

Regional Information Report No. 1J19-06

**2019 Southern Southeast Inside Subdistrict Sablefish
Fishery Management Plan**

by

Andrew Olson

and

Jane Sullivan

May 2019

Alaska Department of Fish and Game

Division of Commercial Fisheries



Symbols and Abbreviations

The following symbols and abbreviations, and others approved for the *Système International d'Unités* (SI), are used without definition in the following reports by the Divisions of Sport Fish and of Commercial Fisheries: Fishery Manuscripts, Fishery Data Series Reports, Fishery Management Reports, and Special Publications. All others, including deviations from definitions listed below, are noted in the text at first mention, as well as in the titles or footnotes of tables, and in figure or figure captions.

Weights and measures (metric)		General		Mathematics, statistics	
centimeter	cm	Alaska Administrative Code	AAC	<i>all standard mathematical signs, symbols and abbreviations</i>	
deciliter	dL	all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.	alternate hypothesis	H_A
gram	g	all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.	base of natural logarithm	e
hectare	ha	at	@	catch per unit effort	CPUE
kilogram	kg	compass directions:		coefficient of variation	CV
kilometer	km	east	E	common test statistics	(F, t, χ^2 , etc.)
liter	L	north	N	confidence interval	CI
meter	m	south	S	correlation coefficient	
milliliter	mL	west	W	(multiple)	R
millimeter	mm	copyright	©	correlation coefficient (simple)	r
		corporate suffixes:		covariance	cov
Weights and measures (English)		Company	Co.	degree (angular)	$^\circ$
cubic feet per second	ft ³ /s	Corporation	Corp.	degrees of freedom	df
foot	ft	Incorporated	Inc.	expected value	E
gallon	gal	Limited	Ltd.	greater than	>
inch	in	District of Columbia	D.C.	greater than or equal to	\geq
mile	mi	et alii (and others)	et al.	harvest per unit effort	HPUE
nautical mile	nmi	et cetera (and so forth)	etc.	less than	<
ounce	oz	exempli gratia	e.g.	less than or equal to	\leq
pound	lb	(for example)		logarithm (natural)	ln
quart	qt	Federal Information Code	FIC	logarithm (base 10)	log
yard	yd	id est (that is)	i.e.	logarithm (specify base)	log ₂ , etc.
		latitude or longitude	lat or long	minute (angular)	'
Time and temperature		monetary symbols (U.S.)	\$, ¢	not significant	NS
day	d	months (tables and figures): first three letters	Jan, ..., Dec	null hypothesis	H_0
degrees Celsius	$^\circ\text{C}$	registered trademark	®	percent	%
degrees Fahrenheit	$^\circ\text{F}$	trademark	™	probability	P
degrees kelvin	K	United States (adjective)	U.S.	probability of a type I error (rejection of the null hypothesis when true)	α
hour	h	United States of America (noun)	USA	probability of a type II error (acceptance of the null hypothesis when false)	β
minute	min	U.S.C.	United States Code	second (angular)	"
second	s	U.S. state	use two-letter abbreviations (e.g., AK, WA)	standard deviation	SD
Physics and chemistry				standard error	SE
all atomic symbols				variance	
alternating current	AC			population sample	Var
ampere	A			sample	var
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				

REGIONAL INFORMATION REPORT NO. 1J18-06

**2019 SOUTHERN SOUTHEAST INSIDE SUBDISTRICT SABLEFISH
FISHERY MANAGEMENT PLAN**

By

Andrew Olson

Alaska Department of Fish and Game, Division of Commercial Fisheries, Douglas

and

Jane Sullivan

Alaska Department of Fish and Game, Division of Commercial Fisheries, Juneau

Alaska Department of Fish and Game
Division of Commercial Fisheries, Publications Section
802 3rd, Douglas, Alaska, 99824-0020

May 2019

The Regional Information Report Series was established in 1987 and was redefined in 2007 to meet the Division of Commercial Fisheries regional need for publishing and archiving information such as area management plans, budgetary information, staff comments and opinions to Alaska Board of Fisheries proposals, interim or preliminary data and grant agency reports, special meeting or minor workshop results and other regional information not generally reported elsewhere. Reports in this series may contain raw data and preliminary results. Reports in this series receive varying degrees of regional, biometric and editorial review; information in this series may be subsequently finalized and published in a different department reporting series or in the formal literature. Please contact the author or the Division of Commercial Fisheries if in doubt of the level of review or preliminary nature of the data reported. Regional Information Reports are available through the Alaska State Library and on the Internet at: <http://www.adfg.alaska.gov/sf/publications/>.

Andrew Olson

*Alaska Department of Fish and Game, Division of Commercial Fisheries,
802 3rd St., Douglas, AK, 99824 USA*

and

Jane Sullivan

*Alaska Department of Fish and Game, Division of Commercial Fisheries,
1255 W. 8th Street, Juneau, AK 99801*

This document should be cited as:

Olson, A., and J. Sullivan. 2019. 2019 Southern Southeast Inside Subdistrict sablefish fishery management plan. Alaska Department of Fish and Game, Regional Information Report No. 1J18-07, Douglas, Alaska.

The Alaska Department of Fish and Game (ADF&G) administers all programs and activities free from discrimination based on race, color, national origin, age, sex, religion, marital status, pregnancy, parenthood, or disability. The department administers all programs and activities in compliance with Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act (ADA) of 1990, the Age Discrimination Act of 1975, and Title IX of the Education Amendments of 1972.

If you believe you have been discriminated against in any program, activity, or facility please write:

ADF&G ADA Coordinator, P.O. Box 115526, Juneau, AK 99811-5526

U.S. Fish and Wildlife Service, 4401 N. Fairfax Drive, MS 2042, Arlington, VA 22203

Office of Equal Opportunity, U.S. Department of the Interior, 1849 C Street NW MS 5230, Washington DC 20240

The department's ADA Coordinator can be reached via phone at the following numbers:

(VOICE) 907-465-6077, (Statewide Telecommunication Device for the Deaf) 1-800-478-3648,

(Juneau TDD) 907-465-3646, or (FAX) 907-465-6078

For information on alternative formats and questions on this publication, please contact:

ADF&G, Division of Sport Fish, Research and Technical Services, 333 Raspberry Rd, Anchorage AK 99518 (907) 267-2375

TABLE OF CONTENTS

	Page
LIST OF TABLES.....	ii
LIST OF FIGURES	ii
ABSTRACT	1
INTRODUCTION.....	1
Area Description.....	1
Overview	1
SSEI SABLEFISH SEASON	1
2019 Annual Harvest Objective.....	1
REGULATIONS	2
Legal Gear	2
Registration and Logbook Requirements	2
Tagged Sablefish	3
Fish Ticket Requirements	3
Possession and Landing Requirements.....	3
Sablefish Live Market	4
Bycatch.....	4
Prohibitions.....	4
REFERENCES CITED	5
TABLES AND FIGURES	7

LIST OF TABLES

Tables	Page
1. Annual harvest objective, equal quota share, reported harvest (round lb), ex-vessel value, and number of permits in the directed commercial SSEI sablefish fishery	8
2. Allowable bycatch that may be legally landed on an SSEI sablefish permit based on round weight of both target and bycatch species.	9

LIST OF FIGURES

Figures	Page
1. NSEI and SSEI Subdistricts including restricted waters of Glacier Bay National Park and Preserve and Annette Islands Reserve.	10
2. Southern Southeast Inside Subdistrict (SSEI) sablefish commercial harvest from 1986–2018 with equal quota share being implemented in 1997	11
3. SSEI sablefish longline survey CPUE in sablefish per hook, 1998–2018.....	12
4. SSEI sablefish longline fishery CPUE in round pounds per hook, 1997–2018.....	13
5. SSEI sablefish longline fishery length distributions by sex from 2001–2018.....	14
6. SSEI sablefish longline survey length distributions by sex from 1998–2018	15
7. SSEI longline fishery proportions-at-age by year and sex, 2001–2018.....	16
8. SSEI longline survey proportions-at-age by year and sex, 1988–2018 except 2005.....	17

ABSTRACT

This report provides an overview of the harvest strategy and regulations effective for the 2019 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 2019 SSEI sablefish commercial fishery annual harvest objective (AHO) is 590,349 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 2019 EQS of 26,834 round pounds for each permit holder.

Key words: 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 Southern Southeast Inside 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 maturity), and stock status trends of sablefish populations in surrounding geographic areas. No abundance estimate is obtained for the SSEI stock.

SSEI SABLEFISH SEASON

2019 ANNUAL HARVEST OBJECTIVE

For 2019 the SSEI AHO was raised 2% due to continued increases in the longline survey CPUE index, signs of continued recruitment in length and age-class distributions in the survey and fishery, introduction of escape rings for pot gear to reduce harvest of immature individuals and increasing trends in sablefish biomass from adjacent areas including the Gulf of Alaska (GOA), British Columbia, Canada (BC), and Northern Southeast Inside (NSEI) Subdistrict. Sablefish in SSEI are estimated to have a 30% chance of moving out of SSEI into the GOA and BC after one-year of occupancy (Hanselman et al. 2014), and therefore trends in abundance observed in adjacent areas are likely mirrored in the SSEI stock. While the abundance of older individuals has declined in SSEI, recent large recruitment events suggest a projected increase in spawning stock biomass, though the overall magnitude of that increase is uncertain (Hanselman et al. 2018). These improvements prompted a cautionary increase of the 2019 SSEI AHO (590,349 lb) to allow for continued recovery of the stock and economic opportunity for permit holders and their local communities (Table 1, Figure 2). For the 2019 SSEI fishery, there are 19 Commercial Fisheries Entry Commission (CFEC) longline/pot (C61C) and three pot (C91C) permits, resulting in a 2019 Equal Quota Share (EQS) of 26,834 round lb for each permit holder. The number of permits for this fishery decreased by 1 (C61C) for the 2019 season due to an interim use permit not being renewed by CFEC and will no longer be available (Table 1).

The following summarizes stock indices in SSEI and adjacent waters from 2018:

- SSEI longline survey CPUE (number of fish per hook) increased 2% from 0.42 in 2017 to 0.43 in 2018 (Figure 3);
- SSEI longline fishery CPUE (round lb per hook) increased 15% from 0.34 in 2017 to 0.39 in 2018. This increase is contrary to the Federal sablefish stock assessment for relative population weight indices where a decrease is likely a result of differences in management policy, where the Department allows healthy discards of sablefish [5 AAC 28.170 (g)], whereas the Federal sablefish fishery requires full retention of all sablefish captured (Figure 4) (Hanselman et al. 2018).;
- NSEI longline survey CPUE (number of fish per hook) decreased 9% from 0.23 in 2017 to 0.21 in 2018, though NSEI survey CPUE has been relatively stable since 1997;
- SSEI longline fishery and survey length distributions continue to show strong recruitment signs and the 2014-year class maturing (Figures 5 and 6);
- Age compositions from the SSEI longline fishery and survey indicate that catch is comprised of predominately younger individuals (<10 years) and the 2014-year class is maturing (Figures 7 and 8);
- Federal longline survey abundance index increased 9% from 2017 to 2018 and the recommended federal allowable biological catch (ABC) for 2019 is 1% higher than 2018 and 45% below the maximum ABC, due to concerns in the uncertainty in size of the incoming recruitment from the 2014-year class, declines in spawning biomass, and concerns regarding environmental conditions and their effect on the 2014-year class (Hanselman et al. 2018);
- The Department of Fisheries and Oceans (DFO) Canadian sablefish stock assessment showed an increase of 94% in CPUE (kg/trap) from their annual pot survey and an increase of 18% in sablefish estimated biomass from 2016 to 2017 (Brendan Connors, 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

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 of which 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. 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. Registration forms and logbooks will be available at ADF&G offices in Southeast Alaska beginning May 15, 2019. 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 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. Indicate for each set 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 (i.e., T-shirt). Tag returns with valid recovery information (date of recovery and latitude and longitude) are entered into a random drawing for a cash prize.

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 un-rinsed whole iced sablefish are weighed. A fish ticket must be completed prior to the resumption of fishing and each permit holder must retain onboard their vessel, copies of all SSEI sablefish tickets from the current season as well as 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 equal quota share 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 2019 SSEI sablefish fishery, five percent of the annual EQS equals 1,342 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. CFEC 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. All rockfish in excess of allowable bycatch limits shall be reported as bycatch overage on the fish ticket. Any proceeds from the sale of excess rockfish shall be surrendered to the state.

When the directed Pacific cod fishery is open in SSEI, Pacific cod taken in excess of bycatch limits may be landed on the appropriate CFEC miscellaneous finfish permit.

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 onboard 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)].

REFERENCES CITED

- Hanselman, D. H., C. J. Rodgveller, C. K. H. Fenske, S. K. Shotwell, K. B. Echave, P. W. Malecha, and C. R. Lundsford 2018. Chapter 3: Assessment of the sablefish stock in Alaska. [In] Stock assessment and fishery evaluation report for the groundfish resources of the GOA and BS/AI. North Pacific Fishery Management Council, Anchorage.
- Hanselman, D. H., J. Heifetz, K. Echave, and S. C. Dressel. 2014. Move it or lose it: movement and mortality of sablefish tagged in Alaska. *Canadian Journal of Fisheries and Aquatic Sciences* 72:238-251.

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 SSEI sablefish fishery. Equal quota share was established in 1997. In 2017, pot gear became an allowable gear type for C61C permits.

Year	Annual harvest objective	Total harvest	Equal share quota	Ex-vessel value	No. of permits
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		26,834		22

Table 2.—Allowable bycatch that may be legally landed on an SSEI sablefish permit based on round weight of both target and bycatch species.

Species	Longline fishery	Pot fishery
Demersal Shelf Rockfish (DSR)	1%	0%
Shortraker & Roughey Rockfish	7% in aggregate	0%
Other rockfish & Thornyheads	15% in aggregate	N/A
Thornyheads	N/A	5%
Lingcod	0%	0%
Pacific Cod	20%	20%
Spiny dogfish	35%	20%
Other groundfish	20%	20%

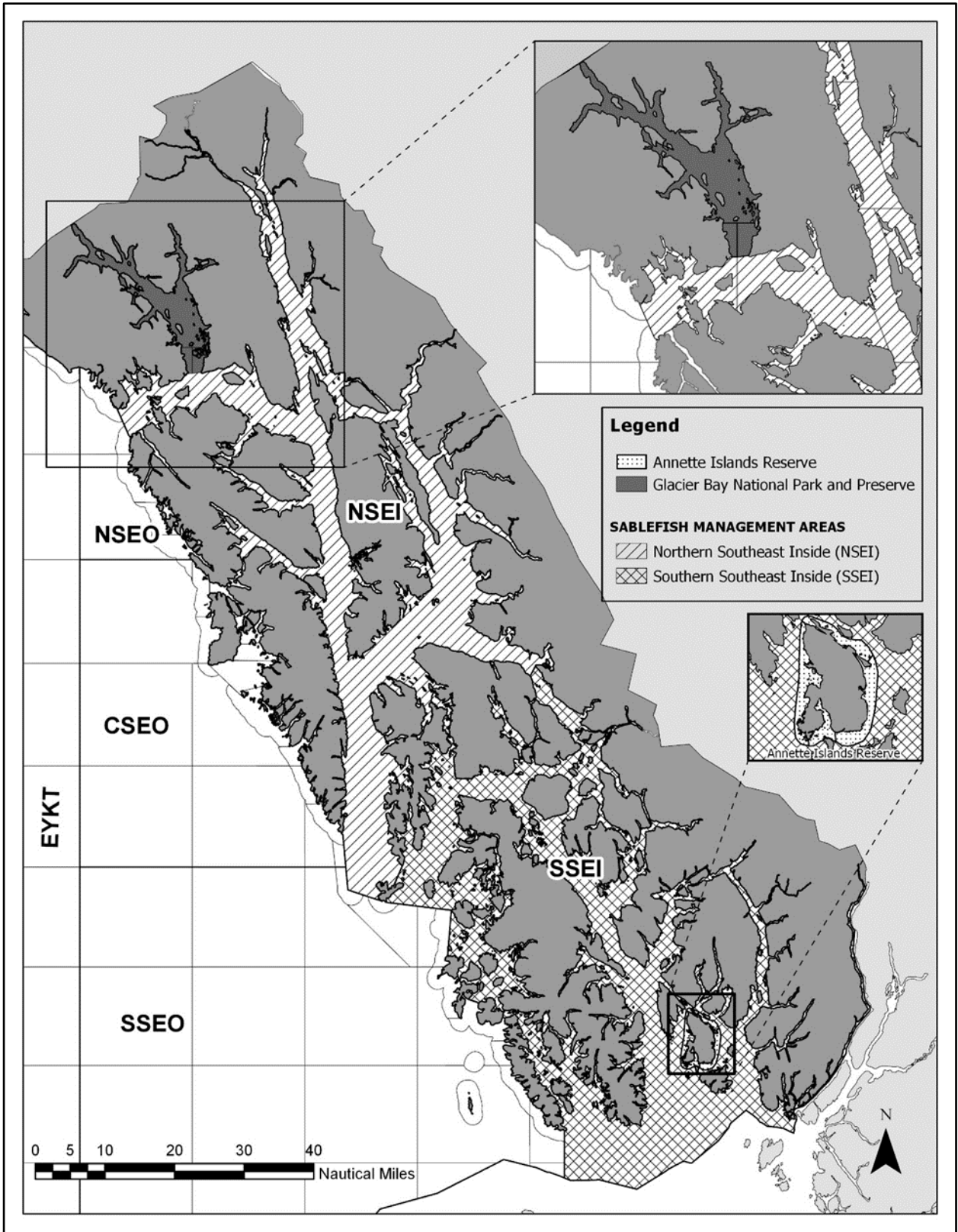


Figure 1.—NSEI and SSEI Subdistricts including restricted waters of Glacier Bay National Park and Preserve and Annette Islands Reserve.

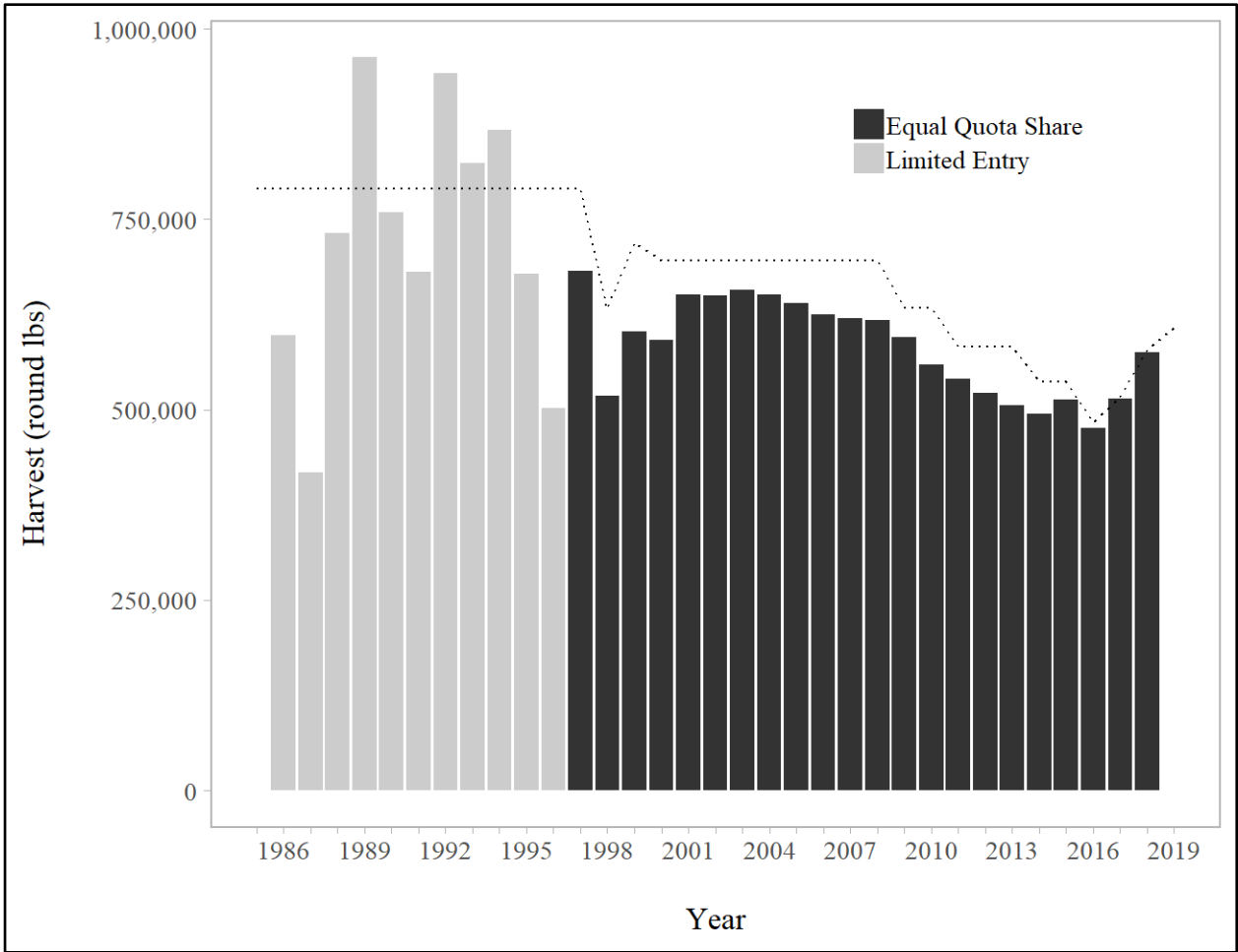


Figure 2.—Southern Southeast Inside Subdistrict (SSEI) sablefish commercial harvest from 1986–2018 with equal quota share being implemented in 1997. The black dashed line represents the annual harvest objective (AHO) each year.

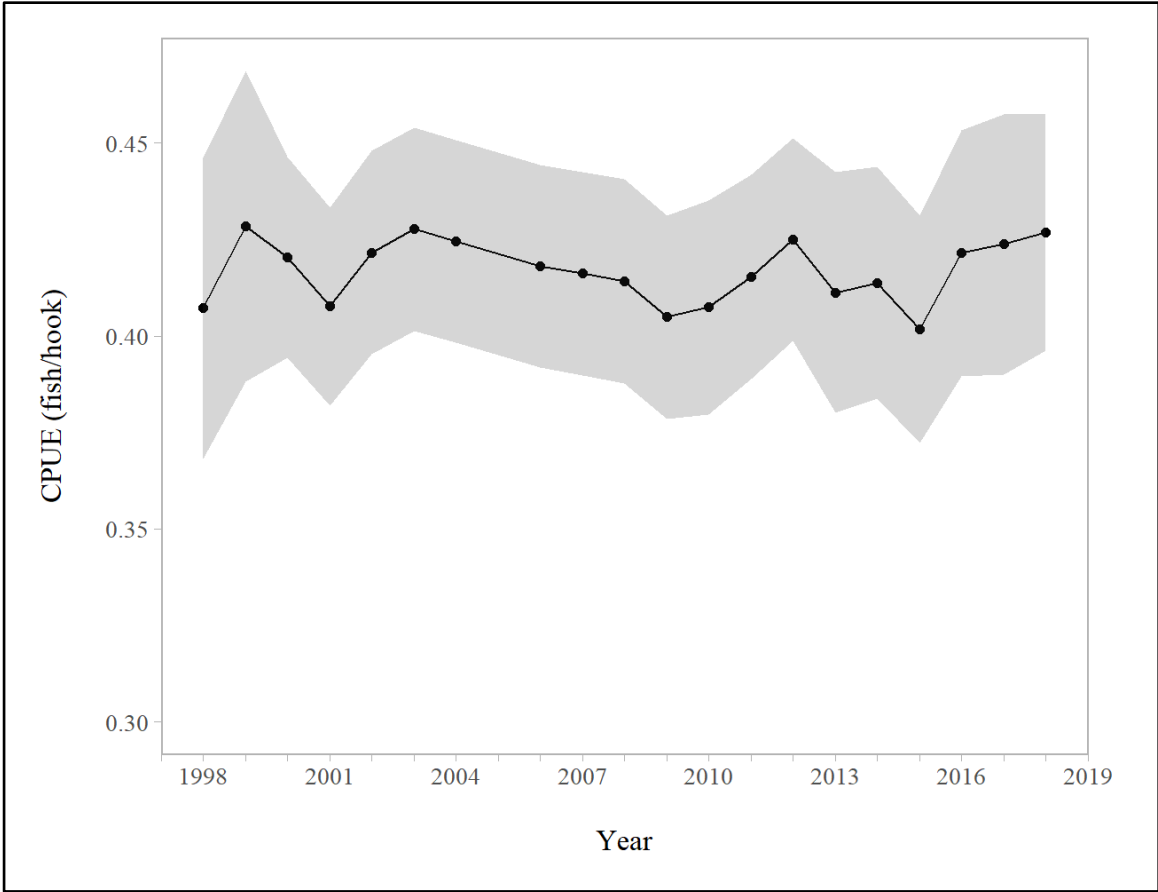


Figure 3.—SSEI sablefish longline survey CPUE in sablefish per hook, 1998–2018. Asymptotic 95% confidence intervals shown in grey.

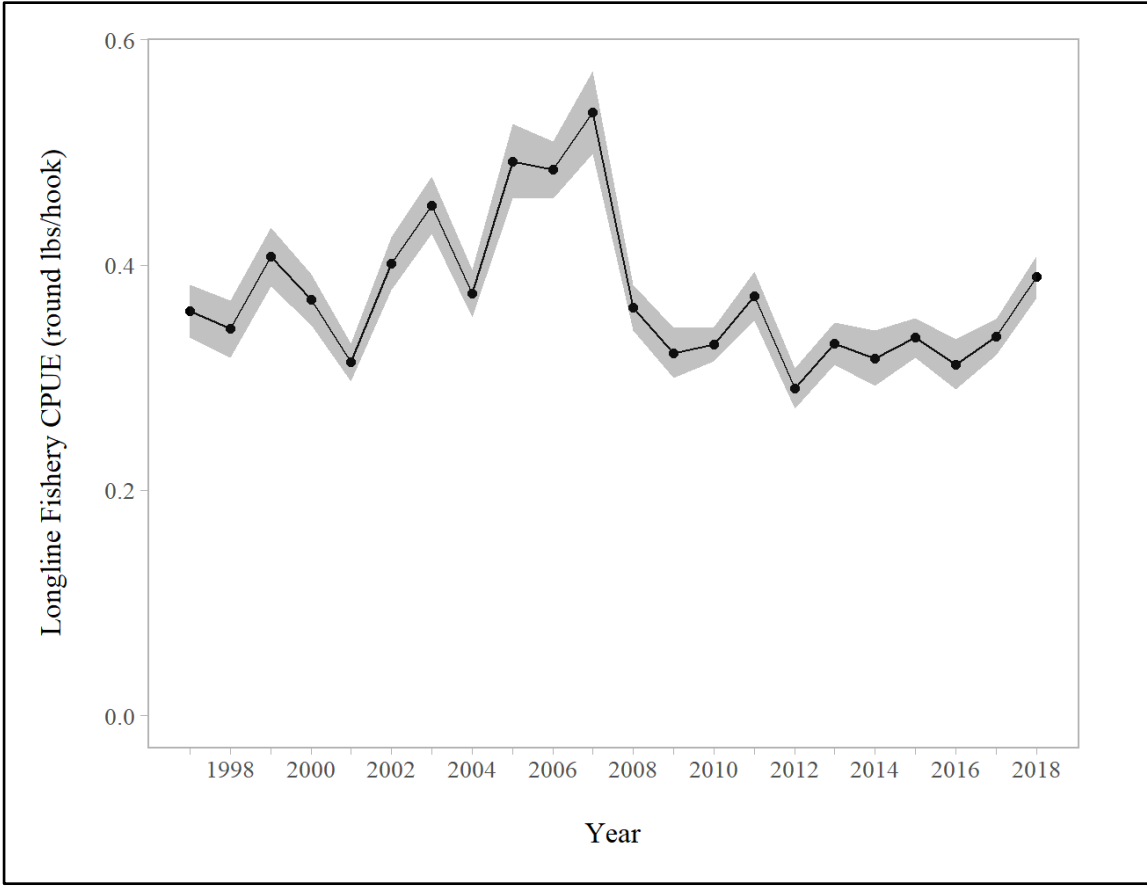


Figure 4.—SSEI sablefish longline fishery CPUE in round pounds per hook, 1997–2018. Asymptotic 95% confidence intervals shown in grey.

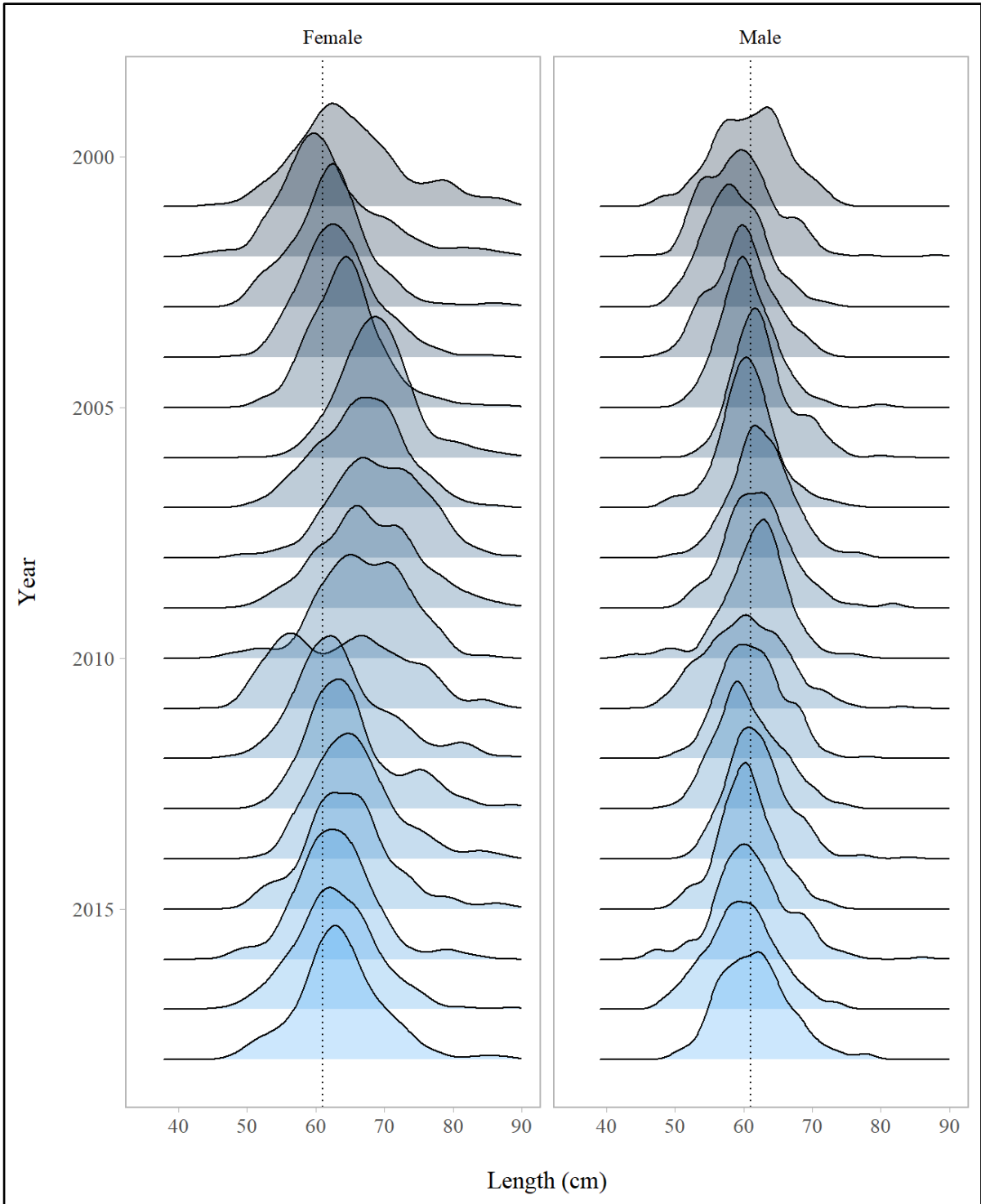


Figure 5.—SSEI sablefish longline fishery length distributions by sex from 2001–2018. Vertical dashed line represents an estimated length at 50% maturity (L50) at 61 cm.

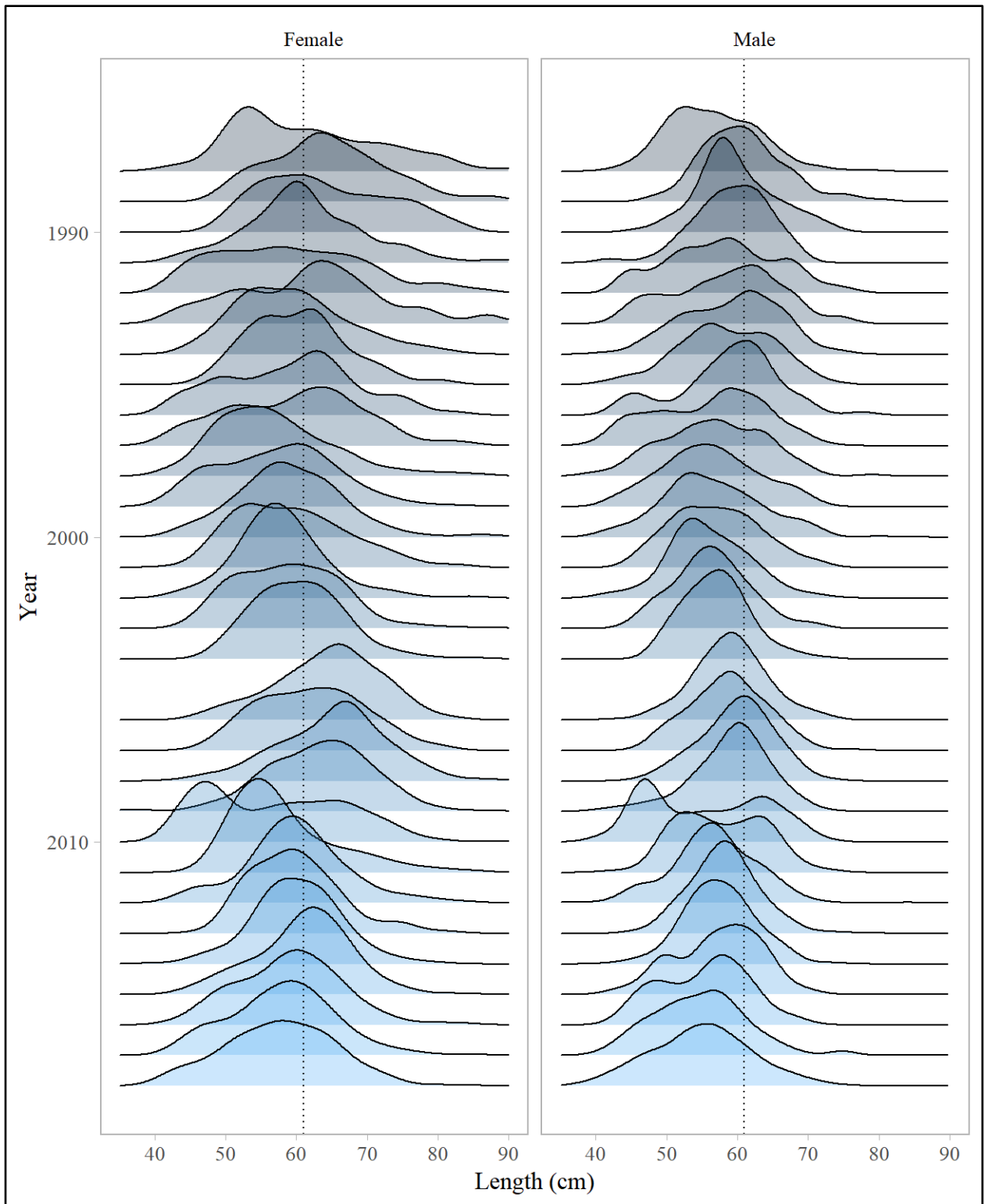


Figure 6.—SSEI sablefish longline survey length distributions by sex from 1998–2018. Vertical dashed line represents an estimated length at 50% maturity (L50) at 61 cm.

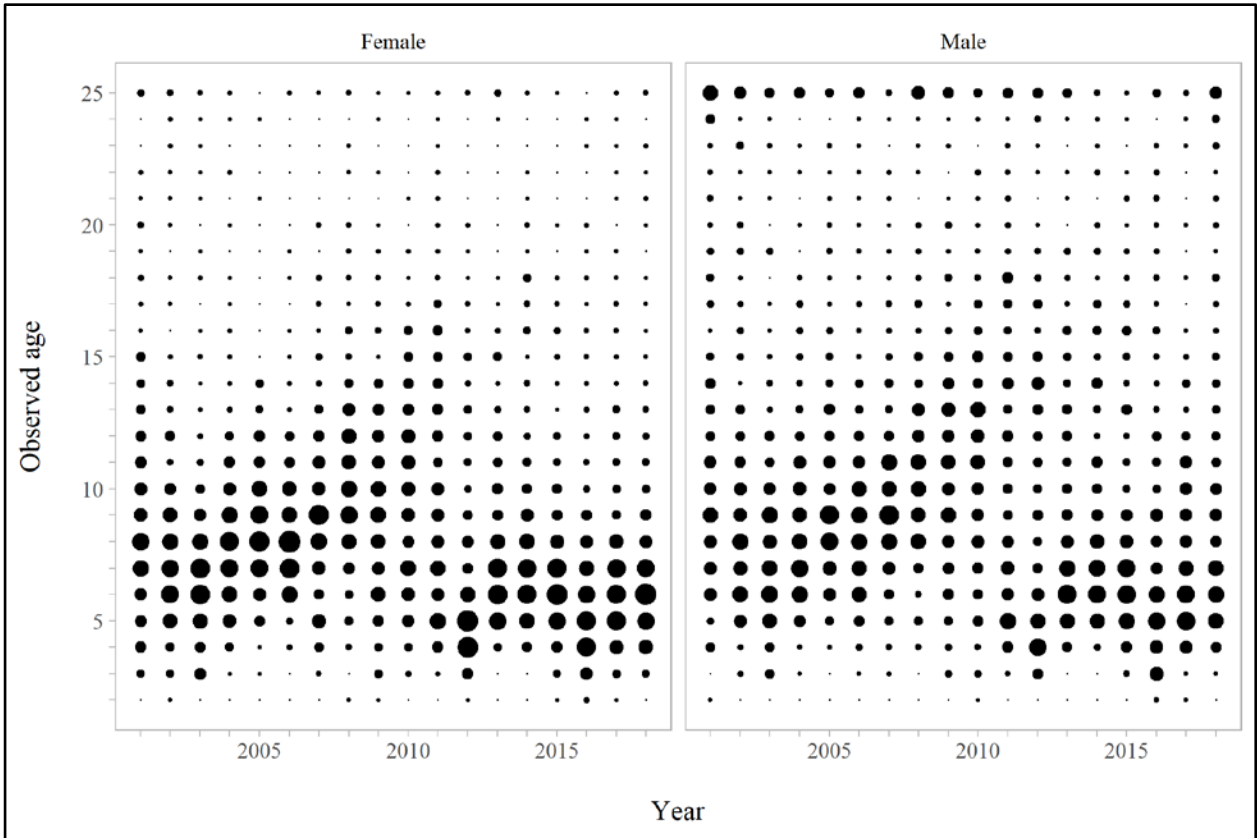


Figure 7.–SSEI longline fishery proportions-at-age by year and sex, 2001–2018.

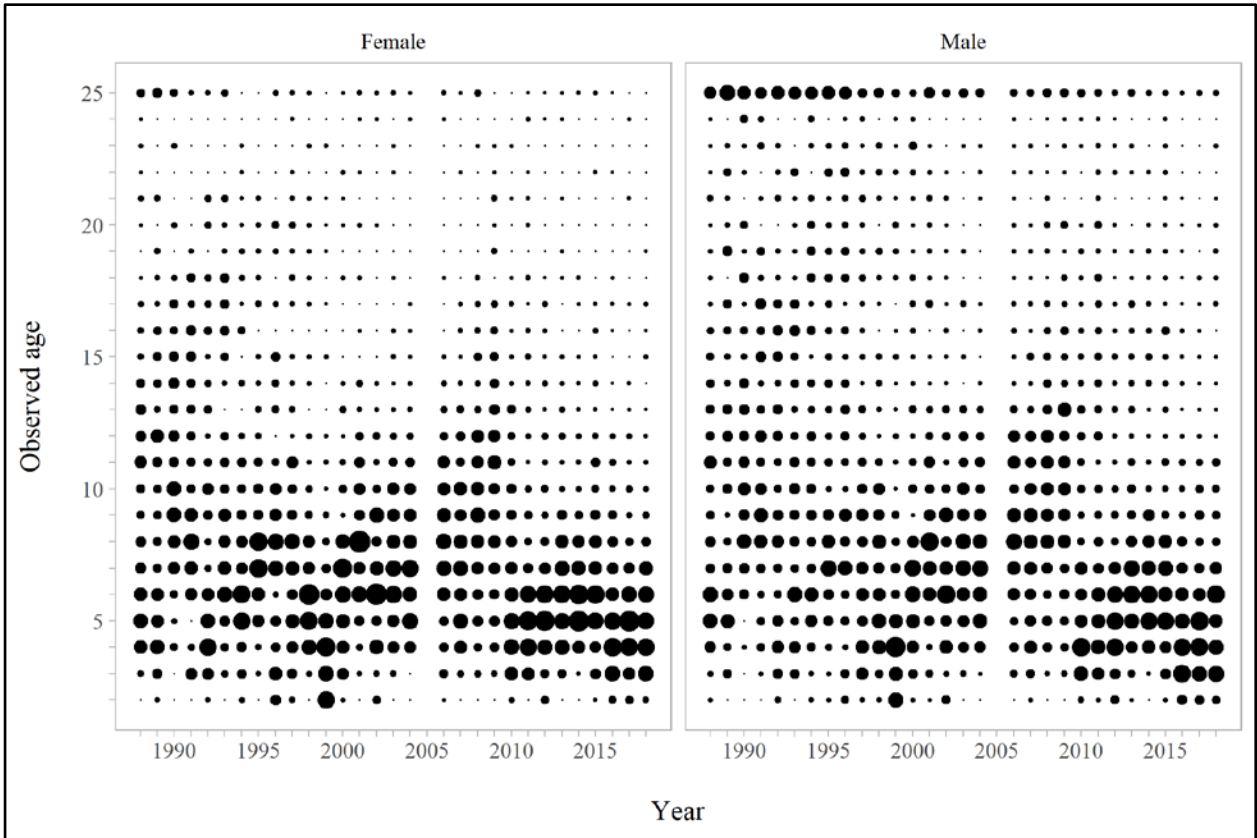


Figure 8.—SSEI longline survey proportions-at-age by year and sex, 1988–2018 except 2005.