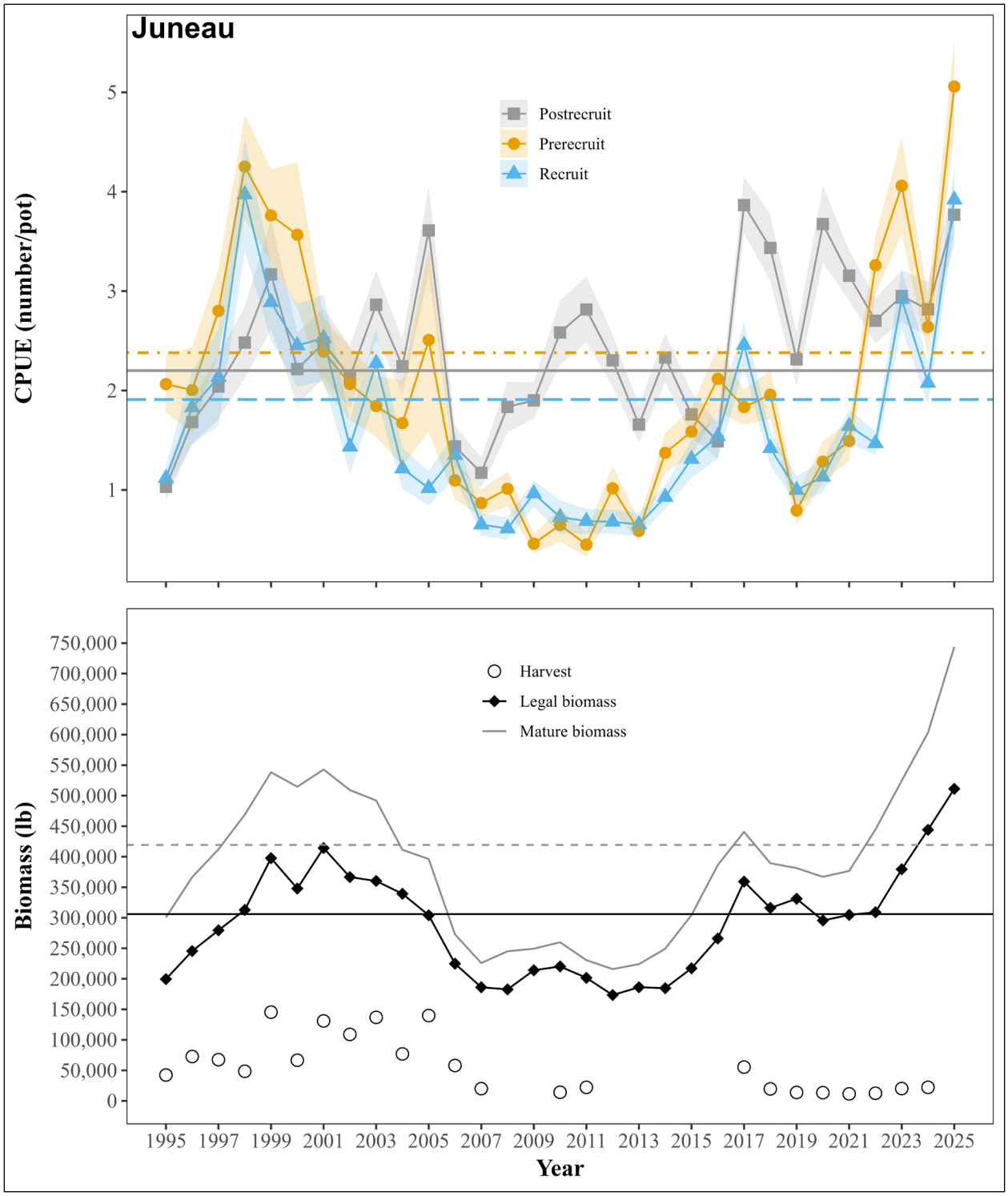

Figure 12.–Juneau Area CPUEs for mature male size/sex classes of red king crab (top panel), and biomass estimates from the current year's CSA model with the annual harvest (bottom panel). The horizontal reference lines in the top panel represent long-term baselines for each male maturity class (1995–2007). The gray dashed and solid black horizontal reference lines in the bottom panel represent the long-term baseline for mature and legal biomasses, respectively.

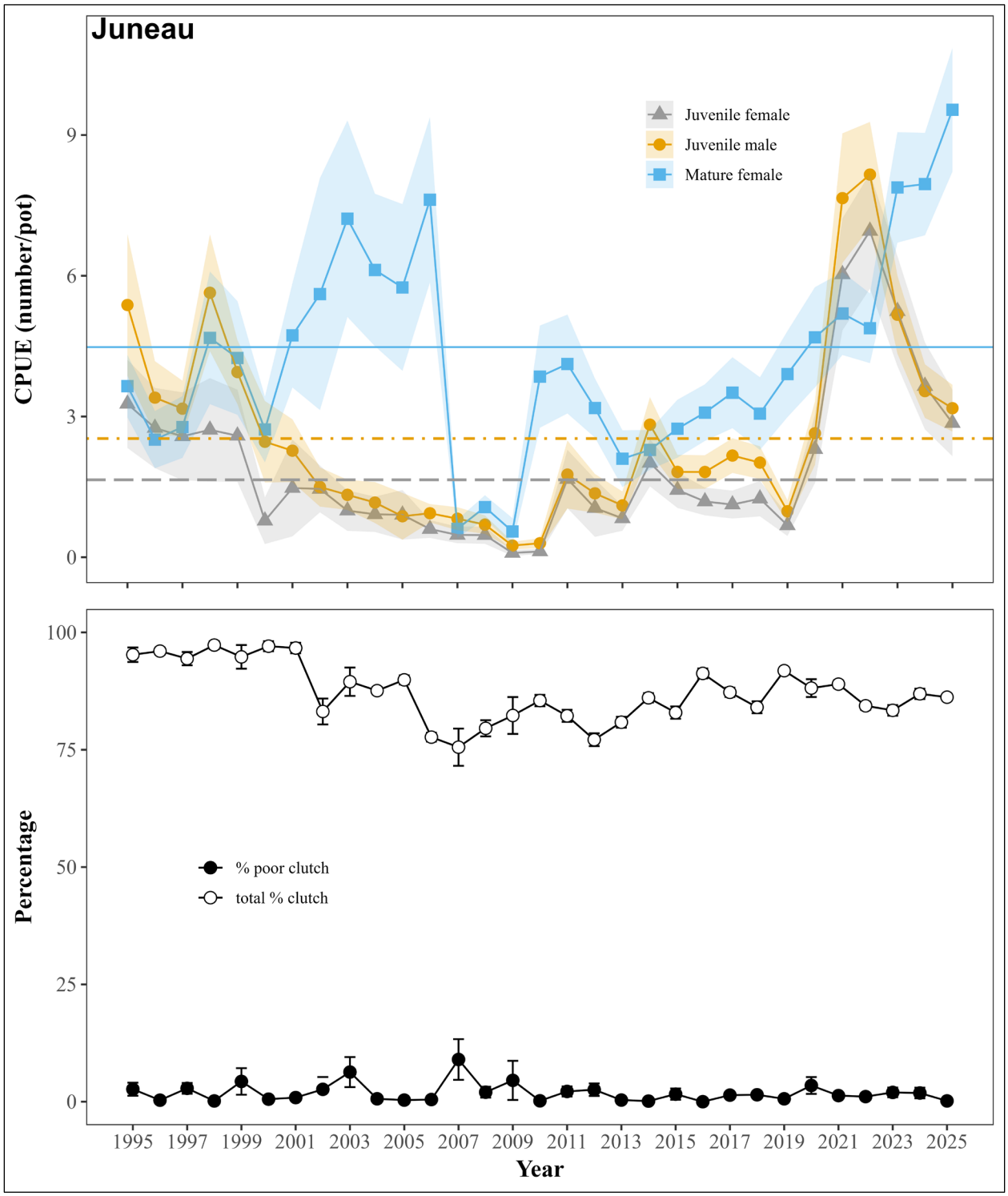

Figure 13.–Juneau Area CPUEs for mature and juvenile female and juvenile male size/sex classes of red king crab (top panel), and clutch fullness and proportion of poor clutches (bottom panel). The reference lines in the top panel represent the long-term baselines for each size/sex class (1995–2007).

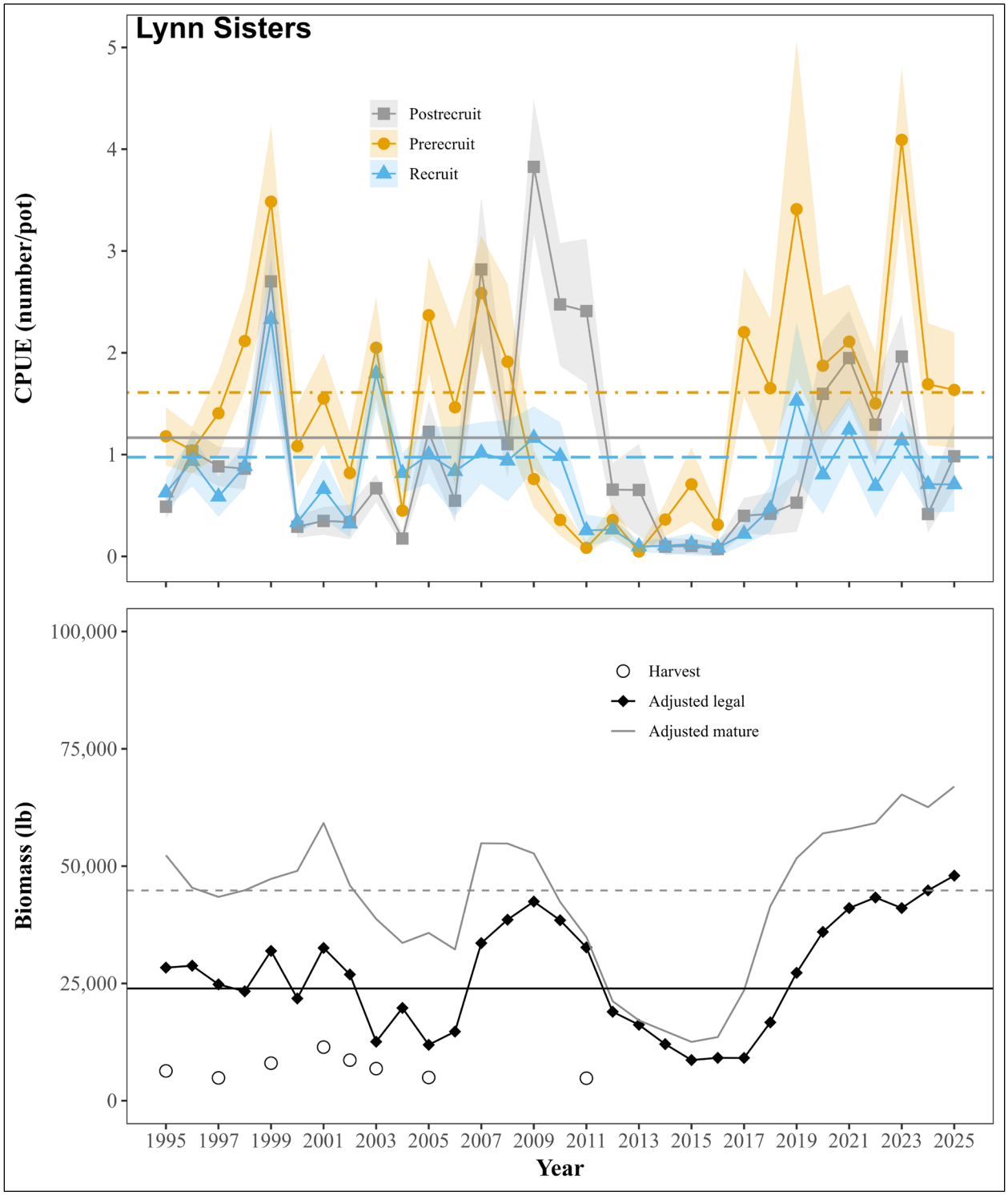

Figure 14.–Lynn Sisters CPUEs for mature male size/sex classes of red king crab (top panel), and biomass estimates from the current year's CSA model with the annual harvest (bottom panel). The horizontal reference lines in the top panel represent long-term baselines for each male maturity class (1995–2007). The gray dashed and solid black horizontal reference lines in the bottom panel represent the long-term baseline for mature and legal biomasses, respectively.

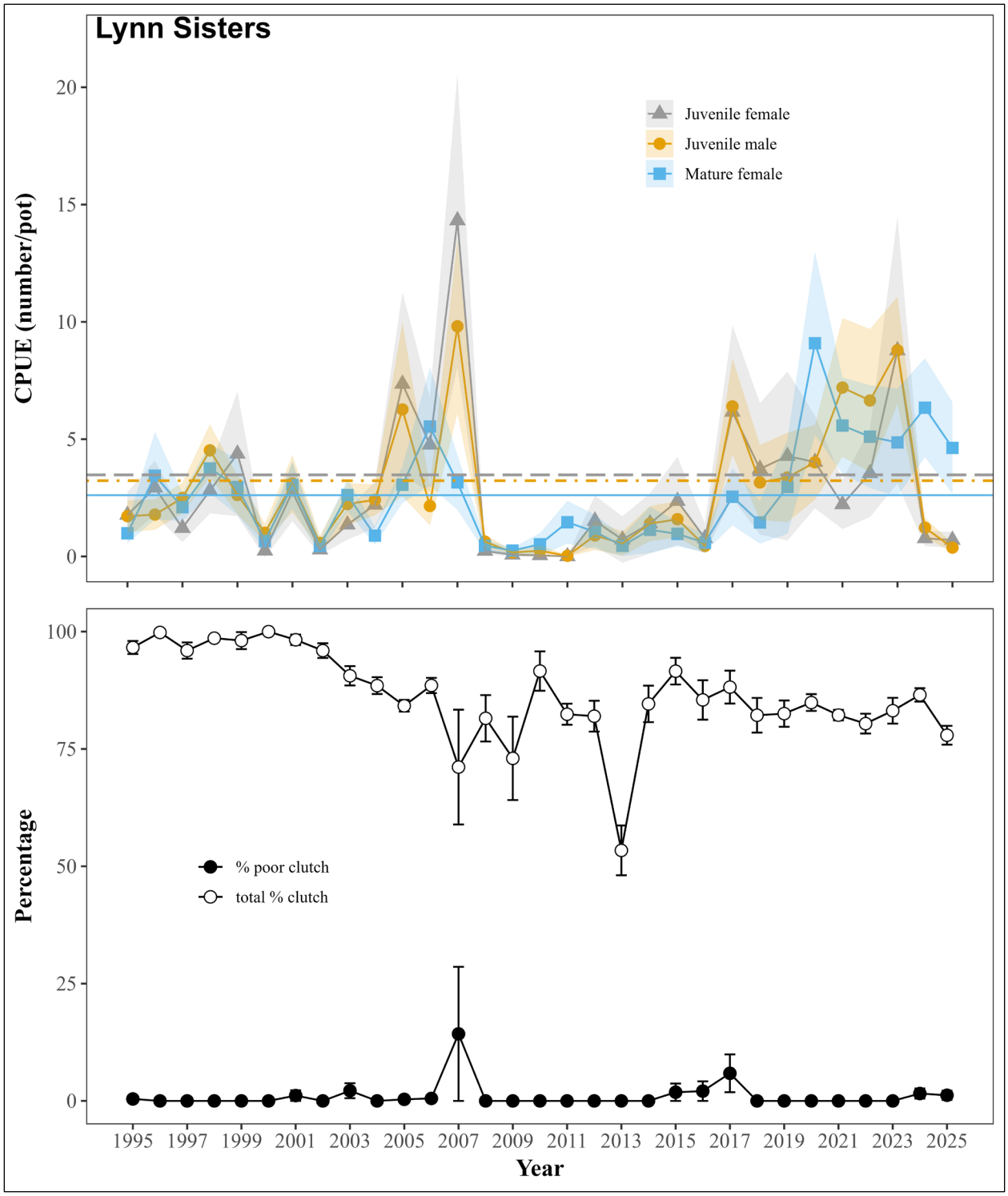

Figure 15.–Lynn Sisters CPUEs for mature and juvenile female and juvenile male size/sex classes of red king crab (top panel), and clutch fullness and proportion of poor clutches (bottom panel). The reference lines in the top panel represent the long-term baselines for each size/sex class (1995–2007).

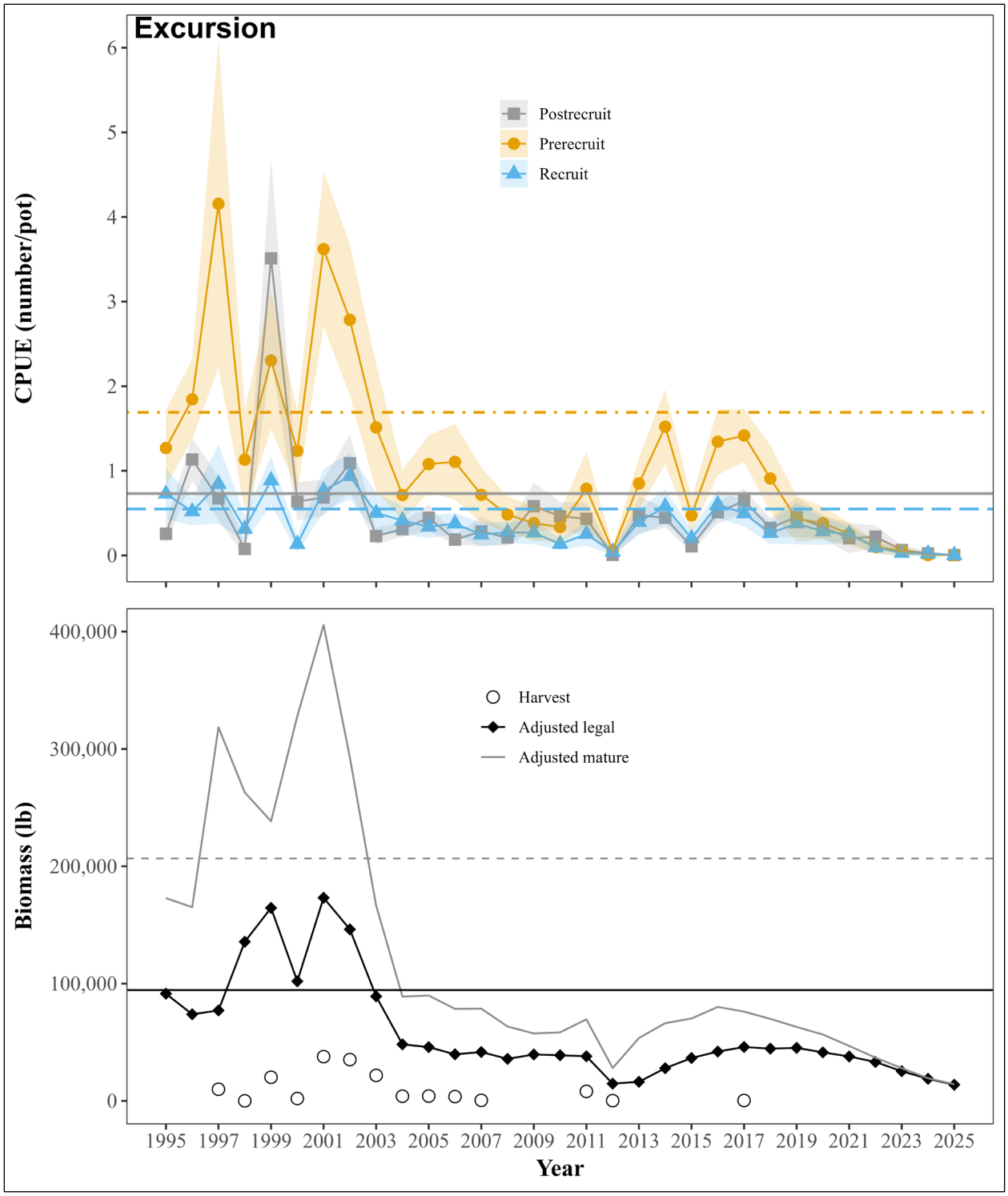

Figure 16.–Excursion Inlet CPUEs for mature male size/sex classes of red king crab (top panel), and biomass estimates from the current year's CSA model with the annual harvest (bottom panel). The horizontal reference lines in the top panel represent long-term baselines for each male maturity class (1995–2007). The gray dashed and solid black horizontal reference lines in the bottom panel represent the long-term baseline for mature and legal biomasses, respectively.

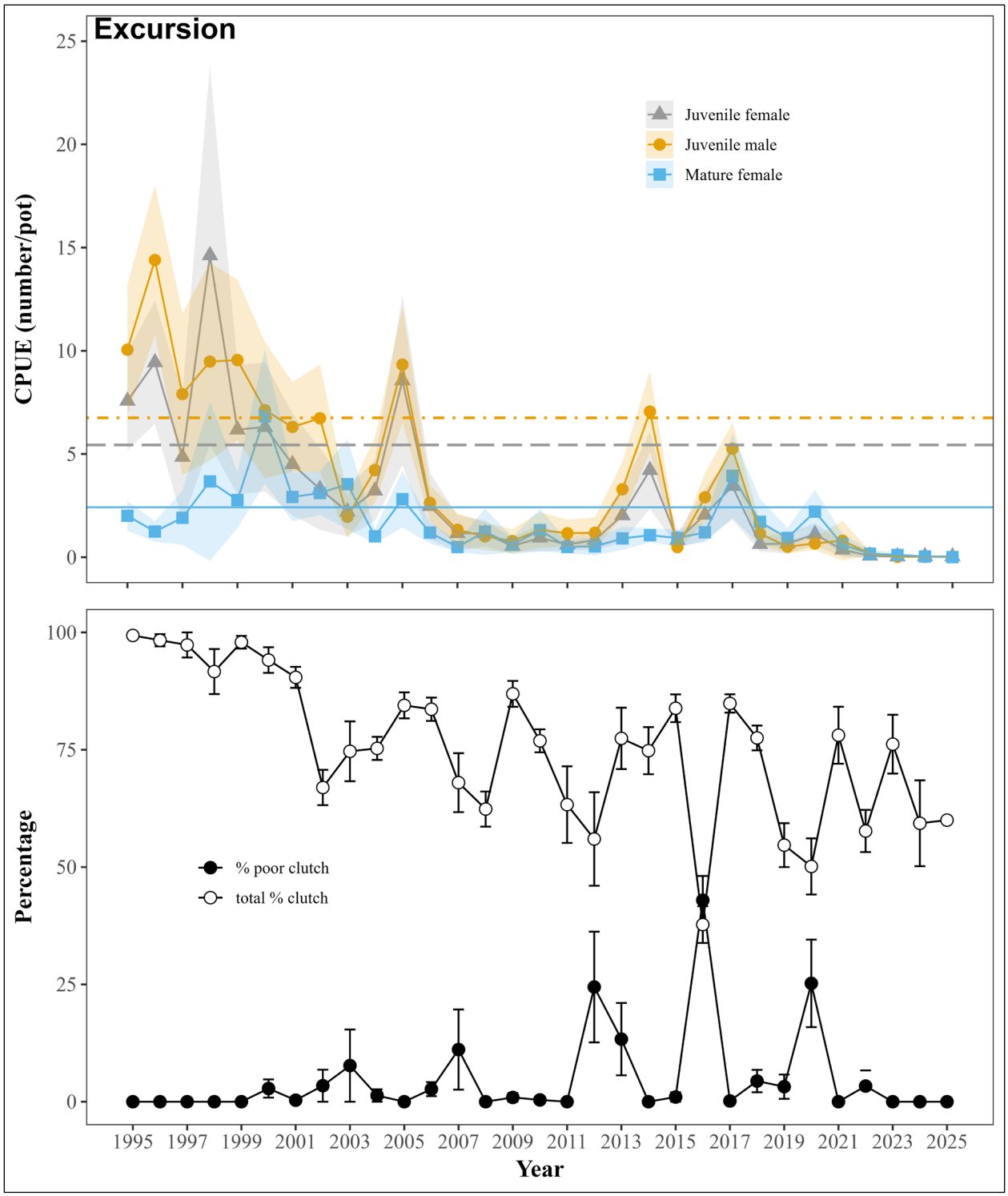

Figure 17.–Excursion Inlet CPUEs for mature and juvenile female and juvenile male size/sex classes of red king crab (top panel), and clutch fullness and proportion of poor clutches (bottom panel). The reference lines in the top panel represent the long-term baselines for each size/sex class (1995–2007).