Regional Operational Plan No. ROP.CF.1J.2025.02

2023 Southern Southeast Inside (SSEI) Subdistrict (Clarence Strait) Sablefish Longline–Pot Comparison Study

by

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and

Rhea Ehresmann

January 2025

Alaska Department of Fish and Game **Divisions of Sport Fish and 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 three letters	Jan,...,Dec
registered trademark	®
trademark	™
United States (adjective)	U.S.
United States of America (noun)	USA
U.S.C.	United States Code
U.S. state	use two-letter abbreviations (e.g., AK, WA)

Mathematics, statistics

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

REGIONAL OPERATIONAL PLAN NO. ROP.CF.1J.2025.02

2023 SOUTHERN SOUTHEAST INSIDE (SSEI) SUBDISTRICT (CLARENCE STRAIT) SABLEFISH LONGLINE–POT COMPARISON STUDY

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Signature Page

Project Title:	2023 Southern Southeast Inside (SSEI) Subdistrict (Clarence Strait) Sablefish Longline–Pot Comparison Study
Project leader(s):	*Rhea Ehresmann*
Division, Region and Area	*Commercial Fisheries, Region 1, Sitka*
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Field Dates:	*21 May–31 May*
Plan Type:	Category II

Approval

Title	Name	Signature	Date
Project leader	Rhea Ehresmann		
Biometrician	Philip Joy		
Research Coordinator	Jan Rumble		

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PURPOSE

This regional operational plan details the methodology to compare catch per unit effort (CPUE), species composition, and length compositions between the Alaska Department of Fish and Game (ADF&G) Southern Southeast Inside (SSEI) Subdistrict standardized longline survey using hook-and-line gear and a new pot survey using longlined collapsible pots (codcoil or *slinky* pots). With increasing popularity of slinky pots in state and federal sablefish fisheries, the department seeks to gain a better understanding of sablefish catches by fishing hook-and-line longline gear alongside longlined slinky pots under standardized conditions. In addition, all healthy sablefish captured in slinky pots will be tagged with external T-bar tags to examine movement patterns over time.

Keywords: Sablefish, groundfish, Clarence Strait, tagging, codcoil pots, slinky pots, longline, CPUE

INTRODUCTION

BACKGROUND

Sablefish or black cod *Anoplopoma fimbriaa* are found in the northeastern Pacific Ocean, ranging from Baja, California to the Aleutian Islands and into the Bering Sea (Mecklenburg et al. 2002). Adult sablefish inhabit the deep waters of the continental shelf, slope, and coastal fjords. Most adults live at depths ranging from 366 m to 914 m (200 to 500 fathoms), but sablefish have been captured at depths over 1,829 m (1,000 fathoms; Allen and Smith 1988). Sablefish are a long-lived species and have been aged to at least 94 years old in Alaska waters (Munk 2001); however, sablefish captured by the commercial fisheries in Southeast Alaska are often not older than 20 years (Mueter 2010).

The sablefish fishery within the Southern Southeast Inside (SSEI) Subdistrict waters dates to the early 1900s, with the fishery becoming a regular feature in annual reports by 1935, and regulations governing the fishery passing in 1945 (Unpublished 1994 ADF&G memorandum to Commissioner Carl Rosier, Juneau). While the fishery remained small in comparison to the Northern Southeast Inside (NSEI) Subdistrict sablefish fishery, by 1973 it became a developed fishery that was prosecuted utilizing longline and pot gear (Holum and Coonradt 2005). The original SSEI Subdistrict consisted of Clarence Strait, Sumner Strait, Behm Canal, Ernest Sound, the outer coast of Prince of Wales Island, and a portion of southern Frederick Sound. The waters of Dixon Entrance were not formally recognized by the State of Alaska as part of the SSEI Subdistrict until 1983 (Holum and Coonradt 2005). As fleet effort and efficiency increased and the number of fishery days decreased over the next decade, the equal quota share (EQS) management system was implemented in 1997, with 30 longline permits and 5 pot permits authorized to fish SSEI (Holum and Coonradt 2005). Since 2019, the SSEI sablefish fishery has been managed using EQS with a limited entry maximum of 22 permits.

The SSEI sablefish stock assessment longline survey began in 1979 (Holum and Coonradt 2005). By 2000, this survey was conducted using standardized gear mirroring the gear specifications used by the National Marine Fisheries Service (NMFS) for their sablefish longline survey (Carlile et al. 2002; O'Connell et al. 2002). The longline survey underwent redesign in 2013 to improve spatial coverage relative to the fishery as commercial harvest shifted from Clarence Strait to Dixon Entrance (Stahl and Baldwin 2013). Considering recent shifts in commercial sablefish gear from hook-and-line to slinky pots, this study will compare catch per unit effort (CPUE), species composition, and length composition between the 2 gear types under standardized methodology.

OBJECTIVES

1. Collect CPUE and length composition data of sablefish from slinky pots set at 14 stations parallel to and approximately 1.9 km (1 nm) from the longline survey stations.
2. Tag and release healthy sablefish throughout the survey to determine movement patterns.
3. Identify and enumerate, to the lowest possible taxonomic group, all species captured in pots during the survey.

METHODS

SAMPLE DESIGN

The goals of this survey are to compare CPUE and length compositions between hook-and-line longline gear and longlined slinky pot gear, as well as between small and large slinky pots; to tag and release healthy sablefish; and to identify and enumerate all bycatch captured in pots throughout SSEI Clarence Strait. To achieve these goals, 14 slinky pot sets will be made concurrently with and parallel to longline survey sets, approximately 1.9 km apart (Figure 1). The pot survey charter vessel will make 2 sets of longlined slinky pot gear per day alongside 2 out of the 3 sets made each day by 1 of the 2 longline survey charter vessels (Table 1). Healthy sablefish will be tagged with T-bar tags and released, and bycatch species will be enumerated and released immediately. Pot sets will not be made at longline survey stations that historically have extensive predation by hagfishes *Eptatretus* spp. It is uncertain exactly what the optimal number of pots to deploy to be equivalent to the 25 skates of longline gear used during our annual SSEI survey, so the decision was made to deploy 40 pots as this is midway between the ratios used in 2 studies conducted by NMFS Alaska Fisheries Science Center (P. Malecha and J. Sullivan, AFSC, Juneau, personal communication; Sullivan et al. 2022).

POT GEAR DESIGN AND SABLEFISH CAPTURE

Longlined slinky pot gear is used to catch live sablefish during the survey. At each station a string of gear is set consisting of 2,195 m of 1.27 cm leaded groundline, 183 m of running line and 23 kg anchors at each end, and approximately 640 m of buoy line with buoys and a high-flier pole at the surface also at each end. A total of 40 pots (20 small and 20 large) are set per string. The 2 different sizes of slinky pots used to investigate catch comparisons are large (77 by 152 cm, 708 L internal capacity) and small (69 by 127 cm, 475 L internal capacity). All escape rings on the pots are closed using 3 zip ties per ring, each pot has 2 46 cm escape panels made of biodegradable twine, and pots are equipped with a 1.8 m bridle tail for attaching to the groundline (Figure 2). The groundline is configured with 81 beckets spaced at 27 m intervals. Cannonball weights (3.2 kg) and slinky pots are attached to the groundline beckets via 1.27 cm c-links in an alternating order, beginning with a cannonball, then a small slinky pot, another cannonball, then a large slinky pot, and so forth, ending with a cannonball such that pots are spaced 55 m apart with a weight placed equidistantly in between 2 pots (Figure 3).

Each pot string is set in the morning concurrently with the corresponding hook-and-line longline set. Pot sets are hauled in the afternoon, after a soak time of approximately 7–10 hours, while longline sets are hauled within a 3–11 hour soak. Each pot is baited with 1 bait bag with 1.8 kg of chopped *Illex* squid, placed inside the pot. To compare the CPUE and the length composition of captured fish from large and small slinky pots, as well as between longline and pot gear, the gear

types will be fished in close proximity (approximately 1.9 km apart), thus eliminating the need to consider other covariates (depth, contour, habitat, etc.) when comparing catch rates.

During hauling and tagging operations, pots will be kept underwater to prevent battering or injuring of captured fish. The gear is hauled so that the next pot on the string is completely submerged even as the vessel navigates to stay on the gear. Torn lips and injuries on the sablefish are an indication that the pot is too near the ocean surface and needs to be kept lower in the water column until brought on board. As a pot is brought on board, the pot size is recorded, and all fish are released into a holding tank. The holding tank is continuously plumbed with saltwater. Sablefish are removed individually from the holding tank with a small net, inspected for condition, and subsequently measured for fork length (cm), tagged, and released if healthy or discarded if dead or damaged. Incidental catches of all other bycatch species are recorded and released with minimal holding time.

DATA COLLECTION

All data collected during the marking survey is done on paper forms that are later entered into Zander applications in the office after the survey. These data are divided into *set* and *biological* data. Set data include all of the recorded information about the physical gear such as set coordinates, number of pots, pot depths, and total numbers of fish caught. Biological data are the information recorded from individual sablefish captured such as length, tag number if tagged, and release condition. Set data are entered into the Zander Pot Survey application while biological data are entered in the Zander Pot Survey Age-Sex-Length (ASL) application. The 2 programs are independent of each other but are capable of sharing some information (e.g., the sablefish totals by pot from the ASL application are tallied automatically into the set data).

Set Information

For each pot string, the set and haul data are recorded on the *set form* (Appendix A). During setting, science crew will record the latitude and longitude (decimal minutes) for each end of the pot string using the coordinates of the first and last anchors. Crew will also record depth (fathoms) at the location each pot is released overboard with the first and last pots recorded as the start and stop depths for the set. The average depth of the set is the mean depth for all pots set. The date and time (military) are recorded when the second anchor goes overboard during setting and when the first and second anchors come onboard while hauling a pot string. Crew will note whether the gear is hauled in the same direction as it was set, the number and size of pots set, the number and size of pots hauled, and the substrate of the ocean floor (e.g., mud, clay, rocks) as observed on each anchor. Any additional information unique to a set is recorded in the comments section, (e.g., number of lost pots, pots returned with open ends or holes in the webbing, time and location of breaks in the groundline, and tangled gear).

If the groundline of a pot string breaks during hauling, the vessel will run to the other end of the string and haul from the second anchor. The recorder will note the time each end of the broken line is encountered, the second buoy is brought on board, and the second anchor is brought on board in the comments section. The time that the second break in the line is encountered is recorded in place of the second anchor onboard on this form.

After completion of the survey, data from the set form, including start and end position as well as individual pot depths, are entered into the Zander Pot Survey application in the office. Set data recorded on deck (i.e., haul start and end times, haul order, and bycatch) and any additional

comments are also entered into the Zander application after survey is complete. In the event pots are lost during hauling, the actual number of pots retrieved is entered into the database.

Biological and Tagging Information

Live sablefish are most effectively handled by gently holding the fish in a "U-shaped position" with 1 hand on the fish head and 1 on the fish body. Healthy sablefish brought on board may be tagged and released. Sablefish are tagged with an external T-bar tag applied at a shallow angle posterior to the base of the first dorsal spine between the interneural spines on the left-side of the fish body (Figure 4).

For each set hauled, staff will rotate between the positions of tagger and recorder. The tagger will read out loud the fork length (cm) of the fish, tag the fish, note the condition of the fish, read out loud the tag number to the recorder, and quickly release the fish over the side of the vessel. The recorder will write the length in cm, tag number, and fish condition on the *tagging release form* (Appendix B) and note the pot number and size of pot from which each tagged sablefish is caught in the margins of the form. In addition to recording data, the recorder is responsible for managing tags. This includes providing the tagger with a tagging gun pre-loaded with the next batch of 25 tags and confirming recorded tag numbers are in the correct order. It is important that the tags be consecutive throughout haul. Regular verification of the entire 6-digit number (e.g., at the beginning of a new batch of tags) ensures correct sequential order. If tags are out of order or a tag number is voided, staff will make a note in the margins of the release form and return to the proper sequential order at the end of the 25-tag batch.

Sablefish that are captured but will not be tagged (e.g., an excessive number are captured and so tagging is suspended for that set) should be counted and measured before releasing. Healthy sablefish measured but not tagged are recorded as discard code *25* (discarded healthy). Any sablefish determined to have a reduced survival probability (e.g., high number of sand flea bites, severe abrasions from pot gear, gilled in pot mesh, old injuries that haven not healed, or lacking vigor) are measured and released without tagging. Sablefish with substantial pot abrasions or sand flea damage may have a higher risk of infection leading to delayed mortality. All information for discarded sablefish is recorded on the *marking discard form* (Appendix C) using the appropriate discard (Appendix D) and release condition (Appendix E) codes. After each haul is complete, the number of sablefish tagged and discarded from each pot is calculated, summed, and entered on the *pot tally form* (Appendix F). Pot size (large or small slinky) is recorded as well.

After the survey is complete, the biological data for all sablefish are entered from the paper forms into the Zander Pot Survey ASL application. Sablefish data are entered into the biological data table with a sample type of *random sample* (01) and length type of *fork length* (01) or *no length taken* (00). The pot number from which the fish was captured is entered for each specimen, as are the discard and release condition codes. For each tagged sablefish, the tag batch (Batch 31) and tag number are also entered. For sablefish recaptured and previously tagged by ADF&G or by other agencies, tag numbers are recorded in the comment section beginning with *T-* followed by the tag number.

Recapturing Previously Tagged Fish

Previously tagged fish, like all sablefish discards, are recorded on the marking discard form. All sablefish captured that were previously tagged by ADF&G and are in good health are re-released after recording tag number and measuring the fish. If a sablefish is in poor health, dead, or the tag

is no longer readable or well attached, the fish is measured, the tag number is recorded, and the tag is collected.

Occasionally tags from other agencies are recovered during this survey. In all cases the agency information and tag number are recorded and the sablefish fork length is measured. Depending on the agency and/or specific project, fish may be re-released or retained in order to collect additional biological data. In some cases, tagged fish require special processing, (e.g., growth study fish or those with archival tags). Detailed instructions for processing other agency tagged fish may be found in Appendix G. All other agency tags, associated data, and otoliths will be mailed to the NMFS Auke Bay laboratory in Juneau.

For previously tagged ADF&G fish that are not released and tags are removed, as well as other agency tagged fish that are harvested or re-released, data should be recorded on the *tag recovery form* (Appendix H).

Incidental Catch

All incidental catch are marked as discards. All rockfishes are retained and may be biologically sampled as time allows. Bycatch species are tallied on the *marking discard form* (Appendix C). No biological data are collected for non-rockfish bycatch; however, in special cases (e.g., other agency projects, an extremely large fish is caught, or a rare species is captured), biological data may be collected, and the sample would be recorded as *select* (05) in the biological table. Total numbers of bycatch by species are entered into the Zander Pot Survey application at a set level and by pot number when possible.

SCHEDULE AND DELIVERABLES

The survey will begin around May 22 and end on or before May 31. The timing of the survey is scheduled to end before the Clarence commercial sablefish fishery opening on June 1. Data entry, review, and quality control will be done in the office following the survey and will be finalized on or before June 30, 2023. Further analyses will be conducted later in 2023 as time and staffing allows.

RESPONSIBILITIES

- Rhea Ehresmann, Fishery Biologist III (survey crew leader)
- CL Roberts, Biometrician I (survey crew)

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TABLES AND FIGURES

Table 1.– Southern Southeast Inside (SSEI) Subdistrict survey stations for longline and pot survey vessels 1 and 2.

Station	Vessel	Statistical area	Start lat.	Start long.	End lat.	End long.	Start depth (m)	End depth (m)	Area description
101	1	325533	55 48.71	132 28.76	55 50.11	132 29.83	291	276	Little Ratz Harbor
102	1	325533	55 48.06	132 24.93	55 46.95	132 23.96	326	330	Narrow Point
103	1	325531	55 40.87	132 18.48	55 42.30	132 19.65	320	326	Tolstoi Point
44	1	325531	55 34.10	132 13.52	55 35.40	132 15.03	300	268	Ship Island
37	1	315502	55 28.42	131 58.99	55 29.19	132 01.50	243	241	Caamano Island
31*	1	315502	55 18.43	131 58.61	55 19.87	132 00.08	236	233	Skin Island
107	1	315502	55 10.53	131 54.26	55 12.13	131 54.48	232	235	Wedge Island
20	1	315502	55 01.87	131 43.66	55 00.39	131 43.16	217	217	Dall Head
109	1	315502	55 05.22	131 45.91	55 06.42	131 47.66	277	260	Canoe Cove
118	1	315431	54 39.76	131 47.72	54 38.31	131 47.78	193	189	West Devil Rock
119	1	315431	54 36.82	131 57.01	54 35.23	131 57.03	195	184	Cape Chacon
120	1	315431	54 32.73	131 51.19	54 34.39	131 51.83	184	185	Celestial Reef
121	1	315431	54 32.85	131 44.06	54 31.47	131 44.07	193	192	Celestial Reef
122	1	315431	54 33.78	131 40.11	54 35.42	131 40.01	210	182	West Devil Rock
123	1	325401	54 26.81	132 0.86	54 26.83	132 03.57	163	186	Celestial Reef
110*	2	315432	54 59.73	131 50.31	54 58.19	131 50.36	233	222	Percy Island
111*	2	315432	54 57.15	131 55.09	54 58.64	131 55.00	240	237	Ingraham Bay
18*	2	315432	54 54.37	131 48.20	54 55.52	131 48.17	226	225	Hidden Bay
113*	2	315432	54 50.62	131 40.06	54 49.15	131 41.14	227	195	West Rock
12	2	315432	54 48.75	131 53.00	54 50.30	131 52.81	216	223	Island Point
115*	2	315432	54 46.54	131 54.61	54 44.93	131 54.60	227	228	McLean Arm
116	2	315432	54 42.83	131 50.46	54 44.29	131 50.43	207	202	Cape Chacon
117*	2	315432	54 41.04	131 41.73	54 42.55	131 41.64	239	229	West Devil Rock
124	2	325431	54 30.51	132 12.54	54 30.53	132 15.40	195	185	Point Nunez
125	2	325431	54 32.13	132 21.20	54 32.14	132 18.83	188	196	Point Marsh
126	2	325401	54 27.32	132 18.97	54 27.29	132 16.30	198	196	Surf Point
127	2	325401	54 27.42	132 26.45	54 27.40	132 23.73	196	197	Point Marsh
128	2	325431	54 30.66	132 35.40	54 30.69	132 38.19	205	206	Cape Muzon
129	2	325401	54 26.28	132 36.65	54 26.30	132 39.09	186	195	Cape Muzon

Note: *= Vessels will avoid these locations due to known concentrations of hagfish.

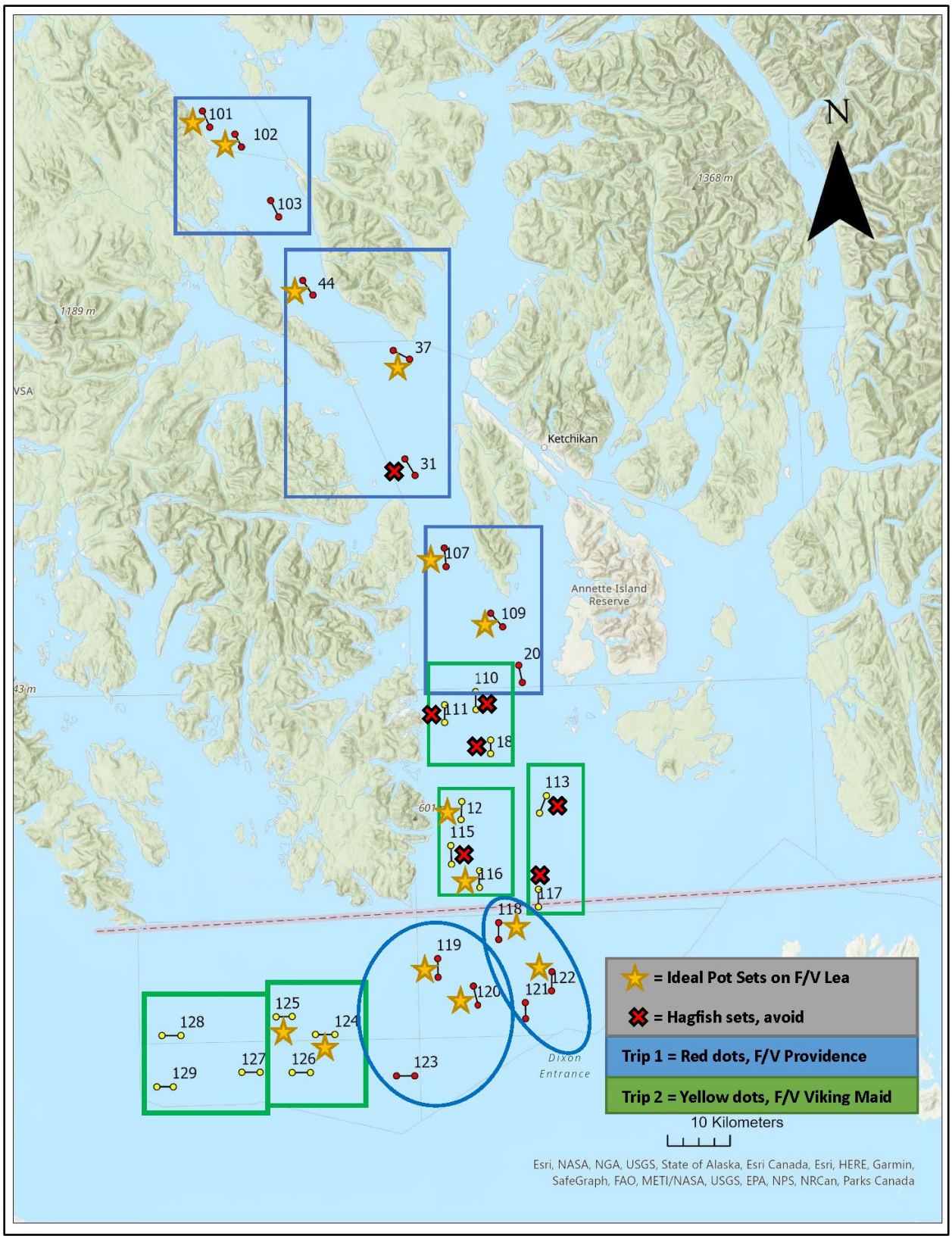


Figure 1.–Map of longline stations by trip as well as suggested locations for slinky pot sets noted by yellow stars. High hagfish sets to be avoided by pot gear are shown with a red x.

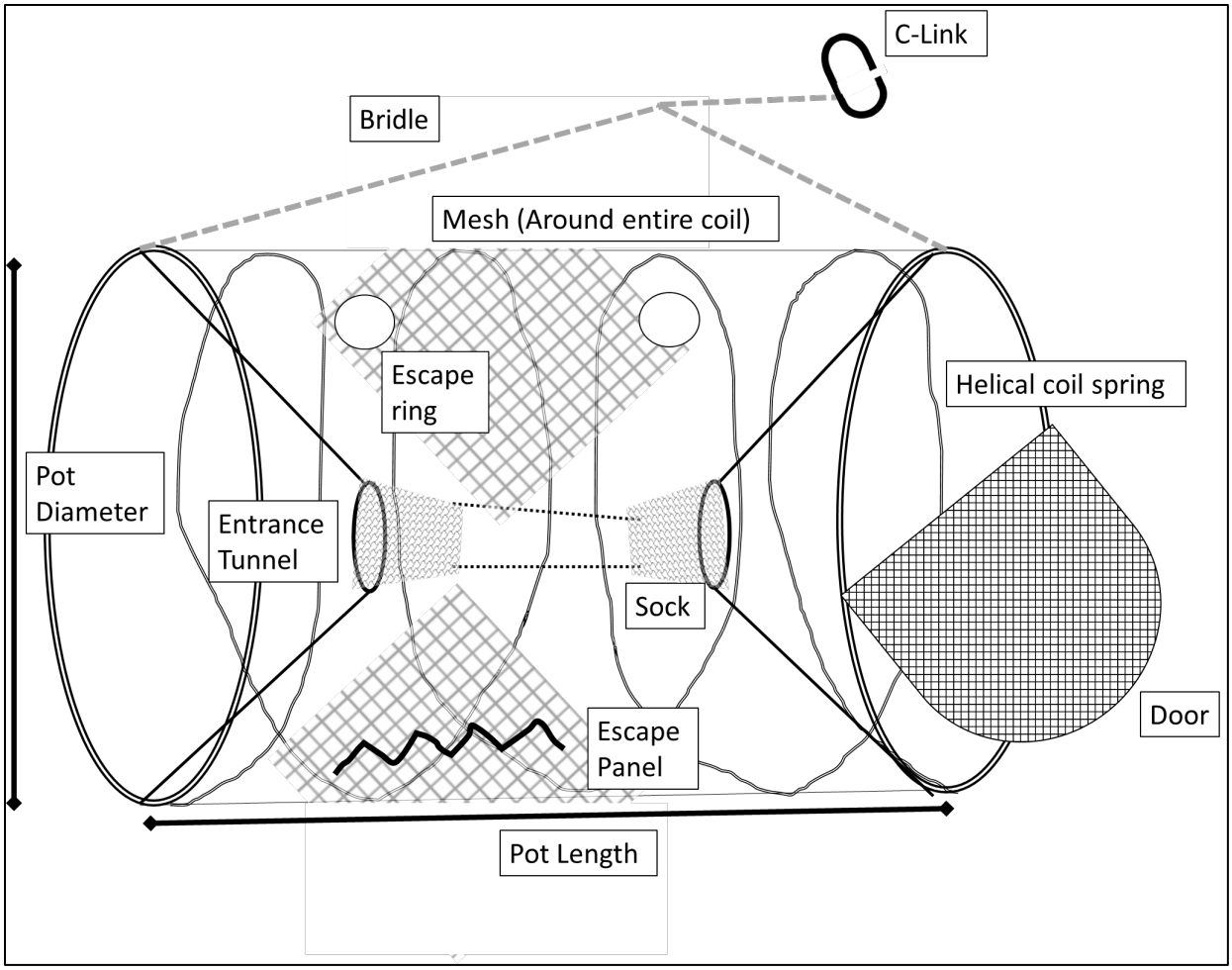


Figure 2.–Diagram of a slinky pot configuration. The escape rings on the study pots were closed with zip ties. Pot length represents the length when pot is fully expanded.

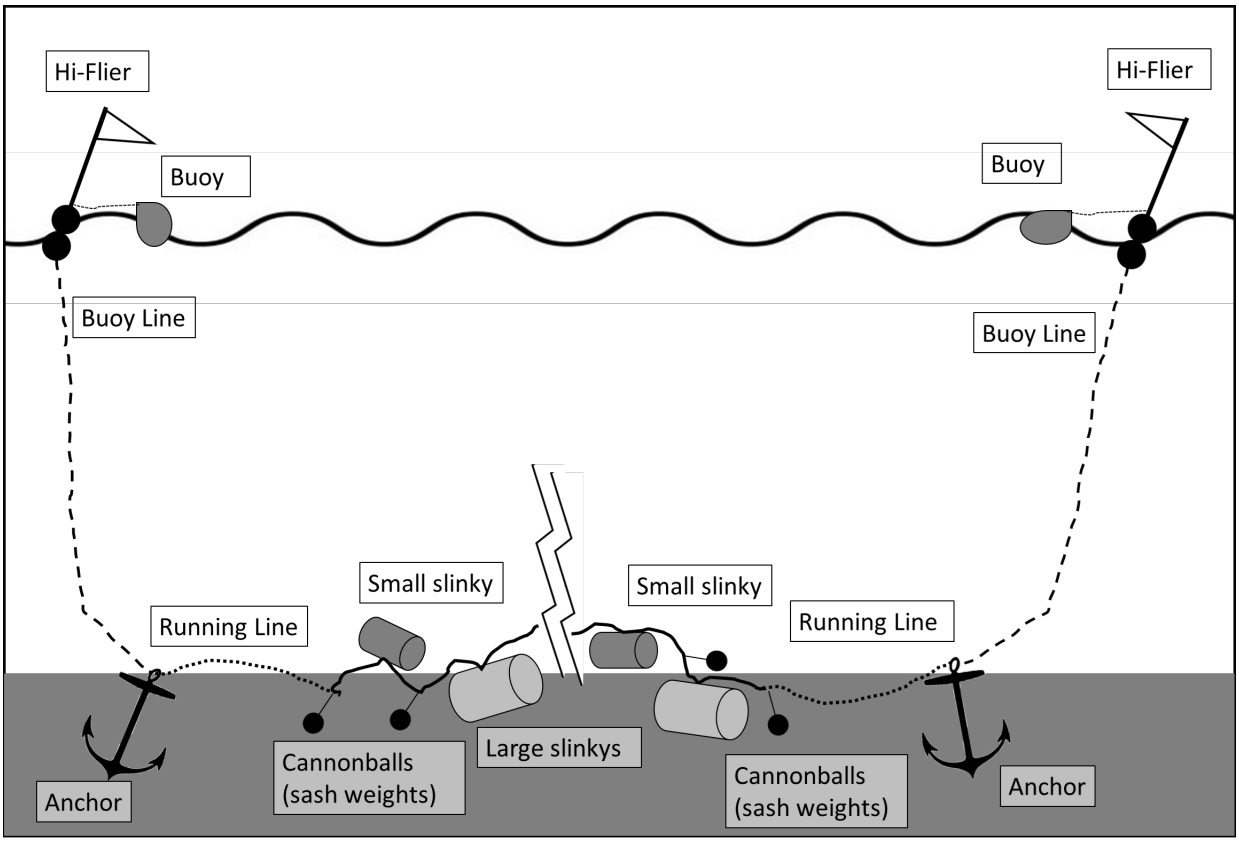


Figure 3.–Slinky pot set configuration. The buoy line is variable in length dependent upon water depth but is most often around 600 meters. There is 183 m of running line between the anchor and start of groundline with beckets at each end. The pots and weights are attached to fixed beckets on the groundline that are each spaced 27 meters apart.

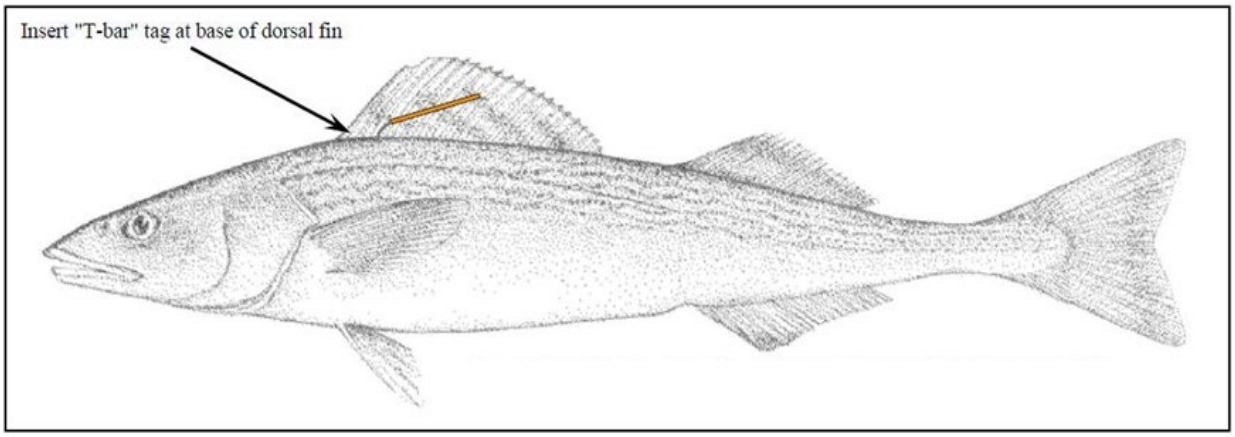
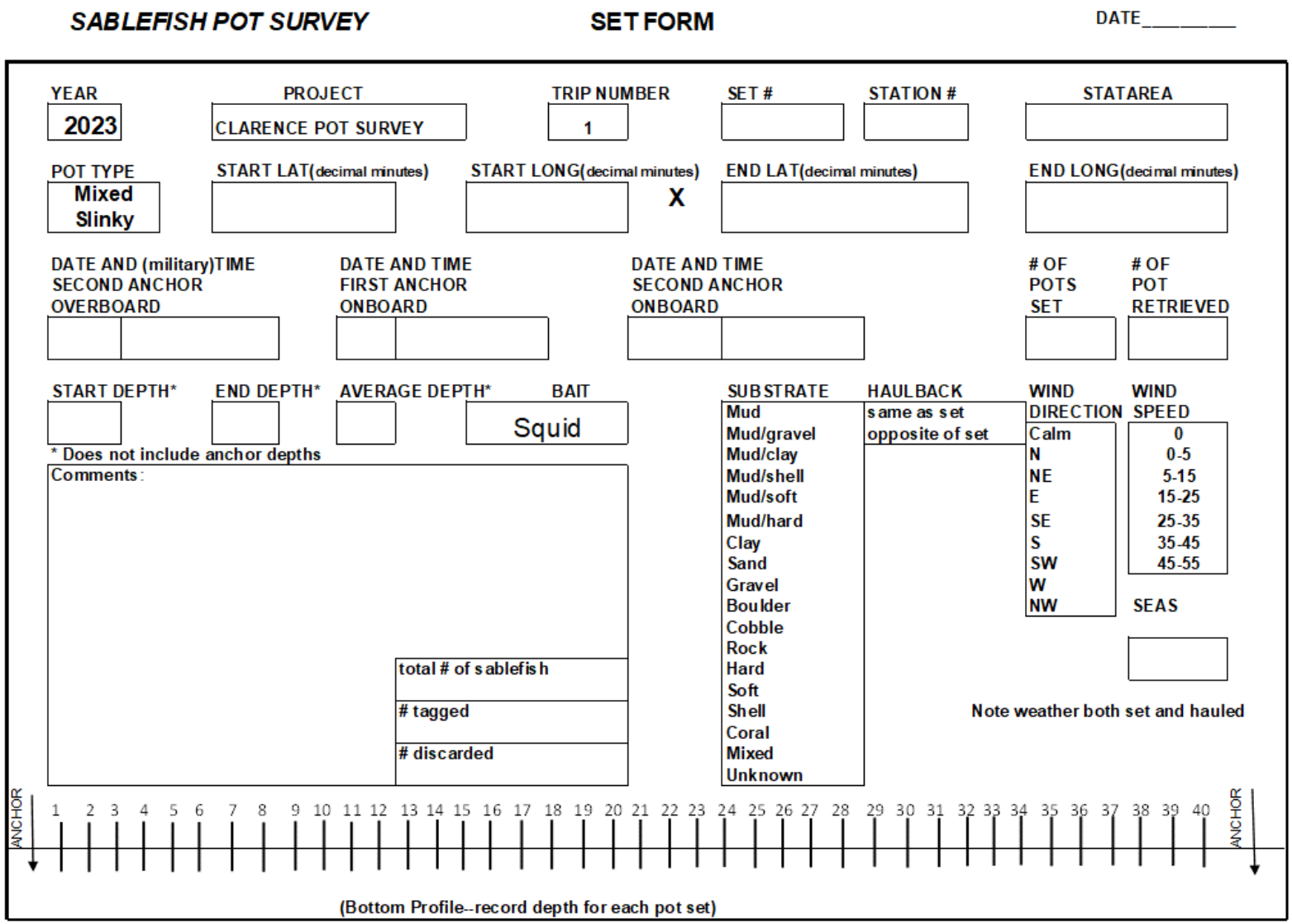


Figure 4.–Sablefish tagging guidelines showing proper T-bar tag placement.

APPENDICES

Appendix A.–Set form used to record information related to gear and environment for a set string.



SABLEFISH POT SURVEY **SET FORM** DATE_____

YEAR: 2023

PROJECT: CLARENCE POT SURVEY

TRIP NUMBER: 1

SET #

STATION #

STATAREA

POT TYPE: Mixed Slinky

START LAT(decimal minutes)

START LONG(decimal minutes)

X

END LAT(decimal minutes)

END LONG(decimal minutes)

DATE AND (military)TIME SECOND ANCHOR OVERBOARD

DATE AND TIME FIRST ANCHOR ONBOARD

DATE AND TIME SECOND ANCHOR ONBOARD

OF POTS SET

OF POT RETRIEVED

START DEPTH*

END DEPTH*

AVERAGE DEPTH*

BAIT: Squid

* Does not include anchor depths

Comments:

total # of sablefish

tagged

discarded

SUBSTRATE: Mud; Mud/gravel; Mud/clay; Mud/shell; Mud/soft; Mud/hard; Clay; Sand; Gravel; Boulder; Cobble; Rock; Hard; Soft; Shell; Coral; Mixed; Unknown

HAULBACK: same as set; opposite of set

WIND DIRECTION: Calm; N; NE; E; SE; S; SW; W; NW

WIND SPEED: 0; 0-5; 5-15; 15-25; 25-35; 35-45; 45-55

SEAS

Note weather both set and hauled

ANCHOR 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 ANCHOR

(Bottom Profile--record depth for each pot set)

Appendix B.–Tagging release form used to record status and tag number of tagged fish.

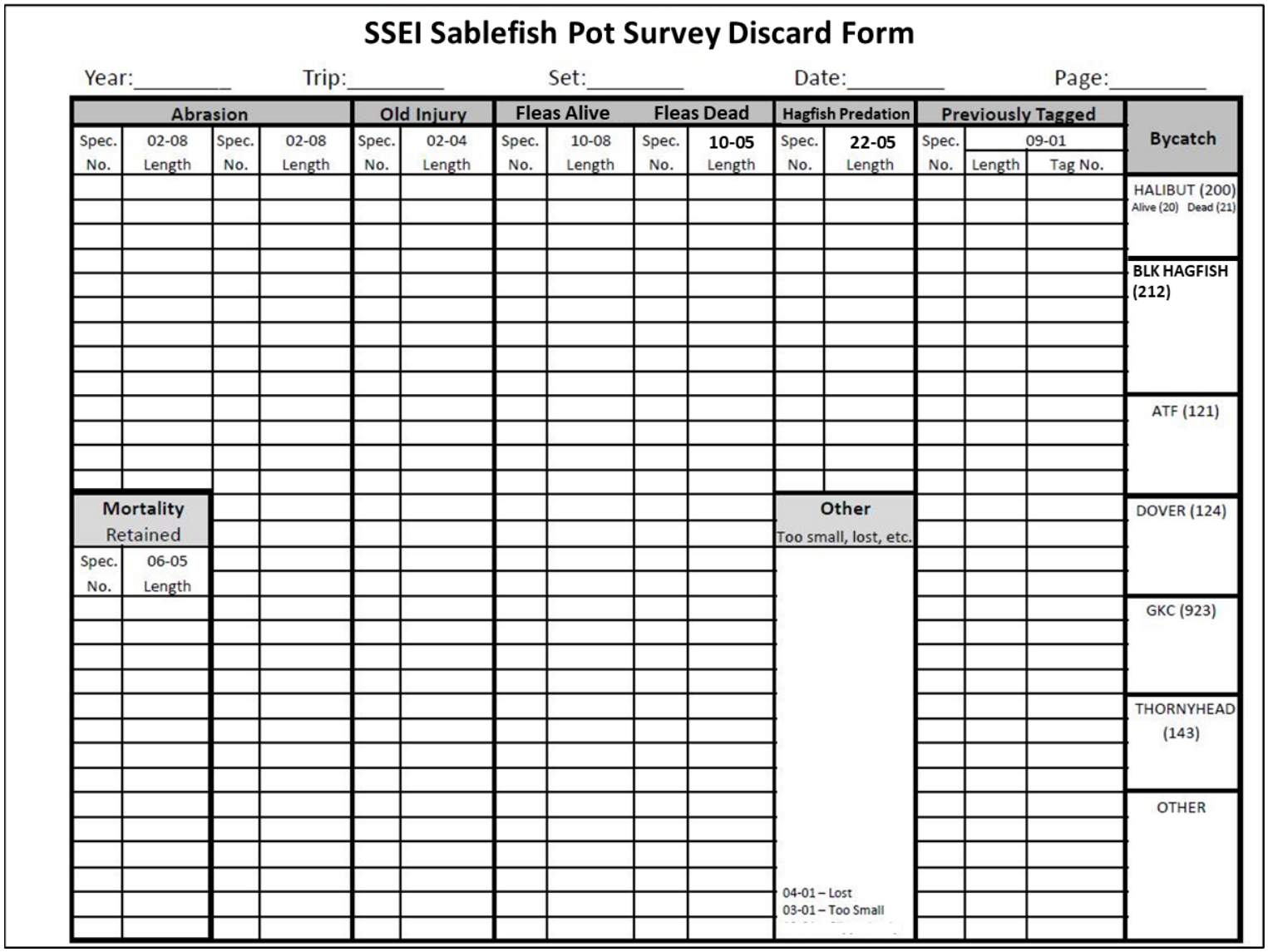
Project: SSEI Sablefish Tagging Release Form **Set_____**

Year: **Trip:** **Date: ___/_____/** **Pg no.____**

	TAG NUMBER	LENGTH	COMMENTS		TAG NUMBER	LENGTH	COMMENTS
1				26			
2				27			
3				28			
4				29			
5				30			
6				31			
7				32			
8				33			
9				34			
10				35			
11				36			
12				37			
13				38			
14				39			
15				40			
16				41			
17				42			
18				43			
19				44			
20				45			
21				46			
22				47			
23				48			
24				49			
25				50			

Tagger _____ **Recorder_____**

Appendix C.–Discard form used to record bycatch and status (i.e., health) of sablefish that are released without tagging, as well as other bycatch.



SSEI Sablefish Pot Survey Discard Form

Year:_____ Trip:_____ Set:_____ Date:_____ Page:_____

Abrasion				Old Injury		Fleas Alive		Fleas Dead		Hagfish Predation		Previously Tagged			Bycatch
Spec. No.	02-08 Length	Spec. No.	02-08 Length	Spec. No.	02-04 Length	Spec. No.	10-08 Length	Spec. No.	10-05 Length	Spec. No.	22-05 Length	Spec. No.	09-01 Length	Tag No.	HALIBUT (200) Alive (20) Dead (21)
															BLK HAGFISH (212)
															ATF (121)
															DOVER (124)
															GKC (923)
															THORNYHEAD (143)
															OTHER

Mortality Retained

Spec. No.	06-05 Length

Other

Too small, lost, etc.

04-01 – Lost
03-01 – Too Small

Appendix D.–Discard codes for sablefish and bycatch captured on the tagging survey.

Discard Status	Details
00 = Unknown	Discard status unknown or not recorded.
01 = Retained	Fish is not released.
02 = Discarded, not marketable	Fish has new or old injury and is released without marking to prevent bias in recapture event. This is the standard discard code for released bycatch with the exception of halibut.
03 = Discarded, too small	Fish <320 mm fork length, released without marking.
04 = Lost	Fish lost before clipping or tagging.
05 = Tagged and released	Fish clipped, tagged, and released unharmed.
06 = Mortality retained	Fish dead or likely to die so retained.
07 = Discarded healthy	Bycatch (not sablefish) measured but released unharmed.
08 = Retained bio sample	Fish sacrificed to collect biological data.
09 = Already tagged by AGF&G	Fish previously tagged by Region I ADF&G.
10 = Discarded due to fleas	Fish measured but not tagged or clipped due to flea bites (dead or alive).
11 = Discarded due to sharks	Fish measured but not tagged or clipped due to damage from sharks.
12 = Clipped only and released	Fish measured and clipped but lost before tagging.
13 = Retained, other agency tag	Fish tagged by another agency that has requested biological sampling.
15 = Released, other agency tag	Fish tagged by another agency that has requested fish be re-released.
16 = Retained, tagged by ADF&G	Fish previously tagged by ADF&G but retained due to injury or tag damage.
17 = Discarded, numbers estimated	Fish released directly from pot and number of fish may be estimated.
20 = Released alive	Halibut that is released alive.
21 = Mortality discarded	Halibut that is released dead.
22 = Discarded due to hagfish	Fish damaged by hagfish predation.
25 = Discarded healthy	Sablefish measured and released without clipping or tagging.

Appendix E.–Release condition codes for sablefish captured during the tagging survey.

Release Condition	Details
00 = Unknown	Fish condition unknown, i.e., for lost fish.
01 = Presumed healthy	Fish appear to have no recent or old injuries and no flea bites.
03 = Flea bitten	Flea bites visible on skin and/or fins.
04 = Old injury	Fish have infection or injuries that existed prior to capture with pot gear, i.e., mouth damaged from capture with longline.
05 = Presumed dead	Fish dead or death is imminent. (Use for all hagfish damage)
06 = No clip	Fish measured and tagged but lost before clipping.
08 = Pot damage	Fish have injuries from pot gear, i.e., abrasions, torn mouth, or gilled.

Appendix F.–Pot Tally Form used to record the total number of sablefish captured in each pot.

Pot Tally Form

Year: _____ **Trip:** _____ **Haul Direction (circle one):**

Set #: _____ **Date:** _____ **Same** **Opposite**

	Time	Weather, sea conditions, substrate (from anchors)
Start Haul (1st Anchor)		
End Haul (2nd Anchor)		

Pot #	1	2	3	4	5	6	7	8	9	10	11	12
Pot Type												
# Fish Tagged:												
# Discarded:												
Total #:												

Pot #	13	14	15	16	17	18	19	20	21	22	23	24
Pot Type												
# Fish Tagged:												
# Discarded:												
Total #:												

Pot #	25	26	27	28	29	30	31	32	33	34	35	36
Pot Type												
# Fish Tagged:												
# Discarded:												
Total #:												

Pot #	37	38	39	40								
Pot Type												
# Fish Tagged:												
# Discarded:												
Total #:												

Record pot type (S or L). Enter the number of sablefish tagged in each pot, tallied from bio form. Enter the number of sablefish discarded from discard form. If pot is empty, indicate with null ("0"). Add the tagged sablefish with the discarded sablefish to get total number of sablefish for each pot.

Appendix G.–List of tag-types recovered on the marking survey with instructions on processing.

Tag type	**Instructions**
ADF&G Sitka (orange, red, or green)	Healthy fish with tag well attached - measure, record tag number, and release. Unhealthy fish and/or tag not well attached - collect length, sex, and maturity data; record tag number; retain tag.
ADF&G Homer (red)	All fish - collect fork length, sex, otoliths, and maturity data; record tag number; retain tag.
ADF&G/NMFS COOP (orange)	Healthy fish with tag well attached - measure, record tag number, and release. Unhealthy fish and/or tag not well attached - collect length, sex, and maturity data; record tag number; retain tag.
NMFS (yellow)	Healthy fish with tag well attached - measure, record tag number, and release. Unhealthy fish and/or tag not well attached - collect length, sex, and maturity data; record tag number; retain tag.
Japanese (orange)	Healthy fish with tag well attached - measure, record tag number, and release. Unhealthy fish and/or tag not well attached - collect length, sex, and maturity data; record tag number; retain tag.
NMFS Auke Bay growth study (pink)	All fish - collect length, sex, otoliths, and maturity data; record tag number; retain tag. Special instructions to store otoliths in vial masked to keep out light.
NMFS archival marker (green/pink)	All fish - collect length, sex, otoliths, and maturity data; record tag number; retain tag. Special instructions to collect archival tag from body cavity and retain with tag.
Canadian Pacific Bio Station (yellow)	All fish - collect length, sex, otoliths, and maturity data; record tag number; retain tag.

Appendix H.–Tag recovery form used to record recovery information for sablefish that are previously tagged and harvested.

Tag Recovery Form

Species_____

Release Agency_____

Tag Number_____

Attach tag here
(so tag number is visible)

below data to be filled in by ADFG

Hat issued_Y_N_date____by___

Eligible lottery_____

Letter issued_____

Data entered (date)_____

Recovery info vessel/processor/ log/fish ticket logbook(trip) #_____

Date received_____

Sampler_____

F/V or Tender:_____
(specify)

Date of Landing: _____yr__
mm/dd

Date captured:_____yr__
mm/dd

Lat_____ decimal minutes

Subdistrict/Mgtarea_____

Depth_____fm

Recovery gear: LL other_____

Tag turned in by vessel/processor/other_____

Reward To: (Capt/crew/processor/other)_____

Permanent Address:_____

_____

ADFG #_____

Port of landing_____

Statarea_____

Long_____ decimal minutes

Location_____
(specify if no lat and long)

Size_____cm____in rnd/east/unkn
accuracy:_____ specify: 1(most accurate)-5(least)

measured by staff__ **other_____**
(specify)