

# **2022 Southern Southeast Inside Subdistrict Sablefish Fishery Management Plan**

by

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and

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June 2022

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Alaska Department of Fish and Game

Division of Commercial Fisheries



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

***REGIONAL INFORMATION REPORT NO. 1J22-18***

**2022 SOUTHERN SOUTHEAST INSIDE SUBDISTRICT SABLEFISH  
FISHERY MANAGEMENT PLAN**

by

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## ABSTRACT

This report provides an overview of the harvest strategy and regulations effective for the 2022 Southern Southeast Inside (SSEI) sablefish, *Anoplopoma fimbria*, commercial fishery. The SSEI sablefish commercial fishery is scheduled to open June 1 and close November 15 with legal gear restricted to longline or pots. The 2022 SSEI sablefish commercial fishery annual harvest objective (AHO) is 643,360 round pounds and is allocated among the 19 limited entry Commercial Fisheries Entry Commission (CFEC) longline/pot (C61C) and three pot (C91C) permits through an equal quota share (EQS) system, resulting in a 2022 EQS of 29,244 round pounds for each permit holder.

Keywords: sablefish, black cod, *Anoplopoma fimbria*, annual harvest objective, AHO, catch per unit effort, CPUE, Southern Southeast, Clarence Strait, SSEI

## INTRODUCTION

### AREA DESCRIPTION

The Southern Southeast Inside (SSEI) Subdistrict management area consists of all waters as defined in 5 AAC 28.105 (a)(1) (Figure 1).

### OVERVIEW

The Alaska Department of Fish and Game (department) evaluates stock status and establishes the SSEI annual harvest objective (AHO) using commercial fishery and longline survey catch per unit of effort (CPUE) data, fishery and survey biological data (age, weight, length), and stock status trends of sablefish in surrounding geographic areas, which are summarized below. No abundance estimate is obtained for the SSEI stock.

## SSEI SABLEFISH SEASON

### 2022 ANNUAL HARVEST OBJECTIVE

The 2022 SSEI AHO is 643,360 round lb, a 7% increase from the 2021 AHO (Table 1, Figure 2). Indirect indices of abundance (fishery and survey CPUE data and biological data) are reviewed to determine the percent change in the AHO for a given year because no abundance estimate or population model exists for this stock. Positive indicators for sablefish in SSEI include a 7% increase in the longline survey CPUE from 2020 to 2021 and continued strong recruitment from the 2014, 2016, 2017, and 2018 age classes in SSEI as well as other sablefish fisheries in neighboring geographic areas. Longline fishery CPUE decreased 23% while pot fishery CPUE increased 29%, most likely due to the considerable shift from longline to pot gear usage in 2021. In 2017, the Commercial Fisheries Entry Commission (CFEC) approved a petition from industry to allow SSEI sablefish C61C longline gear only permits to be changed to longline/pot gear permits due to whale depredation issues and concerns in the longline fishery. Since 2017, C61C permits have the flexibility to fish both gear types, while C91C permits remain as pot permits only. Additionally, with the increasing popularity of codcoil or “slinky” pots in Alaska sablefish fisheries, it has become more cost effective for permit holders to convert from longline gear to pot gear.

Sablefish become reproductively viable around age 4 to 5 years (Mason et al. 1983; Rodgveller et al. 2016). Estimated increases in future spawning biomass will depend on young fish maturing over the next several years. Year classes since 2014 are projected to comprise over 50% of the 2022 spawning biomass (Goethel et al. 2021). Sablefish have an estimated 30% chance of moving out of Clarence Strait waters after 1 year of occupancy, generally moving into the eastern Gulf of

Alaska (GOA) and British Columbia, Canada (BC) waters (Hanselman et. al 2014). However, the lack of fish greater than 10 years of age in Clarence Strait, particularly the older fecund females, cannot be fully explained by movement and migration given historical patterns in the age data and should be carefully monitored.

The recommended increase in the AHO will continue to provide fishery stability and sustainability through conservative management action. For the 2022 SSEI fishery, there are 19 longline/pot (C61C) and three pot (C91C) permits, resulting in a 2022 Equal Quota Share (EQS) of 29,244 round lb for each permit holder (Table 1).

The following points summarize stock indices in SSEI based on survey and fishery data, and provide an update on trends in sablefish stocks in adjacent waters, as SSEI is geographically adjacent and opens to GOA and BC waters:

- SSEI longline fishery CPUE (round lb per hook) decreased 23% from 0.38 in 2020 to 0.29 in 2021, and the 2021 fishery CPUE is 12% below the 10-year mean (Figure 3). This decline is likely due to a substantial shift from longline gear to pot gear, as the pot fishery CPUE increased 29% from 148 round lb per pot in 2020 to 191 round lb per pot in 2021.
- SSEI longline survey CPUE (number of fish per hook) increased 7% from 0.21 in 2020 to 0.22 in 2021. The 2021 survey CPUE is 42% greater than the 10-year mean (Figure 4).
- SSEI longline fishery and survey length distributions show positive signs of recruitment with the 2014 and 2016 year classes maturing (Figures 5 and 6).
- SSEI longline fishery and survey age data indicate that catch is comprised of predominately younger individuals (<10 years), that older individuals (>10 years) are less commonly caught in recent years, and that 2014 and 2016 year classes are strong (Figures 7 and 8).
- NSEI longline survey CPUE (number of fish per hook) decreased 6% from 0.36 in 2020 to 0.34 in 2021, and NSEI survey CPUE has been relatively stable since 1997.
- Federal longline survey abundance index (relative population numbers) in the GOA increased by 9% from 2020 to 2021, and data show that strong year classes since 2014 are projected to comprise over 50% of the 2022 spawning biomass (Goethel et al. 2021).
- Department of Fisheries and Oceans (DFO) Canadian sablefish annual stock assessment showed an increase of 3% in CPUE (kg/pot) from their annual pot survey and an increase of 4% in an estimated biomass index from 2020 to 2021 (Kendra Holt, DFO Canada, personal communication). Regulations require two 3.5-inch escape rings on pot gear and a 55 cm minimum size limit for sablefish in all Canadian waters.

## **REGULATIONS**

### **2022 BOARD OF FISHERIES DECISIONS**

In March 2022, the Alaska Board of Fisheries adopted new regulations that will be enacted during the fishing season for the SSEI sablefish commercial fishery. An Advisory Announcement will be issued at a later date with more information. These new regulations will require:

- Pots must have at least two circular escape rings, with a minimum inside diameter of three and three-fourths inches, installed on opposing vertical or sloping walls of the pot.
- Full retention requirements and landing requirements using hook-and-line and pot gear for all species of rockfish including thornyhead rockfish.



## **LEGAL GEAR**

Sablefish may be taken in the directed SSEI sablefish fishery only by longline and pots. CFEC limited entry C61C permits can use both longline and pot gear while C91C permits are restricted to the use of pot gear only. Groundfish pot gear requires individual tunnel eye openings with perimeters 36 inches or less and a sidewall containing an escapement opening equal to or exceeding 18 inches in length that must be laced, sewn, or secured together by a single length of untreated, 100-percent cotton twine, no larger than 30 thread that may be knotted at each end only and must be parallel to and within six inches of the bottom of the pot [5 AAC 39.145 (1)]. Pots must have at least two circular escape rings, with a minimum inside diameter of four inches, installed on opposing vertical or sloping walls of the pot (see above for new regulations forthcoming). King and Tanner crab pots as described in 5 AAC 34.050 (2) and 5 AAC 35.050 (2) may not be used to take groundfish.

## **REGISTRATION AND LOGBOOK REQUIREMENTS**

Fishermen must register prior to fishing [5 AAC 28.106 (b)] and keep a logbook during the fishery. Completed logbook pages must be attached to the ADF&G copy of the fish ticket at the time of delivery. Confidential envelopes for logbook pages may be requested when registering.

Permit holders will receive a personal quota share (PQS) tracking form at the time of registration. This form is used to record the total round weight landed for each delivery. Each permit holder must, upon request, provide the buyer with the total round weight of sablefish the permit holder has landed to date. The department requests that a copy of the completed PQS tracking form is included with the final fish ticket of the season for that permit.

Logbooks must include, by set, the date and time gear is set and retrieved, specific location of harvest by latitude and longitude in degrees and decimal minutes for start and ending positions, hook and pot spacing, amount of gear (number of hooks or pots), depth of set, estimated weight of the target and bycatch species retained or discarded. For each set it must be noted if the target species was sablefish or halibut and if there was any lost gear [5 AAC 28.175 (a)].

## **TAGGED SABLEFISH**

Fishermen are requested to watch for tagged sablefish. Please record tag number(s) and attach tags directly to the logbook with the corresponding set information. All persons who return an ADF&G sablefish tag will receive a tag reward (e.g., a hat or t-shirt). Tag returns with valid recovery information (date of recovery, latitude, and longitude) are entered into a random drawing for cash prizes.

## **FISH TICKET REQUIREMENTS**

Landed weights must be recorded on a fish ticket at the time of delivery. If a fisherman delivers fish in the round, the total round weight delivered must be recorded on the fish ticket. If a fisherman delivers dressed fish, the fish ticket must include the total landed dressed weight as well as the round weight equivalent, determined by using the standard 0.63 recovery rate. There is a 2% allowance for ice and slime when unrinsed whole iced sablefish are weighed. A fish ticket must be completed prior to the resumption of fishing and each permit holder must retain, on board their vessel, copies of all SSEI sablefish tickets from the current season and their updated PQS tracking form. When delivering fish out of state, a completed fish ticket must be submitted to ADF&G prior to transporting fish out of Alaska.

## **POSSESSION AND LANDING REQUIREMENTS**

The holder of a CFEC permit or interim use permit for sablefish may not retain more sablefish in the directed fishery than the annual amount of sablefish EQS specified by the department [5 AAC 28.170 (g)]. However, if a permit holder's harvest exceeds the permit holder's EQS for that year, by not more than five percent, the department shall reduce the permit holder's EQS for the following year by the amount of the overage. If a permit holder's harvest exceeds the permit holder's EQS by more than five percent, the proceeds from the sale of the overage in excess of five percent shall be surrendered to the state, and the permit holder may be prosecuted under AS 16.05.723. A permit holder may not knowingly exceed a quota share or exceed the EQS in an amount greater than five percent as such actions may be prosecuted under AS 16.05.722 or AS 16.05.723 [5 AAC 28.170 (j)]. If a permit holder's harvest is less than the permit holder's EQS for that year, the department shall increase the permit holder's EQS only for the following year by the amount of the underage that does not exceed five percent of the EQS [5 AAC 28.170 (k)]. For the 2022 SSEI sablefish fishery, five percent of the annual EQS equals 1,462 round pounds.

## **SABLEFISH LIVE MARKET**

A permit holder may possess live sablefish for delivery as live product except that, upon request of a local representative of the department or law enforcement, a permit holder must present sablefish for inspection and allow biological samples to be taken [5 AAC 28.170 (l)].

## **BYCATCH**

Allowable bycatch that may be legally landed on an SSEI sablefish permit is listed in Table 2 and is based on round weight for both target and bycatch species. Permit holders fishing for groundfish or halibut must retain, weigh, and report all rockfish taken in SSEI [5 AAC 28.171 (f)]. The full retention regulation does not apply to thornyhead rockfish at this time. All rockfish retained in excess of allowable bycatch limits shall be reported as bycatch overage on an ADF&G fish ticket. All proceeds from the sale of excess rockfish bycatch shall be surrendered to the state. Excess rockfish retained due to full retention requirements may be retained for personal use; however, the pounds must be documented as overage on the fish ticket.

A CFEC permit holder fishing for groundfish must retain all Pacific cod when the directed fishery for Pacific cod is open and up to the maximum retainable bycatch amount (20%) of Pacific cod when a directed fishery for Pacific cod is closed [5 AAC 28.070 (e)]. Pacific cod taken in excess of the bycatch limit in areas open to directed fishing for Pacific cod may be landed on a CFEC miscellaneous saltwater finfish permit designated for the gear that was used.

## **PROHIBITIONS**

A vessel or a person on board a vessel from which commercial, subsistence, or personal use longline fishing gear was used to take fish in the SSEI area during the 72-hour period immediately before the start of the commercial SSEI sablefish fishery, or from which that gear will be used during the 24-hour period immediately after the closure of the SSEI sablefish fishery, may not participate in the taking of sablefish in SSEI during that open sablefish fishing period [5 AAC 28.180 (a)]. The operator of a fishing vessel may not take sablefish in SSEI while sablefish from another area are on board the vessel. Also, the operator of a vessel taking sablefish in SSEI shall unload and submit a completed fish ticket to the department before taking sablefish in another area [5 AAC 28.170 (a) and (b)].

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## **TABLES AND FIGURES**

Table 1.—Annual harvest objective, equal quota share, reported harvest (round lb), ex-vessel value, and number of permits in the directed commercial Southern Southeast Inside Subdistrict (SSEI) sablefish fishery, 1986–2022. Equal quota share was established in 1997. In 2017, pot gear became an allowable gear type for C61C permits.

<b>Year</b>	<b>Annual harvest objective</b>	<b>Total harvest</b>	<b>Equal quota share</b>	<b>Ex-vessel value</b>	<b>No. of permits</b>
1986	790,000	554,121	—	\$260,436	24
1987	790,000	435,501	—	\$291,785	23
1988	790,000	712,787	—	\$719,914	27
1989	790,000	952,231	—	\$714,173	32
1990	790,000	758,663	—	\$553,823	30
1991	790,000	679,623	—	\$625,253	31
1992	790,000	936,811	—	\$936,811	31
1993	790,000	824,011	—	\$815,770	30
1994	790,000	866,788	—	\$1,066,149	30
1995	790,000	678,762	—	\$1,323,585	30
1996	790,000	502,459	—	\$899,401	30
1997	790,000	725,067	23,200	\$1,602,404	35
1998	632,000	578,056	20,400	\$813,421	33
1999	720,000	661,424	24,000	\$1,199,468	30
2000	696,000	590,815	24,000	\$1,176,816	29
2001	696,000	650,678	24,000	\$1,249,300	29
2002	696,000	650,339	24,000	\$1,287,650	29
2003	696,000	656,936	24,860	\$1,506,541	28
2004	696,000	648,845	24,860	\$1,030,675	28
2005	696,000	639,719	24,860	\$1,351,440	28
2006	696,000	624,832	21,750	\$1,434,739	32
2007	696,000	620,168	21,750	\$1,514,353	32
2008	696,000	618,033	21,750	\$1,854,397	32
2009	634,000	595,748	22,650	\$1,764,604	28
2010	634,000	558,633	23,400	\$2,049,031	27
2011	583,280	540,931	23,300	\$2,643,077	25
2012	583,280	521,825	25,360	\$1,763,035	23
2013	583,280	505,599	25,360	\$1,307,739	23
2014	536,618	494,830	23,331	\$1,690,707	23
2015	536,618	512,580	23,331	\$1,720,158	23
2016	482,956	475,466	20,998	\$1,800,122	23
2017	516,763	514,205	22,468	\$1,959,865	24
2018	578,774	575,264	25,164	\$1,560,221	23
2019	590,349	587,166	26,834	\$1,472,173	22
2020	572,639	524,561	26,029	\$677,862	22
2021	601,271	516,161	27,330	\$771,141	22
2022	643,360	—	29,244	—	22

Table 2.—Allowable bycatch that may be legally landed on the Southern Southeast Inside Subdistrict (SSEI) sablefish permit. Percentage indicates amount of bycatch that may be sold on a SSEI sablefish permit and is based on the round weight of sablefish and bycatch species or species group on board the vessel. Demersal shelf rockfish (DSR) include yelloweye, quillback, canary, tiger, copper, China, and rosethorn rockfish. Rockfish and thornyhead bycatch allowances shown below will change when the new regulations are enacted in 2022.

<b>Species</b>	<b>Longline Gear</b>	<b>Pot Gear</b>
All rockfish, including thornyheads (longline gear only)	15% in aggregate, of which 1% may be DSR	N/A
Thornyheads (pot gear only)	N/A	5%
Lingcod	0%	0%
Pacific cod	20%	20%
Spiny dogfish	35%	20%
Other groundfish	20%	20%

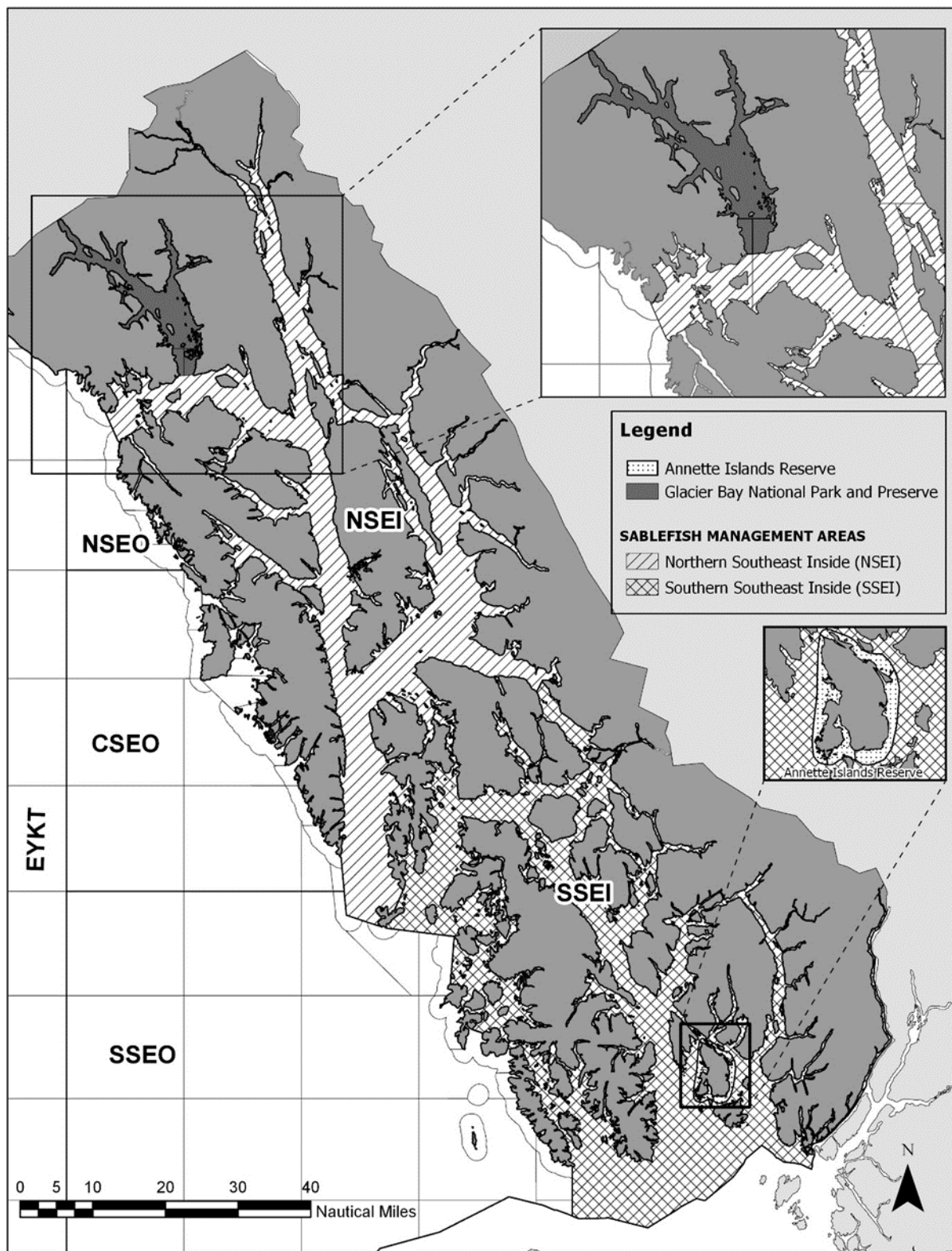


Figure 1.—Northern Southeast Inside (NSEI) and Southern Southeast Inside (SSEI) Subdistricts including restricted waters of Glacier Bay National Park and Preserve and Annette Islands Reserve.

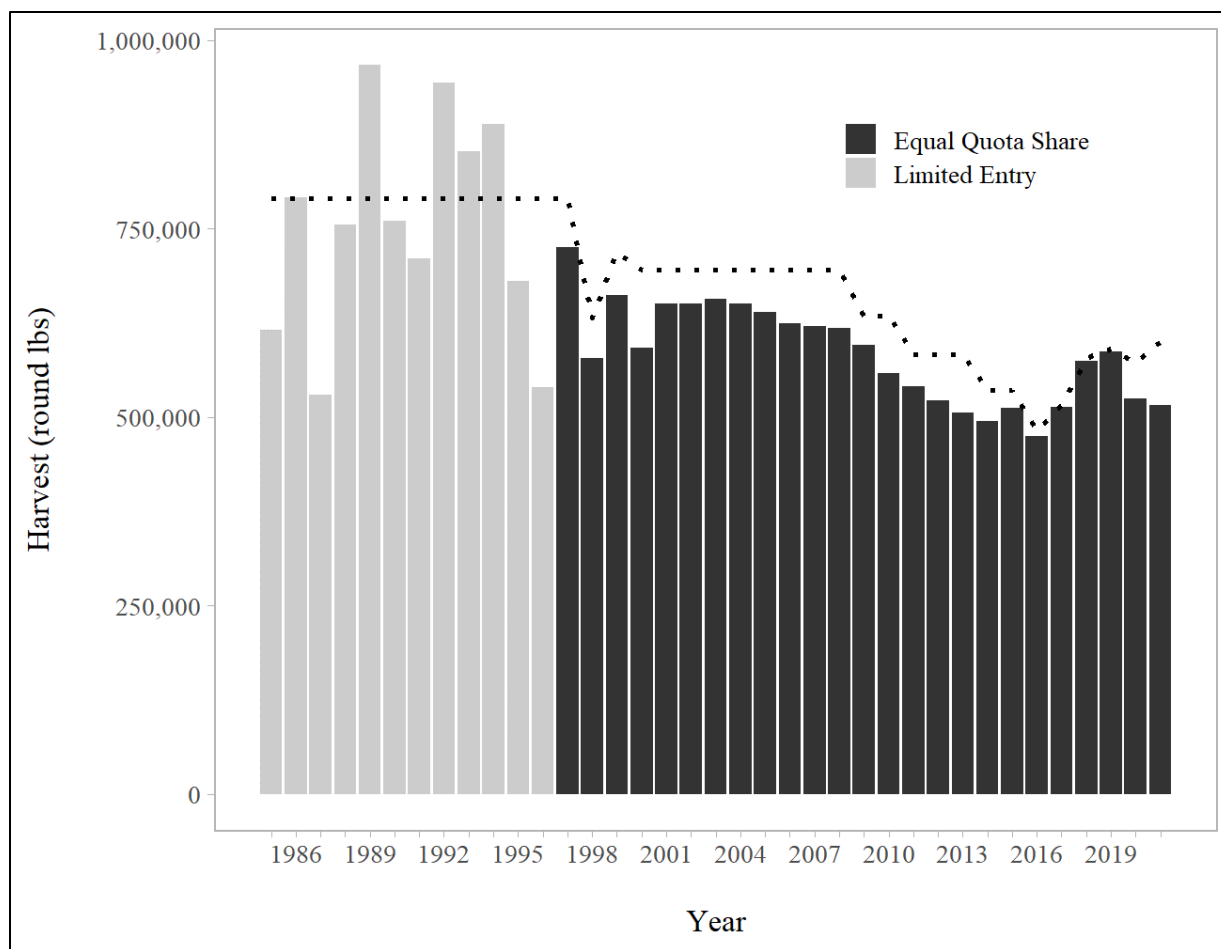


Figure 2.—Southern Southeast Inside Subdistrict (SSEI) sablefish commercial harvest from 1985–2021 with equal quota share being implemented in 1997. The black diamonds represent the annual harvest objective (AHO) over the years.



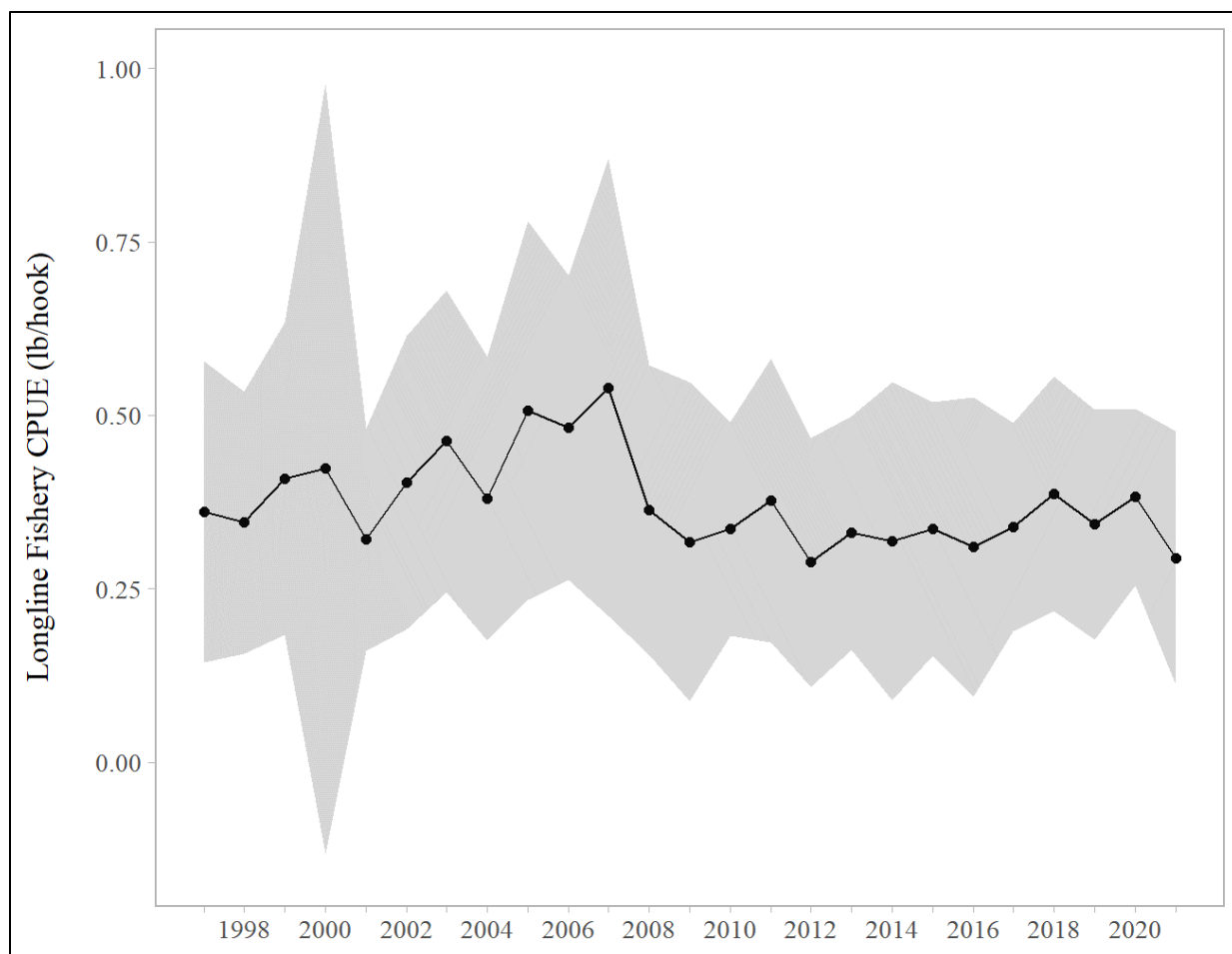


Figure 3.—Southern Southeast Inside Subdistrict (SSEI) sablefish longline fishery catch per unit effort (CPUE) in round pounds per hook, 1997–2021. Error bars show +/- 1 standard deviation in the data.

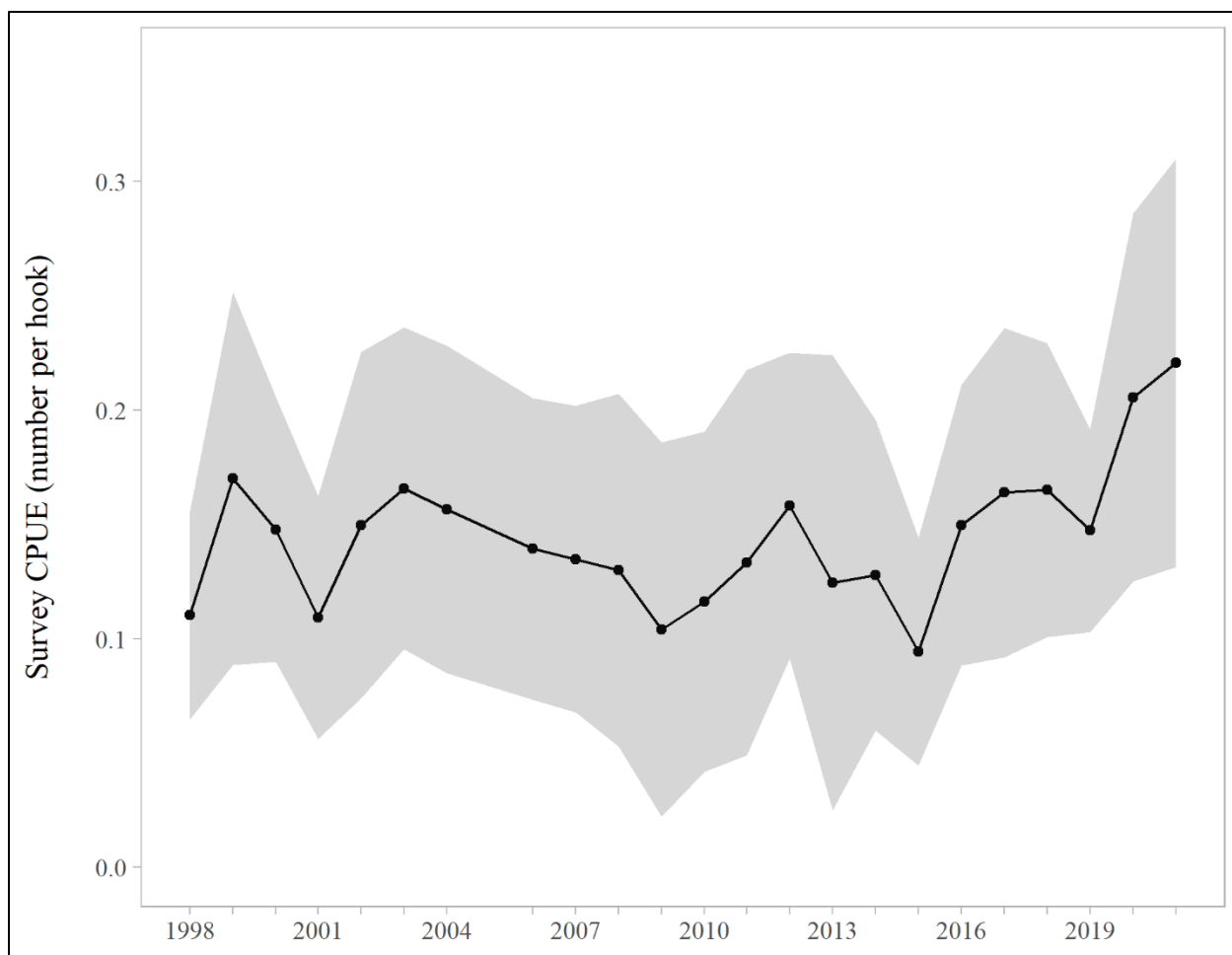


Figure 4.—Southern Southeast Inside Subdistrict (SSEI) sablefish longline survey catch per unit effort (CPUE) in number of sablefish per hook, 1998–2021, except 2005, when no survey occurred due to budget constraints. Error bars show  $\pm 1$  standard deviation in the data.

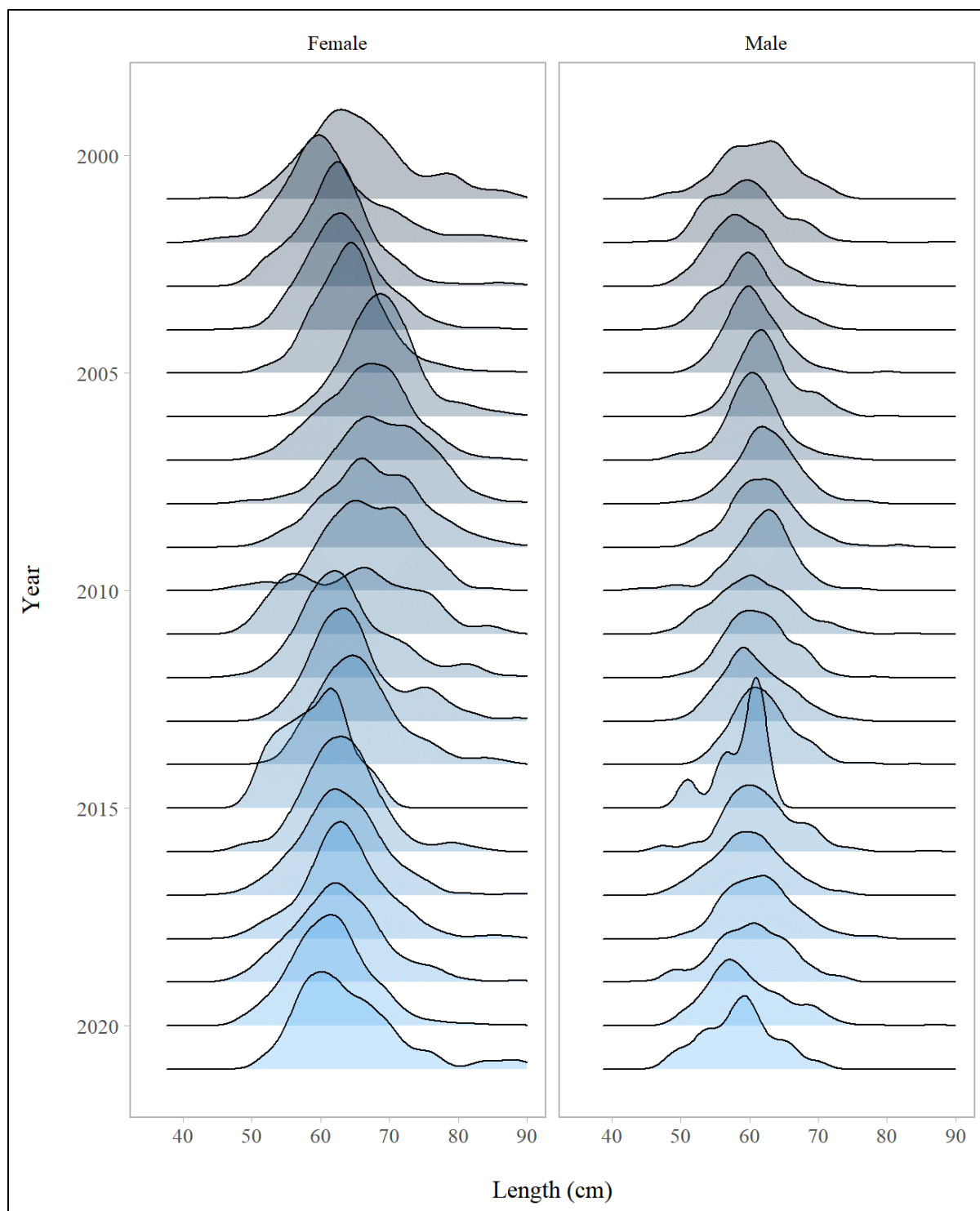


Figure 5.—Southern Southeast Inside Subdistrict (SSEI) sablefish longline fishery length distributions by sex from 2001–2021.

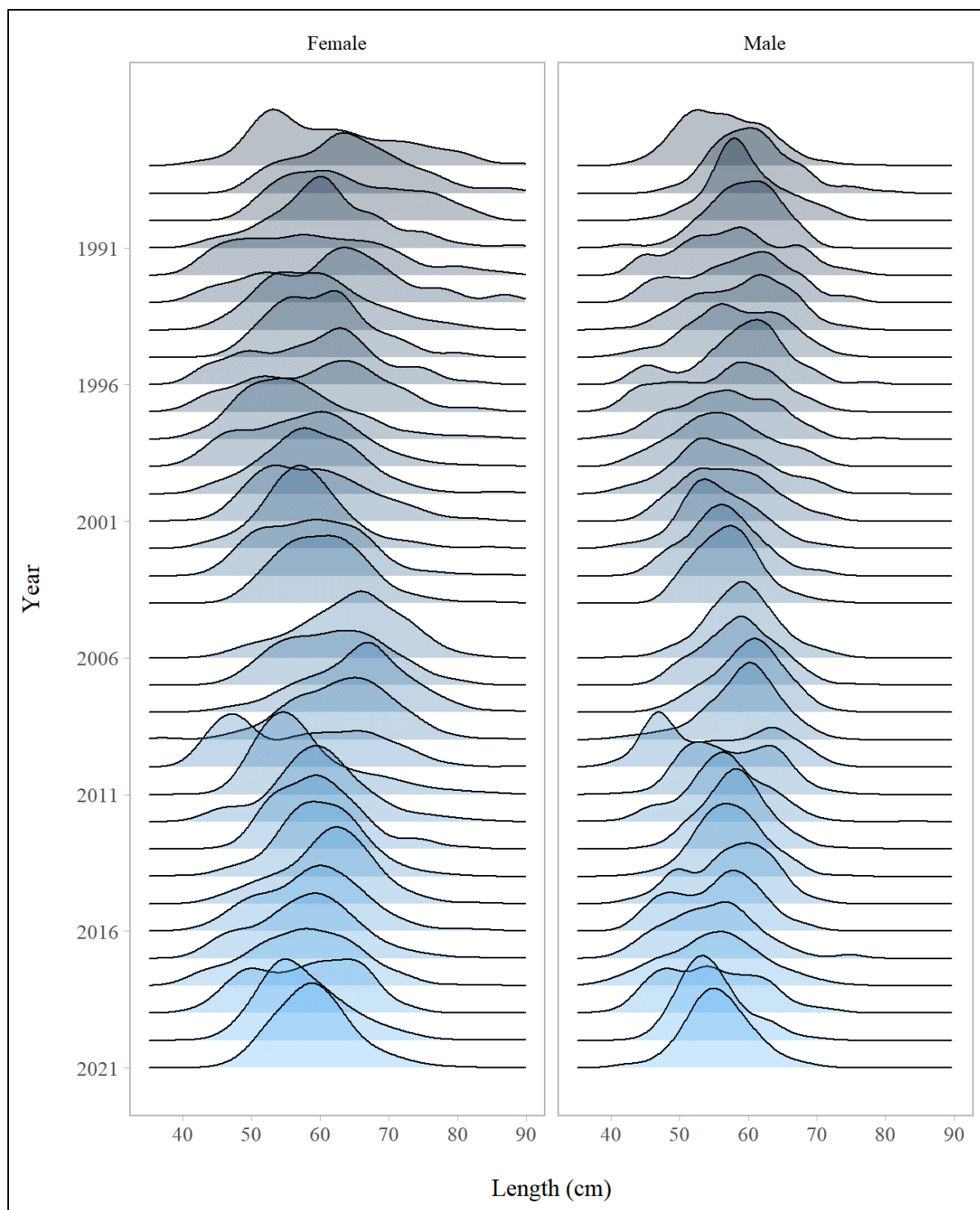


Figure 6.—Southern Southeast Inside Subdistrict (SSEI) sablefish longline survey length distributions by sex from 1988–2021, except 2005, when no survey occurred due to budget constraints.

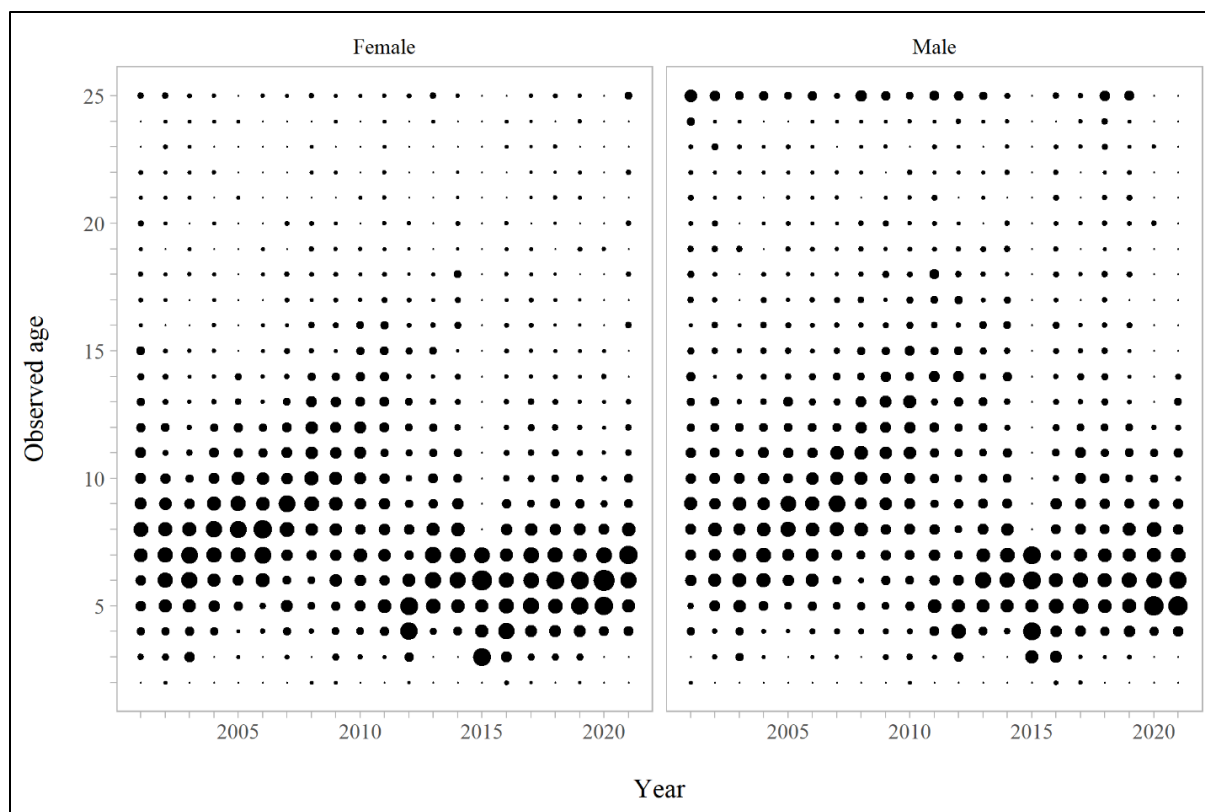


Figure 7.—Southern Southeast Inside Subdistrict (SSEI) longline fishery proportions-at-age by year and sex, 2001–2021.



Figure 8.—Southern Southeast Inside Subdistrict (SSEI) longline survey proportions-at-age by year and sex, 1988–2021, except 2005, when no survey occurred due to budget constraints.