

Summary of the annual 2008 and 2009 sablefish (*Anoplopoma fimbria*) trap surveys.

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2021

**Canadian Technical Report of
Fisheries and Aquatic Sciences 3396**

Canadian Technical Report of Fisheries and Aquatic Sciences

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SURVEYS.

by

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Cat. No. Fs97-6/3396 E-PDF ISBN -0—x ISSN 1488-5379

Correct citation for this publication:

Lacko, L.C. and Acheson, S.M. 2021. Summary of the annual 2008 and 2009 sablefish (*Anoplopoma fimbria*) trap surveys.. Can. Tech. Rep. Fish. Aquat. Sci. 3396: vii + 96 p.

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ABSTRACT

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This document describes sampling activities and summarizes results from the 2008 and 2009 British Columbia sablefish research and assessment surveys. These annual surveys utilized sampling strategies at stratified random (StRS) sites, offshore indexing localities and mainland inlets. The random component was comprised of StRS sets at five depth-stratified areas. The traditional component was comprised of standardized fishing sets conducted at nine offshore indexing localities and four mainland inlet localities. In total, 26,802 sablefish were caught in 2008, of which 8,126 were used for biological samples and 8,300 were tagged and released. In 2009, a total of 22,521 sablefish were caught, of which 7,282 were used for biological samples and 7,474 were tagged and released.

Catch per unit effort (CPUE) is an important result from this survey as it is used to infer population trends. Survey data from 2008 and 2009 at offshore indexing localities reveal decreasing trends in catch rates similar to those in the late 1990's. CPUE at mainland inlet sites have varied in a predictable manner over time with peak CPUE occurring every 5-7 years and showing an upward trend in 2009. StRS sets in 2009 show the lowest levels since 2003 in both mean weight and numbers of fish per trap.

RÉSUMÉ

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Le présent document décrit les activités d'échantillonnage et résume les résultats des relevés de recherche et d'évaluation de la morue charbonnière menées en Colombie-Britannique en 2008 et 2009.

1 Introduction

Sablefish (*Anoplopoma fimbria*) are a commercially valuable species that are harvested in British Columbia (BC) using trap, longline and trawl gear as part of the integrated groundfish fishery. For ten years (2000 to 2009), BC fishermen landed an average of 3,397 metric tons of sablefish annually. The majority of sablefish in 2008 were captured by longline trap gear (48%) and longline hook gear (40%); in 2009, the majority of sablefish were captured by longline trap gear (47%) and longline hook gear (44%). Commercial harvest of sablefish typically occurs at depths up to 985 fathoms, along the steep-walled slopes off the west coast of Haida Gwaii, in the complex troughs of Queen Charlotte Sound, and in the steep canyons and ridges off the west coast of Vancouver Island.

Fishery-independent research and assessment surveys for sablefish have been conducted in BC coastal waters since 1988. The methodology for the 2008 and 2009 surveys included a stratified random sampling (StRS) component and a traditional component. The random component random was composed of StRS sets at five depth-stratified areas. The traditional component was comprised of standardized sets at nine offshore indexing localities and four mainland inlets. In addition, an exploratory component was added to the 2008 survey.

These surveys are used to obtain catch rate data, gather biological samples, capture oceanographic measurements and collect tag release and recapture data. For details about past survey designs, see the historic overview provided by Wyeth and Kronlund (2003) and Wyeth et al. (2004a). For details on specific surveys conducted from 1988 through 1993 see Smith et al. (1996); for surveys in 1994 and 1995 see Downes et al. (1997); for surveys from 1996 to 2000 see Wyeth and Kronlund (2003). For the 2001 through 2006 surveys see Wyeth and Kronlund (2003), Wyeth et al. (2004b), Wyeth et al. (2004a) and Wyeth et al. (2006), respectively.

This technical report details survey operations and summarize biological data collected on the 2008 and 2009 chartered surveys aboard the F/V Ocean Pearl. Tables and figures referred to in the main text are numbered sequentially. Tables and figures in the appendices are labelled with a letter code.

2 Methods

2.1 SURVEY DESIGN

Survey design for 2008 and 2009 sablefish research and assessment employed a stratified random sampling (StRS) component and a traditional standardized component (Table 1). In 2008, two exploratory sets were added (Figure 1). Under the StRS component, random fishing sets were conducted in five spatial and three depth strata (Figure 2, and Figure 3). The traditional component consisted of standardized fishing sets at nine offshore indexing localities (Figure 2, and Figure 3) and four mainland inlets (Figure 4).

2.1.1 STRATIFIED RANDOM SAMPLING SURVEY DESIGN COMPONENT

The StRS design began in 2003 with the purpose of distributing tag releases at random, collecting biological samples and developing a catch-rate based index of abundance (Wyeth and Kronlund 2003). It also provided an alternative design to the historic traditional offshore component of the survey which occurred at fixed locations.

Under the StRS design, the survey area is partitioned into five spatial strata (S_1 to S_5) and three depth strata (RD_1 to RD_3) for a total of 15 strata. The spatial strata are S_1 (South West Coast Vancouver Island or SWCVI), S_2 (North West Coast Vancouver Island or NWCVI), S_3 (Queen Charlotte Sound or QCS), S_4 (South West Coast of Haida Gwaii or SWCHG), and S_5 (North West Coast of Haida Gwaii or NWCHG). The three targeted depth ranges were 100-250 fathoms (RD_1), 250-450 fathoms (RD_2), and 450-750 fathoms (RD_3). The area within each of the 15 strata were divided into 2 km x 2 km grid cells or ‘fishing blocks’ from which set locations were randomly chosen (Figure 1).

From 2003 through 2005, five grid cells were randomly selected in each spatial-depth stratum. From 2006 through 2009, the number was increased to six (Table 2).

2.1.2 TRADITIONAL OFFSHORE INDEXING SURVEY COMPONENT

Five strings of trap gear were set within nine offshore indexing localities: Barkley Canyon, Esperanza Inlet, Quatsino Sound, Triangle Island, Cape St. James, Gowgaia Bay, Buck Point, Hippa Island and Langara Island-North Frederick (Appendix A), with one string in each of one of 5 depth intervals: 150-249, 250-349, 350-450, 450-550, and 550-650 fathoms (Table 1). The intent of the standardized sets at offshore indexing localities was to collect catch rate data in order to index trends in abundance, tag fish and obtain biological samples.

2.1.3 TRADITIONAL MAINLAND INLET SURVEY COMPONENT

Under the traditional mainland inlet design, a string of 25 traps were set at five specific localities in each of the following 4 areas: Portland Inlet, Gil Island, Finlayson Channel, and Dean/Burke Channel. Trap gear was deployed near the center of each of the five locality boundaries in order to avoid the steep slopes characteristic of these channels/fjords (Figure 4).

2.1.4 EXPLORATORY COMPONENT (2008)

To evaluate areas that have not been surveyed for sablefish density and/or size composition, exploratory sets were conducted in 2008 near Porcher Peninsula and Goshen Island (Figure 1).

2.2 VESSEL

The 2008 and 2009 surveys were chartered aboard the F/V Ocean Pearl (Figure 5), skippered by Robert Fraumeni between Sep 29 - Nov 16, 2008 and Oct 8 - Nov 25, 2009 (Appendix B). Further information about the vessel can be found at <http://marinetrack.com>.

2.3 FISHING GEAR

The longline trap gear consisted of a groundline resting on the ocean floor with 25 baited traps attached to beackets at 150 foot intervals along its length and 90 pound anchors at each end (Figure 6, a). A flagpole was required for at least one end of the set to improve visibility for retrieval. The traps were standard Ladner traps with a bottom hoop diameter of 54 inches and covered with black nylon #48 thread, with a web of 2.75 inch mesh (Figure 6, b). The tunnels were made of green braided, knotless, rashell 2.0 inch mesh. The traps had stainless steel escape rings closed off by orange twine sewn repeatedly across the ring opening.

Standard bait bags (6 by 12 inches) made of 1/8 inch web with a nylon drawstring and stainless steel halibut longline snap were included with the traps.

2.4 FISHING OPERATIONS

During normal survey fishing operations gear was deployed on alternate days. Prior to deployment, the Fishing Master inspected the block to determine fishability and if it was within the targeted depth range. The goal was to have as much gear as possible within the block boundaries. If unfishable, the survey protocol dictates that an alternate block is to be chosen to the east, west, north, and south, respectively. If none of those blocks meet the fishing criteria, an alternate block of the same area and depth strata was randomly chosen.

Two science staff recorded information associated with the deployment of the gear. One science member was positioned in the wheelhouse and entered details about the set in the bridge log data form (Appendix C, Figure C.1). The time at the deployment of the first buoy and anchor were logged and later, the time at the retrieval of the second buoy and anchor. The duration of the set was calculated as the time elapsed between the first anchor being set over the stern and the first anchor hauled aboard. The geo-referenced positions were obtained from Nobeltec Navigation © software running on the bridge computer, delivered through a NMEA data string.

A set log was filled out on the deck by the science recorder who had maximum visibility of the crew setting the traps over the stern rail. The set log included the time and identity of the first and last buoys, anchor time, a tally of beackets and traps, as well as the serial number of each Sea-bird Bird SBE 39 temperature and pressure logger.

Sets at offshore indexing localities had a targeted soak time of 24 hours. Traps were baited with one pound of bagged squid. StRS blocks also had a targeted soak time of 24 hours. Fishing sets were designated useable if hauled between 22 and 26 hours. StRS traps were baited with 10 pounds of loose offshore Pacific Hake (*Merluccius productus*) and two pounds of bagged squid.

Fishing sets in mainland inlet localities had a targeted soak time of 18 hours. These sets were designated useable if hauled between 16 and 20 hours, compatible with the historic inlet survey protocols. Traps were baited with two pounds of bagged squid (Table 1).

2.5 CATCH PROCESSING

As the groundline was hauled, catch by species from each trap were sorted into baskets and entered in the charter catch log form (Appendix C, Figure C.2). Baskets were then weighed to the nearest 0.2 kg on a motion compensating scale and given a basket use code of D, A, B, T or MT. Code D designated fish species as discards (released alive); code A allocated fish to age samples; code B allocated sablefish for length, sex, maturity samples; code T allocated sablefish to be tagged and released; code L allocated fish for length samples; and code MT indicated an empty trap. Trace values (TR) were entered to record species with a total weight of less than 1 kg.

The Federal Court of Appeal ruling (*Larocque v. Canada (Minister of Fisheries and Oceans Canada)* (Federal Court of Appeal Canada 2006)) was used to support scientific research of key commercial fish in place of quota allocation. As a result, sablefish in traps assigned code D were released at sea.

Crew members would inform the recorder about any damage to a trap and report the serial number of the temperature and pressure logger. The next day, the entries on charter catch log form were transposed to tabular format on the charter catch log entry form (Appendix C, Figure C.3).

2.5.1 SABLEFISH ALLOCATION DETAILS

Up to 60 sablefish at offshore indexing localities were allocated throughout the string for a biological sample of length, sex, weight, maturity and otoliths (LSWMO) and up to 80 sablefish were allocated along the string for a biological sample of length, sex and maturity (LSM). StRS sets used a sampling protocol that assigned a fate to the sablefish catch in each trap, dividing the 25 traps so that 1/3 of the traps were used for tagging, 1/3 were used for biological samples (~50 specimens) and 1/3 were released alive. At mainland inlet sites, sablefish catch from 1/2 of the traps were allocated for biosamples (~50 specimens) and 1/2 of the traps were used for tagging (Table 1).

2.6 BIOLOGICAL SAMPLING

Biological samples at offshore indexing localities were obtained from sablefish on the length, sex and maturity (LSM) sampling form (Appendix C, Figure C.4). Biological samples were collected from sablefish specimens on the LSWMO form (Appendix C, Figure C.5). Measurements were recorded for fork length (L), body weight (W), sex (S) and maturity level (M). Sagittal otoliths (O) were collected and stored for potential ageing by the sclerochronology laboratory.

Biological sampling forms were completed for specimens other than sablefish. Species specific length (L) and sex (S) were collected from other species on the LSS form (Appendix C, Figure C.6).

2.7 SABLEFISH TAGGING

Fish destined to be tagged were transferred from the sorting area to a tagging tank. Sablefish were tagged with a Mark II Long Tagging gun loaded with Floy FD-94 T-bar anchor tags. The tag was inserted on the left side of the fish, one (1) cm below and 2-3 cm behind the anterior insertion of the first dorsal fin. Fork length (mm to the nearest ½ cm) measurements were taken on the Scancontrol measuring board and recorded on the tagging form. Before release, any sampling errors, injuries or damage to the fish were documented. Tag checks were performed systematically to ensure tag numbers on the data form matched those on the fish specimen (Appendix C, Figure C.7).

2.8 SABLEFISH TAG RECOVERY

Any previously tagged fish brought aboard were treated in one of two ways. First, sablefish with Canadian tags were re-released with a new tag and the previous tag was removed. In addition, any wounds from the old tag were recorded. Second, sablefish with a foreign agency tag or sablefish that had sustained numerous injuries were retained for biological sampling. For these specimens, data were recorded on the tag recovery sheet and any foreign tags were later returned to their country of origin (Appendix C, Figure C.8).

2.9 OCEANOGRAPHIC SENSOR DATA COLLECTION

A Sea-bird Bird SBE 39 temperature and pressure logger was placed in a protective plastic pipe and attached to the inside of the third traps on each string. The logger data in the form of temperature, depth, date and time was downloaded after hauling using the Sea-Bird Electronics SeaTerm © software.

2.10 ELECTRONIC MONITORING VIDEO DATA COLLECTION

During haulback, the electronic monitoring (EM) system cameras were activated by the hydraulic sensor. Standard analog cameras were positioned at optimal viewing angles to record survey activities. Video of catch processed at the hopper was reviewed following the 2008 and 2009 surveys and corrections were made during post-electronic data entry.

3 Results and Discussion

3.1 FISHING

The 2008 survey was 49 days long, starting in Victoria, BC on September 29, with crew changes on October 7 at Gold River, October 13 at Coal Harbour, October 25 at Rose Harbour and November 7 at Masset. In total, 157 sets were completed: 90 StRS sets at random sites, 45 standardized sets at offshore indexing localities, 20 standardized sets at mainland inlets and 2 sets at exploratory sites. (Appendix D).

The 2009 survey was 49 days long, commencing in Victoria, BC on October 8, with crew changes on October 24 at Coal Harbour, November 3 at Rose Harbour and November 16 at Masset. In total, 155 sets were completed: 90 StRS sets at random sites, 45 standardized sets at offshore indexing localities and 20 standardized sets at mainland inlets (Appendix E).

3.2 CATCH PER UNIT EFFORT (CPUE)

3.2.1 Stratified Random CPUE

In general, catch per unit effort as indexed by kilograms (Figure 7) and numbers (Figure 8) of sablefish per trap, attained the highest catch rates in the middle depth stratum (RD_2) in most years. The average weight of sablefish over time in the deep (RD_3) and shallow waters (RD_1) tended to be higher in the northern survey areas. In the middle depths (RD_2), the mean weights were consistently higher in area S₄ (Figure 9). CPUE over survey years (2003 to 2009) reached over 30 kg per trap and over 11 fish per trap in 2003 and 2006. The lowest CPUE was seen in 2009 in both mean weight and numbers of fish per trap (Figure 10,a,b). The average weight of sablefish remained ~ 3 kg over time (Figure 10,c).

3.2.2 Offshore Indexing CPUE

Standardized sets were conducted at offshore indexing localities from 1988 through 2009. The 1988 and 1989 standardized catch rates were not included in Figure 11 as the fishing protocols were significantly different than future surveys (Wyeth and Kronlund 2003). The mean catch rates remained high from 1990 through 1993, with the year 1993 yielding the highest mean catch rate. Then, consistent lower catch rates were exhibited from 1994 to 2002, with the year 2001 yielding the lowest mean catch rate. In 2003 and 2004, the mean catch rates were again higher and similar to those in the first couple years in the 1990's. The years 2005 through 2009 declined to lower catch rates that resembled those in the late 1990's (Figure 11,a,b). The mean sablefish weight remained over 3.0 kg for years 1990 to 2009 with the exception of 1990, 2006 and 2007 (Figure 11,c).

3.2.3 Mainland Inlet CPUE

CPUE in the mainland inlets has varied in a relatively predictable manner over time with peak CPUE occurring every 5-7 years. In the early part of the time series (mid-1990s) average CPUE remained relatively constant before a peak in CPUE was observed in 1999, followed by declines to consistent levels until another peak in 2003 and 2004 (Figure 12 a,b). Annual mean weights of sablefish over time were less than those at offshore indexing localities (Figure 12 c).

3.3 CATCH COMPOSITION

3.3.1 2008 Survey

A total of sixty-four (64) taxonomic groups were represented in the catches in StRS sets in 2008 (Table 3). These included ten (10) roundfish species, thirteen (13) rockfish species, four (4) flatfish species and thirty-seven (37) invertebrate species. Other than sablefish, the most common species, by weight, were arrowtooth flounder (*Atheresthes stomias*), lingcod (*Ophiodon elongatus*) and Pacific halibut (*Hippoglossus stenolepis*).

A total of forty-five (45) taxonomic groups were represented in the catches in standardized sets at offshore indexing localities in 2008 (Table 4). These included nine (9) roundfish species, eight (8) rockfish species, four (4) flatfish species and twenty-four (24) invertebrate species. Other than sablefish, the most common species, by weight, were arrowtooth flounder (*Atheresthes stomias*), rougheye/blackspotted rockfish complex (*Sebastes aleutianus/melanostictus*) and Pacific halibut (*Hippoglossus stenolepis*).

A total of twenty-one (21) taxonomic groups were represented in the catches from traditional standardized sets conducted in mainland inlet localities in 2008 (Table 5). These included seven (7) roundfish species, three (3) rockfish species, three (3) flatfish species and eight (8) invertebrate species. The most common species captured, in order of total weights, other than sablefish were Pacific halibut (*Hippoglossus stenolepis*) and Pacific sleeper shark (*Somniosus pacificus*).

A total of five (5) taxonomic groups were represented in the catches from exploratory sets in 2008 (Table 6). These included two (2) roundfish species, one (1) rockfish species and two (2) flatfish species.

3.3.2 2009 Survey

A total of seventy-five (75) taxonomic groups were represented in StRS sets in 2009 (Table 7). These included fourteen (14) roundfish species, fourteen (14) rockfish species, four (4) flatfish species and forty-three (43) invertebrate species. Other than sablefish, the most common species, by weight, were arrowtooth flounder (*Atheresthes stomias*), Pacific halibut (*Hippoglossus stenolepis*) and spiny dogfish (*Squalus acanthias*).

A total of fifty-two (52) taxonomic groups were represented in the catches from traditional

standardized sets at offshore indexing localities in 2009 (Table 8). These included nine (9) roundfish species, six (6) rockfish species, three (3) flatfish species, thirty-three (33) invertebrate species and one (1) bird species. Other than sablefish, the most common species, by weight, were arrowtooth flounder (*Atheresthes stomias*), Pacific halibut (*Hippoglossus stenolepis*) and rougheye/blackspotted rockfish complex (*Sebastes aleutianus/melanostictus*).

A total of seventeen (17) taxonomic groups were represented in the catches from traditional standardized sets conducted at mainland inlet localities in 2009 (Table 9). These included five (5) roundfish species, two (2) rockfish species, three (3) flatfish species and seven (7) invertebrate species. The most common species, by weight, other than sablefish were inlet standardized (2498) and NO SET TYPE (3).

3.4 SABLEFISH BIOLOGICAL SAMPLING

A detailed breakdown of the fate of the catch (released, biosampled or tagged) in each trap for the 2008 and 2009 surveys are listed in Appendix F and Appendix G, respectively.

3.4.1 2008 Survey

During the 2008 StRS sets, a total of 20,326 sablefish were caught. Of that total, 6,949 were tagged and released and 4,116 were retained for biological sampling. Of the tagged fish, 70 were previously tagged fish that were re-released with a new tag. One previously tagged fish was retained for sampling (Appendix H).

Over the 2008 standardized offshore indexing sets, a total of 3,975 sablefish were caught and 3,336 were retained for biological sampling. Of these fish, 28 were previously tagged fish that were re-released with a new tag and one previously tagged fish was retained for sampling (Appendix H).

Out of the 2,498 sablefish captured during the 2008 mainland inlet sets, 1,320 were tagged and released, 674 were used for biological sampling and 25 were previously tagged fish re-released with a new tag. One previously tagged fish was retained for sampling (Appendix H).

At the exploratory sets, three sablefish were captured, tagged and released (Appendix H).

Overall, the StRS sets had a higher proportion of females than males over the spatial strata S_2 , S_3 , S_4 and S_5 . More females than males were seen in the shallow depth stratum within the spatial strata S_2 , S_3 , S_4 and S_5 . In the mid depth stratum, there were more males than females in all spatial strata. The deepest depth stratum saw more females in spatial strata S_1 , S_2 , S_3 and S_5 . The mean fork length for females reached 72 cm in area S_4 (Table 10).

The northern offshore indexing localities of Langara Island-North Frederick, Hippa Island, Buck Point and Gowgaia Bay had a higher proportion of females than males. South of Haida Gwaii, Triangle Island and Esperenza Inlet had a higher proportion of females. The mean fork length for females was 69 cm (Table 11).

More females than males were sampled in all mainland inlet localities and samples ranged from 67 to 76 percent females. The mean fork length for females was 65 cm (Table 12).

3.4.2 2009 Survey

During the 2009 StRS sets, a total of 15,529 sablefish were caught. Of that total, 5,260 were tagged and released and 4,083 were retained for biological sampling. Of the tagged fish, 59 were previously tagged fish that were re-released with a new tag (Appendix I).

Over the 2009 offshore indexing sets, a total of 2,653 sablefish were caught and 2,328 were retained for biological sampling. Of the total, 12 were previously tagged fish that were re-released with a new tag (Appendix I).

Out of the 4,339 sablefish captured during the 2009 mainland inlet sets, 2,202 were tagged and released, 871 were used for biological sampling. Of the tagged fish, 20 were previously tagged fish re-released with a new tag (Appendix I).

Overall, the StRS design sets had a higher proportion of females than males over all spatial strata. The sex ratio was female biased in the shallow and deep depth strata within all spatial strata. In the mid depth stratum, there were more males than females in all spatial strata. The mean fork length for females reached 72 cm in area S₄ (Table 13).

The northern offshore indexing localities of Langara Island-North Frederick, Hippa Island, Buck Point, Gowgaia Bay and Cape St. James had a higher proportion of females than males. The remaining southern localities were male biased. The mean fork length for all females was 68 cm (Table 14).

More females than males were sampled in all traditional mainland inlet localities and samples ranged from 64 to 72 percent females. The mean fork length for all females was 64 cm (Table 15).

3.4.3 Length Distributions

Significant differences in length distributions between female and male sablefish are exhibited in the data collected from the StRS portion of the 2003 - 2009 surveys. The mean fork length (\bar{x}) for the 15,978 females was 66.6 cm and the mean fork length (\bar{x}) for the 16,367 males was 59.4 cm (Figure 13,a).

In 2008, the StRS mean fork length for the 2,145 females was 70.3 cm and the average mean fork length for the 1,963 males was 60.9 cm. In 2009, the average mean fork length for the 2,164 females was 68.7 cm and the average mean fork length for the 1,903 males was 60.6 cm (Figure 13,b).

Notable differences in length distributions between female and male sablefish are exhibited in the offshore indexing locality data of the 1990 - 2009 surveys. The mean fork length (\bar{x}) for 37,779 females was 67.2 cm and the mean fork length (\bar{x}) for 31,058 males was 59.1 cm (Figure 14,a).

In 2008, the offshore indexing locality mean fork length for the 1,747 females was 68.8 cm and the average mean fork length for the 1,586 males was 60.9 cm. In 2009, the average mean fork length for the 1,213 females was 68.2 cm and the average mean fork length for the 1,111 males was 59.9 cm (Figure 14,b).

3.4.4 Weight-Length

On average for all set types, female sablefish grow faster and reach far greater size (Figure 15,a,b) compared to males (Figure 15,c,d).

3.5 OTHER FISH SAMPLING

Length and sex were collected from all other species. In 2008, fork length was taken for the arrowtooth flounder, darkblotched rockfish, dover sole, greenstriped rockfish, longspine thornyhead, Pacific flatnose, Pacific halibut, Pacific ocean perch, redbanded rockfish, rosethorn rockfish, rougheye/blackspotted rockfish complex, shortraker rockfish, shortspine thornyhead, widow rockfish, yelloweye rockfish, and yellowmouth rockfish; total length was taken for the dover sole, emarginate snailfish, giant grenadier, Pacific grenadier, and Pacific sleeper shark (Appendix J).

In 2009, fork length was taken for the arrowtooth flounder, bocaccio, canary rockfish, dover sole, greenstriped rockfish, lingcod, Pacific halibut, Pacific ocean perch, redbanded rockfish, rosethorn rockfish, rougheye/blackspotted rockfish complex, sharpchin rockfish, shortraker rockfish, silvergray rockfish, and yelloweye rockfish; total length was taken for the dover sole, north Pacific spiny dogfish, Pacific flatnose, Pacific sleeper shark, and shortspine thornyhead (Appendix K).

3.6 RECOVERED TAGGED SABLEFISH

During the 2008 and 2009 sablefish surveys, 25 and 32 previously tagged fish were re-released live with a new tag, respectively. DFO has been tagging, releasing and recovering sablefish since 1991. The highest recovery rate is within the first year of release (Table 16).

3.7 SABLEFISH AGES

The highest proportion of female ages in the StRS sets for 2003 through to 2009 were 3, 4, 5, 6, 7, 8 and 9 years of age, respectively (Figure 16, a). The highest proportion of male ages in StRS sets for 2003 through to 2009 were 3, 5, 5, 6, 8, 8 and 8 years of age, respectively (Figure 16, b).

The highest proportion of female ages in offshore indexing localities from 1990 to 1992 were 4, 11 and 7 years of age, respectively. A cohort appeared in 1993 through to 1998 as 3, 4, 5, 6, 7 and 8 year olds. The years 1999 to 2003 were dominated by 5 year olds, except 2001, where 6

year olds prevailed. Another cohort appeared in 2004 through 2009 as 4, 5, 6, 6, 8 and 8 year olds, respectively (Figure 17,a).

The highest proportion of male ages in offshore indexing localities from 1990 to 1992 were 4, 6 and 7 years of age, respectively. A cohort appeared in 1993 through to 1999 as 3, 4, 6, 6, 7, 8 and 9 year olds. The year 2000 was dominated by 5 year olds, 2001 and 2002 were dominated by 7 year olds. Another cohort appeared in 2003 through 2009 as 5, 5, 6, 6, 7, 8 and 9 year olds, respectively (Figure 17,b).

Historic data until 2009 lists the oldest female at 92 years of age, collected in 2003 and the oldest male sablefish at years of age, collected in the years 2006, 2006 and 2006.

3.8 OCEANOGRAPHIC TEMPERATURES AND DEPTHS

Co-plots of average temperatures and average depths by one degree latitude intervals from south-west of Vancouver Island to northwest of Haida Gwaii exhibit a general trend of decreasing temperature with depth for 2008 and 2009 (Figure 18).

SBE 39 recorders have been placed on survey fishing sets since 2006. In the shallow waters (100-450 meters), the lowest to highest average temperatures were 5 °C (2008) to 7 °C (2006). In the mid-depth waters (450-850 meters), the lowest to highest average temperatures were 4 °C (2007) to 5.2 °C (2006). In the deepest waters (850-1400 meters), the lowest to highest average temperatures were 2.9 °C (2008) to 3.7°C (2009) (Figure 19).

3.9 ACKNOWLEDGEMENTS

The stock assessment survey and data report is the result of the collaborative efforts of many individuals. Wild Canadian Sablefish has provided coordination and support of the annual sablefish survey since 1994. The scientific staff that conducted the sablefish research charters included Ken Barabash (2008), Margo Elfert (2008-2009), Daniel Erskine (2008-2009), Dean Gaidica (2008-2009), Matthew McKay (2008-2009), Dan Rafla (2008), Chris Sledz (2009), and Tucker Soltau (2008) of Archipelago Marine Research Ltd (AMR); and Allen Kronlund (2008-2009), Brock Medlar (2009) and Malcolm Wyeth (2008-2009) of Fisheries and Oceans, Canada.

A special thanks to the skipper and crew of the F/V Ocean Pearl, whose efforts made the 2008 and 2009 surveys successful. In 2008, the crew consisted of Bob Fraumeni (skipper), D'Arcy Nichols, Gary Hensworth, Dan Heslop, Daryl McMillan, Troy Tremeer and Aaron Villeneuve. In 2009, the crew consisted of Bob Fraumeni (skipper), D'Arcy Nichols, Dan Heslop, Aaron Krossenger, Todd Lower, Shawn Raines and Troy Tremeer.

4 Tables

Table 1. Components of the 2008 and 2009 sablefish research and assessment surveys.

Component	Bait	Sample Protocol	Locations	Sets Completed	
				2008	2009
Stratified random sampling (StRS)	2 lbs frozen squid (bagged), 10 lbs Hake (loose)	1/3 traps discarded, 1/3 traps for tagging, 1/3 traps for biosamples	Five spatial strata (S ₁ - S ₅)	90	90
Traditional Offshore Standardized	1 lb frozen squid (bagged)	50-60 piece LSWMO, up to 80 piece LSM	Langara Is-North Frederick Hippa Island Buck Point Gowgaia Bay Cape St.James Triangle Island Quatsino Sound Esperenza Inlet Barkley Canyon	5 5 5 5 5 5 5 5	
Traditional Inlet Standardized	2 lbs frozen squid (bagged)	1/2 traps used for tagging, 1/2 traps used for biosamples	Dean/Burke Channel Finlayson Channel Gil Island Portland Inlet	5 5 5 5	5 5 5 5
Exploratory	2 lbs frozen squid (bagged), 10 lbs Hake (loose)	Shallow experimental sets, search for small sablefish. Traps (10) every second becket	Porcher Peninsula Goshen Island		1 1

Table 2. Sets completed for StRS component of the the 2008 and 2009 (blue) surveys by spatial and depth strata.

Spatial Strata	Depth Strata							
	RD ₁ 2008	RD ₁ 2009	RD ₂ 2008	RD ₂ 2009	RD ₃ 2008	RD ₃ 2009	Total 2008	Total 2009
S ₁ (South West Coast Vancouver Island or SWCVI)	6	6	6	6	6	6	18	18
S ₂ (North West Coast Vancouver Island or NWCVI)	6	6	6	6	6	6	18	18
S ₃ (Queen Charlotte Sound or QCS)	6	6	6	6	6	6	18	18
S ₄ (South West Coast Haida Gwaii or SWCHG)	6	6	6	6	6	6	18	18
S ₅ (North West Coast Haida Gwaii or NWCHG)	6	6	6	6	6	6	18	18
Total	30	30	30	30	30	30	90	90

Table 3. Summary of species captured during the 2008 survey StRS sets conducted by the Ocean Pearl.

Category	Common Name	Scientific Name	Count	Weight(kg)
Roundfish Species	Sablefish	ANOPLOPOMA FIMBRIA	59,094	
	Lingcod	OPHIODON ELONGATUS	1,001	
	Pectoral rattail	ALBATROSSIA PECTORALIS	910	
	Spiny dogfish	SQUALUS ACANTHIAS	695	
	Pacific grenadier	CORYPHAEENOIDES ACRROLEPIS	582	
	Pacific sleeper shark	SOMNIOSUS PACIFICUS	96	
		CAREPROCTUS FURCELLUS	40	
	Pacific flatnose	ANTIMORA MICROLEPIS	16	
	Blackfin sculpin	MALACOCOTTUS KINCAIDI	2	
	Pacific viperfish	CHAULIODUS MACOUNI	1	
Rockfish Species	Rougheye/blackspotted rockfish	SEBASTES	854	
		ALEUTIANUS/MELANOSTICTUS		
	Redbanded rockfish	SEBASTES BABCOCKI	434	
	Shortraker rockfish	SEBASTES BOREALIS	251	
	Yelloweye rockfish	SEBASTES RUBERRIMUS	187	
	Shortspine thornyhead	SEBASTOLOBUS ALASCANUS	70	
	Rosethorn rockfish	SEBASTES HELVOMACULATUS	4	
	Yellowmouth rockfish	SEBASTES REEDI	2	
	Longspine thornyhead	SEBASTOLOBUS ALTIVELIS	2	
	Rockfishes	SEBASTINAE	1	
	Greenstriped rockfish	SEBASTES ELONGATUS	1	
	Yellowtail rockfish	SEBASTES FLAVIDUS	1	
	Widow rockfish	SEBASTES ENTOMELAS	1	
	Sharpchin rockfish	SEBASTES ZACENTRUS	1	
Flatfish Species	Arrowtooth flounder	ATHERESTHES STOMIAS	2,083	
	Pacific halibut	HIPPOGLOSSUS STENOLEPIS	988	
	Dover sole	MICROSTOMUS PACIFICUS	12	
	Deepsea sole	EMBASSICHTHYS BATHYBIUS	1	
Invertebrate Species	Grooved Tanner Crab	CHIONOECETES TANNERI	270	
		PARALOMIS MULTISPINA	28	
	Red Queen Crab	LITHODES COUESI	24	
	Oregon triton	FUSITRITON OREGONENSIS	15	
		ALLOCENTROTUS FRAGILIS	9	
		NEPTUNEIIDAE	8	
	Brown box crab	LOPHOLITHODES FORAMINATUS	7	
	Brown king crab	PARALITHODES BREVIPES	5	
	Sponges	PORIFERA	4	
	Octopus	OCTOPUS	3	
	Red king crab	PARALITHODES CAMMTSCHATICA	2	
	Box crabs	LOPHOLITHODES	2	
	Fish-eating star	STYLASTERIAS FORRERI	1	
	Prawn	PANDALUS PLATYCEROS	1	
	Lithodio crabs	LITHODIDAE	1	
	Morning sun starfish	SOLASTER DAWSONI	1	
	Anemone	ACTINIARIA	1	
	Gorgonian corals	GORGONACEA	1	
		FLABELLINA	1	
	Heart urchins	ATELOSTOMATA	40	
	Brittle stars	OPHIURAE	12	
	Hermit crabs	PAGURIDAE	4	
	Sea urchins	ECHINACEA	4	
		AMPHIOPHIURA PONDEROSA	4	
		ASTERONYX LOVENI	2	
		MEDIASTER TENELLUS	2	
	Mud star	CTENODISCUS CRISPATUS	2	
		RATHBUNASTER CALIFORNICUS	2	

Table 3. continued.

Category	Common Name	Scientific Name	Count	Weight(kg)
	Glass sponges	HEXACTINELLIDA	1	
	Soft sea cucumber	PSEUDOSTICHOPUS MOLLIS	1	
	Rose starfish	CROSSASTER PAPPOSUS	1	
	Sea lilies and feather stars	CRINODEA	1	
	Sea pens	PENNATULACEA	1	
	Starfish	ASTERIODEA	1	
		NEARCASTER	1	
		OPHIOSCOLEX CORYNETES	1	
		HETEROZONIAS ALTERNATUS	1	

Table 4. Summary of species captured during the 2008 survey standardized sets at offshore indexing localities.

Category	Common Name	Scientific Name	Count	Weight(kg)
Roundfish Species	Sablefish	ANOPLOPOMA FIMBRIA	11,672	
	Pectoral rattail	ALBATROSSIA PECTORALIS	182	
	Lingcod	OPHIODON ELONGATUS	93	
	Pacific grenadier	CORYPHAOIDES ACROLEPIS	59	
	Spiny dogfish	SQUALUS ACANTHIAS	23	
	Skilfish	ERILEPIS ZONIFER	9	
	Pacific flatnose	ANTIMORA MICROLEPIS	2	
		CAREPROCTUS FURCELLUS	1	
	Pacific viperfish	CHAULIODUS MACOUNI	1	
Rockfish Species	Rougheye/blackspotted rockfish	SEBASTES	449	
		ALEUTIANUS/MELANOSTICTUS		
	Shortraker rockfish	SEBASTES BOREALIS	70	
	Redbanded rockfish	SEBASTES BABCOCKI	49	
	Shortspine thornyhead	SEBASTOLOBUS ALASCANUS	10	
	Longspine thornyhead	SEBASTOLOBUS ALTIVELIS	2	
	Pacific ocean perch	SEBASTES ALUTUS	2	
	Darkblotched rockfish	SEBASTES CRAMERI	1	
	Rosethorn rockfish	SEBASTES HELVOMACULATUS	1	
Flatfish Species	Arrowtooth flounder	ATHERESTHES STOMIAS	854	
	Pacific halibut	HIPPOGLOSSUS STENOLEPIS	202	
	Dover sole	MICROSTOMUS PACIFICUS	20	
	Deepsea sole	EMBASSICHTHYS BATHYBIUS	2	
Invertebrate Species	Grooved Tanner Crab	CHIONOECETES TANNERI	49	
	Red Queen Crab	LITHODES COUESI	31	
	Oregon triton	FUSITRITON OREGONENSIS	5	
	Sponges	PORIFERA	5	
		ALLOCENTROTUS FRAGILIS	3	
	Brown king crab	PARALITHODES BREVIPES	2	
		RATHBUNASTER CALIFORNICUS	2	
	Vampire squid	VAMPYROMORPHA	2	
		NEPTUNEIDAE	1	
		HYMENASTER	1	
		MEDIASTER TENELLUS	14	
		HETEROZONIAS ALTERNATUS	8	
	Brittle stars	OPHIURAE	8	
	Heart urchins	ATELOSTOMATA	3	
	Anemone	ACTINIARIA	2	
	Starfish	ASTERIODEA	2	

Table 4. continued.

Category	Common Name	Scientific Name	Count	Weight(kg)
	Red king crab	PARALITHODES CAMMTSCHATICA	2	
	Rose starfish	CROSSASTER PAPPOSUS	1	
	Sea urchins	ECHINACEA	1	
	Sea whip	OSTEOCELLA SEPTENTRIONALIS	1	
	Soft sea cucumber	PSEUDOSTICHOPUS MOLLIS	1	
	Morning sun starfish	SOLASTER DAWSONI	1	
	Fish-eating star	STYLASTERIAS FORRERI	1	
		HIPPASTERIA CALIFORNICA	1	

Table 5. Summary of species captured during the 2008 survey standardized sets at mainland inlet localities.

Category	Common Name	Scientific Name	Count	Weight(kg)
Roundfish Species	Sablefish	ANOPLOPOMA FIMBRIA	7,495	
	Pacific sleeper shark	SOMNIOSUS PACIFICUS	695	
	Pacific cod	GADUS MACROCEPHALUS	16	
	Walleye pollock	THERAGRA CHALCogramma	5	
	Spiny dogfish	SQUALUS ACANTHIAS	3	
	Pacific hake	MERLUCCIUS PRODUCTUS	1	
	Sculpins	COTTIDAE	2	
Rockfish Species	Shortraker rockfish	SEBASTES BOREALIS	24	
	Redbanded rockfish	SEBASTES BABCOCKI	5	
	Rougheye/blackspotted rockfish	SEBASTES ALEUTIANUS/MELANOSTICTUS	4	
Flatfish Species	Pacific halibut	HIPPOGLOSSUS STENOLEPIS	717	
	Arrowtooth flounder	ATHERESTHES STOMIAS	181	
	Dover sole	MICROSTOMUS PACIFICUS	23	
Invertebrate Species		NEPTUNEIDAE	2	
	Heart urchins	ATELOSTOMATA	2	
	Decorator crab	OREGONIA GRACILIS	1	
	Grooved Tanner Crab	CHIONOECETES TANNERI	1	
	Starfish	ASTERIODEA	8	
	Oregon triton	FUSITRITON OREGONENSIS	2	
	Peanutworms	SIPUNCUIDA	1	
		ALLOCENTROTUS FRAGILIS	1	

Table 6. Summary of species captured during the 2008 survey exploratory sets near Porcher Peninsula and Goshen Island.

Category	Common Name	Scientific Name	Count	Weight(kg)
Roundfish Species	Spiny dogfish	SQUALUS ACANTHIAS	13	
	Sablefish	ANOPLOPOMA FIMBRIA	3	
Rockfish Species	Quillback rockfish	SEBASTES MALIGER	2	
Flatfish Species	Arrowtooth flounder	ATHERESTHES STOMIAS	26	
	Pacific halibut	HIPPOGLOSSUS STENOLEPIS	4	

Table 7. Summary of species captured during the 2009 survey StRS sets conducted by the Ocean Pearl. Trace amounts are assigned code 'tr'.

Category	Common Name	Scientific Name	Count	Weight(kg)
Roundfish Species	Sablefish	<i>ANOPLOPOMA FIMBRIA</i>	43,800	
	Spiny dogfish	<i>SQUALUS ACANTHIAS</i>	1,653	
	Pectoral rattail	<i>ALBATROSSIA PECTORALIS</i>	1,031	
	Lingcod	<i>OPIODON ELONGATUS</i>	897	
	Pacific grenadier	<i>CORYPHAOIDES ACROLEPIS</i>	766	
	Pacific flatnose	<i>ANTIMORA MICROLEPIS</i>	38	
	Skilfish	<i>ERILEPIS ZONIFER</i>	10	
	Pink snailfish	<i>PARALIPARIS ROSACEUS</i>	9	
	Pacific sleeper shark	<i>SOMNIOSUS PACIFICUS</i>	6	
	Pacific cod	<i>GADUS MACROCEPHALUS</i>	5	
	Bigmouth sculpin	<i>HEMITRIPTERUS BOLINI</i>	4	
	Twoline eelpout	<i>BOTHROCARA BRUNNEUM</i>	1	
	Black hagfish	<i>EPTATRETUS DEANI</i>	5	
	Blackfin sculpin	<i>MALACOCOTTUS KINCAIDI</i>	1	
Rockfish Species	Rougheye/blackspotted rockfish	<i>SEBASTES ALEUTIANUS/MELANOSTICTUS</i>	731	
	Redbanded rockfish	<i>SEBASTES BABCOCKI</i>	262	
	Shortraker rockfish	<i>SEBASTES BOREALIS</i>	241	
	Yelloweye rockfish	<i>SEBASTES RUBERRIMUS</i>	210	
	Shortspine thornyhead	<i>SEBASTOLOBUS ALASCANUS</i>	76	
	Bocaccio	<i>SEBASTES PAUCISPINIS</i>	9	
	Yellowmouth rockfish	<i>SEBASTES REEDI</i>	5	
	Rosethorn rockfish	<i>SEBASTES HELVOMACULATUS</i>	3	
	Silvergray rockfish	<i>SEBASTES BREVISPINIS</i>	3	
	Canary rockfish	<i>SEBASTES PINNIGER</i>	3	
	Longspine thornyhead	<i>SEBASTOLOBUS ALTIVELIS</i>	2	
	Pacific ocean perch	<i>SEBASTES ALUTUS</i>	2	
	Greenstriped rockfish	<i>SEBASTES ELONGATUS</i>	1	
	Sharpchin rockfish	<i>SEBASTES ZACENTRUS</i>	1	
Flatfish Species	Arrowtooth flounder	<i>ATHERESTHES STOMIAS</i>	2,897	
	Pacific halibut	<i>HIPPOGLOSSUS STENOLEPIS</i>	1,832	
	Dover sole	<i>MICROSTOMUS PACIFICUS</i>	12	
	Deepsea sole	<i>EMBASSICHTHYS BATHYBIUS</i>	1	
Invertebrate Species	Grooved Tanner Crab	<i>CHIONOECETES TANNERI</i>	200	
		<i>ALLOCENTROTUS FRAGILIS</i>	55	
	Red Queen Crab	<i>LITHODES COUESI</i>	27	
	Giant pacific octopus	<i>ENTEROCTOPUS DOFLEINI</i>	17	
	Brown king crab	<i>PARALITHODES BREVIPES</i>	14	
		<i>NEPTUNEIDAE</i>	6	
	Oregon triton	<i>FUSITRITON OREGONENSIS</i>	3	
	Fish-eating star	<i>STYLASTERIAS FORRERI</i>	2	
	Anemone	<i>ACTINARIARIA</i>	1	
	Sunflower starfish	<i>PYCNOPODIA HELIANTHOIDES</i>	1	
	Heart urchins	<i>ATELOSTOMATA</i>	9	
	Rose starfish	<i>CROSSASTER PAPPOSUS</i>	7	
		<i>ASTERONYX</i>	5	
	Sea lilies and feather stars	<i>CRINODEA</i>	5	
	Sea whip	<i>OSTEOCELLA SEPTENTRIONALIS</i>	4	
	Prawn	<i>PANDALUS PLATYCEROS</i>	4	
	Brittle stars	<i>OPHIURAE</i>	4	
		<i>BUCCINIDAE</i>	2	
		<i>OPHIACANTHA</i>	2	
		<i>SOLASTER PAXILLATUS</i>	2	
		<i>AMPHIOPHIURA PONDEROSA</i>	2	
		<i>AMPHIOPHIURA SUPERBA</i>	2	

Table 7. continued.

Category	Common Name	Scientific Name	Count	Weight(kg)
		ANTHOZOA	1	
		TRITONIA DIOMEDEA	1	
		PERIPHYLLA PERIPHYLLA	1	
		RATHBUNASTER CALIFORNICUS	1	
Box crabs		LOPHOLITHODES	1	
		OPHIOPHOLIS	1	
		ELASIPODIDA	1	
		HETEROZONIAS ALTERNATUS	1	
		MEDIASTER TENELLUS	1	
Hydroid		HYDROZOA	1	
Lithodio crabs		LITHODIDAE	1	
Spiny red sea star		HIPPASTERIA SPINOSA	1	
Sponges		PORIFERA	1	
Squat lobster		MUNIDA QUADRISPINA	1	
Squids		TEUTHOIDEA	1	
Sand star		LUIDIA FOLIOLATA	1	
Scaly sea cucumber		PSOLUS SQUAMATUS	1	
Sea cucumber		HOLOTHUROIDEA	1	
Sea mouse		APHRODITA	1	
		PARGORGIA PACIFICA		

Table 8. Summary of species captured during the 2009 survey standardized sets at offshore indexing localities. Trace amounts are assigned code 'tr'.

Category	Common Name	Scientific Name	Count	Weight(kg)
Roundfish Species	Sablefish	ANOPLOPOMA FIMBRIA	7,802	
	Pectoral rattail	ALBATROSSIA PECTORALIS	103	
	Lingcod	OPHIODON ELONGATUS	94	
	Pacific grenadier	CORYPHAENOIDES ACROLEPIS	49	
	Spiny dogfish	SQUALUS ACANTHIAS	41	
	Pacific sleeper shark	SOMNIOSUS PACIFICUS	31	
	Pacific flatnose	ANTIMORA MICROLEPIS	1	
	Black hagfish	EPTATRETUS DEANI	1	
	Pink snailfish	PARALIPARIS ROSACEUS	1	
Rockfish Species	Rougheye/blackspotted rockfish	SEBASTES	413	
		ALEUTIANUS/MELANOSTICTUS		
	Shortraker rockfish	SEBASTES BOREALIS	26	
	Redbanded rockfish	SEBASTES BABCOCKI	17	
	Shortspine thornyhead	SEBASTOLOBUS ALASCANUS	13	
	Rosethorn rockfish	SEBASTES HELVOMACULATUS	1	
	Longspine thornyhead	SEBASTOLOBUS ALTIVELIS	1	
Flatfish Species	Arrowtooth flounder	ATHERESTHES STOMIAS	1,052	
	Pacific halibut	HIPPOGLOSSUS STENOLEPIS	477	
	Dover sole	MICROSTOMUS PACIFICUS	46	
Invertebrate Species	Grooved Tanner Crab	CHIONOECETES TANNERI	37	
	Red Queen Crab	LITHODES COUESI	11	
	Oregon triton	ALLOCENTROTUS FRAGILIS	4	
	Brown king crab	FUSITRITON OREGONENSIS	3	
		NEPTUNEIIDAE	2	
		RATHBUNASTER CALIFORNICUS	1	
		PARALITHODES BREVIPES	1	
		HETEROZONIAS ALTERNATUS	1	

Table 8. continued.

Category	Common Name	Scientific Name	Count	Weight(kg)
	Octopus	OCTOPUS		1
		ELASIPODIDA	15	
		MEDIASTER TENELLUS	13	
Mud star		CTENODISCUS CRISPATUS	13	
Brittle stars		OPHIURAE	12	
		AMPHIOPHIURA SUPERBA	8	
Heart urchins		ATELOSTOMATA	6	
Sea lilies and feather stars		CRINODEA	6	
Rose starfish		CROSSASTER PAPPOSUS	3	
		AMPHIOPHIURA PONDEROSA	3	
		OPHIACANTHA	2	
Sea cucumber		HOLOTHUROIDEA	2	
Starfish		ASTERIODEA	2	
True crabs		BRACYURA	1	
Sponges		PORIFERA	1	
Squat lobster		MUNIDA QUADRISPINA	1	
Proboscisworm		NEMERTINA	1	
Jellyfish		SCYPHOZOA	1	
		OPHIURA SARSI	1	
		OREGONIA	1	
Armoured sea cucumber		PSOLUS CHITONOIDES	1	
		ASTERIIDAE	1	
		CROSSASTER	1	
		NEARCASTER VARIABILIS	1	
		ANTHOZOA		
Bird Species	Northern fulmar	FULMARUS GLACIALIS	1	

Table 9. Summary of species captured during the 2009 survey standardized sets at mainland inlet localities.

Category	Common Name	Scientific Name	Count	Weight(kg)
Roundfish Species	Sablefish	ANOPLOPOMA FIMBRIA	11,031	
	Pacific sleeper shark	SOMNIOSUS PACIFICUS	850	
	Spiny dogfish	SQUALUS ACANTHIAS	6	
	Walleye pollock	THERAGRA CHALCOPRAGMMA	3	
	Pacific cod	GADUS MACROCEPHALUS	2	
Rockfish Species	Shortraker rockfish	SEBASTES BOREALIS	18	
	Rougheye/blackspotted rockfish	SEBASTES	2	
		ALEUTIANUS/MELANOSTICTUS		
Flatfish Species	Pacific halibut	HIPPOGLOSSUS STENOLEPIS	671	
	Arrowtooth flounder	ATHERESTHES STOMIAS	87	
	Dover sole	MICROSTOMUS PACIFICUS	1	
Invertebrate Species	Inshore Tanner Crab	CHIONOECETES BAIRDII	1	
	Mud star	CTENODISCUS CRISPATUS	45	
		NEPTUNEIDAE	32	
	Heart urchins	ATELOSTOMATA	23	
	Decorator crab	OREGONIA GRACILIS	3	
	Oregon triton	FUSITRITON OREGONENSIS	1	
	Sea cucumber	HOLOTHUROIDEA	1	

Table 10. Summary of sablefish biological data collected at the 2008 stratified random survey sites.

Stratum		Proportion		Mean Fork Length (mm)		
Spatial	Depth	Males	Females	Males	Females	Tagged
S ₁	RD ₁	0.53	0.47	606	683	625
	RD ₂	0.82	0.18	586	639	607
	RD ₃	0.15	0.85	592	677	638
Mean		0.50	0.50	595	666	623
S ₂	RD ₁	0.42	0.58	641	719	682
	RD ₂	0.69	0.31	588	668	599
	RD ₃	0.27	0.73	619	708	658
Mean		0.46	0.54	616	698	646
S ₃	RD ₁	0.42	0.58	622	693	659
	RD ₂	0.72	0.28	588	672	605
	RD ₃	0.31	0.69	590	711	629
Mean		0.48	0.52	600	692	631
S ₄	RD ₁	0.21	0.79	660	733	708
	RD ₂	0.52	0.48	635	722	674
	RD ₃	0.52	0.48	636	710	655
Mean		0.42	0.58	644	722	679
S ₅	RD ₁	0.28	0.72	640	732	691
	RD ₂	0.56	0.44	597	674	633
	RD ₃	0.40	0.60	634	742	666
Mean		0.41	0.59	624	716	663

Table 11. Summary of sablefish biological data collected at 2008 offshore indexing localities.

Locality	Proportion		Mean Fork Length (mm)	
	Males	Females	Males	Females
Offshore Indexing				
Langara Island-North Frederick	0.46	0.54	637	734
Hippa Island	0.31	0.69	633	695
Buck Point	0.42	0.58	610	690
Gowgaia Bay	0.39	0.61	628	707
Cape St. James	0.62	0.38	609	704
Triangle Island	0.49	0.51	618	692
Quatsino Sound	0.59	0.41	587	667
Esperanza Inlet	0.44	0.56	599	667
Barkley Canyon	0.52	0.48	599	660
Mean	0.47	0.53	613	691

Table 12. Summary of sablefish biological data collected at the 2008 mainland inlet sites.

Locality	Proportion		Mean Fork Length (mm)		
	Males	Females	Males	Females	Tagged
Mainland Inlet					
Portland Inlet	0.24	0.76	576	617	610
Gil Island	0.33	0.67	579	617	603
Finlayson Channel	0.33	0.67	626	679	653
Dean/Burke Channel	0.24	0.76	617	698	665
Mean	0.29	0.72	600	653	633

Table 13. Summary of sablefish biological data collected at 2009 stratified random survey sites.

Stratum		Proportion		Mean Fork Length (mm)		
Spatial	Depth	Males	Females	Males	Females	Tagged
S ₁	RD ₁	0.48	0.52	606	661	614
	RD ₂	0.80	0.20	583	658	589
	RD ₃	0.18	0.82	599	676	633
	Mean	0.49	0.51	596	665	612
S ₂	RD ₁	0.32	0.68	628	696	666
	RD ₂	0.65	0.35	602	667	624
	RD ₃	0.39	0.61	600	693	637
	Mean	0.45	0.55	610	685	642
S ₃	RD ₁	0.35	0.65	627	684	656
	RD ₂	0.75	0.25	588	655	590
	RD ₃	0.30	0.70	604	694	657
	Mean	0.47	0.53	606	678	634
S ₄	RD ₁	0.24	0.76	641	710	679
	RD ₂	0.53	0.47	628	716	669
	RD ₃	0.44	0.56	630	736	689
	Mean	0.40	0.60	633	721	679
S ₅	RD ₁	0.30	0.70	595	643	625
	RD ₂	0.53	0.47	600	668	630
	RD ₃	0.44	0.56	634	721	704
	Mean	0.42	0.58	610	677	653

Table 14. Summary of sablefish biological data collected at 2009 offshore indexing localities.

Locality	Proportion		Mean Fork Length (mm)	
	Males	Females	Males	Females
Offshore Indexing				
Langara Island-North Frederick	0.44	0.56	578	665
Hippa Island	0.31	0.69	590	679
Buck Point	0.35	0.65	577	653
Gowgaia Bay	0.38	0.62	624	708
Cape St. James	0.48	0.52	610	718
Triangle Island	0.62	0.38	601	678
Quatsino Sound	0.63	0.37	584	683
Esperanza Inlet	0.51	0.49	608	653
Barkley Canyon	0.52	0.48	594	664
Mean	0.47	0.53	596	678

Table 15. Summary of sablefish biological data collected at 2009 mainland inlet sites.

Locality	Proportion		Mean Fork Length (mm)		
	Males	Females	Males	Females	Tagged
Mainland Inlet					
Portland Inlet	0.3	0.7	547	592	576
Gil Island	0.28	0.72	567	621	597
Finlayson Channel	0.28	0.72	625	673	666
Dean/Burke Channel	0.36	0.64	606	684	658
Mean	0.3	0.7	586	642	624

Table 16. Count of tagged fish released since 1991 (including re-released fish) and counts of verified tag recoveries by year including any recoveries that had no reported year. The total count of tag recoveries represent the sum of all verified recoveries.

Year	Released	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	Total	No year
1991	2,447	16	112	49	40	30	24	18	16	8	9	11	5	5	3	1	1	3	1	3	355	7
1992	3,586	0	15	131	99	66	51	33	45	31	9	20	15	6	3	4	3	4	3	4	542	16
1993	7,019	0	0	7	432	228	89	94	98	72	44	42	30	8	10	13	9	9	9	4	1,198	27
1994	7,044	0	0	0	13	421	253	238	229	127	77	61	46	14	17	21	10	5	8	2	1,542	16
1995	15,907	0	0	0	0	84	1,573	957	606	372	247	164	90	50	57	26	43	22	15	13	4,319	94
1996	28,379	0	0	0	0	0	494	2,326	1,363	674	458	373	239	88	87	88	85	64	56	51	6,446	116
1997	19,782	0	0	0	0	0	0	1,244	2,326	913	496	369	244	94	72	93	100	62	60	34	6,107	123
1998	21,966	0	0	0	0	0	0	0	321	1,746	1,107	752	489	185	170	203	213	112	85	57	5,440	59
1999	27,411	0	0	0	0	0	0	0	0	234	2,280	1,433	938	354	397	334	280	164	122	61	6,597	53
2000	22,914	0	0	0	0	0	0	0	0	0	149	2,045	931	320	313	288	233	139	108	66	4,592	39
2001	18,272	0	0	0	0	0	0	0	0	0	0	137	1,565	418	468	383	396	187	155	69	3,778	57
2002	19,857	0	0	0	0	0	0	0	0	0	0	0	95	907	712	483	400	203	159	126	3,085	40
2003	24,658	0	0	0	0	0	0	0	0	0	0	0	0	166	1,278	1,037	635	356	271	183	3,926	45
2004	19,328	0	0	0	0	0	0	0	0	0	0	0	0	0	144	1,376	880	470	300	184	3,354	42
2005	16,511	0	0	0	0	0	0	0	0	0	0	0	0	0	0	128	1,175	572	327	184	2,386	38
2006	19,335	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	288	1,333	678	366	2,665	37
2007	16,598	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	203	1,003	548	1,754	40
2008	8,300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71	378	449	14
2009	7,474	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	62	62	12

5 Figures

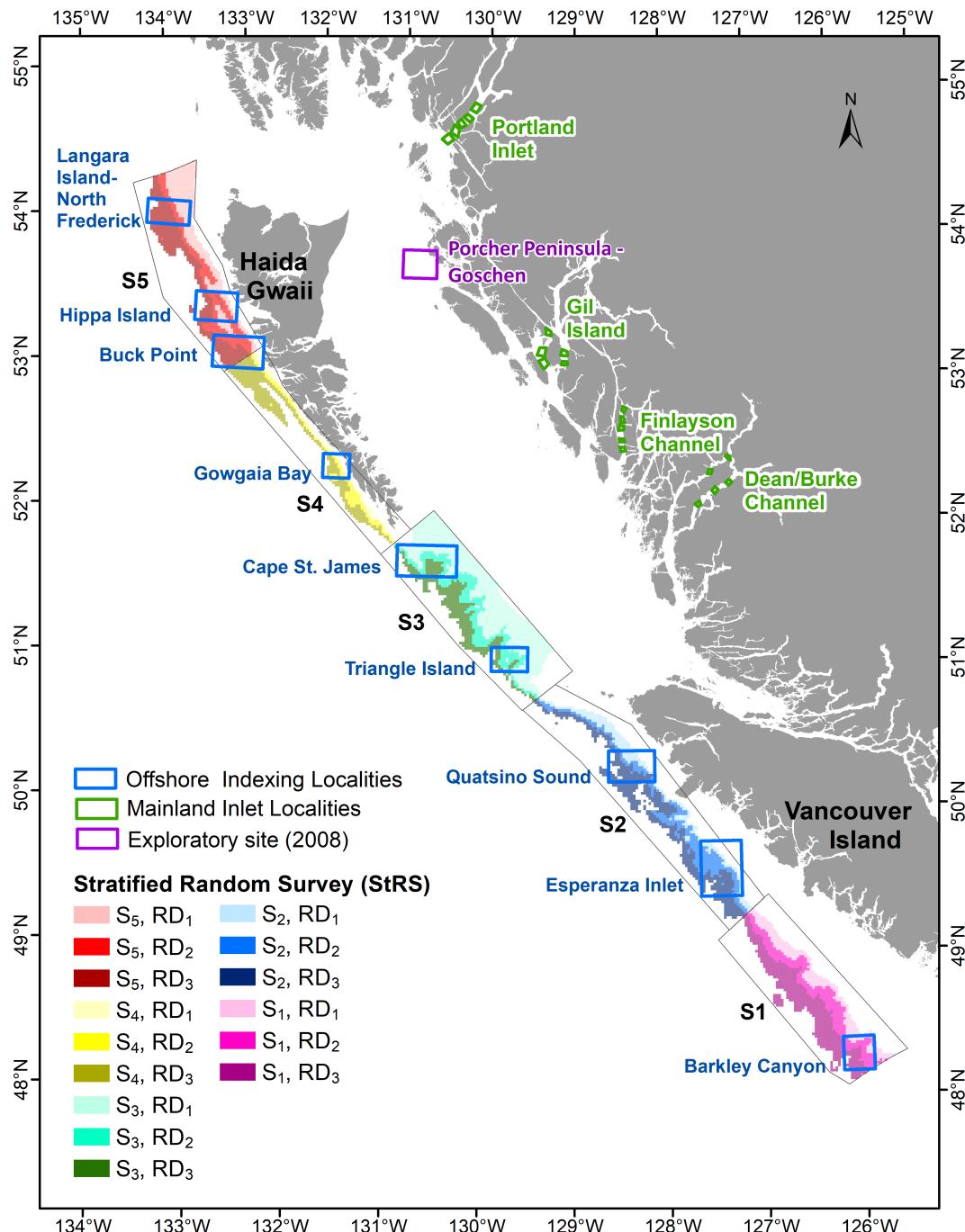


Figure 1. Location of the boundaries of the offshore indexing localities, mainland inlet localities, exploratory sites (2008) and the five spatial areas (S₁-S₅) of the stratified random survey design. The three depths strata (RD₁-RD₃) are colour-coded and nested within each of the five spatial strata.

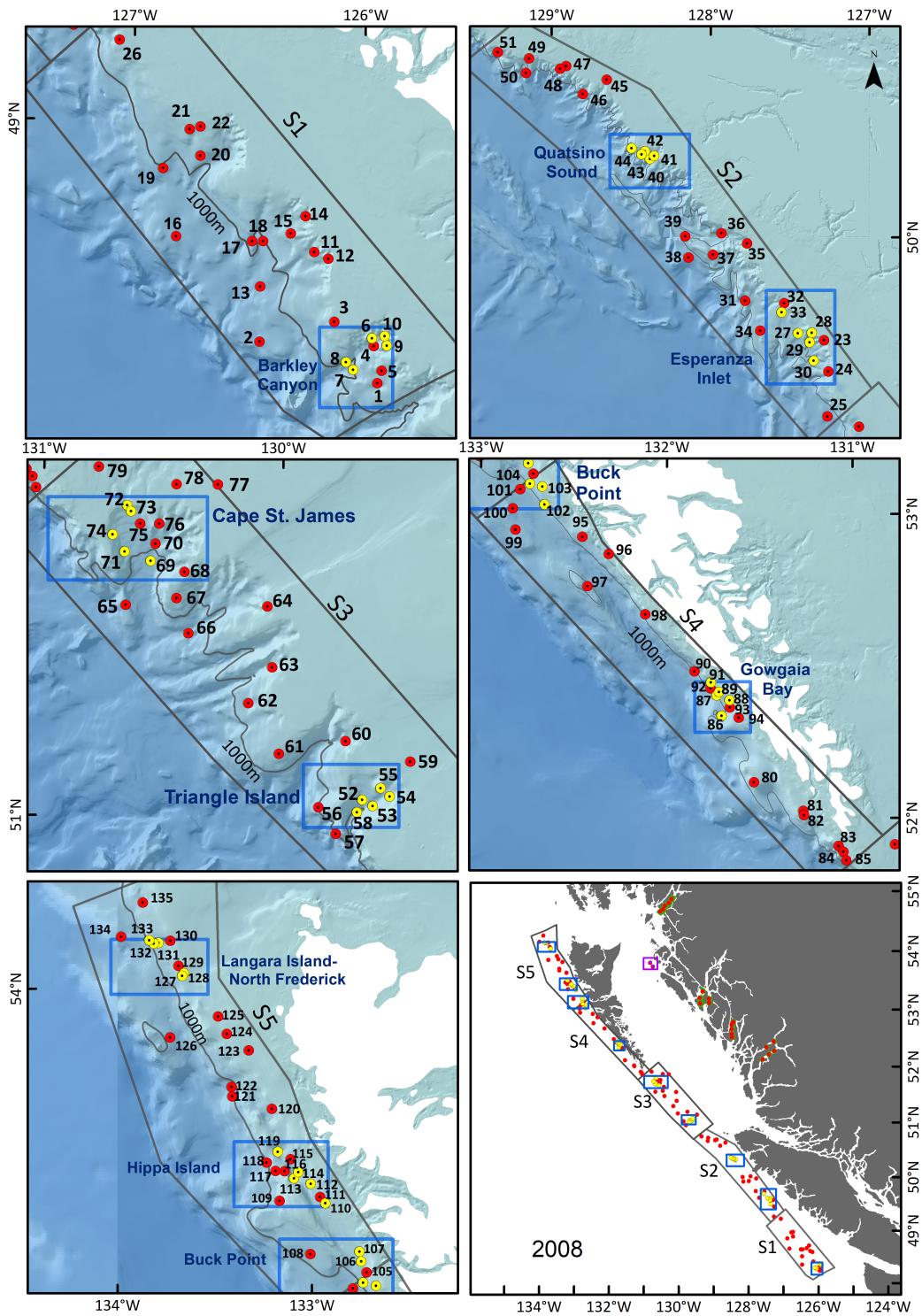


Figure 2. Start locations of the 2008 StRS sets (red markers) conducted in spatial stratum areas S₁ through S₅, standardized sets (yellow markers) conducted at offshore indexing localities, and two exploratory sets (purple markers).

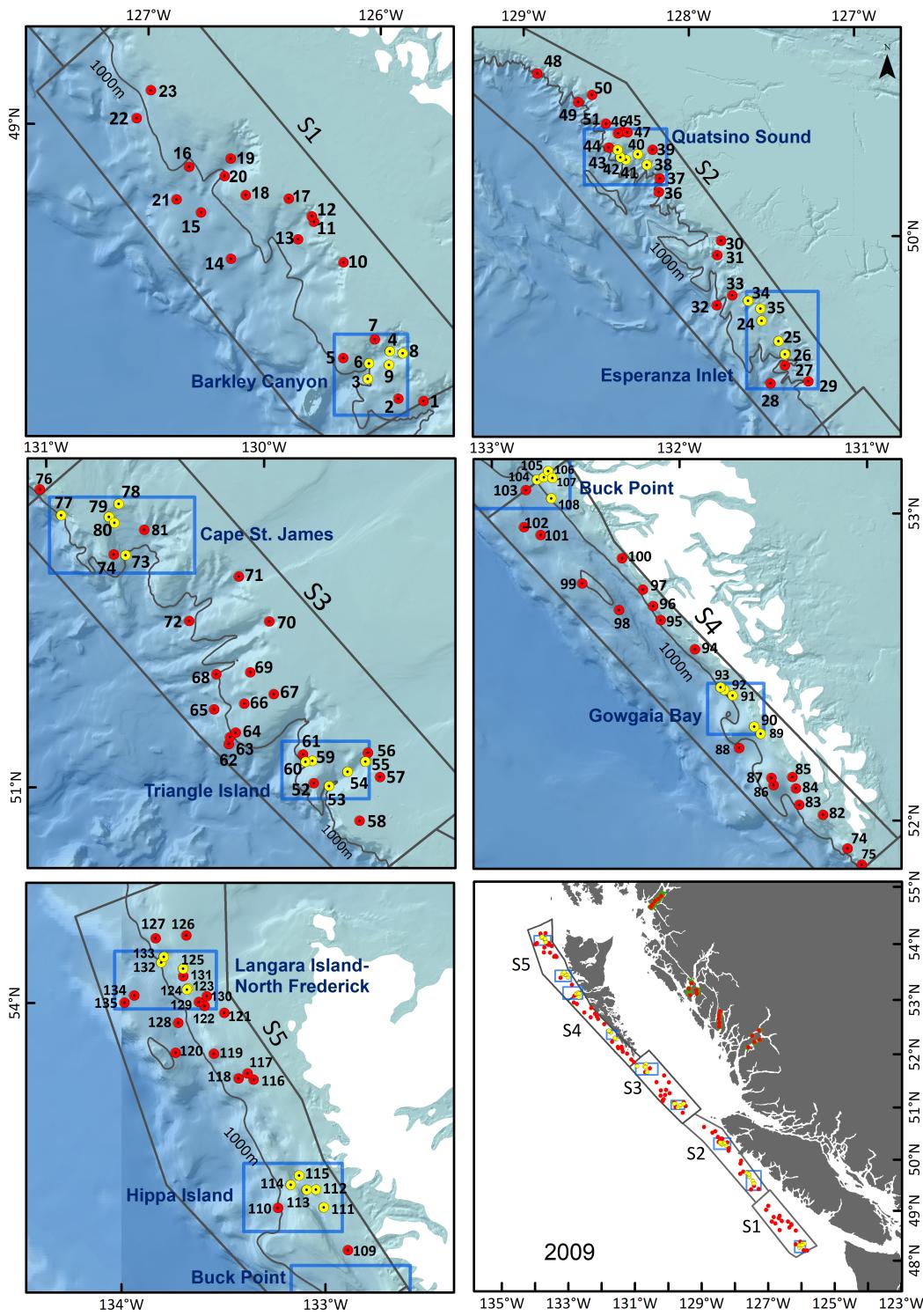


Figure 3. Start locations of the 2009 StRS sets (red markers) conducted in spatial stratum areas S₁ through S₅ and standardized sets (yellow markers) conducted at offshore indexing localities.

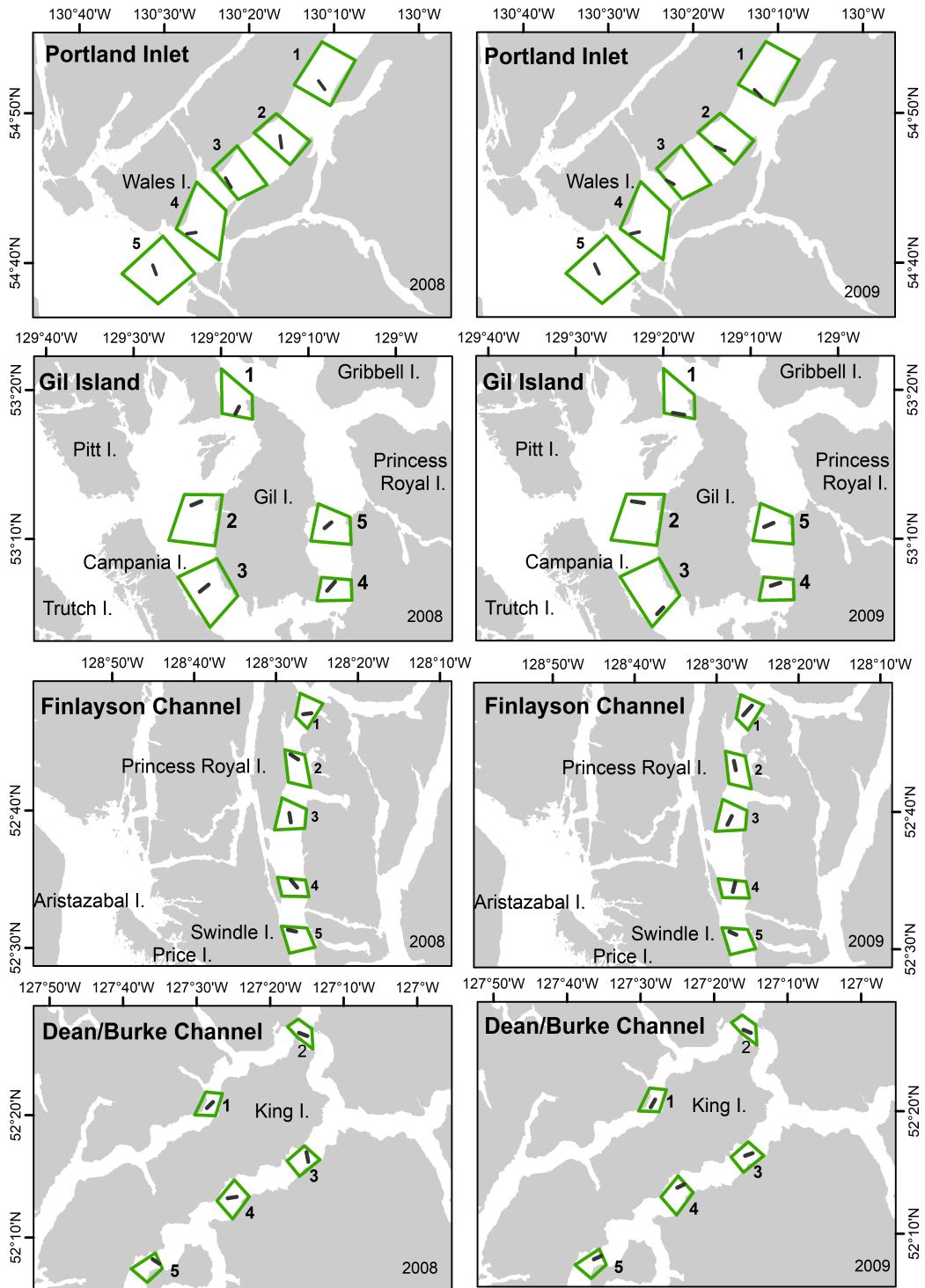
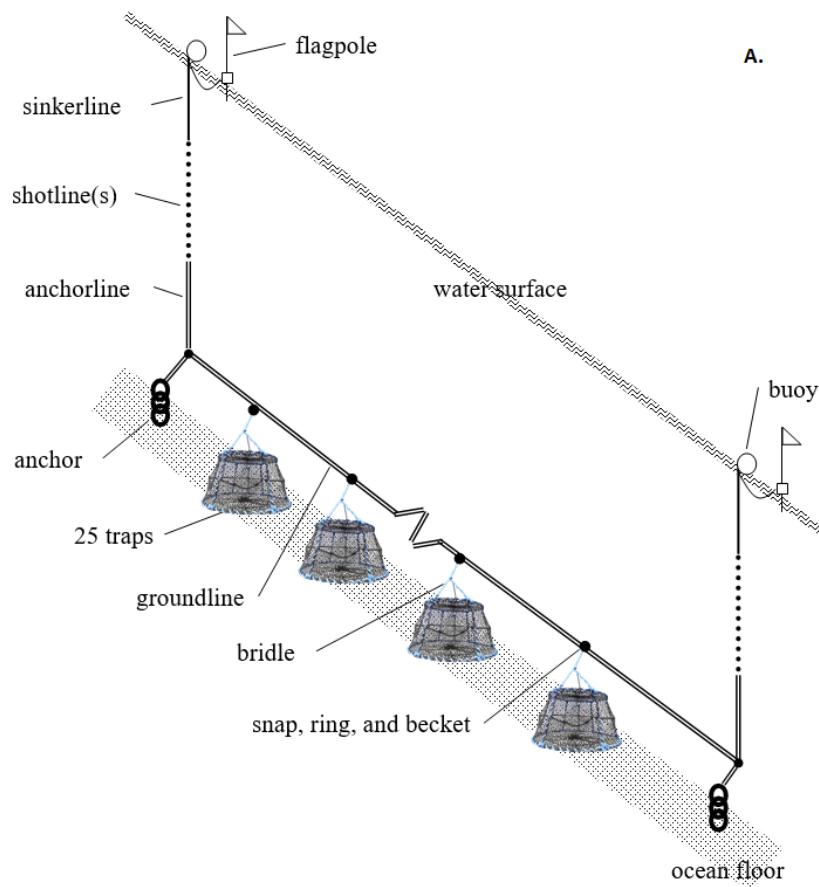


Figure 4. Location of the 2008 and 2009 standardized set tracklines within mainland inlet localities.



Figure 5. Image of the 35.66 meter F/V Ocean Pearl used for the 2008 and 2009 sablefish research and assessment surveys. Photo credit: Ocean Pearl Facebook page.



B.

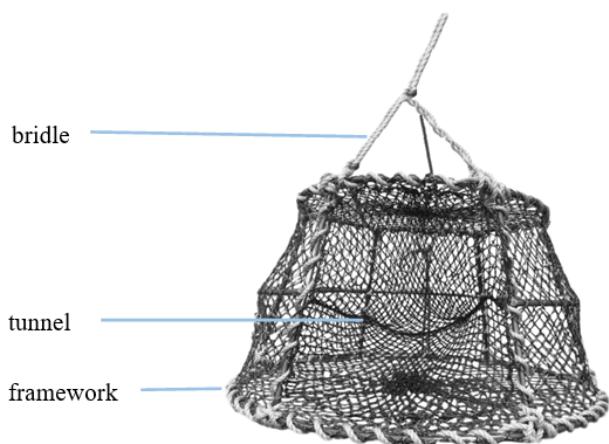


Figure 6. Trap gear elements consisting of 25 baited traps snapped to beackets along a groundline (A). Trap elements (B).

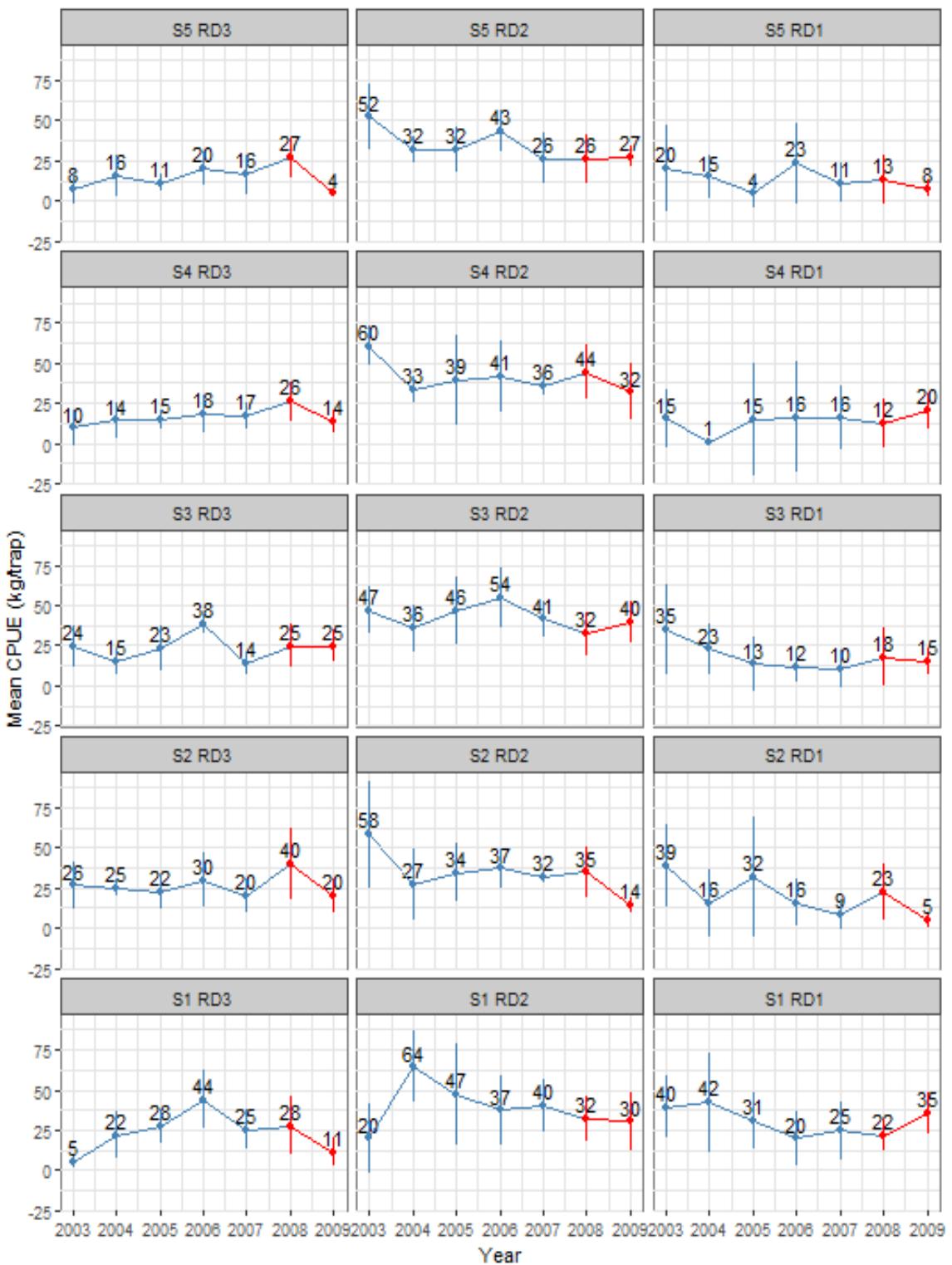


Figure 7. Average sablefish catch per unit effort (CPUE; mean +/- 95% CIs) by StRS survey strata since 2003. Panels run deep to shallow (left to right) and north to south (top to bottom).

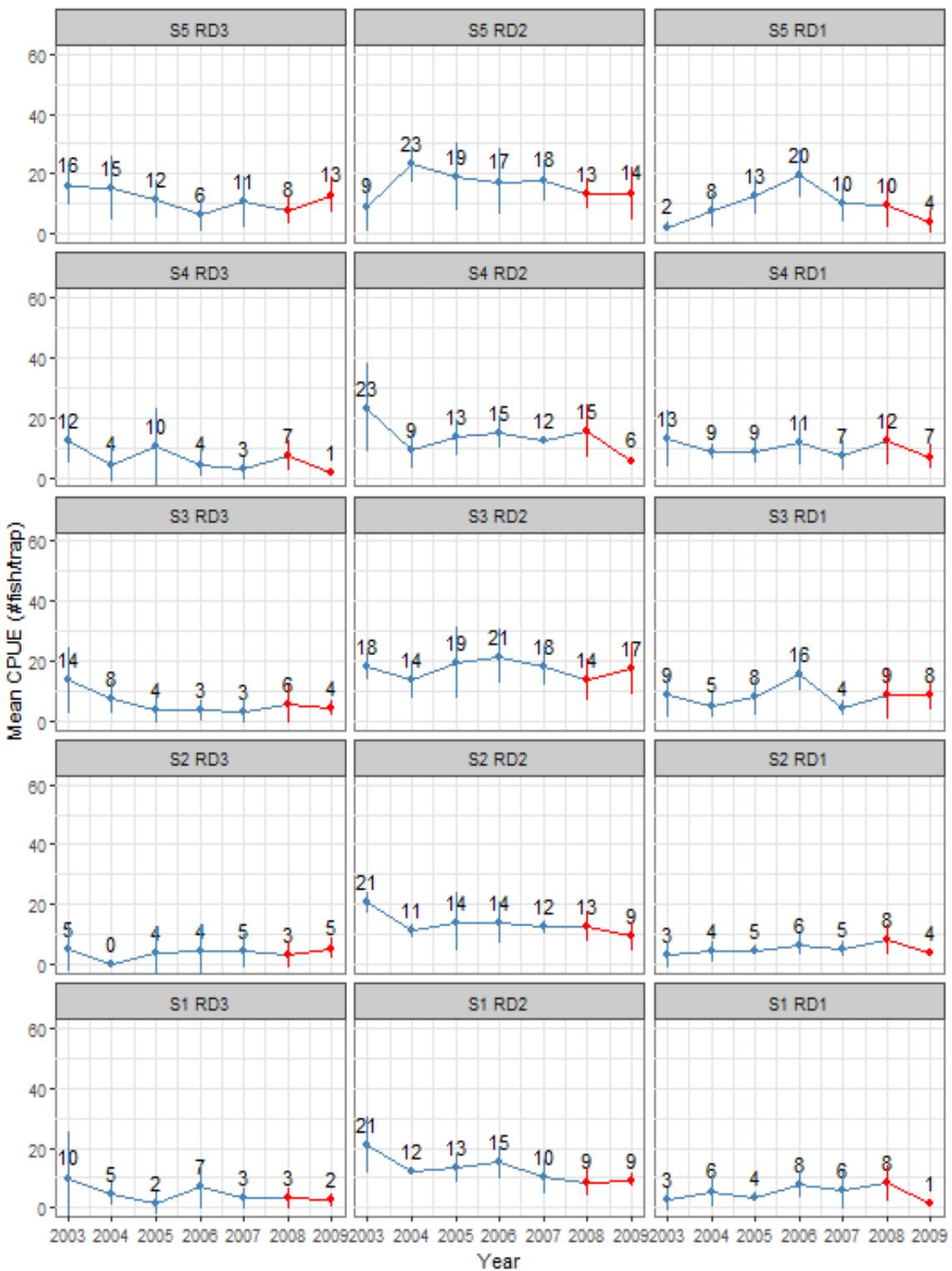


Figure 8. Average number of sablefish per trap (mean +/- 95% CIs) by StRS survey strata over time. Panels run deep to shallow (left to right) and north to south (top to bottom).

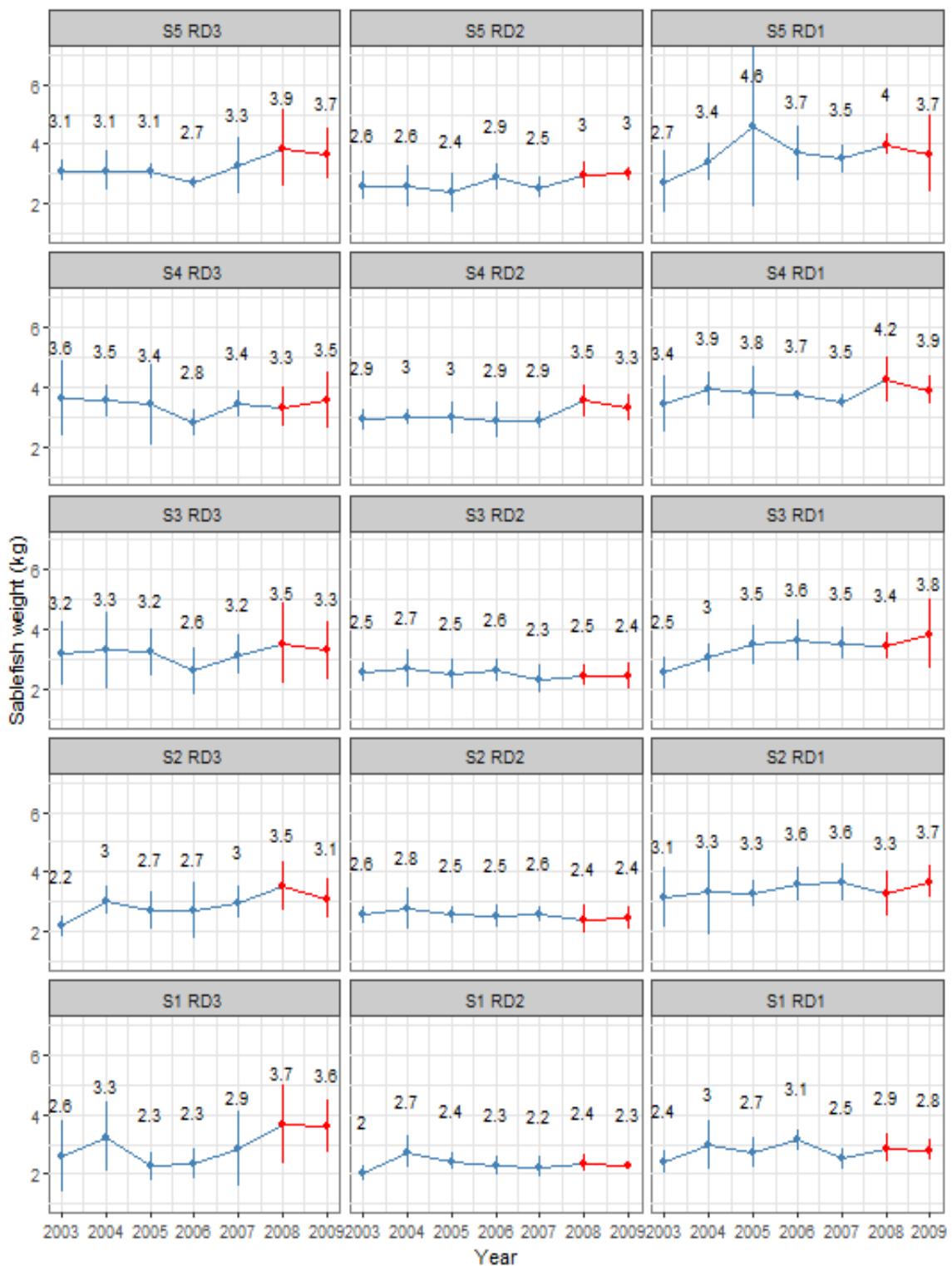


Figure 9. Average weight of sablefish (mean +/- 95% CIs) by survey strata over time. Panels run deep to shallow (left to right) and north to south (top to bottom).

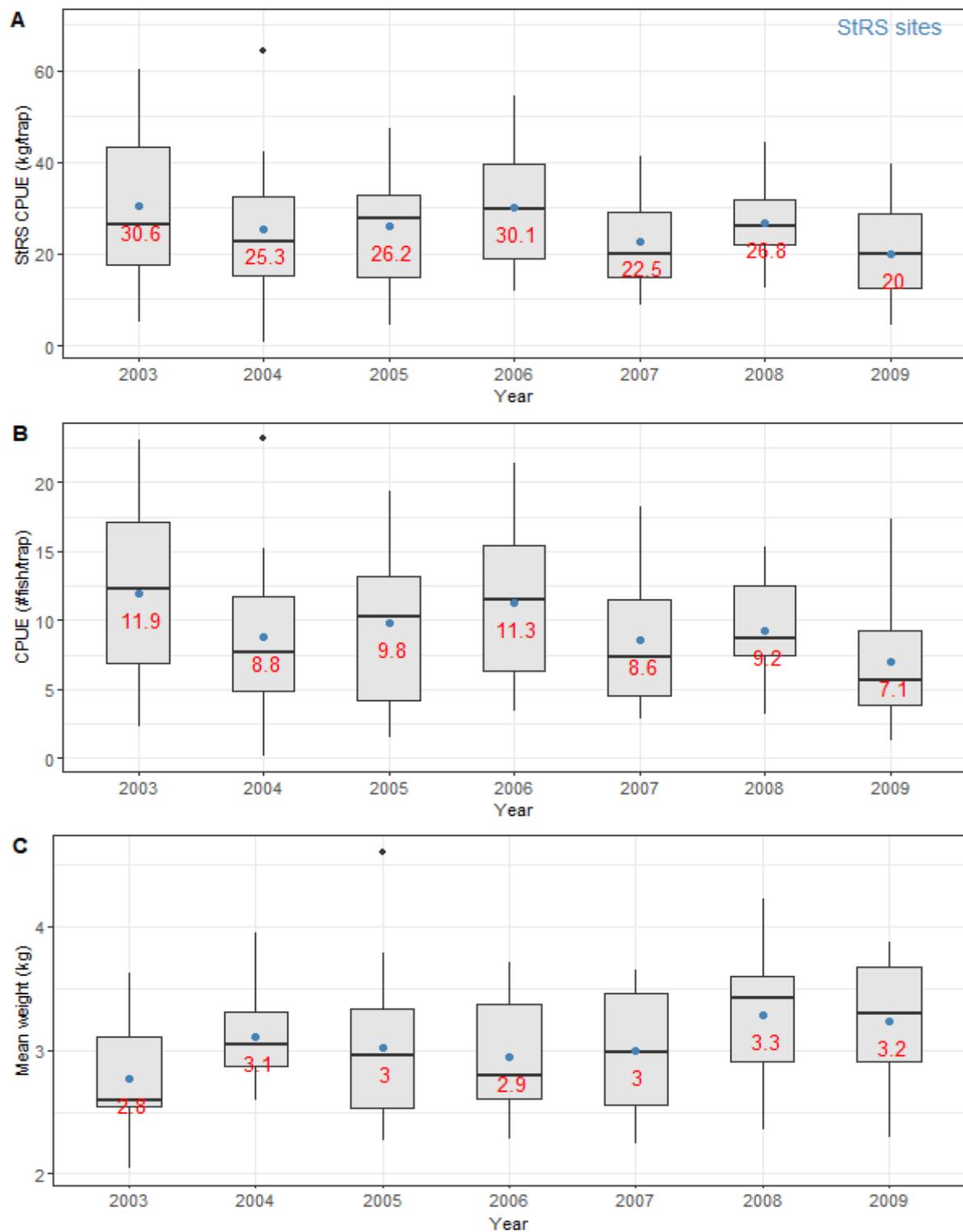


Figure 10. Annual mean weight of sablefish per trap (kg/trap) (A); annual mean number of sablefish per trap (#fish/trap) (B); annual mean weight of sablefish (kg) (C) by StRS survey strata over time. Horizontal line is median and blue dots are arithmetic mean.

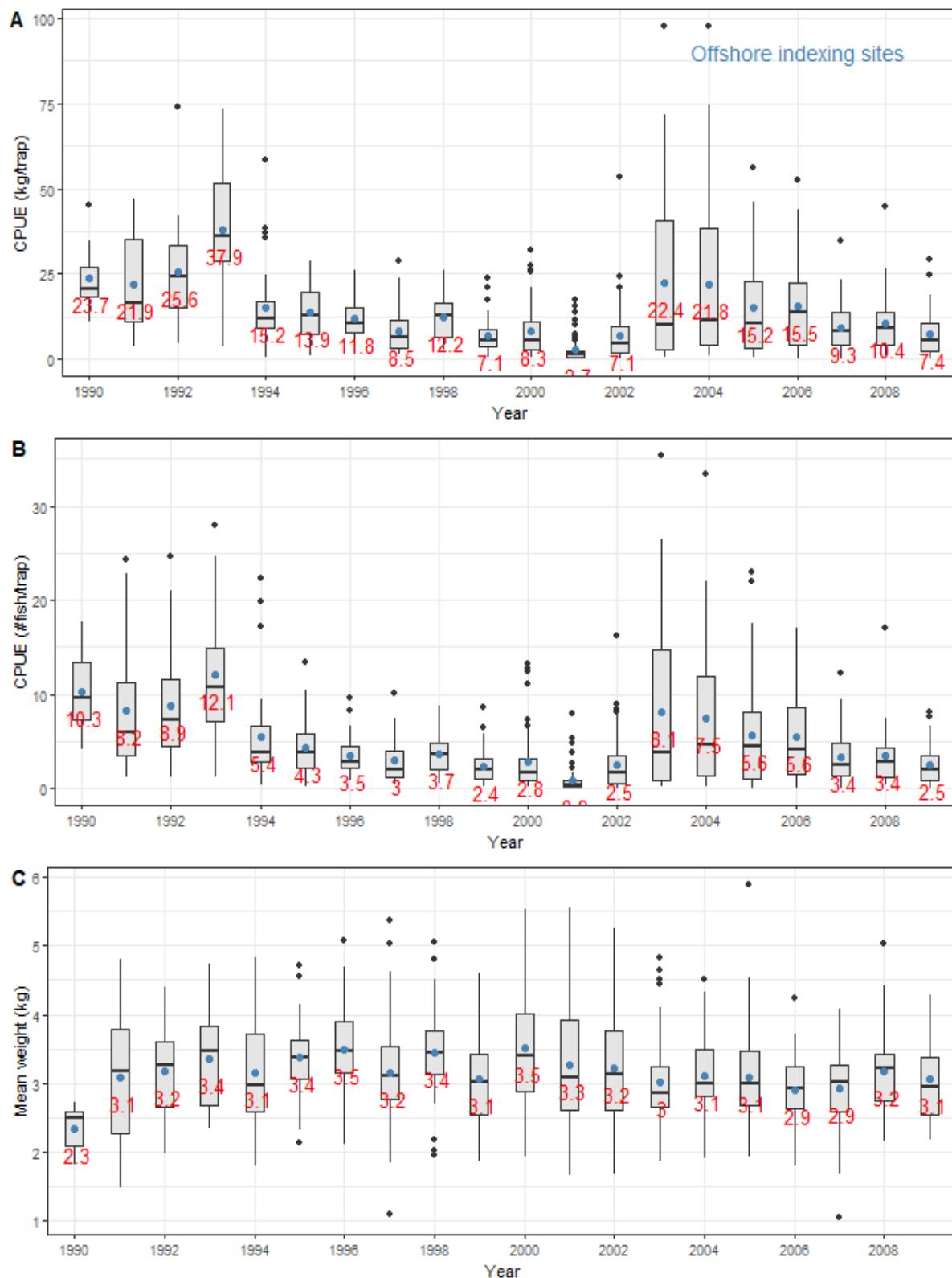


Figure 11. Offshore indexing annual mean weight of sablefish per trap (kg/trap) (A); annual mean number of sablefish per trap (#fish/trap) (B); annual mean weight of sablefish (kg) (C) over time. Horizontal line is median and blue dots are arithmetic mean.

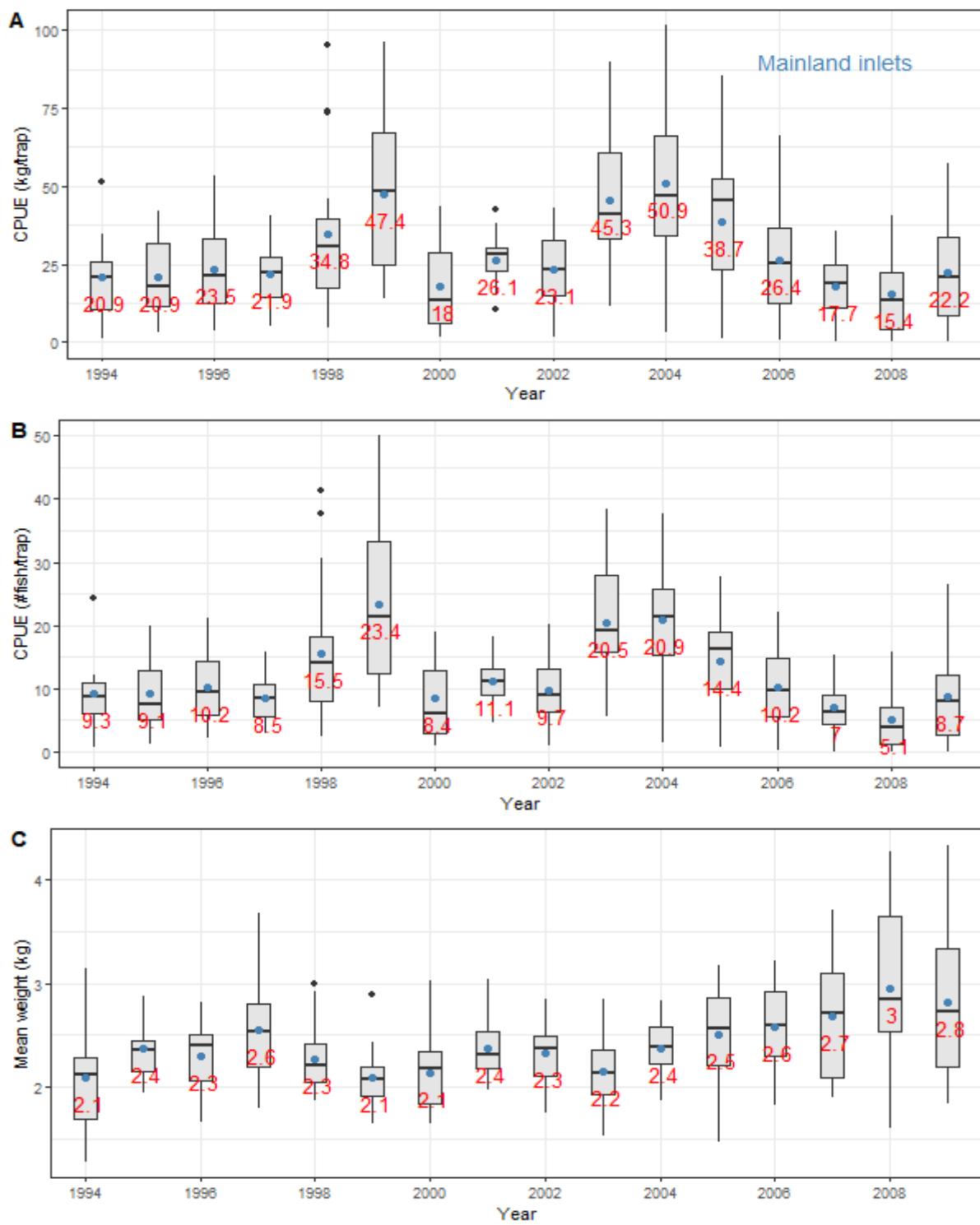


Figure 12. Average weight of sablefish per trap (kg/trap) (A); average number of sablefish per trap (#fish/trap) (B); annual average weight of sablefish (kg) (C) at mainland inlets over time. Horizontal line is median and blue dots are arithmetic mean.

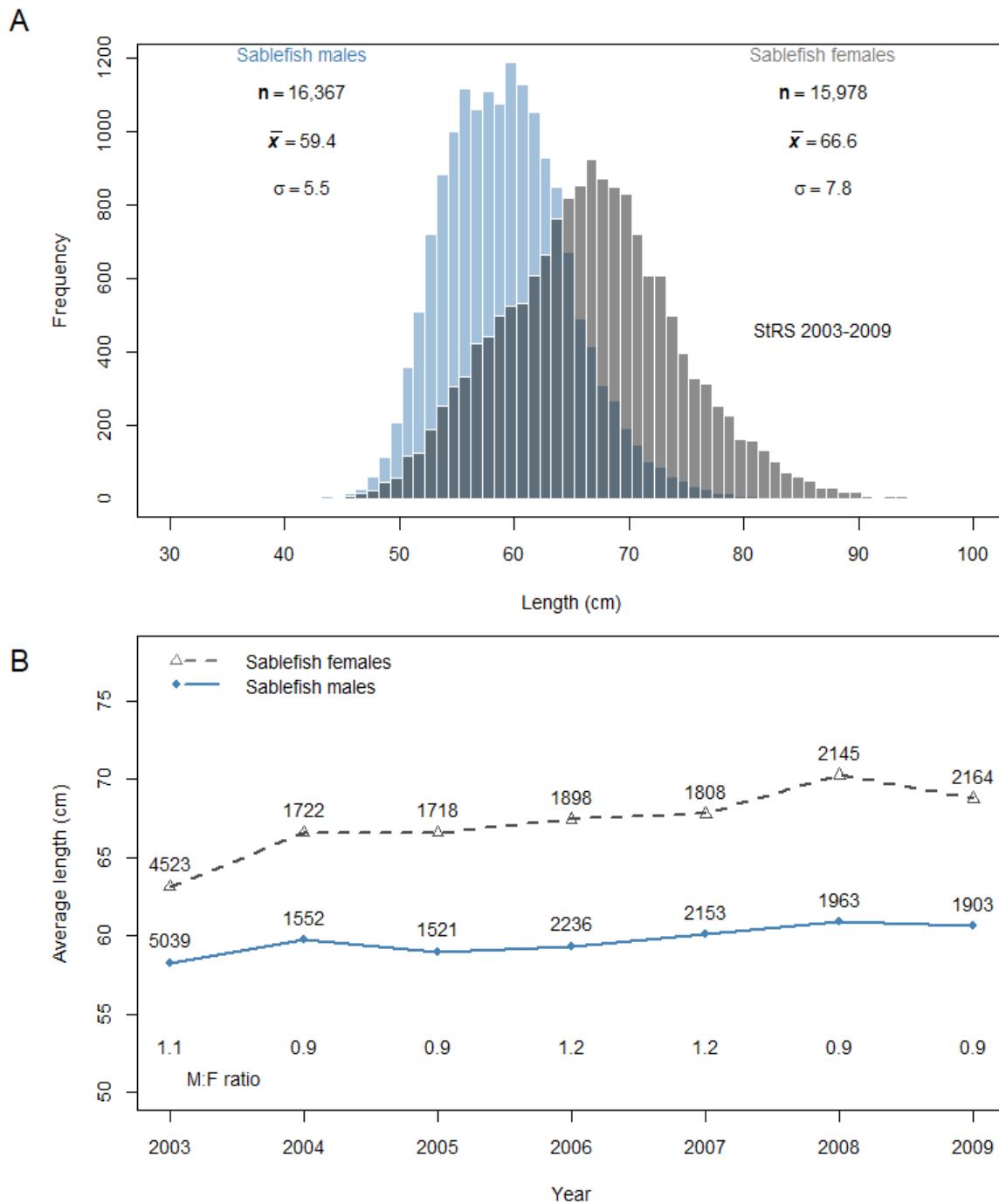


Figure 13. Length frequencies for female (grey) and male sablefish (blue) up to 2009 for all StRS sets. The number of specimens is denoted by the letter n, the mean indicated by $x\bar{}$ and the standard deviation is represented by sigma σ (A). Average length and ratios of male and female sablefish by year. Numbers of fish are shown across the top of the lines (B).

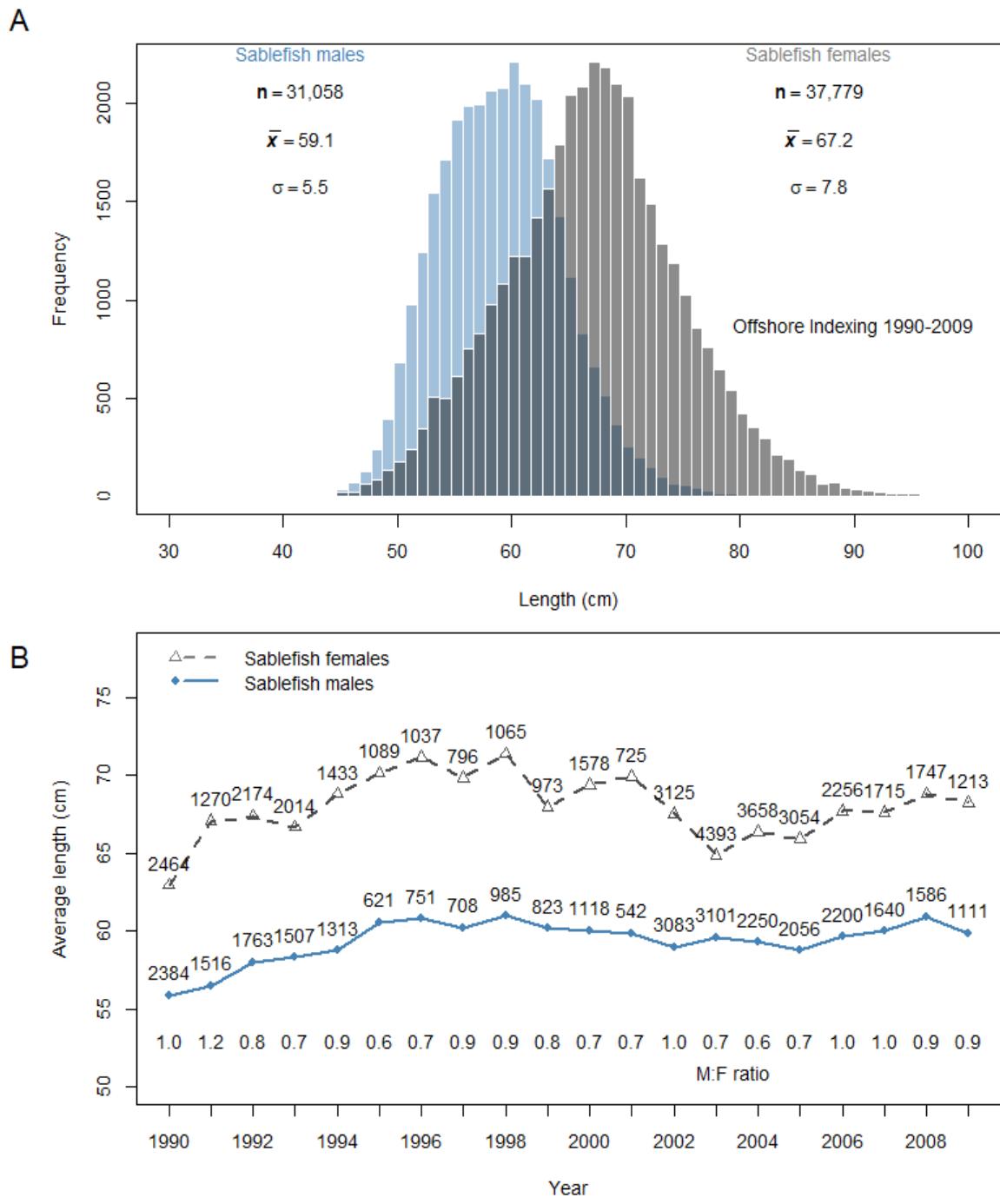


Figure 14. Length frequencies for female (grey) and male sablefish (blue) up to 2009 for all offshore indexing sets. The number of specimens is denoted by the letter n, the mean indicated by \bar{x} and the standard deviation is represented by sigma σ (A). Average length and ratios of male and female sablefish by year. Numbers of fish are shown across the top of the lines (B).

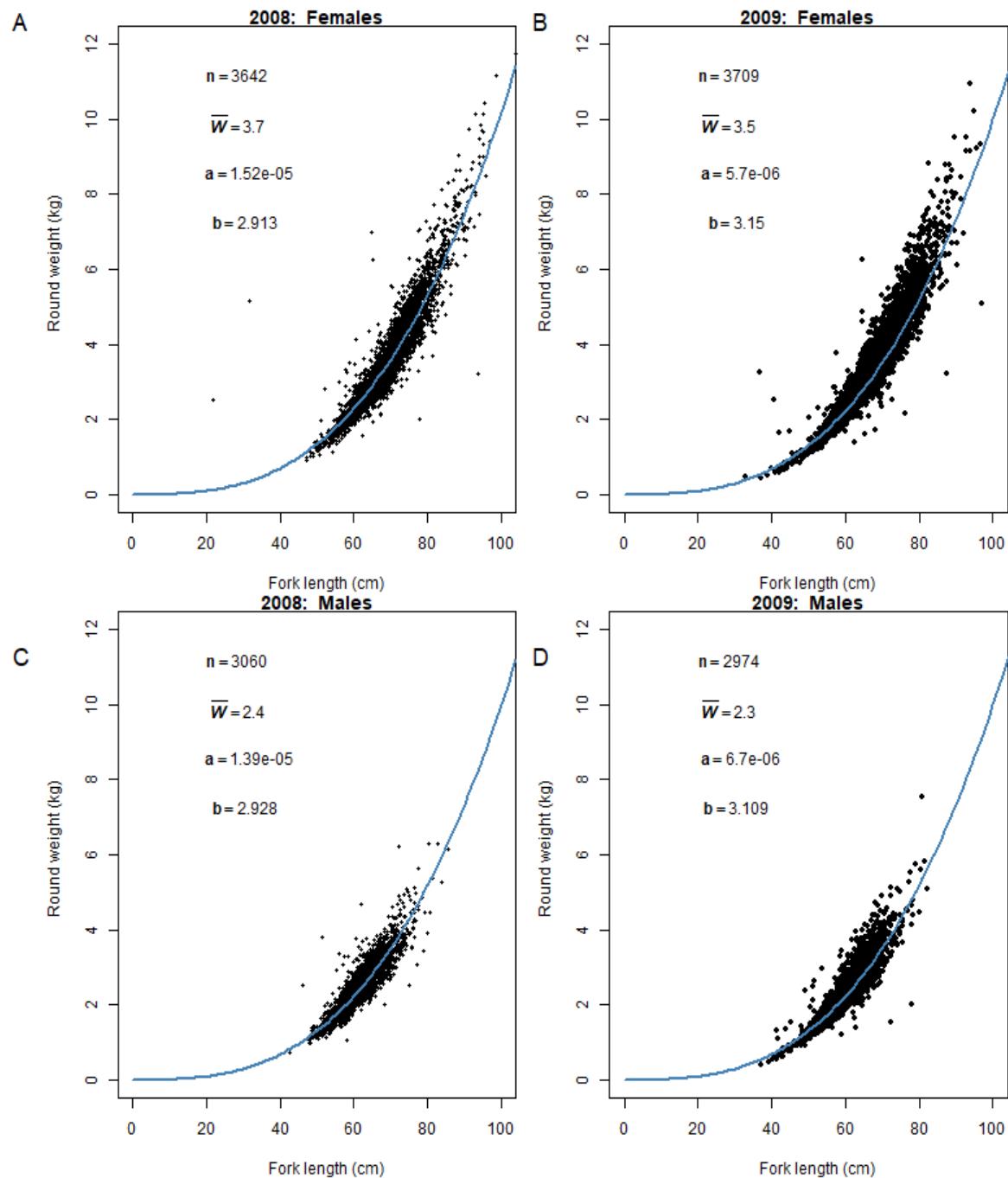
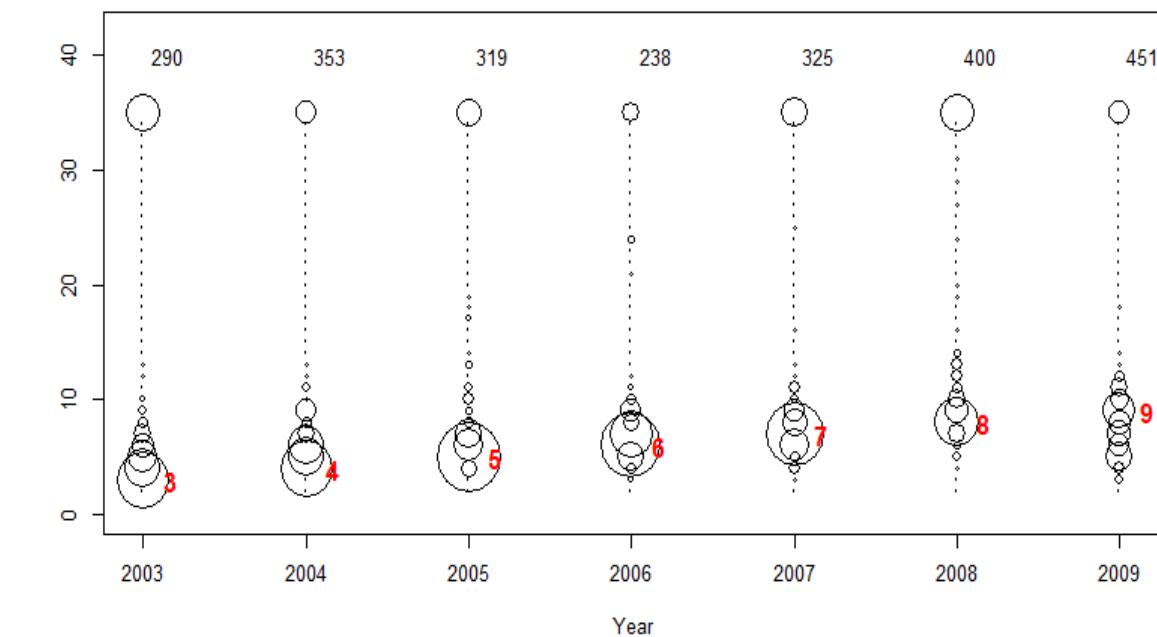


Figure 15. Sablefish fork length (cm) vs weight (kg) for all females and males for the 2008 (A,C) and 2009 (B,D) surveys.

A

Females



Age

Males

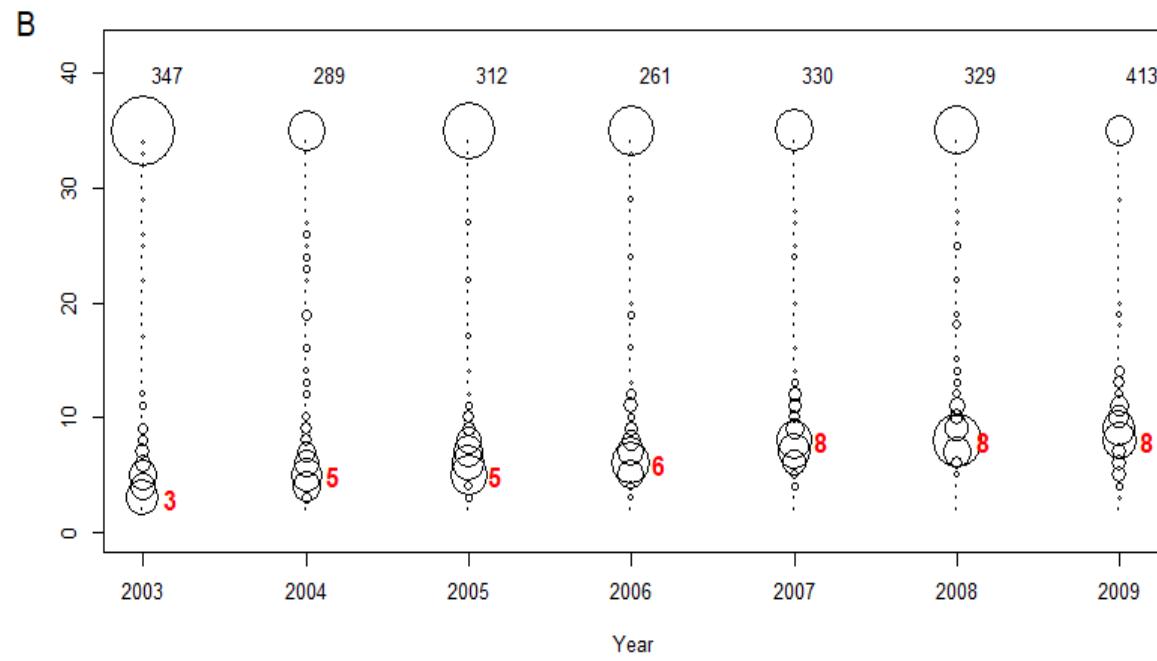
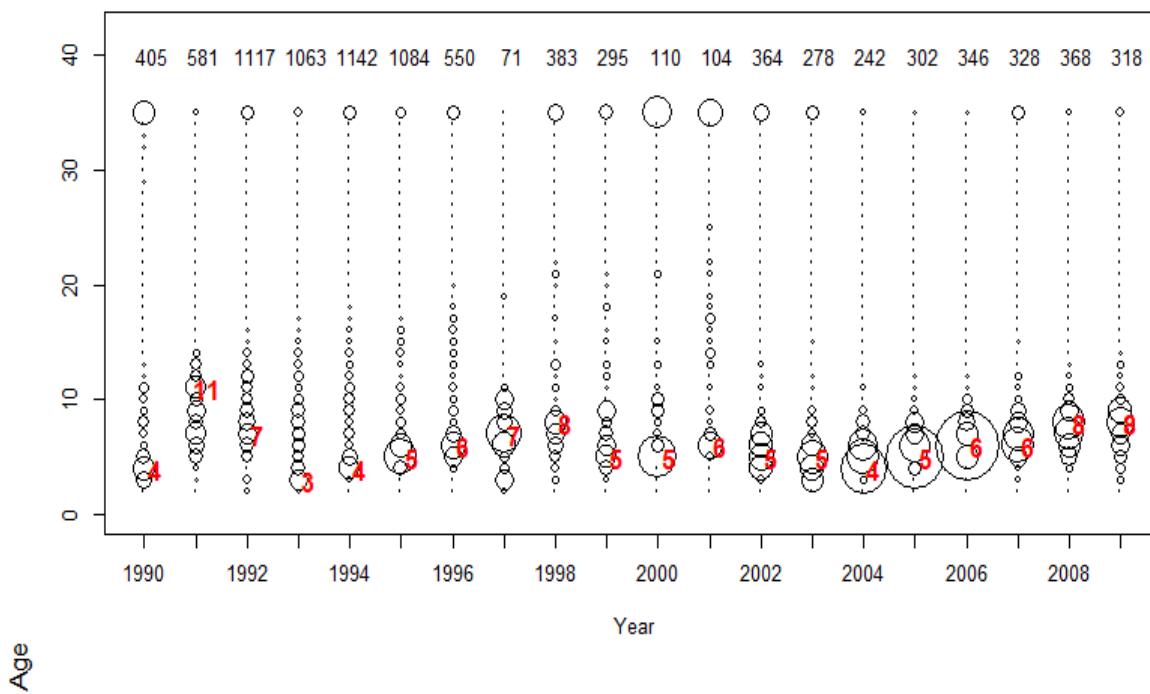


Figure 16. Bubble plot for female (A) and male (B) sablefish ages by survey year from StRS sets. The sizes of the circles are proportional to the number of fish with given ages. Fish age 35 and older are included in one bubble. The total number of fish aged are listed across the top of each panel. The ages with the highest ratios are posted to the right of each bubble.

A

Females**Males**

B

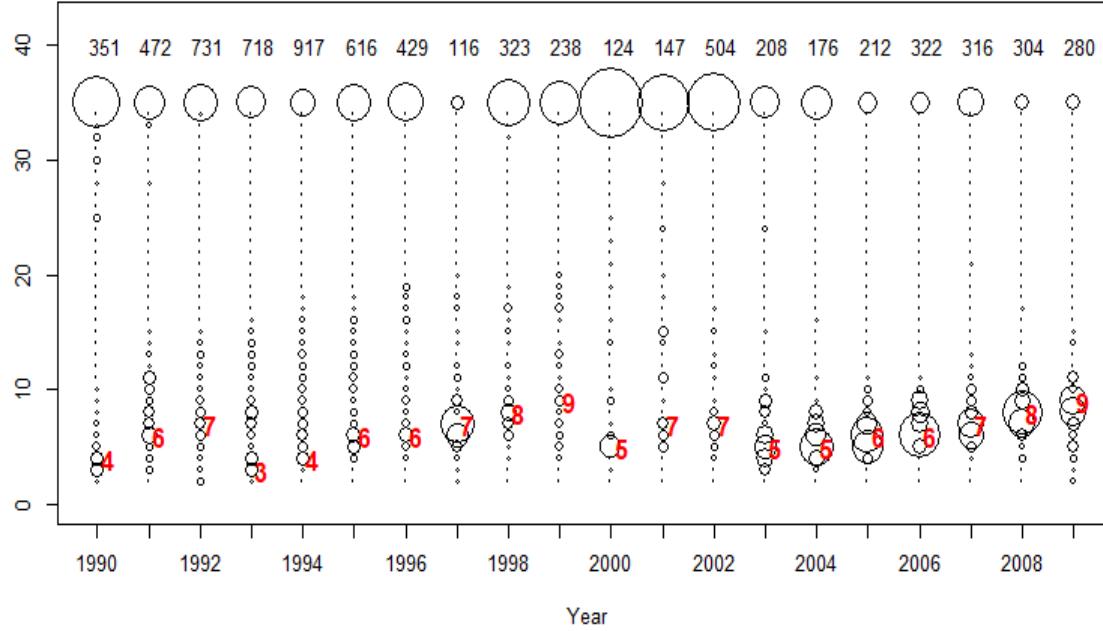


Figure 17. Bubble plot for female (A) and male (B) sablefish ages by survey year from offshore indexing sites. The sizes of the circles are proportional to the number of fish with given ages. Fish age 35 and older are included in one bubble. The total number of fish aged are listed across the top of each panel. The ages with the highest ratios are posted to the right of each bubble.

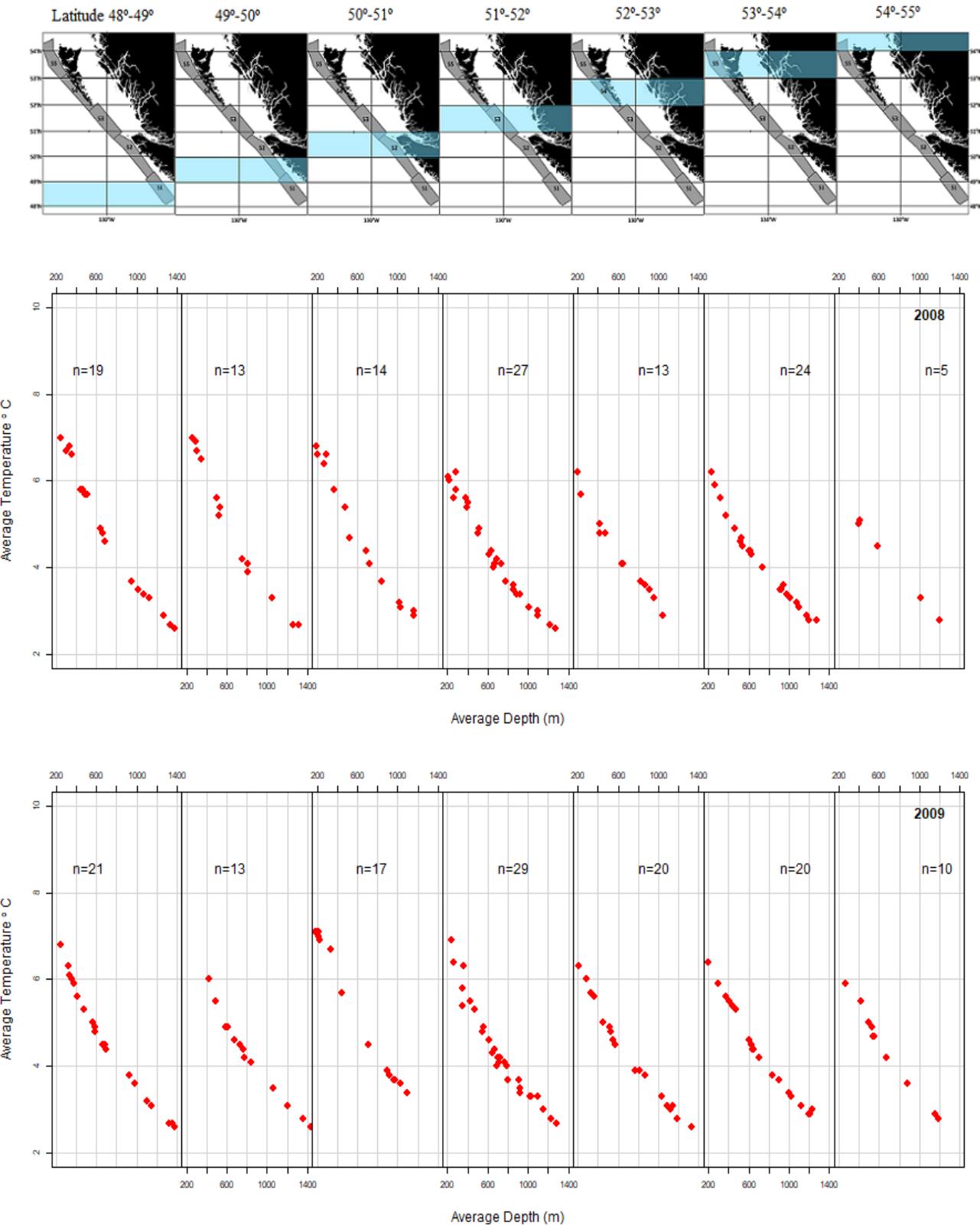


Figure 18. Coplot of average depth (m) vs average temperature ($^{\circ}\text{C}$) for a given 1-degree latitude range (blue bands) for 2008 and 2009. The number of fishing sets deployed with a SBE 39 recorder are represented by n.

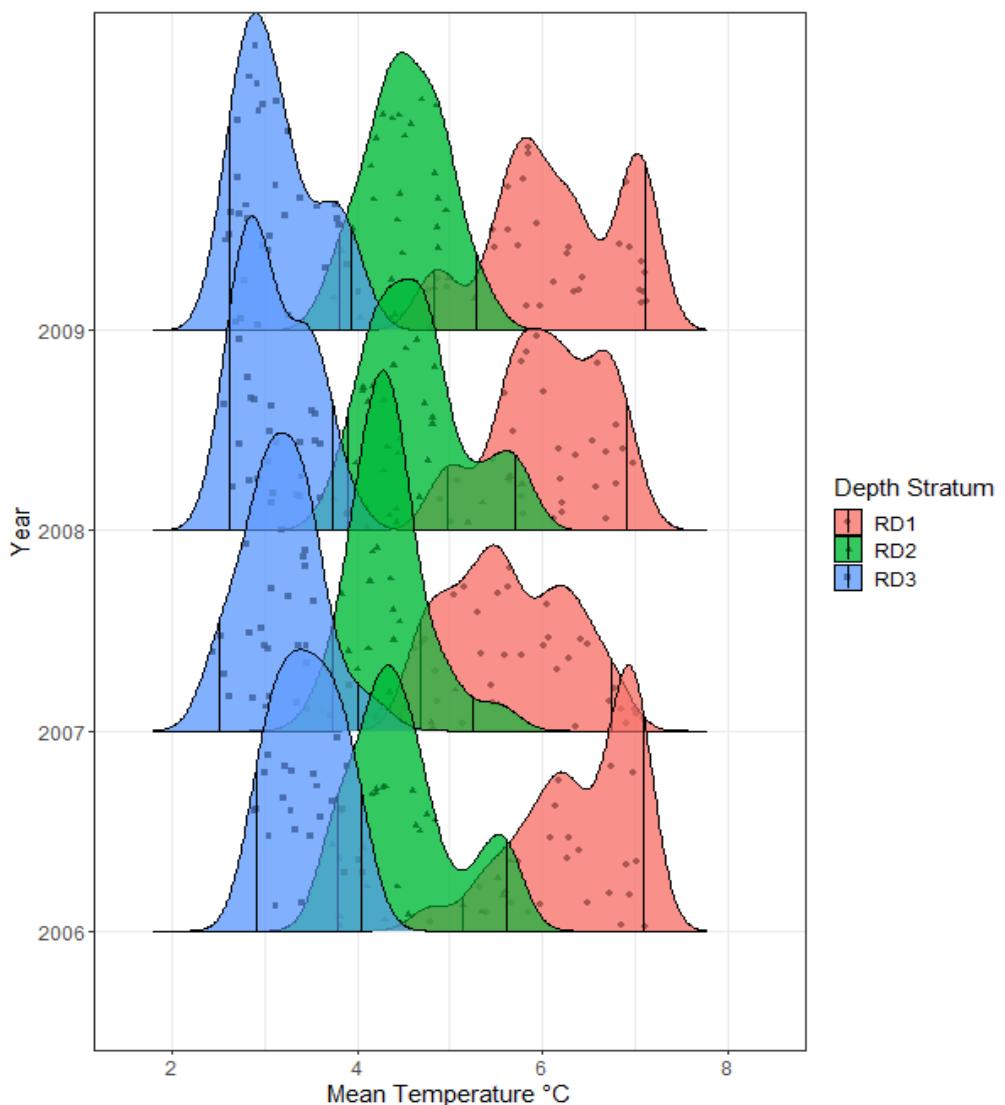


Figure 19. Vertical density ridgeplots of mean temperatures per year as reported by fishing set from the Sea-bird SBE 39 loggers on traps at three depth intervals, RD₁ = shallow (100-450 m), RD₂ = mid (450-850 m), RD₃ = deep (850-1400 m). Lines indicate the 2.5% and 97.5% tails.

APPENDIX A TIMELINE OF TRADITIONAL LOCALITIES.

List of localities visited in the traditional component of the sablefish research and assessment surveys from 1988 through 2009. Standardized sets (light blue boxes and half boxes) were conducted in offshore indexing localities from 1988 to 2009. Sablefish were tagged and released (dark blue half boxes) from standardized sets at offshore indexing localities beginning in 1991 and ending in 2007. Offshore tagging localities where only traditional tagging sets (red boxes) occurred were added in 1995 and discontinued in 2008. Mainland Inlet localities where standardized sets (green boxes) were conducted began in 1994 and continued through to 2009. Starting in 2002 (dark green), five standard fishing areas were delineated to ensure the consistency of set positions.

Offshore Indexing	Year	88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09
Langara Island-North Frederick		
Louis Point-Frederick Island		
Kunakun Point		
Hippa Island		
Buck Point		
Tasu Sound-Marble Island		
Gowgaia Bay		
Flamingo Inlet		
Cape St. James		
Triangle Island		
Quatsino Sound		
Solander Island		
Esperanza Inlet		
Barkley Canyon		

Offshore Tagging	Year	88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09
Langara Island		
Frederick Island		
Inside Hogback		
Outside Hogback		
Rennell Sound		
Chads Point		
Tasu Sound		
Anthony Island		
Mitchell's Gully-Middle Ground		
Pisces Canyon		
Kyuquot Sound-Ouokinish Inlet		
Estevan Point		
Father Charles Canyon		

Mainland Inlet	Year	88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09
Portland Inlet		
Gil Island		
Finlayson Channel		
Mathieson Channel		
Dean/Burke Channel		

APPENDIX B LIST OF SABLEFISH RESEARCH AND ASSESSMENT SURVEYS.

Year	Date	Vessel	Fishing Master	Set Count	GFBIO Trip id
1988	Oct 28 - Nov 24	VICIOUS FISHER	VANCE FLETCHER	16	43990
1989	Oct 19 - Nov 18	LA PORSCHE	SIGURD BRYNJOLFSON	29	43910
1990	Nov 8 - Nov 18	VIKING STAR	DOUG FARRINGTON	24	43750
1991	Oct 9 - Oct 29	W. E. RICKER	ALAN FARRINGTON	32	43673
1992	Oct 13 - Nov 4	W. E. RICKER	RON ROBERTS	38	43670
1993	Oct 19 - Nov 11	W. E. RICKER	ALAN FARRINGTON	42	43650
1994	Oct 13 - Oct 31	LA PORSCHE	RICHARD BEAUV AIS	39	43630
1994	Oct 18 - Nov 13	WESTERN VIKING	RICK JONES	27	43390
1995	Oct 8 - Oct 20	OCEAN PEARL	ROBERT FRAUMENI	29	43270
1995	Oct 11 - Oct 28	VICTOR F	MICHAEL DERRY	34	43330
1995	Oct 1 - Oct 31	VIKING SUNRISE	JASON OLSEN	40	43350
1996	Sep 26 - Oct 10	OCEAN PEARL	MICHAEL DERRY	32	43039
1996	Sep 30 - Oct 22	VIKING STAR	OTTO ELVAN	49	43210
1996	May 10 - May 30	VIKING SUNRISE	ALBERT (DEACON) MELNYCHUK	42	43024
1997	Sep 26 - Oct 21	OCEAN PEARL	MICHAEL DERRY	74	42699
1997	May 20 - Jun 10	VIKING SUNRISE	ALBERT (DEACON) MELNYCHUK	42	42760
1998	Sep 22 - Oct 17	OCEAN PEARL	MICHAEL DERRY	89	41122
1999	Sep 29 - Oct 30	OCEAN PEARL	MICHAEL DERRY	109	40589
2000	Oct 8 - Nov 14	PACIFIC VIKING	ALBERT (DEACON) MELNYCHUK	131	40517
2001	Oct 6 - Nov 6	OCEAN PEARL	MICHAEL DERRY	134	43233
2002	Oct 4 - Nov 7	PACIFIC VIKING	ALBERT (DEACON) MELNYCHUK	125	48120
2002	Oct 5 - Nov 13	VIKING SUNRISE	JASON OLSEN	90	48110
2003	Oct 15 - Nov 13	OCEAN PEARL	MICHAEL DERRY	94	52100
2003	Oct 7 - Nov 10	VIKING STAR	JIM FARRINGTON	84	52120
2004	Oct 5 - Nov 15	MILBANKE SOUND	DON QUAST	95	58145
2004	Oct 5 - Nov 3	OCEAN MARAUDER	ALBERT (DEACON) MELNYCHUK	84	57360
2005	Oct 4 - Nov 2	PACIFIC VIKING	ALBERT (DEACON) MELNYCHUK	84	60529
2005	Oct 7 - Nov 17	VIKING SUNRISE	RORY JOHNSON	88	60503
2006	Oct 1 - Nov 1	PACIFIC VIKING	ALBERT (DEACON) MELNYCHUK	98	62966
2006	Oct 2 - Nov 15	SENA II	TIM JOYS	98	62666
2007	Oct 7 - Nov 12	PACIFIC VIKING	ALBERT (DEACON) MELNYCHUK	99	65106
2007	Oct 8 - Nov 12	VIKING TIDE	JASON OLSEN	91	65107
2008	Sep 29 - Nov 16	OCEAN PEARL	ROBERT FRAUMENI	157	67007
2009	Oct 8 - Nov 25	OCEAN PEARL	ROBERT FRAUMENI	155	69067

APPENDIX C DATA FORMS OF THE 2008 AND 2009 SABLEFISH SURVEYS.

SABLEFISH CHARTER BRIDGE LOG											
VESSEL:	<i>Ocean Pearl</i>					SET NUMBER: <i>082</i>					
TRADITIONAL STANDARDIZED SET											
Locality Name: _____						Depth Interval: _____					
TRADITIONAL TAGGING SET											
Locality Name: _____											
INLET SET											
Locality Name: _____						Location Number: _____					
RANDOM TAGGING SET											
Spatial Stratum: <i>54</i>						Depth Stratum: <i>RD1</i>					
Feature ID: <i>11799</i>											
year	month	day	SET: Date: <i>2008 10 25</i> Recorder: <i>Dan Erskine</i>								
Target Depth: Minimum: <i>100</i> (fm) Maximum: <i>250</i> (fm)											
1 st Buoy: Number: <i>008</i> Time: <i>1641</i>											
1 st Anchor: Time: <i>1649</i> Bottom Depth: <i>194</i> (fm)											
deg. min. deg. min. Latitude: <i>52 00 .568</i> Longitude: <i>131 15 .555</i>											
SETTING BOTTOM DEPTH											
min	: 0	: 1	: 2	: 3	: 4	: 5	: 6	: 7	: 8	: 9	
fm											
min	<i>16 .50</i>	<i>.51</i>	<i>.52</i>	<i>.53</i>	<i>.54</i>	<i>.55</i>	<i>.56</i>	<i>.57</i>	<i>.58</i>	<i>16 .59</i>	
fm	<i>221</i>	<i>231</i>	<i>250</i>	<i>259</i>	<i>270</i>	<i>281</i>	<i>295</i>	<i>295</i>	<i>289</i>	<i>270</i>	
min	: 0	: 1	: 2	: 3	: 4	: 5	: 6	: 7	: 8	: 9	
fm											
min	: 0	: 1	: 2	: 3	: 4	: 5	: 6	: 7	: 8	: 9	
fm											
min	: 0	: 1	: 2	: 3	: 4	: 5	: 6	: 7	: 8	: 9	
fm											
2 nd Anchor: Time: <i>1700</i>	Bottom Depth: <i>296</i> (fm)										
deg. min. Latitude: <i>52 00 .811</i>	deg. min. Longitude: <i>131 14 .375</i>										
2 nd Buoy: Number: <i>72</i> Time: <i>1710</i>											
COMMENTS: _____											

updated 30/08/2007											

Figure C.1. Example of a completed bridge log data form used during the 2008 and 2009 surveys.

Figure C.2. Example of a completed catch log form used during the 2008 and 2009 surveys.

Figure C.3. Example of a tabular catch log data entry form transposed from the catch log in Figure C.2.

LSM
SABLEFISH CHARTER BIOSAMPLING SHEET

columns 1-3=SB1

Vessel: Ocean Pearl Set Number: 0008 Sample Date:¹² 20081003 Sample Type: Random page 1 / 1
 Sampler: KEN Recorder: Tucker Species: SABLEFISH 2455 Sample Weight: 29 02

Sample Source: UNSORTED 3301 Catch Storage: FRESH 3502 Specimen Form: Round 3701 Length Type: FORK 3901
 Length Unit: MM 4102 Weight Type: whole 4301 Weight Unit: grams 4503 Maturity Convention: SABLEFISH 1983 4703

Trap Num	Fish Number	Length	Sex	Mat	Trap Num	Fish Number	Length	Sex	Mat	Trap Num	Fish Number	Length	Sex	Mat	Trap Num	Fish Number	Length	Sex	Mat
49	50 51 52 53 54 55 56 57 58 59				49	50 51 52 53 54 55 56 57 58 59				49	50 51 52 53 54 55 56 57 58 59				49	50 51 52 53 54 55 56 57 58 59			
1	5532004	Z 1	5852004		2	5041004	2	5952004		3	6122004	3	5952004		4	6122004	4	5852004	
2	6271004	2	5041004		3	5691004	4	5411004		5	6122004	5	5351004		6	5922004	6	5611004	
3	6302004	3	5691004		4	5411004	5	5821004		7	6122004	7	5221004		8	6122004	8	7512004	
4	5471004	4	5411004		5	5821004	6	5722004		9	7512004	9	6212004		10	5752004	10	6642003	
5	5151004	5	5151004		6	5722004	7	5722003		11	7952004	11	7482004		12	7862004	12	7482004	
6	6122004	6	6122004		7	5722003	8	5681004		13	5331004	13	5331004		14	5571004	14	5571004	
7	6582004	7	6582004		8	5681004	9	5732004		15	5401005	15	5401005		16	5811004	16	5611004	
8	5932004	8	5932004		9	5732004	10	5911004		17	5752004	17	5752004		18	6322004	18	6322004	
9	6402004	9	6402004		10	5911004	11	5322004		19	7512004	19	6212004		20	7512004	20	7512004	
10	6101004	10	6101004		11	5322004	12	6152004		21	7952004	21	7952004		22	7862004	22	7482004	
11	5721004	11	5721004		12	6152004	13	7632004		23	5331004	23	5331004		24	5571004	24	5571004	
12	6142004	12	6142004		13	7632004	14	5131004		25	6432004	25	6432004		26	5832004	26	6642003	
13	517103	13	517103		14	5131004	15	5571004		27	6672004	27	6672004		28	5781004	28	5781004	
14	5812004	14	5812004		15	5571004	16	6732004		29	6452004	29	6452004		30	5331004	30	5331004	
15	5531004	15	5531004		16	6732004	17	6471004		31		31			32		32		
16	5761004	16	5761004		17	6471004	18	5572004		33		33			34		34		
17	5751004	17	5751004		18	5572004	19	5171004		35		35			36		36		
18	6212004	18	6212004		19	5171004	20	5572004		37		37			38		38		
19	5751004	19	5751004		20	5572004	21	5171004		39		39			40		40		
20	6582004	20	6582004		21	5171004	22	6102004		41		41			42		42		

COMMENTS: SAMPLE NUMBER = 72 SABLEFISH

Figure C.4. Example of a completed length, sex and maturity (LSM) sampling form used during the 2008 and 2009 surveys.

LSWMO
SABLEFISH CHARTER BIOSAMPLING SHEET

columns 1-3=SB1

Vessel: Ocean Pearl Set Number: 064 Sample Date:¹² 2008091828 Sample Type: random page 1 / 3
 Sampler: Margo Recorder: Dan Erskine Species: Sablefish 2455 Sample Weight: 29 02

Sample Source: Unsorted 3301 Catch Storage: FRESH 3502 Specimen Form: round 3701 Length Type: fork 3901
 Length Unit: mm 4102 Weight Type: whole 4301 Weight Unit: grams 4503 Maturity Convention: 1983+/-3 4703

Trap Num	Fish Number	Length	Sex	Mat	Weight	Otolith Cell Num														Comments
49	50 51 52 53 54 55 56 57 58 59 60 61 62 63	TRAP #10	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	
1	5591041	590	A1																	
2	5512041	642																		
3	6132042	660																		
4	5782041	558																		
5	5921041	600	A15																	
6	6341032	622																		
7	5901042	632																		
8	5831042	630																		
9	5421041	684																		
10	5431041	660	A10																	
11	5111041	632																		
12	6042042	654																		
13	5921023	616																		
14	5211041	638																		
15	5201041	664	A15																	
16	5491041	526																		
17	5401041	598																		
18	5152045	555																		
19	5401031	530																		
20	5111041	645	A20																	

COMMENTS: n = 50
updated 30/08/2007

Figure C.5. Example of a completed length, sex, weight, maturity and otolith (LSWMO) sampling form used during the 2008 and 2009 surveys.

LSSpecies SABLEFISH CHARTER BIOSAMPLING SHEET										page 1 / 19	
Vessel: <u>OCEAN PEARL</u>	<u>732</u>	Set Number: <u>0010</u>	Sample Date: <u>2/08/09 10:12</u>								
Sampler: <u>MALCOLM</u>	<u>297</u>	Sample Source: <u>unsorted</u>	<u>01</u>	Catch Storage: <u>fresh</u>	<u>02</u>	Specimen Form: <u>round</u>	<u>01</u>				
Species	Sample Type			Length			Whole Round Weight			Comments	
Name	Code	Random	Total	Unit	Type	Value	Sex	Unit	Value		
ROGHEYE	394			V	0201	545	1				
				V	0201	513	1				
				V	0201	548	2				
				V	0201	574	2				
				V	0201	446	1				
ROGHEYE	394			V	0201	489	1				
REDBANDER	401	✓		V	0201	467	1				
ROSE THORN	421			V	0201	214	1			214 MM	
DOG FISH	044			V	0204	684	2			684 MM	
DOG FISH	044			V	0204	714	1			714 MM	
TURBOT	602	V		V	0201	560	2				
				V	0201	635	2				
				V	0201	550	2				
				V	0204	531	2				
				V	0201	557	2				
				V	0201	504	2				
				V	0201	624	2				
				V	0201	446	1				
				V	0201	618	2				
TURBOT	602	V		V	0201	560	2				

COMMENTS: TOT. 6 PCS OF ROGHEYE, REDBANDER 1 PC, ROSETHORN 1PC, DOGFISH - 2 PCS
 Turbot 20 PCs.

Length Unit: 01=cm, 02=mm Length Type: 01=Fork, 04=Total Weight Unit: 03=g, 04=kg, 09=dekagram
 updated 30/08/2007

Figure C.6. Example of a length sex species (LSS) form used during the 2008 and 2009 surveys.

columns 1-3=ST1

SABLEFISH CHARTER TAGGING SHEETpg: 213Vessel: Dean Pearl4 732Set Number: 8061Date:¹¹ 7 9 0 9 11 10 28

Sample Type:

Random19
02Tagger: Matt M21
3 64Recorder: Brock Medlar25
1356Species: Sablefish24
55Tag Type: Anchor39
10

Tag Check	Primary Tag Number prefix 35-37												Fork Length (mm)		Error 1		Error 2		Injury 1		Injury 2		Comments/ time	
	34	35	36	37	40	41	42	43	44	45	46	47	48	49	50	51								
									0	7	5	7												
0	2	5	4	6	1	1	6	0	2															
						2	5	9	3															
						3	6	7	9	N														
						4	7	2	5															
						5	6	8	4															
						6	5	2	1	F														
						7	6	6	3															
						8	6	1	4	N														
						9	5	7	8															
						0	6	6	7	N														
						1	5	7	4															
						2	6	9	4															
						3	6	2	3															
						4	5	9	4															
0	2	5	4	6	2	5	6	6	0															
						6	5	8	8															
						7	5	7	6															
						8	5	8	0															
						9	6	4	5															
0	2	5	4	6	3	0	6	8	8															
						1	6	2	0	D														
						2	5	1	8	D														
						3	6	1	7															
						4	5	8	0															
						5	5	4	4															
						6	5	8	2															
						7	5	8	1															
						8	6	3	3															
						9	6	8	5															
						0	6	5	2															
						1	6	0	4															
0	2	5	4	6	4	2	5	6	3															
						3	6	6	5															
						4	5	9	7	L														
						5	5	7	4	N														
						6	6	5	3	N														
						7	7	1	7															
						8	7	5	0															
						9	6	7	5	S														

COMMENTS:

40

Sample Type:

- 1 = total catch
- 2 = random
- 4 = selected
- 9 = juveniles
- 10 = adults

Tag Type:

- 10 = anchor
- 20 = suture
- 30 = Peterson disc

Tag Check:

- null = tag number not verified
- 0 = tag number verified and corresponds to fish data
- 1 = tag number may not correspond to fish data

Error:

- B = tag broken, not used
- D = dead fish, tagged
- P = paired tag, sequential tags in same fish
- N = tag not well implanted
- L = loose tag
- T = light tag
- R = release of OTC from hole
- U = unknown length
- =
- =
- =

Injury:

- A = damage from amphipods
- B = bleeding
- C = cuts or fresh wounds
- D = fish dropped on deck
- E = eyes cloudy, blind
- F = fin damaged
- H = misshapen fish
- J = jaw damaged
- L = scale loss
- N = scrapes and abrasion
- O = bleeding at OTC hole
- R = raw wound around tag
- S = scar of healing wound
- T = tail damaged
- =
- =
- =
- =

Figure C.7. Example of a sablefish tagging form of the type used during the 2008 and 2009 surveys.

Figure C.8. Example of a sablefish tag recovery form of the type used during the 2008 and 2009 surveys.

APPENDIX D SET DETAILS 2008.

Details of sets completed during the 2008 survey program (F/V Ocean Pearl). Sets are listed by spatial name, set type, depth stratum, start date, end of gear deployment time and duration in minutes. The depth strata for StRS sets include RD₁ (100-250 fathoms), RD₂ (250-450 fathoms) and RD₃ (450-750 fathoms). The depth strata for offshore standardized (OffStd) sets include D0 (50-149 fathoms), D1 (150-249 fathoms), D2 (250-349 fathoms), D3 (350-449 fathoms), D4 (450-549 fathoms) and D5 (550-649 fathoms). The position data includes the major area, start and end latitude and longitude in degrees decimal minutes. The bottom depths (meters) of the fishing set are listed with the mean bottom depth calculated from recordings at one minute intervals between the start and end of the set. The number of traps fished for each set excludes open traps, while holed or fouled traps have been included. Sets that successfully deployed a Seabird SBE temperature and pressure recorder are indicated with an 'x'.

Spatial Stratum	Set	Type	Depth Stratum	Start Date	End Deploy	Duration (min)	Major Area	Latitude		Longitude		Depth (m)			Traps Fished	SBE 39
								Start	End	Start	End	Start	End	Mean		
S1	1	StRS	RD2	Oct 1	08:25	1483	3C	48° 4.3'N	48° 3.6'N	125° 56.9'W	125° 57.6'W	675	775	732	25	x
S1	2	StRS	RD3	Oct 1	11:17	1658	3C	48° 1.5'N	48° 1.1'N	126° 27.5'W	126° 28.3'W	1362	1386	1365	25	x
S1	3	StRS	RD1	Oct 1	13:44	1687	3C	48° 5'N	48° 4.6'N	126° 8.1'W	126° 8.9'W	307	342	324	24	x
S1	4	StRS	RD2	Oct 1	16:15	1671	3C	48° 0.7'N	48° 0.5'N	125° 57.8'W	125° 58.9'W	613	792	703	25	x
S1	5	StRS	RD2	Oct 1	19:25	1595	3C	48° 6.5'N	48° 5.6'N	125° 55.8'W	125° 55.5'W	450	563	528	25	x
Barkley Canyon	6	OffStd	D3	Oct 2	06:47	1425	3C	48° 2.1'N	NA° NA'N	125° 58.3'W	NA° NA'W	651	708	665	25	x
Barkley Canyon	7	OffStd	D5	Oct 2	11:04	1446	3C	48° 6.6'N	48° 6'N	126° 3.2'W	126° 3.4'W	1143	1187	1164	25	x
Barkley Canyon	8	OffStd	D4	Oct 2	11:47	1491	3C	48° 8'N	48° 8.6'N	126° 5.1'W	126° 5.4'W	977	878	925	25	x
Barkley Canyon	9	OffStd	D1	Oct 3	08:09	1343	3C	48° 0.8'N	48° 0.4'N	125° 54.4'W	125° 55.4'W	346	432	366	25	x
Barkley Canyon	10	OffStd	D2	Oct 3	09:12	1428	3C	48° 2.5'N	48° 2'N	125° 54.9'W	125° 55.8'W	448	576	514	25	x
S1	11	StRS	RD2	Oct 3	16:36	1446	3C	48° 7'N	48° 6.8'N	126° 13.3'W	126° 14.5'W	486	530	513	25	x
S1	12	StRS	RD1	Oct 3	17:52	1451	3C	48° 5.9'N	48° 6.6'N	126° 9.7'W	126° 10.3'W	238	347	342	25	x
S1	13	StRS	RD3	Oct 3	20:00	1534	3C	48° 1.1'N	48° 0.7'N	126° 27.3'W	126° 28'W	1282	1379	1313	25	x
S1	14	StRS	RD1	Oct 4	14:03	1372	3C	48° 3.2'N	48° 2.5'N	126° 15.5'W	126° 16.2'W	307	353	377	25	x
S1	15	StRS	RD2	Oct 4	15:20	1365	3C	48° 0.2'N	48° 0.2'N	126° 19.4'W	126° 20.5'W	474	521	488	24	x
S1	16	StRS	RD3	Oct 5	06:13	1454	3C	48° 9.8'N	48° 9.5'N	126° 49.2'W	126° 50.2'W	1410	1319	1358	25	x
S1	17	StRS	RD3	Oct 5	08:27	1486	3C	48° 8.9'N	48° 9.4'N	126° 29.4'W	126° 28.6'W	1019	922	984	25	x
S1	18	StRS	RD3	Oct 5	10:15	1466	3C	48° 8.9'N	48° 9.6'N	126° 26.6'W	126° 26.2'W	1053	971	997	25	x
S1	19	StRS	RD3	Oct 5	17:37	1327	3C	48° 1.5'N	48° 2.4'N	126° 52.5'W	126° 52.1'W	1097	1048	1074	25	x
S1	20	StRS	RD2	Oct 5	18:47	1412	3C	48° 3.6'N	48° 4.3'N	126° 42.8'W	126° 42.4'W	699	596	646	25	x
S1	21	StRS	RD1	Oct 5	20:08	1416	3C	48° 8.2'N	48° 8.9'N	126° 45.6'W	126° 45.9'W	457	401	424	25	x
S1	22	StRS	RD1	Oct 5	22:10	1378	3C	48° 8.6'N	48° 9.1'N	126° 42.9'W	126° 42.3'W	362	318	335	25	x
S2	23	StRS	RD1	Oct 7	16:11	1341	3D	49° 4.8'N	49° 4.2'N	127° 17'W	127° 17'W	291	362	371	25	x
S2	24	StRS	RD2	Oct 7	17:43	1358	3D	49° 7.1'N	49° 6.9'N	127° 15.4'W	127° 16.3'W	494	629	591	25	x
S2	25	StRS	RD3	Oct 7	19:23	1418	3D	49° 6.1'N	49° 5.3'N	127° 15.8'W	127° 16.4'W	1346	1388	1362	25	x
S1	26	StRS	RD1	Oct 7	21:11	1434	3D	49° 3.5'N	49° 3.3'N	127° 3.8'W	127° 2.8'W	304	265	281	25	x
Esperanza	27	OffStd	D3	Oct 8	06:35	1434	3D	49° 6.5'N	49° 5.9'N	127° 26.8'W	127° 27'W	651	781	703	25	x
Esperanza	28	OffStd	D1	Oct 8	08:36	1393	3D	49° 6.7'N	49° 6.2'N	127° 21.6'W	127° 22.1'W	298	492	363	25	x
Esperanza	29	OffStd	D4	Oct 8	10:23	1424	3D	49° 4.3'N	49° 3.5'N	127° 22.4'W	127° 22.7'W	845	936	859	25	x
Esperanza	30	OffStd	D5	Oct 8	11:56	1443	3D	49° 9.8'N	49° 9.3'N	127° 20.9'W	127° 21.8'W	1017	1156	1104	25	x
S2	31	StRS	RD3	Oct 9	17:03	1389	3D	49° 4.5'N	49° 4.9'N	127° 46.8'W	127° 47.7'W	816	1041	869	25	x
S2	32	StRS	RD2	Oct 9	19:02	1453	3D	49° 3.9'N	49° 2.2'N	127° 32.1'W	127° 31.9'W	529	565	553	25	x
Esperanza	33	OffStd	D2	Oct 9	19:38	1353	3D	49° 1.7'N	49° 1.3'N	127° 33'W	127° 33.7'W	647	532	546	25	x
S2	34	StRS	RD2	Oct 9	20:51	1459	3D	49° 7.2'N	49° 6.6'N	127° 41.1'W	127° 42'W	739	841	794	25	x
S2	35	StRS	RD1	Oct 10	06:30	1426	3D	49° 8.5'N	49° 8.7'N	127° 46.1'W	127° 47.2'W	240	274	376	25	x
S2	36	StRS	RD3	Oct 10	08:13	1433	3D	50° 0'N	50° 0.9'N	127° 55.8'W	127° 57.1'W	1172	1218	1158	25	x
S2	37	StRS	RD2	Oct 10	09:49	1440	3D	49° 5.8'N	49° 5.3'N	127° 59'W	127° 58.4'W	527	572	547	25	x
S2	38	StRS	RD3	Oct 10	11:24	1457	3D	49° 5.1'N	49° 5.6'N	128° 8.2'W	128° 8.8'W	1275	1214	1243	24	x
S2	39	StRS	RD2	Oct 10	13:01	1457	3D	50° 0.2'N	49° 9.5'N	128° 9.5'W	128° 9.2'W	680	803	731	25	x
Quatsino Sound	40	OffStd	D5	Oct 11	16:49	1385	3D	50° 9'N	50° 8.4'N	128° 22.8'W	128° 23.1'W	1019	1114	1061	25	x
Quatsino Sound	41	OffStd	D4	Oct 11	17:51	1408	3D	50° 9.8'N	50° 9.4'N	128° 21.2'W	128° 22.3'W	845	945	900	25	x
Quatsino Sound	42	OffStd	D1	Oct 11	18:32	1433	3D	50° 0.9'N	50° 1'N	128° 24.6'W	128° 25.7'W	285	324	300	25	x
Quatsino Sound	43	OffStd	D2	Oct 11	19:13	1446	3D	50° 0.2'N	50° 0'N	128° 26'W	128° 26.2'W	477	642	536	25	x
Quatsino Sound	44	OffStd	D3	Oct 11	19:42	1498	3D	50° 1.6'N	50° 1.5'N	128° 29.7'W	128° 30.8'W	682	838	766	25	x
S2	45	StRS	RD1	Oct 14	07:12	1361	5A	50° 8.2'N	50° 8.2'N	128° 39.1'W	128° 40.4'W	192	192	192	24	x
S2	46	StRS	RD3	Oct 14	08:30	1401	5A	50° 4.7'N	50° 4.5'N	128° 48.1'W	128° 49.2'W	1161	1260	1175	25	x
S2	47	StRS	RD1	Oct 14	09:59	1436	5A	50° 1.5'N	50° 1.7'N	128° 54.4'W	128° 55.8'W	208	208	208	25	x

continued.

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Spatial Stratum	Set	Type	Depth Stratum	Start Date	End Deploy	Duration (min)	Major Area	Start	End	Start	End	Start	End	Mean	Traps Fished	SBE 39
S2	48	StRS	RD1	Oct 14	10:57	1463	5A	50° 0.8'N	50° 0.6'N	128° 56.7'W	128° 57.7'W	291	514	386	25	x
S2	49	StRS	RD1	Oct 14	13:11	1437	5A	50° 3.3'N	50° 2.7'N	129° 8.5'W	129° 9.1'W	251	357	284	25	x
S2	50	StRS	RD3	Oct 14	15:24	1434	5A	50° 9.8'N	50° 9.3'N	129° 9.6'W	129° 10.4'W	964	1220	1090	24	x
S2	51	StRS	RD2	Oct 14	17:33	1441	5A	50° 4.8'N	50° 4.7'N	129° 20.3'W	129° 21.8'W	549	598	539	25	x
Triangle Island	52	OffStd	D4	Oct 15	20:54	1302	5A	51° 0.4'N	51° 0.7'N	129° 40.1'W	129° 39.8'W	905	962	934	25	x
Triangle Island	53	OffStd	D3	Oct 15	21:34	1334	5A	51° 0.4'N	51° 0.3'N	129° 37.5'W	129° 36.3'W	796	647	698	25	x
Triangle Island	54	OffStd	D2	Oct 15	22:16	1403	5A	51° 0'N	51° 0.9'N	129° 33.2'W	129° 34'W	514	565	552	25	x
Triangle Island	55	OffStd	D1	Oct 15	22:49	1448	5A	51° 0.2'N	51° 0'N	129° 35.5'W	129° 35.4'W	441	315	361	25	x
S3	56	StRS	RD3	Oct 16	06:18	1452	5A	51° 0.2'N	51° 0.5'N	129° 51.2'W	129° 51.4'W	1000	1074	1044	25	x
S3	57	StRS	RD3	Oct 16	07:21	1506	5A	50° 7'N	50° 6.9'N	129° 46.8'W	129° 45.9'W	1156	695	996	24	x
Triangle Island	58	OffStd	D5	Oct 16	08:54	1527	5A	51° 0.4'N	51° 0.8'N	129° 41.4'W	129° 40.6'W	1128	1072	1096	25	x
S3	59	StRS	RD1	Oct 16	11:01	1547	5A	51° 0.5'N	51° 0.4'N	129° 28'W	129° 28.1'W	287	287	287	25	x
S3	60	StRS	RD2	Oct 16	13:10	1560	5A	51° 1.7'N	51° 1.9'N	129° 44.3'W	129° 44.3'W	514	786	729	25	x
S3	61	StRS	RD2	Oct 16	15:30	1563	5A	51° 0.7'N	51° 0.1'N	130° 1'W	130° 1.4'W	620	695	658	25	x
S3	62	StRS	RD3	Oct 17	19:57	1435	5B	51° 7.7'N	51° 7.9'N	130° 8.7'W	130° 9.7'W	808	832	807	25	x
S3	63	StRS	RD2	Oct 17	21:17	1470	5B	51° 3.3'N	51° 3.7'N	130° 2.7'W	130° 3.8'W	713	788	754	25	x
S3	64	StRS	RD1	Oct 17	22:48	1504	5B	51° 2.9'N	51° 3.7'N	130° 3.9'W	130° 3.9'W	316	291	378	25	x
S3	65	StRS	RD3	Oct 18	07:26	1413	5B	51° 3.1'N	51° 2.8'N	130° 39.4'W	130° 38.3'W	1170	1437	1322	24	
S3	66	StRS	RD3	Oct 18	09:08	1484	5B	51° 8.7'N	51° 9.1'N	130° 23.7'W	130° 24.8'W	1273	1459	1372	25	x
S3	67	StRS	RD2	Oct 18	10:32	1506	5B	51° 4.2'N	51° 4.9'N	130° 26.7'W	130° 27.3'W	622	554	587	25	x
S3	68	StRS	RD1	Oct 18	12:03	1506	5B	51° 8.3'N	51° 8.9'N	130° 24.7'W	130° 24.7'W	379	503	427	25	x
Cape St. James	69	OffStd	D5	Oct 18	13:54	1537	5B	51° 0'N	51° 1'N	130° 33.2'W	130° 32.9'W	1138	1094	1111	26	x
S3	70	StRS	RD3	Oct 18	15:14	1572	5B	51° 2.7'N	51° 3.4'N	130° 32'W	130° 32.6'W	947	878	917	25	x
Cape St. James	71	OffStd	D4	Oct 19	20:02	1472	5B	51° 1.5'N	51° 1.9'N	130° 39.7'W	130° 40.7'W	891	863	880	24	x
Cape St. James	72	OffStd	D1	Oct 20	06:17	1416	5B	51° 8.7'N	51° 8.2'N	130° 39'W	130° 39.7'W	331	424	392	23	x
Cape St. James	73	OffStd	D2	Oct 20	07:06	1426	5B	51° 7.8'N	51° 7.3'N	130° 38.1'W	130° 38.8'W	485	574	550	25	x
Cape St. James	74	OffStd	D3	Oct 20	08:04	1480	5B	51° 4.2'N	51° 4.5'N	130° 42.7'W	130° 41.5'W	658	753	722	25	x
S3	75	StRS	RD2	Oct 20	09:45	1508	5B	51° 5.8'N	51° 6.5'N	130° 35.8'W	130° 34.9'W	700	576	630	25	x
S3	76	StRS	RD2	Oct 20	11:40	1469	5B	51° 5.8'N	51° 5.7'N	130° 31'W	130° 31'W	514	432	560	24	x
S3	77	StRS	RD1	Oct 20	14:02	3219	5B	51° 1.9'N	51° 1.9'N	130° 16.3'W	130° 17.4'W	208	212	211	25	x
S3	78	StRS	RD1	Oct 20	15:32	3238	5B	51° 2'N	51° 1.9'N	130° 26.7'W	130° 27.8'W	265	313	287	25	x
S3	79	StRS	RD1	Oct 20	17:44	3265	5B	51° 4.7'N	51° 4.7'N	130° 46.2'W	130° 45.7'W	280	293	296	24	x
S4	80	StRS	RD2	Oct 25	14:18	1369	5E	52° 0.1'N	52° 0.9'N	131° 31.8'W	131° 31'W	408	748	576	25	x
S4	81	StRS	RD1	Oct 25	16:18	1395	5E	52° 0.4'N	52° 0.8'N	131° 15.8'W	131° 16.5'W	254	274	298	25	x
S4	82	StRS	RD1	Oct 25	16:49	1430	5E	52° 0.6'N	52° 0.8'N	131° 15.6'W	131° 14.4'W	355	541	487	25	x
S4	83	StRS	RD1	Oct 25	18:25	1472	5B	51° 4.4'N	51° 3.6'N	131° 4.4'W	131° 4.1'W	236	342	296	25	x
S4	84	StRS	RD1	Oct 25	18:59	1496	5B	51° 3.2'N	51° 2.7'N	131° 2.9'W	131° 2.2'W	198	221	226	24	x
S4	85	StRS	RD2	Oct 25	19:37	1604	5B	51° 1.5'N	51° 0.9'N	131° 1.9'W	131° 1.5'W	640	764	700	25	x
Gowgaia Bay	86	OffStd	D5	Oct 26	06:27	1455	5E	52° 0.3'N	52° 0.5'N	131° 42.2'W	131° 43.4'W	1022	1119	1083	25	x
Gowgaia Bay	87	OffStd	D4	Oct 26	07:24	1515	5E	52° 4.4'N	52° 4.7'N	131° 43.8'W	131° 42.8'W	997	797	901	25	x
Gowgaia Bay	88	OffStd	D1	Oct 26	08:43	1516	5E	52° 3.4'N	52° 3.8'N	131° 39.6'W	131° 40.5'W	315	294	395	25	x
Gowgaia Bay	89	OffStd	D3	Oct 26	09:40	1544	5E	52° 5.1'N	52° 5.5'N	131° 43'W	131° 44.3'W	534	605	667	25	x
S4	90	StRS	RD3	Oct 27	14:16	1504	5E	52° 9.1'N	52° 9.1'N	131° 51'W	131° 52.1'W	797	1061	919	26	x
Gowgaia Bay	91	OffStd	D2	Oct 27	15:23	1531	5E	52° 7'N	52° 6.7'N	131° 45.7'W	131° 44.6'W	567	547	578	25	x
S4	92	StRS	RD3	Oct 27	16:11	1574	5E	52° 5.8'N	52° 5.4'N	131° 45.8'W	131° 45'W	995	843	932	25	x
S4	93	StRS	RD2	Oct 27	17:47	1634	5E	52° 2'N	52° 2'N	131° 39.5'W	131° 38.4'W	706	373	563	26	x
S4	94	StRS	RD1	Oct 27	20:00	1596	5E	52° 9.9'N	52° 9.4'N	131° 36.7'W	131° 37.4'W	227	510	310	25	x
S4	95	StRS	RD2	Oct 28	06:14	1474	5E	52° 5.6'N	52° 5.4'N	132° 27.2'W	132° 28.4'W	406	719	574	24	x

continued.

Spatial Stratum	Set	Type	Depth Stratum	Start Date	End Deploy	Duration (min)	Major Area	Start	End	Start	End	Start	End	Mean	Traps Fished	SBE 39
S4	96	StRS	RD1	Oct 28	08:24	1452	5E	52° 2.2'N	52° 1.8'N	132° 18.7'W	132° 17.8'W	203	188	198	24	x
S4	97	StRS	RD3	Oct 28	10:19	1524	5E	52° 5.9'N	52° 6.2'N	132° 25.6'W	132° 24.4'W	799	1181	967	25	x
S4	98	StRS	RD2	Oct 28	12:30	1567	5E	52° 0.4'N	52° 0.3'N	132° 6.9'W	132° 6'W	810	494	753	24	x
S4	99	StRS	RD3	Oct 29	19:16	1317	5E	52° 7'N	52° 7.6'N	132° 48.8'W	132° 49.3'W	1106	1110	1111	25	x
S4	100	StRS	RD3	Oct 29	20:06	1377	5E	53° 0.1'N	53° 0.8'N	132° 49.7'W	132° 49.8'W	1099	1227	1170	25	x
S4	101	StRS	RD3	Oct 29	21:23	1434	5E	53° 0.9'N	53° 0.7'N	132° 47.3'W	132° 47.1'W	1216	1139	1182	25	x
Buck Point	102	OffStd	D5	Oct 30	06:12	1592	5E	53° 0.9'N	53° 0.6'N	132° 39.5'W	132° 39.9'W	1103	999	1047	25	x
Buck Point	103	OffStd	D1	Oct 30	06:56	1641	5E	53° 0.4'N	53° 0.9'N	132° 40.1'W	132° 41.2'W	342	492	431	24	x
Buck Point	104	OffStd	D4	Oct 30	08:01	1749	5E	53° 0.9'N	53° 0.3'N	132° 44.1'W	132° 45.4'W	810	982	942	25	x
S4	105	StRS	RD2	Oct 30	08:57	1787	5E	53° 0.9'N	53° 0.9'N	132° 43'W	132° 42.6'W	719	543	604	25	x
Buck Point	106	OffStd	D3	Oct 30	09:39	1843	5E	53° 0.9'N	53° 0.5'N	132° 44.6'W	132° 44.9'W	764	609	685	25	x
Buck Point	107	OffStd	D2	Oct 30	11:12	1815	5E	53° 1.7'N	53° 1.5'N	132° 45.2'W	132° 46.3'W	479	647	551	25	x
S5	108	StRS	RD3	Oct 30	12:55	1850	5E	53° 1.3'N	53° 0.7'N	133° 0.3'W	133° 1.1'W	903	925	925	25	x
S5	109	StRS	RD2	Oct 31	21:49	1354	5E	53° 1.1'N	53° 1.7'N	133° 9.9'W	133° 10.7'W	618	739	678	25	x
Hippa Island	110	OffStd	D1	Nov 1	06:07	1435	5E	53° 0.7'N	53° 0.4'N	132° 55.7'W	132° 57.1'W	294	539	395	25	x
S5	111	StRS	RD1	Nov 1	06:50	1482	5E	53° 1.8'N	53° 2.3'N	132° 57.4'W	132° 56.3'W	399	289	381	25	x
Hippa Island	112	OffStd	D2	Nov 1	07:47	1500	5E	53° 4.3'N	53° 4.3'N	133° 0.2'W	133° 1.5'W	490	732	560	25	x
Hippa Island	113	OffStd	D4	Nov 1	08:47	1527	5E	53° 5.3'N	53° 5.6'N	133° 5.4'W	133° 4.5'W	836	892	930	25	x
Hippa Island	114	OffStd	D3	Nov 1	09:28	1552	5E	53° 6.4'N	53° 7.3'N	133° 4.1'W	133° 4.7'W	620	843	668	25	x
S5	115	StRS	RD2	Nov 1	10:12	1581	5E	53° 8.8'N	53° 9.3'N	133° 6.5'W	133° 7.6'W	470	671	537	24	x
S5	116	StRS	RD2	Nov 1	11:38	1574	5E	53° 6.6'N	53° 7.4'N	133° 8.3'W	133° 8.2'W	501	887	690	24	x
S5	117	StRS	RD2	Nov 1	13:15	1550	5E	53° 6.6'N	53° 7.3'N	133° 11.1'W	133° 11.7'W	505	649	541	25	x
S5	118	StRS	RD3	Nov 1	14:41	1548	5E	53° 8.2'N	53° 8.5'N	133° 13.8'W	133° 12.9'W	1002	803	946	24	x
Hippa Island	119	OffStd	D5	Nov 2	17:17	1731	5E	53° 0.2'N	53° 0.7'N	133° 10.4'W	133° 9.5'W	999	880	1046	26	x
S5	120	StRS	RD2	Nov 2	19:20	1487	5E	53° 8.1'N	53° 8.3'N	133° 12.2'W	133° 12.2'W	655	607	600	25	x
S5	121	StRS	RD3	Nov 3	06:09	1449	5E	53° 0.3'N	53° 1'N	133° 24.4'W	133° 24.7'W	1006	1028	1016	25	x
S5	122	StRS	RD3	Nov 3	06:58	1520	5E	53° 2.1'N	53° 2.9'N	133° 24.6'W	133° 24.9'W	1081	1359	1237	25	x
S5	123	StRS	RD1	Nov 3	08:06	1552	5E	53° 8.8'N	53° 7.5'N	133° 19.3'W	133° 19.2'W	230	223	225	25	x
S5	124	StRS	RD1	Nov 3	09:15	1572	5E	53° 1.8'N	53° 2.3'N	133° 26.1'W	133° 27.3'W	227	269	240	24	x
S5	125	StRS	RD1	Nov 3	09:57	1593	5E	53° 5'N	53° 5.1'N	133° 28.8'W	133° 30.3'W	243	344	294	25	x
S5	126	StRS	RD3	Nov 3	11:54	1612	5E	53° 1.2'N	53° 2'N	133° 43.6'W	133° 43.6'W	1240	1242	1239	25	x
Langara Is.-N. Frederick	127	OffStd	D1	Nov 3	13:43	1641	5E	54° 0.9'N	54° 0.1'N	133° 39.3'W	133° 40.4'W	388	439	415	25	x
Langara Is.-N. Frederick	128	OffStd	D2	Nov 3	14:28	1647	5E	54° 0.4'N	54° 0.4'N	133° 39.8'W	133° 40.9'W	507	576	535	25	x
S5	129	StRS	RD1	Nov 3	15:34	1644	5E	54° 0.2'N	54° 0.9'N	133° 41'W	133° 41.5'W	430	457	423	25	x
S5	130	StRS	RD1	Nov 4	20:13	1217	5E	54° 0.8'N	54° 0.3'N	133° 43.5'W	133° 44.4'W	397	413	415	25	x
Langara Is.-N. Frederick	131	OffStd	D3	Nov 4	21:10	1240	5E	54° 0.4'N	54° 0.4'N	133° 47.1'W	133° 48.3'W	640	834	705	25	x
Langara Is.-N. Frederick	132	OffStd	D4	Nov 4	22:08	1260	5E	54° 0.3'N	54° 0.9'N	133° 48.6'W	133° 49.4'W	861	911	908	25	x
Langara Is.-N. Frederick	133	OffStd	D5	Nov 4	23:01	1298	5E	54° 0.8'N	54° 0.5'N	133° 50'W	133° 51'W	1028	1130	1090	25	x
S5	134	StRS	RD3	Nov 5	00:28	1321	5E	54° 0.5'N	54° 0.2'N	133° 58.7'W	133° 58.8'W	1253	1183	1213	25	x
S5	135	StRS	RD2	Nov 5	01:33	1387	5E	54° 5.7'N	54° 6.3'N	133° 52'W	133° 51.3'W	600	571	593	25	x
Portland Inlet	136	Inlet		Nov 8	12:49	1060	5D	54° 8.5'N	54° 7.7'N	130° 16.4'W	130° 16.2'W	479	501	500	25	x
Portland Inlet	137	Inlet		Nov 8	13:56	1073	5D	54° 2.2'N	54° 1.6'N	130° 11.9'W	130° 11.1'W	443	443	442	25	x
Portland Inlet	138	Inlet		Nov 8	15:13	1104	5D	54° 5.7'N	54° 5.1'N	130° 22.8'W	130° 22.1'W	518	549	548	25	x
Portland Inlet	139	Inlet		Nov 8	16:52	1114	5D	54° 2.1'N	54° 2'N	130° 26.3'W	130° 27.3'W	600	622	606	25	x
Portland Inlet	140	Inlet		Nov 8	17:33	1155	5D	54° 9.9'N	54° 9.2'N	130° 31.4'W	130° 30.9'W	647	649	650	25	x
Gil Island	141	Inlet		Nov 10	12:22	1081	5C	53° 1.1'N	53° 0.7'N	129° 7.4'W	129° 8.1'W	565	576	577	25	x
Gil Island	142	Inlet		Nov 10	13:06	1113	5C	53° 0.1'N	53° 0.5'N	129° 7'W	129° 7.8'W	549	518	567	25	x
Gil Island	143	Inlet		Nov 10	14:31	1180	5C	53° 0.5'N	53° 0.9'N	129° 22.4'W	129° 21.4'W	649	669	663	25	x

continued.

Spatial Stratum	Set	Type	Depth Stratum	Start Date	End Deploy	Duration (min)	Major Area	Start	End	Start	End	Start	End	Mean	Traps Fished	SBE 39
Gil Island	144	Inlet		Nov 10	15:28	1203	5C	53° 2.3'N	53° 2.5'N	129° 23.4'W	129° 22.2'W	532	538	558	25	x
Gil Island	145	Inlet		Nov 10	16:34	1236	5C	53° 8.9'N	53° 8.4'N	129° 17.9'W	129° 18.4'W	530	545	543	25	x
Finlayson Channel	146	Inlet		Nov 12	11:15	1073	5C	52° 7.1'N	52° 7'N	128° 25.7'W	128° 26.7'W	550	591	593	25	x
Finlayson Channel	147	Inlet		Nov 12	12:03	1094	5C	52° 4.1'N	52° 3.7'N	128° 28.3'W	128° 27.3'W	587	505	642	25	x
Finlayson Channel	148	Inlet		Nov 12	12:58	1117	5C	52° 9.8'N	52° 9.1'N	128° 28.4'W	128° 28.2'W	582	640	638	25	x
Finlayson Channel	149	Inlet		Nov 12	13:51	1144	5C	52° 4.9'N	52° 4.4'N	128° 28.2'W	128° 27.4'W	711	675	689	25	x
Finlayson Channel	150	Inlet		Nov 12	15:15	1162	5C	52° 1.2'N	52° 1.3'N	128° 27.5'W	128° 28.6'W	669	693	731	25	x
Dean/Burke Channel	151	Inlet		Nov 14	11:48	1045	5B	52° 0.6'N	52° 1.1'N	127° 28.6'W	127° 27.8'W	529	527	528	25	x
Dean/Burke Channel	152	Inlet		Nov 14	13:25	1064	5B	52° 6.7'N	52° 6.4'N	127° 16.1'W	127° 14.9'W	539	465	525	24	x
Dean/Burke Channel	153	Inlet		Nov 14	15:00	1085	5B	52° 7'N	52° 6.2'N	127° 15.1'W	127° 14.8'W	543	593	589	25	x
Dean/Burke Channel	154	Inlet		Nov 14	15:56	1127	5B	52° 3.3'N	52° 3.2'N	127° 24.6'W	127° 25.8'W	587	602	599	24	x
Dean/Burke Channel	155	Inlet		Nov 14	16:58	1167	5B	52° 0.9'N	52° 0.2'N	127° 35.1'W	127° 36'W	439	432	444	25	x
Porcher Peninsula	156	Explore		Nov 9	20:33	184	5D	53° 8.1'N	53° 8.6'N	130° 48.3'W	130° 48'W	135	117	121	10	x
Goshen Island	157	Explore		Nov 9	21:41	184	5D	53° 4.4'N	53° 5'N	130° 43.8'W	130° 43.3'W	150	152	150	10	x

APPENDIX E SET DETAILS 2009.

Details of sets completed during the 2009 survey program (F/V Ocean Pearl). Sets are listed by stratum/inlet name, set type, depth stratum, start date, end of gear deployment time and duration in minutes. The depth strata for StRS sets include RD₁ (100-250 fathoms), RD₂ (250-450 fathoms) and RD₃ (450-750 fathoms). The depth strata for offshore standardized (OffStd) sets include D0 (50-149 fathoms), D1 (150-249 fathoms), D2 (250-349 fathoms), D3 (350-449 fathoms), D4 (450-549 fathoms) and D5 (550-649 fathoms). The position data includes the major area, start and end latitude and longitude in degrees decimal minutes. The bottom depths (meters) of the fishing set are listed with the mean bottom depth calculated from recordings at one minute intervals between the start and end of the set. The number of traps fished for each set excludes open traps, while holed or fouled traps have been included. Sets that successfully deployed a Seabird SBE temperature and pressure recorder are indicated with an 'x'.

Spatial Stratum	Set	Type	Depth Stratum	Start Date	End Deploy	Duration (min)	Major Area	Latitude		Longitude		Depth (m)			Traps Fished	SBE 39
								Start	End	Start	End	Start	End	Mean		
S1	1	StRS	RD2	Oct 9	14:16	1389	3C	48° 2.5'N	48° 1.8'N	125° 48.8'W	125° 49'W	549	708	628	25	x
S1	2	StRS	RD2	Oct 9	15:33	1424	3C	48° 2.9'N	48° 2.6'N	125° 55.4'W	125° 56'W	627	742	714	25	x
Barkley Canyon	3	OffStd	D5	Oct 9	17:11	1468	3C	48° 6.3'N	48° 5.7'N	126° 3.2'W	126° 3.7'W	1022	1099	1157	25	x
Barkley Canyon	4	OffStd	D3	Oct 9	19:40	1428	3C	48° 1'N	48° 0.9'N	125° 57.5'W	125° 58.5'W	669	786	744	25	x
S1	5	StRS	RD2	Oct 9	21:32	1445	3C	48° 9.9'N	48° 9.2'N	126° 9.6'W	126° 10.3'W	671	697	678	25	x
Barkley Canyon	6	OffStd	D4	Oct 10	09:22	1390	3C	48° 8.9'N	48° 9.2'N	126° 2.9'W	126° 2'W	999	880	920	25	x
S1	7	StRS	RD1	Oct 10	10:16	1419	3C	48° 3.1'N	48° 3.9'N	126° 1.4'W	126° 1.6'W	355	212	267	25	x
Barkley Canyon	8	OffStd	D1	Oct 11	06:32	1423	3C	48° 0.7'N	48° 0.9'N	125° 54.2'W	125° 55.3'W	320	481	379	25	x
Barkley Canyon	9	OffStd	D2	Oct 11	07:20	1452	3C	48° 8.7'N	48° 8.7'N	125° 57.8'W	125° 58.9'W	461	549	509	25	x
S1	10	StRS	RD1	Oct 11	12:12	1343	3C	48° 6.4'N	48° 6.9'N	126° 9.6'W	126° 11.3'W	373	373	307	25	x
S1	11	StRS	RD1	Oct 11	13:25	1373	3C	48° 3.3'N	48° 4'N	126° 17.2'W	126° 17.4'W	461	333	382	25	x
S1	12	StRS	RD1	Oct 11	14:36	1361	3C	48° 4.3'N	48° 4.9'N	126° 17.7'W	126° 17.7'W	377	219	285	24	x
S1	13	StRS	RD2	Oct 11	16:07	1359	3C	48° 0.3'N	48° 0.6'N	126° 21.3'W	126° 22.3'W	582	673	628	25	x
S1	14	StRS	RD3	Oct 11	18:04	1416	3C	48° 7'N	48° 6.6'N	126° 38.5'W	126° 38.6'W	1344	1346	1346	25	x
S1	15	StRS	RD3	Oct 11	20:18	1450	3C	48° 4.9'N	48° 5.5'N	126° 46.3'W	126° 46.3'W	1375	1381	1379	25	x
S1	16	StRS	RD3	Oct 12	22:34	1345	3C	48° 2.7'	48° 3.5'	126° 49.3'W	126° 49.4'W	1123	1088	1104	25	x
S1	17	StRS	RD1	Oct 13	07:45	1365	3C	48° 7.3'N	48° 6.7'N	126° 23.7'W	126° 23.9'W	243	283	260	25	
S1	18	StRS	RD1	Oct 13	08:58	1409	3C	48° 7.9'N	48° 7.9'N	126° 34.7'W	126° 35.9'W	402	455	427	24	x
S1	19	StRS	RD2	Oct 13	10:09	1470	3C	48° 4.1'N	48° 4.2'N	126° 38.6'W	126° 39.8'W	578	688	625	25	x
S1	20	StRS	RD3	Oct 13	11:17	1512	3C	48° 1.1'N	48° 1'N	126° 40.2'W	126° 41.2'W	894	1013	970	25	x
S1	21	StRS	RD3	Oct 13	13:00	1584	3C	48° 7.2'N	48° 6.7'N	126° 52.6'W	126° 53.1'W	1403	1401	1400	25	x
S1	22	StRS	RD3	Oct 13	15:10	1677	3D	49° 0'N	49° 0.8'N	127° 2.9'W	127° 3.3'W	1346	1298	1339	24	x
S1	23	StRS	RD2	Oct 13	16:32	1718	3D	49° 0.8'N	49° 0.9'N	126° 59.3'W	126° 58.2'W	605	521	557	25	x
Esperanza	24	OffStd	D3	Oct 15	12:40	1501	3D	49° 0.1'N	49° 9.5'N	127° 33.4'W	127° 32.9'W	686	777	739	25	x
Esperanza	25	OffStd	D4	Oct 15	14:29	1511	3D	49° 5.3'N	49° 4.7'N	127° 27.2'W	127° 27.1'W	863	927	899	25	x
Esperanza	26	OffStd	D5	Oct 15	15:36	1547	3D	49° 2.2'N	49° 1.5'N	127° 24.9'W	127° 25'W	1019	1119	1062	25	x
S2	27	StRS	RD2	Oct 15	16:55	1561	3D	49° 9.6'N	49° 9.3'N	127° 25'W	127° 25.9'W	790	807	806	25	x
S2	28	StRS	RD3	Oct 15	18:20	1593	3D	49° 5.3'N	49° 4.6'N	127° 30.2'W	127° 30.6'W	1189	1222	1209	25	x
S2	29	StRS	RD2	Oct 15	21:28	1550	3D	49° 5.8'N	49° 5.8'N	127° 16.4'W	127° 15.6'W	649	549	603	24	x
S2	30	StRS	RD2	Oct 16	05:52	1506	3D	49° 9'N	49° 8.2'N	127° 48.1'W	127° 48.4'W	463	651	516	23	
S2	31	StRS	RD2	Oct 16	07:07	1509	3D	49° 5.5'N	49° 5'N	127° 49.5'W	127° 50.4'W	433	691	572	25	x
S2	32	StRS	RD3	Oct 16	09:54	1518	3D	49° 3.8'N	49° 2.9'N	127° 49.7'W	127° 49.6'W	1463	1130	1167	26	
S2	33	StRS	RD2	Oct 16	11:07	1553	3D	49° 6.1'N	49° 6.1'N	127° 44.1'W	127° 43'W	587	558	627	25	x
Esperanza	34	OffStd	D2	Oct 16	11:59	1591	3D	49° 4.8'N	49° 4.2'N	127° 38.3'W	127° 38.4'W	483	605	539	25	x
Esperanza	35	OffStd	D1	Oct 16	12:47	1611	3D	49° 3'N	49° 2.3'N	127° 33.8'W	127° 34'W	304	411	350	25	x
S2	36	StRS	RD2	Oct 17	21:21	1432	3D	50° 0.4'N	50° 0.7'N	128° 10.7'W	128° 12'W	726	1158	912	25	x
S2	37	StRS	RD3	Oct 18	07:03	1401	3D	50° 3.5'N	50° 4.2'N	128° 10.4'W	128° 11'W	953	1130	1068	25	x
Quatsino Sound	38	OffStd	D3	Oct 18	08:08	1436	3D	50° 6.7'N	50° 6.2'N	128° 15.1'W	128° 15.8'W	636	821	748	25	x
S2	39	StRS	RD1	Oct 18	09:43	1430	3D	50° 0.2'N	50° 9.9'N	128° 13'W	128° 15.1'W	181	190	186	25	x
Quatsino Sound	40	OffStd	D1	Oct 18	11:08	1403	3D	50° 9.2'N	50° 8.9'N	128° 18.3'W	128° 19.2'W	300	439	365	25	x
Quatsino Sound	41	OffStd	D5	Oct 18	13:48	1335	3D	50° 7.9'N	50° 7.6'N	128° 22.7'W	128° 23.7'W	1011	1172	1109	25	x
Quatsino Sound	42	OffStd	D4	Oct 18	15:58	1345	3D	50° 8.5'N	50° 8.7'N	128° 24.7'W	128° 25.7'W	838	993	927	25	x
Quatsino Sound	43	OffStd	D2	Oct 18	17:09	1495	3D	50° 0.2'N	50° 0.1'N	128° 25.7'W	128° 26.8'W	459	534	486	25	x
S2	44	StRS	RD3	Oct 18	18:11	1519	3D	50° 0.7'N	50° 0.7'N	128° 28.9'W	128° 30.2'W	836	967	856	25	x
S2	45	StRS	RD1	Oct 19	16:27	1372	3D	50° 4.4'N	50° 4.5'N	128° 23.9'W	128° 24.9'W	203	207	204	25	x
S2	46	StRS	RD1	Oct 19	17:16	1388	3D	50° 4'N	50° 3.6'N	128° 25.6'W	128° 26.2'W	212	214	213	25	x
S2	47	StRS	RD1	Oct 19	21:20	1329	3D	50° 4.2'N	50° 4.2'N	128° 22.1'W	128° 23.3'W	196	199	198	25	x

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Spatial Stratum	Set	Type	Depth Stratum	Start Date	End Deploy	Duration (min)	Major Area	Start	End	Start	End	Start	End	Mean	Traps Fished	SBE 39
S2	48	StRS	RD3	Oct 20	07:15	1424	5A	50° 7.9'N	50° 8.3'N	128° 55'W	128° 57.4'W	993	1170	1076	25	x
S2	49	StRS	RD3	Oct 20	09:56	1463	5A	50° 1.3'N	50° 1.7'N	128° 40.1'W	128° 39.1'W	1057	960	967	25	x
S2	50	StRS	RD1	Oct 20	11:23	1473	5A	50° 2.9'N	50° 3.3'N	128° 35'W	128° 34'W	199	188	195	25	x
S2	51	StRS	RD1	Oct 20	14:03	1418	3D	50° 6.3'N	50° 6.6'N	128° 30.1'W	128° 29.1'W	234	210	216	25	x
S3	52	StRS	RD2	Oct 25	12:33	1306	5A	51° 0.7'N	51° 0.4'N	129° 46.2'W	129° 45.3'W	477	501	489	25	x
Triangle Island	53	OffStd	D5	Oct 25	13:49	1337	5A	51° 0.2'N	51° 0.9'N	129° 42'W	129° 41'W	1134	1048	1095	25	x
Triangle Island	54	OffStd	D3	Oct 25	15:05	1374	5A	51° 0.7'N	51° 0'N	129° 36.8'W	129° 35.1'W	790	728	772	25	x
Triangle Island	55	OffStd	D1	Oct 25	16:09	1391	5A	51° 0.5'N	51° 0.9'N	129° 32'W	129° 31.1'W	443	322	373	24	x
S3	56	StRS	RD1	Oct 25	17:18	1404	5A	51° 0'N	51° 0.5'N	129° 31.3'W	129° 30.8'W	333	353	359	25	x
S3	57	StRS	RD1	Oct 25	18:50	1414	5A	51° 0.8'N	51° 0.3'N	129° 28'W	129° 27.5'W	247	232	240	25	x
S3	58	StRS	RD1	Oct 25	21:28	1384	5A	50° 4.2'N	50° 3.7'N	129° 33.6'W	129° 33.8'W	225	210	222	25	x
Triangle Island	59	OffStd	D2	Oct 26	07:23	1381	5A	51° 0.6'N	51° 0.2'N	129° 46.5'W	129° 45.7'W	624	587	618	25	x
Triangle Island	60	OffStd	D4	Oct 26	08:18	1471	5A	51° 0.4'N	51° 0.8'N	129° 48.5'W	129° 49.1'W	832	1101	905	25	x
S3	61	StRS	RD3	Oct 27	07:43	1387	5A	51° 0.7'N	51° 0.3'N	129° 49.2'W	129° 49.9'W	821	905	859	25	x
S3	62	StRS	RD3	Oct 27	12:01	1338	5A	51° 0.5'N	51° 0'N	130° 9.5'W	130° 10.5'W	1297	1234	1267	25	x
S3	63	StRS	RD3	Oct 27	13:12	1365	5A	51° 0.7'N	51° 0.9'N	130° 9.2'W	130° 8.2'W	1046	929	980	25	x
S3	64	StRS	RD2	Oct 27	14:32	1371	5A	51° 0.5'N	51° 0.9'N	130° 7.6'W	130° 6.8'W	823	757	793	25	x
S3	65	StRS	RD3	Oct 27	15:45	1450	5A	51° 3.5'N	51° 2.3'N	130° 13.6'W	130° 13.5'W	1192	1355	1199	25	x
S3	66	StRS	RD2	Oct 27	17:07	1512	5A	51° 4.5'N	51° 4.1'N	130° 5.3'W	130° 4.6'W	700	664	675	25	x
S3	67	StRS	RD1	Oct 27	18:15	1702	5B	51° 6.2'N	51° 6.3'N	129° 57.2'W	129° 56'W	272	265	269	25	x
S3	68	StRS	RD3	Oct 29	07:20	1338	5B	51° 9.6'N	51° 9.6'N	130° 13'W	130° 11.9'W	945	924	929	24	x
S3	69	StRS	RD1	Oct 29	08:30	1390	5B	51° 0'N	51° 0.6'N	130° 3.6'W	130° 3.3'W	349	340	348	25	x
S3	70	StRS	RD1	Oct 29	12:18	1308	5B	51° 8.7'N	51° 9.4'N	129° 58.5'W	129° 59.1'W	382	326	320	25	x
S3	71	StRS	RD2	Oct 29	14:25	1337	5B	51° 6.4'N	51° 6.5'N	130° 6.7'W	130° 7.8'W	545	554	556	24	x
S3	72	StRS	RD3	Oct 29	17:06	1409	5B	51° 8.8'N	51° 8.4'N	130° 20.5'W	130° 21.5'W	1249	1277	1234	25	x
Cape St. James	73	OffStd	D5	Oct 30	19:50	1353	5B	51° 0.1'N	51° 0.9'N	130° 37.9'W	130° 38'W	1063	1004	1032	25	x
S3	74	StRS	RD2	Oct 30	21:07	1370	5B	51° 0.2'N	51° 1'N	130° 41.2'W	130° 41.4'W	580	636	610	25	x
S4	75	StRS	RD2	Oct 31	08:36	1381	5B	51° 4.5'N	51° 3.8'N	131° 6.1'W	131° 5.9'W	658	730	802	25	x
S4	76	StRS	RD2	Oct 31	09:51	1441	5B	51° 1.3'N	51° 0.8'N	131° 1.5'W	131° 1.5'W	600	724	748	24	x
Cape St. James	77	OffStd	D4	Oct 31	11:19	1474	5B	51° 6.9'N	51° 6.3'N	130° 55.7'W	130° 54.9'W	825	914	961	25	x
Cape St. James	78	OffStd	D1	Oct 31	13:11	1502	5B	51° 8.9'N	51° 8'N	130° 39.8'W	130° 40.1'W	347	371	366	25	x
Cape St. James	79	OffStd	D2	Oct 31	14:19	1511	5B	51° 6.6'N	51° 7.1'N	130° 42.5'W	130° 42'W	543	492	520	25	x
Cape St. James	80	OffStd	D3	Oct 31	15:33	1546	5B	51° 5.6'N	51° 4.7'N	130° 41'W	130° 41.3'W	671	737	707	25	x
S3	81	StRS	RD2	Oct 31	16:55	1576	5B	51° 4.4'N	51° 3.6'N	130° 32.8'W	130° 32.5'W	631	843	756	25	x
S4	82	StRS	RD1	Nov 4	07:38	1348	5E	52° 0.2'N	52° 0.8'N	131° 13.9'W	131° 14.8'W	399	468	425	25	x
S4	83	StRS	RD2	Nov 4	08:54	1393	5E	52° 0.2'N	52° 0.7'N	131° 21.6'W	131° 22.5'W	560	587	594	25	x
S4	84	StRS	RD1	Nov 4	10:04	1427	5E	52° 0.4'N	52° 0.2'N	131° 22.7'W	131° 22.8'W	304	472	322	25	x
S4	85	StRS	RD1	Nov 4	11:09	1445	5E	52° 0.6'N	52° 0.2'N	131° 23.7'W	131° 24.5'W	413	461	412	24	x
S4	86	StRS	RD2	Nov 4	12:54	1506	5E	52° 0.1'N	52° 0.8'N	131° 29.8'W	131° 29.8'W	819	613	653	25	x
S4	87	StRS	RD2	Nov 4	14:28	1496	5E	52° 0.5'N	52° 0.1'N	131° 30.5'W	131° 30.2'W	550	633	562	25	x
S4	88	StRS	RD3	Nov 4	16:43	1545	5E	52° 4.4'N	52° 4.5'N	131° 40.8'W	131° 41.9'W	1106	1297	1195	25	x
Gowgaia Bay	89	OffStd	D2	Nov 4	18:29	1584	5E	52° 7.2'N	52° 7.4'N	131° 33.9'W	131° 35'W	545	530	617	25	x
Gowgaia Bay	90	OffStd	D1	Nov 4	20:07	1570	5E	52° 8.6'N	52° 9.4'N	131° 35.9'W	131° 36.1'W	457	347	392	24	x
Gowgaia Bay	91	OffStd	D4	Nov 6	07:57	1353	5E	52° 4.6'N	52° 4.3'N	131° 42.9'W	131° 43.8'W	805	977	898	24	x
Gowgaia Bay	92	OffStd	D3	Nov 6	08:55	1407	5E	52° 5.8'N	52° 6.5'N	131° 45.5'W	131° 45.2'W	852	719	763	25	x
Gowgaia Bay	93	OffStd	D5	Nov 6	09:52	1439	5E	52° 6.3'N	52° 6.5'N	131° 46.7'W	131° 47.9'W	1002	1072	1057	25	x
S4	94	StRS	RD1	Nov 6	11:28	1473	5E	52° 3.7'N	52° 3.8'N	131° 54.9'W	131° 56'W	351	417	347	25	x
S4	95	StRS	RD3	Nov 6	13:00	1515	5E	52° 9.4'N	52° 9.8'N	132° 5.9'W	132° 7.2'W	827	1039	864	25	x

continued.

Spatial Stratum	Set	Type	Depth Stratum	Start Date	End Deploy	Duration (min)	Major Area	Start	End	Start	End	Start	End	Mean	Traps Fished	SBE 39
S4	96	StRS	RD1	Nov 6	14:01	1545	5E	52° 2.1'N	52° 2.8'N	132° 8.3'W	132° 9'W	421	472	445	25	x
S4	97	StRS	RD2	Nov 6	15:13	1598	5E	52° 5.3'N	52° 5.7'N	132° 11.6'W	132° 12.8'W	541	763	632	24	
S4	98	StRS	RD3	Nov 6	17:17	1641	5E	52° 1.4'N	52° 1.8'N	132° 19.2'W	132° 20.3'W	1359	1180	1248	25	x
S4	99	StRS	RD3	Nov 6	18:48	1707	5E	52° 6.5'N	52° 7'N	132° 31'W	132° 29.9'W	1328	850	1034	25	x
S4	100	StRS	RD1	Nov 8	07:09	1386	5E	52° 1.4'N	52° 1.9'N	132° 18.3'W	132° 19.3'W	205	218	214	25	x
S4	101	StRS	RD3	Nov 8	09:36	1448	5E	52° 5.9'N	52° 6.2'N	132° 44.3'W	132° 45.4'W	1203	1181	1193	25	x
S4	102	StRS	RD3	Nov 8	10:29	1503	5E	52° 7.4'N	52° 8.2'N	132° 49.7'W	132° 49.8'W	1134	1099	1095	25	x
S5	103	StRS	RD3	Nov 8	11:44	1556	5E	53° 0.6'N	53° 0.2'N	132° 49'W	132° 48.6'W	1231	1202	1216	25	x
Buck Point	104	OffStd	D4	Nov 8	12:36	1603	5E	53° 0.6'N	53° 0.5'N	132° 45.5'W	132° 44.4'W	922	748	833	25	x
Buck Point	105	OffStd	D3	Nov 8	13:38	1616	5E	53° 0'N	53° 0.6'N	132° 43.2'W	132° 42.8'W	735	613	680	25	x
Buck Point	106	OffStd	D1	Nov 8	14:32	1630	5E	53° 0.2'N	53° 0.3'N	132° 41.9'W	132° 40.8'W	461	388	445	25	x
Buck Point	107	OffStd	D2	Nov 8	15:21	1653	5E	53° 0.9'N	53° 0.9'N	132° 40.5'W	132° 41.7'W	485	576	579	25	x
Buck Point	108	OffStd	D5	Nov 8	16:35	1697	5E	53° 0'N	53° 0.3'N	132° 40.9'W	132° 40.3'W	1011	1079	1050	25	x
S5	109	StRS	RD2	Nov 10	07:15	1366	5E	53° 6.7'N	53° 7.3'N	132° 53.2'W	132° 54.1'W	638	636	639	25	x
S5	110	StRS	RD3	Nov 10	09:37	1418	5E	53° 4.2'N	53° 4.9'N	133° 13.8'W	133° 13.7'W	1037	1031	1037	25	x
Hippa Island	111	OffStd	D2	Nov 10	11:15	1440	5E	53° 4.3'N	53° 4.5'N	133° 0.3'W	133° 1.3'W	463	527	475	25	x
Hippa Island	112	OffStd	D1	Nov 10	12:15	1465	5E	53° 7.4'N	53° 7.4'N	133° 2.6'W	133° 3.7'W	393	474	400	25	x
Hippa Island	113	OffStd	D4	Nov 10	13:10	1483	5E	53° 7.4'N	53° 7.4'N	133° 5.3'W	133° 6.5'W	790	956	815	25	x
Hippa Island	114	OffStd	D5	Nov 10	14:38	1498	5E	53° 8.2'N	53° 8.9'N	133° 10'W	133° 9.4'W	944	1020	1050	25	x
Hippa Island	115	OffStd	D3	Nov 10	15:52	1503	5E	53° 9.9'N	53° 0.2'N	133° 7.6'W	133° 8.7'W	624	704	621	25	x
S5	116	StRS	RD1	Nov 10	18:36	1521	5E	53° 6.7'N	53° 6.7'N	133° 21'W	133° 22.3'W	293	340	316	25	x
S5	117	StRS	RD1	Nov 10	19:12	1543	5E	53° 7.8'N	53° 7.7'N	133° 22.7'W	133° 23.8'W	300	342	320	25	x
S5	118	StRS	RD2	Nov 11	22:08	1310	5E	53° 6.9'N	53° 7.1'N	133° 25.3'W	133° 26.5'W	463	629	530	25	x
S5	119	StRS	RD2	Nov 11	23:07	1387	5E	53° 1.2'N	53° 1.5'N	133° 32.6'W	133° 33.9'W	574	733	671	25	x
S5	120	StRS	RD3	Nov 12	06:57	1348	5E	53° 1.4'N	53° 2.1'N	133° 43.9'W	133° 43.9'W	1218	1251	1221	25	x
S5	121	StRS	RD1	Nov 12	08:30	1442	5E	53° 8.3'N	53° 8.9'N	133° 29.6'W	133° 30.7'W	201	203	206	25	x
S5	122	StRS	RD1	Nov 12	09:52	1442	5E	53° 9.5'N	54° 0.4'N	133° 35.4'W	133° 35.4'W	468	421	406	25	x
Langara Is.-N. Frederick	123	OffStd	D2	Nov 12	10:49	1531	5E	54° 0.5'N	54° 0'N	133° 40.2'W	133° 41.2'W	503	532	516	25	
Langara Is.-N. Frederick	124	OffStd	D3	Nov 12	11:45	1540	5E	54° 0.4'N	54° 0.7'N	133° 40.6'W	133° 41.5'W	545	587	583	25	x
Langara Is.-N. Frederick	125	OffStd	D1	Nov 12	12:53	1595	5E	54° 0'N	54° 0.6'N	133° 41.7'W	133° 42.2'W	475	492	458	24	
S5	126	StRS	RD1	Nov 12	14:38	1692	5E	54° 1.8'N	54° 1.5'N	133° 40.7'W	133° 41.9'W	274	254	263	23	x
S5	127	StRS	RD2	Nov 12	15:42	1787	5E	54° 1.2'N	54° 1.2'N	133° 49.8'W	133° 51.2'W	532	686	613	25	x
S5	128	StRS	RD3	Nov 13	07:18	1511	5E	53° 6.6'N	53° 6.9'N	133° 43.1'W	133° 42'W	1251	1159	1179	25	x
S5	129	StRS	RD2	Nov 13	10:47	1420	5E	54° 0.2'N	54° 0'N	133° 37'W	133° 37.1'W	589	563	545	24	x
S5	130	StRS	RD1	Nov 13	11:19	1472	5E	54° 0.2'N	54° 0.1'N	133° 34.8'W	133° 36.1'W	401	494	453	25	x
S5	131	StRS	RD2	Nov 13	14:36	1386	5E	54° 0.7'N	54° 0.1'N	133° 41.6'W	133° 42.3'W	459	545	497	25	x
Langara Is.-N. Frederick	132	OffStd	D5	Nov 13	16:52	1375	5E	54° 0.1'N	54° 0.5'N	133° 48.1'W	133° 49.1'W	966	984	924	23	x
Langara Is.-N. Frederick	133	OffStd	D4	Nov 13	17:34	1432	5E	54° 0'N	54° 0.4'N	133° 47.3'W	133° 48.5'W	770	863	798	25	x
S5	134	StRS	RD3	Nov 14	01:18	1281	5E	54° 0.3'N	54° 0.3'N	133° 56.1'W	133° 57.7'W	1216	1207	1215	25	x
S5	135	StRS	RD3	Nov 14	02:06	1364	5E	54° 0.1'N	53° 9.8'N	133° 59'W	133° 57.6'W	1170	1178	1171	25	x
Portland Inlet	136	Inlet		Nov 17	12:19	1079	5D	54° 9.3'N	54° 9.9'N	130° 31.1'W	130° 31.6'W	644	539	637	25	x
Portland Inlet	137	Inlet		Nov 17	13:27	1118	5D	54° 1.9'N	54° 2.1'N	130° 27.4'W	130° 26.3'W	622	594	600	25	x
Portland Inlet	138	Inlet		Nov 17	14:31	1202	5D	54° 5.5'N	54° 5.2'N	130° 23.2'W	130° 22.2'W	508	549	535	25	x
Portland Inlet	139	Inlet		Nov 17	15:53	1254	5D	54° 7.8'N	54° 7.5'N	130° 17.4'W	130° 16.3'W	488	497	493	25	x
Portland Inlet	140	Inlet		Nov 17	16:50	1291	5D	54° 1'N	54° 1.5'N	130° 11.9'W	130° 12.8'W	439	437	437	25	x
Gil Island	141	Inlet		Nov 19	12:08	1072	5C	53° 8.3'N	53° 8.5'N	129° 17.6'W	129° 18.9'W	534	477	540	25	x
Gil Island	142	Inlet		Nov 19	13:25	1112	5C	53° 2.4'N	53° 2.5'N	129° 22.2'W	129° 23.6'W	505	516	535	25	x
Gil Island	143	Inlet		Nov 19	14:43	1163	5C	53° 0.4'N	53° 0.9'N	129° 20'W	129° 20.7'W	686	684	688	25	x

continued.

Spatial Stratum	Set	Type	Depth Stratum	Start Date	End Deploy	Duration (min)	Major Area	Start	End	Start	End	Start	End	Mean	Traps Fished	SBE 39
Gil Island	144	Inlet		Nov 19	16:14	1221	5C	53° 0.8'N	53° 0'N	129° 7.7'W	129° 6.6'W	563	539	551	25	x
Gil Island	145	Inlet		Nov 19	17:07	1254	5C	53° 0.8'N	53° 1.1'N	129° 8.5'W	129° 7.4'W	560	561	567	25	x
Finlayson Channel	146	Inlet		Nov 21	12:27	1061	5C	52° 7.7'N	52° 7'N	128° 25.7'W	128° 26.8'W	565	574	576	25	x
Finlayson Channel	147	Inlet		Nov 21	13:06	1093	5C	52° 3.7'N	52° 3'N	128° 27.9'W	128° 27.7'W	609	552	578	25	x
Finlayson Channel	148	Inlet		Nov 21	13:42	1149	5C	52° 9.7'N	52° 9.1'N	128° 28.1'W	128° 28.7'W	644	580	631	25	x
Finlayson Channel	149	Inlet		Nov 21	14:22	1185	5C	52° 4.9'N	52° 4.2'N	128° 27.7'W	128° 28'W	757	649	683	25	x
Finlayson Channel	150	Inlet		Nov 21	15:00	1225	5C	52° 1.1'N	52° 1.3'N	128° 27.6'W	128° 28.4'W	719	691	733	25	x
Dean/Burke Channel	151	Inlet		Nov 23	08:42	1081	5B	52° 0.9'N	52° 0.3'N	127° 28'W	127° 28.6'W	516	523	519	25	x
Dean/Burke Channel	152	Inlet		Nov 23	10:29	1091	5B	52° 6.6'N	52° 6.4'N	127° 16'W	127° 15'W	518	435	512	25	x
Dean/Burke Channel	153	Inlet		Nov 23	12:00	1127	5B	52° 6.6'N	52° 6.4'N	127° 14.8'W	127° 15.8'W	578	580	580	25	x
Dean/Burke Channel	154	Inlet		Nov 23	12:53	1162	5B	52° 4'N	52° 3.8'N	127° 24'W	127° 25'W	594	593	594	25	x
Dean/Burke Channel	155	Inlet		Nov 23	14:01	1204	5B	52° 0.2'N	52° 0.9'N	127° 35.3'W	127° 36.4'W	437	441	441	25	x

APPENDIX F SUMMARY OF BASKET USE BY TRAP 2008.

Summary of the basket use by trap number for sets during the 2008 sablefish survey. Sets that did not retain sablefish are not listed. Set numbers highlighted in grey represent standardized sets at offshore indexing localities, set numbers highlighted in green represent standardized sets at mainland inlet localities and those in blue represent exploratory sets. All other sets are of the StRS type. The fate of the sablefish catch for each set and trap is indicated using the following abbreviations: D = Discarded after weighing (released at sea), A = Sampled for LSMWO, B = Sampled for LSM, T = Tagged and released, F= Frames, NA = No sablefish catch/trap missing.

Set	Trap																									Total				
	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	A	B	D	T	-
1	D	A	T	D	D	T	D	A	T	D	A	T	D	A	T	D	A	T	A	A	T	D	A	T	D	8	0	9	8	0
2		A	T			T					A	T		T	A			A	A	A	T	A				7	0	0	5	13
3	A	D	A	T	D	A	T	D	A	T	D	A	T	D	A	T	D	A	T	D	A	T	D	A	9	0	8	7	1	
4	T	D	A	D	A	T	D	D	T	D	A	T	D	D	T	D	A	T	D	D	D	T	5	0	11	8	1			
5	T	D	A	T	D	A	T	D	D	T	D	A	T	D	D	T	D	D	D	T	D	D	T	4	0	12	9	0		
6	B	D,F	A	A	A	A	A	A	A	B	A	A	B	A	A	A	B	A	B	A	B	B	14	7	1	0	3			
7	B	A	B	A	A	A	B	A	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	14	4	0	0	7		
8	A	B	A	B	A	A	B	A	B		A	B	A	A	A	A	A	A	A	A	A	A	A	12	5	0	0	8		
9	A	A	A	A	A	A					A	A	A	A	A	A	A	A	A	A	A	A	A	17	0	0	0	8		
10	B	A	A	B	A	B	B	A	B	B	A	B	B	B	B	A	B	D	B	D	D	D	D	D	6	12	6	0	1	
11	D	A	T	D	D	T	D	A	T	D	A	T	D	D	T	D	A	T	D	D	D	D	T	D	4	0	13	8	0	
12		A	T	A	T	A	A	A	A	A	A	T	A,F	A,F	T	A,F	A,F	T,F	A,F	A,F	T,F	A,F	A,T	14	0	0	7	4		
13	A	T	D	A	T	D	A	T	D	A	T	D	A	T	D	A	T	A	T	A	T	D	A	10	0	7	8	0		
14	T	A	D	T	A	D	T	A	D	T	A	T	D	T	A	T	A	T	A	T	A	D	T	9	0	5	9	2		
15	A	A	A	D	A	D	T	D	A	T	D	A	T	D	T	D	A	T	D	A	T	D	T	6	0	9	7	3		
16	A	T	D	A	T	A	T	A	A	T	A	A	A	A	T	A	A	A	T	A	A	A	A	14	0	1	6	4		
17	T	D	A	T	D	T	D	A	T	D	A	T	D	A	T	D	D	T	D	D	D	T	D	4	0	11	9	1		
18	A	T	D	A	T	D	A	T	D	D	T	D	D	T	D	A	T	D	D	T	D	D	T	5	0	12	8	0		
19	D	A	T	D	A	T	D	A	T	D	D	D	T	D	D	T	D	D	T	A	D	T	D	4	0	13	8	0		
20	T	D	A	T	D	A	T	D	A	T	D	D	T	D	A	T	D	T	D	A	T	D	A	6	0	9	9	1		
21	D	A	T	D	A	T	D	D	T	D	D	T	D	A	T	D	D	T	D	A	T	D	D	T	4	0	13	8	0	
22	T	D	A	T	D	D	T	D	A	T	D	D	T	D	A	T	D	D	T	D	D	D	T	3	0	13	9	0		
23	A	T	D	A	T,F	D,F	D,F	D,F	D,F	D,F	A	A,F	T,F	A,F	T,F	A	T	A	A	T	A	A	A	10	0	6	6	3		
24	T	D	A	T	A	A	T,F	A	A	T	A	A	T	D	A,F	T	A	A	T	D	D	T,F	D	D	T	9	0	6	9	1
25	T	D	A	T	D	A	A	A	A	T	A	A	T	A	A	D	T	D	A	T	A	A	T	12	0	4	8	1		
26	A	T	A	A	T	D	A	T	D	A	T	D	A	T	D	A	T	D	A	T	D	A	T	10	0	7	8	0		
27	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	B	A	B	A	B	B	B	12	5	0	0	8		
28	A	A	D,F	A,F	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	11	0	1	0	13		
29	B	A	B	A	A	B	A	A	B	B	B	D	D	D	D	A	D	D	B	D	D	B	D	6	8	10	0	1		
30	A	B	D	D	B	D	D	B	D	D	D	D	B	D	D	D	D	D	A	D	D	D	D	2	4	19	0	0		
31	D	A	T	D	D	D	T	D	D	D	T	D	D	D	T	D	D	A	T	D	A	T	D	3	0	13	8	1		
32	T	D	A	T	D	A	T	D	A	T	D	A	T	D	A	T	A,F	T	A	A	T	A	T	9	0	6	9	1		
33	A	B	A	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	B	B	B	B	B	9	6	0	0	10		
34	T	D	A	T	D	D	T	D	D	T	D	D	T	D	A	T	A	D	T	D	D	T	D	3	0	13	9	0		
35	T	D	A,F	T	D	D	T,F	A,F	T	D	D,F	T,F	D	A,F	D,F	D,F	D,F	D,F	D,F	D,F	T,F	A,F	A,F	T	5	0	13	7	0	
36	A	T	D	D	T	D	D	T	D	D	T	D	D	T	D	D	T	D	D	T	D	D	T	2	0	15	8	0		
37	T	D	A	T	D	A	T	D	D	T	D	D	T	D	T	D	A	T	D	D	T	D	D	3	0	13	8	1		
38	A	T	D	A	T	D	D	T	D	A	T	D	D	T	D	T	A	T	D	D	T	D	D	4	0	12	8	1		
39	D	A	T	D	D	T	D	D	T	A	D	T	D	D	T	D	D	T	A	T	D	D	T	3	0	14	8	0		
40	B	A	B	D	B	B	A	A	A	A	A	A	A	A	B	A	D	D	D	B	D	D	D	4	6	8	0	7		
41	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	17	0	0	0	8		
42	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	12	1	0	0	12		
43	A	A	B	A	B	A	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	9	10	4	0	2		
44	A	A	A	B	B	A	B	B	A	B	B	A	B	B	A	B	B	B	B	B	B	B	B	6	10	0	0	9		
45	T	T	T	T	T	T	A	A	T	T	T	D	T	D	A	T	D	T	D	T	A	T	D	2	0	0	5	18		
46	A	T	D	D	T	D	D	T	D	A	T	D	D	T	D	A	T	D	D	T	D	D	D	3	0	14	8	0		

continued.

Set	Trap																									Total					
	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	A	B	D	T	-	
47	T	A	T	A	A	T	D	T	A	T	A	A	T	A	D	T	A	A	T	D	D	D	D	9	0	4	8	4			
48	A	T	D	A	T	D	D	T	D	A	T	D	D	T	D	D	T	D	A	T	D	D	D	4	0	0	13	8			
49	D	A	T	D	A	T	D	T	A	D	T	A	D	T	D	A	T	D	T	A	D	T	D	6	0	9	8	2			
50	T	D	A	T	D	A	T	D	A	T	D	A	T	A	A	A	A	T	A	T	A	D	T	10	0	5	8	2			
51	D	A	T	D	A	T	D	A	T	D	D	T	D	A	T	D	T	D	D	T	D	A	T	5	0	11	8	1			
52	A		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	11	0	0	0	14			
53	A	B	A	A	A	A	A	A	B	B	A	B	B	D	A	B	B	B	D	B	B	B	B	9	11	2	0	3			
54	A	B	B	A	B	A	B	A	A	B	B	B	A	B	A	A	A	A	A	B	A	A	A	15	9	0	0	1			
55		A	A	A	B	A	B	A	B	B	B	B	B	B	A	A	A	A	A	A	A	A	A	8	6	0	0	11			
56	A	T	D	A	T	D	A	T	D	A	T	D	D	T	D	A	T	D	D	T	D	A	T	D	D	6	0	11	8	0	
57	T	A	A	T	A	A	A	A	A	T	D	A	D	A	T	D	D	T	D	A	T	D	D	D	9	0	7	6	3		
58	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	11	0	0	0	14			
59	A	A	T	A	D	T	D	A	T	D	A	T	D	A	T	A	A	T	A	A	T	D	A	T	A	12	0	5	8	0	
60	T	A	D	T	A	D	T	A	A	T	A	A	T	A	A	A	T	A	A	A	T	A	A	T	14	0	2	9	0		
61	D	A	T	D	A	T	D	D	T	D	A	T	D	D	T	D	A	T	D	D	T	D	D	T	D	4	0	13	8	0	
62	T	D	A	T	D	A	T	D	D	D	T	D	D	D	T	D	D	T	D	D	T	D	A	T	3	0	13	9	0		
63	A	D	D	T	D	A	T	D	D	D	T	D	D	D	T	D	A	T	D	A	T	D	A	T	6	0	11	7	1		
64	T	A	D	T	A	T	D	A	D	A	T	D	A	T	D	D	T	D	A	T	D	A	T	A	8	0	8	8	1		
65	T	A	A	T	A	T	A	T	A	A	A	A	A	A	A	A	T	A	A	T	A	A	A	14	0	0	6	5			
66	T	D	A	T	A	A	T	A	A	T	A	T	A	T	A	A	A	T	A	A	T	A	A	T	11	0	1	7	6		
67	T	D	A	T	D	D	T	D	D	T	D	A	T	D	D	T	D	D	T	D	D	D	T	D	2	0	14	9	0		
68	A	T	D	A	T	D	D	T	D	A	T	D	D	D	T	D	D	T	D	D	T	D	D	D	4	0	13	8	0		
69																											5	0	0	0	20
70	T	D	A	T	A	A	T	D	A	T	A	A	T	D	A	T	D	A	T	D	A	T	D	D	T	9	0	7	9	0	
71	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	16	0	0	0	9		
72	A		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	10	0	0	0	15		
73	A	A	A	A	A	A	A	A	B	B	A	B	B	A	A	B	B	B	B	B	B	B	B	D	10	12	1	0	2		
74	A	A	A	A	A	A	A	A	A	B	A	B	A	B	A	A	B	A	A	A	A	A	A	B	15	4	0	0	6		
75	T	D	A	T	D	A	T	D	D	D	T	D	T	D	T	D	A	T	D	D	T	D	D	T	D	3	0	13	9	0	
76	T	D	A	T	D	A	T	A	T	A	T	A	T	A	A	T	D	A	T	D	D	T	T	D	7	0	6	9	3		
77		T	A	A	T	A	A	T	A	T	A	T	F	A	A	T	A	T	A	T	A	T	A	T	10	0	0	0	7		
78	A		A	A	T	A	T	A	T	A	A	T	A	T	A	A	T	A	T	A	A	T	A	A	8	0	0	5	12		
79																											A	A	T	A	4
80	A	T	D	D	T	D	D	T	D	A	T	D	D	D	A	T	D	A	T	A	A	T	A	A	8	0	9	7	1		
81	A	A	A	A						T	A	T	T	T	A	T	T	A	T	T	T	A	T	T	3	0	0	4	18		
82	T	D	A	T	D	A	T	D	D	T	D	A	T	D	D	T	A	D	T	D	D	T	T	T	5	0	11	9	0		
83	A																										9	0	1	2	13
84	A		T	A	A	T	A	T	D	T	A	A	A	A	A	T	A	T	A	D	T	D	D	T	9	0	0	7	9		
85	T	D	A	T	D	A	T	D	D	T	D	D	T	D	T	T	A	D	T	A	D	T	D	D	4	0	11	9	1		
86	A		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	5	0	0	0	20		
87	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	15	0	0	0	10		
88	A	A	A	A	A	A	A	A	A	A	A	A	A	A	B	D	B	B	A	B	A	A	A	A	16	4	1	0	4		
89	A	B	A	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	A	A	12	7	0	0	6		
90	T	A	T	A	A	T	A	A	T	A	D	T	D	A	A	A	A	A	T	A	A	T	A	B	12	0	2	8	3		
91	A	A	A	A	A	A	B	A	B	A	B	A	A	A	A	A	A	A	A	B	A	B	B	B	15	6	0	0	4		

continued.

Set	Trap																									Total					
	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	A	B	D	T	-	
92	T	A	A	T	A		T	A	A	T	A	A	T	D	A	T	D	A	D	D	T	A	D	10	0	5	7	3			
93	A	T	A	A	T	A	A	T	D	A	T	D	A	T	D	A	T	D	A	T	D	A	T	9	0	7	8	1			
94	A								T	A		T	A	A	A	A	A	A	A	T	A	A	A	T	10	0	0	5	10		
95	T	D	A	T	D		T	D	D	T	D	D	T	A	T	D	T	A	D	T	D	A	T	3	0	10	8	4			
96	T						T		T					A							T				1	0	0	4	20		
97	T	A	D	T	D	D	T	A	D	T	A	D	T	A	D	T	A	D	T	D	A	T	T	7	0	8	9	1			
98	D	T	D	A	T	A	T	D	D	T	D	T	A	A	T	D	D	A	T	D	D	T	T	5	0	9	8	3			
99	A	D	T	A	D	T	D	D	T	D	D	T	A	D	T	D	D	D	T	D	D	T	D	3	0	12	8	2			
100	T	D	A	T	A	D	T	D	D	T	D	D	T	D	A		A	T	D	A	A	A	T	6	0	7	6	6			
101	D	A	T	A	D	T	D	A	D	T	D	A	D	D	T	D	A	T	A	A	A	T	A	8	0	8	6	3			
102	A							A	A	A	A					A	A	A	A	A	A	A	A	A	7	0	0	0	18		
103	A							A	A	A	A	A	A	B	A	B	A	B	B	B	B	B	B	B	12	9	0	0	4		
104	D							A	A	A																A	5	0	1	0	19
105	T	D	A	T	D	D	T	D	A	T	D	D	T	D	D	T	D	A	T	D	A	T	D	D	T	4	0	12	9	0	
106	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	17	0	0	0	8		
107	A	A	B	A	B	A	B	A	B	A	B	A	B	A	A	A	A	A	A	A	A	A	A	A	16	6	0	0	3		
108	A	T	D	D	T	D	D	T	D	D	D	D	T	D	A	T	D	A	T	D	D	T	A	4	0	12	8	1			
109	A	A	T	A	D	T	D	D	T	D	A	T	D	T	A	A	A	A	A	A	A	T	A	8	0	5	6	6			
110								A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	B	B	10	8	0	0	7		
111	A	T	D	A	T	A	D	T	D	A	T	A	A	A	A	A	A	A	A	A	A	A	A	A	7	0	3	4	11		
112	A	A	A	A	A	B	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	D	D	D	D	11	9	3	0	2	
113	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	15	0	0	0	10		
114	A							A		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	12	0	0	0	13	
115	T	D	A	T	D	D	D	A	T	A	A	T	D	D	D	A	D	A	T	D	A	A	A	A	6	0	8	5	6		
116	D	A	T	D	A	T	D	T	A	D	T	A	D	T	A	A	A	A	T	D	D	T	T	7	0	7	7	4			
117	T	A	A	T	D	A	A	T	T	A	A	A	A	D	T	A	T	T	A	T	D	D	D	9	0	3	6	7			
118	T	A	A	A	T	A	A	T	D	A	T	D	A	T	D	A	T	A	A	A	T	D	D	10	0	5	8	2			
119	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	13	0	0	0	12			
120	T	A	D	T	A	D	T	D	A	T	D	D	T	D	D	T	D	T	A	D	T	A	D	T	5	0	11	9	0		
121	D	T		A	T	A	D	T	D	D	D	T	D	D	T	T	A	T	A	A	T	A	D	T	6	0	8	8	3		
122	T	A		T	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	11	0	0	4	10		
123		A	A																							2	0	0	0	23	
124								T									T				T				0	0	0	3	22		
125			T	A													A	A		A	T	T	D	D	D	4	0	0	2	19	
126	A	T	D	A	T	D	D	T	D	D	D	A	T	A	D	T	D	A	T	D	T	D	D	D	5	0	11	8	1		
127	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	15	0	0	0	10		
128	A	A	A	A	A	A	B	A	B	A	B	A	B	B	A	B	B	B	D	B	D	D	D	D	10	7	5	0	3		
129	A	A	T	A	D	T	D	A	T	D	A	T	D	A	T	D	A	T	D	A	T	D	D	T	8	0	9	8	0		
130	T	D		T	A	D	T	D	A	T	A	D	T	A	D	T	A	D	A	T	A	A	T	D	7	0	7	7	4		
131	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	13	0	0	0	12		
132							A							A	A	A	A	A	A	A	A	A	A	A	A	4	0	0	0	21	
133	A	A	A	T	A	A	A	A	A	A	A	A	B	A	B	A	B	A	A	A	A	A	A	A	13	2	0	0	10		
134	A	A	A	T	D	A	A	A	A	A	T	A	T	A	T	A	T	A	A	A	T	A	T	T	11	0	1	7	6		
135	T	A	T	D	A	T	D	D	T	D	A	T	D	D	T	A	D	T	D	D	T	D	D	T	4	0	11	9	1		
136	A	T				A		A	A	A	T	A	T	A	T	T	T	A	T	A	T	A	T	A	8	0	0	6	11		

continued.

Set	Trap																									Total				
	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	A	B	D	T	-
137	T						A	T						A				T								2	0	0	3	20
138	A	A	T	D	T			A	T					T	A	T	A		A	T		T	A	T	A	8	0	1	8	8
139	T	A	T	D	D		A	T	D	T	D	T		T	A	T	D	T	D	T	D	T	D	T	3	0	8	11	3	
140	A	T	A	T	D	T	A	T	T	D	T	D	T	T	D	T	D	T	D	T	D	T	D	T	3	0	9	12	1	
141	T	T	A	T	D	T	A	T	D	T	D	T	A	T	A	T	D	T	D	A	T	D	D	5	0	6	12	2		
142	A	T	D	T	D	D	T	A	T	D	A	T	A	T	D	A	T	T	A	A	T	A	A	7	0	5	8	5		
143	T	A	T	A	T	A	T	A	T	D	T	D	T	D	D	A	T	A	T	A	T	A	T	T	8	0	3	12	2	
144		A	T	A	T									T	A	T	A	T	A	T	A	T	A	T	8	0	0	0	8	
145	T	A	T	T	T	T	A	T						A	T	T	A		T			A	T	T	5	0	0	0	10	
146	T	A	T	T	A	T	A							T	A			A		T	A	T	T	T	6	0	0	0	9	
147	T	A												A	T									A	T	4	0	0	0	3
148	A	T	A	A	A	T	A	T	A					A	T	A	T	A	T	A	T	T	A	T	12	0	0	0	9	
149	T	A	T	A	A	T	A	T	A					A	T	A	T	A	T	A	T	A	T	A	T	11	0	0	0	10
150		A	T	T	A	A	T	A	T	A	T	A	T	D	T	A	T	D	T	T	A	T	T	A	8	0	2	10	5	
151																				T						0	0	0	1	24
152				T	T									T						T						0	0	0	0	21
153	T	A	T	T	A	A		A	T	A	T		T	T		A	T	A	T	A	T	A	T	A	T	9	0	0	0	10
154	A	T	A	T	A	T	D	T	D				A	T	T	D	T	T	D	T	A	A	A	A	7	0	4	10	4	
155	T	A	T	T	A	T	A	T					T	T	T	A	T	T	T	T	D	D	4	0	1	11	9			
157	T				T		T																		0	0	0	3	22	

APPENDIX G SUMMARY OF BASKET USE BY TRAP 2009.

Summary of the basket use by trap number for sets during the 2009 sablefish survey. Set numbers highlighted in blue represent exploratory sets and set numbers highlighted in green represent standardized sets at mainland inlet localities. All other sets are of the StRS type. The fate of the sablefish catch for each set and trap is indicated using the following abbreviations: D = Discarded after weighing (released at sea), A = Sampled for LSMWO, T = Tagged and released, F= Frames, NA = No sablefish catch/trap missing.

Set	Trap																										Total			
	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	A	D	T	-
1	D	A	T		A		T	A	A	T	A	A	T	A	A	T	A	A	T	A	A	A	T	A		13	1	7	4	
2	T	D	A	T	D	A	T	D	D	T	D	D	T	D	D	T	D	D	T	D	D	T	T		2	14	9	0		
3	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A		14	0	0	11		
4	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A		22	0	0	3		
5	T	D	A	T	D	A	T	D	A	T	D	A	T	A	D	T	D	A	T	D	D	T	F		6	10	9	0		
6	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A		18	0	0	7		
7	A	D	T	D	A	T	D	A	T	D	A	D		T	D	A	T	D	A	T	D	A			7	8	6	4		
8	A,F	A	A	A	D,F	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A		16	1	0	8		
9	A	A	B	B	A	B	D		A	B	A	B	A	A	B	A		B	D	B	A				8	2	0	7		
10	T	D	A	D	A	T	D	A	A	T	D	A	A	T	A	T	A	A	D	T	A	D			9	6	5	5		
11	D	A	T	D	D	T	D	A	T	D	D	T	D	A	T	D	A	T	D	D	D	T	D		4	13	8	0		
12	T	D	A	T	D	T	D	A	T	D	D	A	T	D	T	A	T	D	A	T	D	A	D		6	6	8	5		
13	A	T	D	A	T	D	D	T	A	D	T	D	D	T	D	A	T	D	A	T	D	A,F	D,F		5	12	8	0		
14	T	A	A	T			A	T	A	T	A	T	A	T	A	A	A	A	A	A	A	A	T		7	0	6	12		
15	T	A	A	A			T	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	T		9	0	5	11	
16	T	A	A	A	A	A	T	D	A	T	D	A	T	D	D	T	D	A	T	D	D	T	D	A		8	8	7	2	
17	T	D	A	T	D	A	T	D	D	T	D	A	T	D	A	T	D	D	T	D	D	D	T		4	12	9	0		
18	A	T	D	A	T	D	D	T	D	D	T	D	A	T	D	D	T	D	A	T	D	D	T		4	12	8	1		
19	T	D	A	T	D	A	T	D	T	A	A	A	T	A	A	A	T	A	A	T	D	D	T		9	5	8	3		
20	T	D	A	T	D	A	T	D	A	T	D	A	T	D	A	T	D	A	T	D	D	T	A	D		7	9	9	0	
21	A		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A		10	0	0	15		
22	T		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	T	A	A	A			12	0	2	11		
23	A	T	D	A	T	D	D	T	D	D	T	A	D	T	D	D	T	A	D	T	D	D			5	12	8	0		
24			A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			10	0	0	15		
25			A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			8	0	0	17		
26			A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			13	0	0	11		
27	A	A		A	T	D		T	A	A	T	A	A	T	D	T	T	D		T	D				7	3	6	9		
28	A	A	A	T		A		A	T	A	A	T	A	A	T	A	T	A	T	A	T	A	A		10	0	5	10		
29	A	A	T	D,F	A,F	T	A,F	A	T,F	D	A,F	T,F	D,F	A	T,F	D,F	A,F	T	D,F	D,F	D,F	D,F	D,F	T,F		8	9	7	1	
30	T	D	A	T,F	A	T	A	A	A,F	A	T,F	A	A,F	T,F	A	A	T,F	A	A	T,F	D	A	T,F		10	2	7	6		
31	T	A	A	A	A	A	A	T	A	D	T,F	D	A	T	D	A	T	A	D	T	D,F	D	T		8	6	7	4		
32	T	A				T			A	T	A	A	A	T	A	A	A	T	A	A	T	D	D	T	D		8	3	7	7
33	A	A	A	T	D	A	T	D	D	T	D	D	T	D,F	A	T	D	A	T	D	A	A	B	B		6	8	6	5	
34	A	A	A	A	A	A	B	B	D	A	B	D	A	A	A	A	A	A	A	A	B	B			14	2	0	4		
35	A	A	A	A	A	A				A	A	A	A	A	A	A	A	A	A	A	A	A	A			9	0	0	16	
36			A		A	T	D	A	T	D	A	D	D	D	D	D	D	D	A	T	D	D	D		4	9	2	10		
37	T	D	A	T	D	A	T	D	A	D	A	T	D	D	T	D	A	T	D	D	T	D	D	T		5	11	8	1	
38	A	A	A	A	A	A	B	B	A	A	A	A	A	A	A	A	A	A	A	A	B	B			14	0	0	7		
39	A						A			T							T										2	0	2	21
40			A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A		13	0	0	12		
41			A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A		9	0	0	16		
42						A			A		A		A		A		A		A		A		A		A		8	0	0	17
43	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A		16	0	0	9		
44	T	A	A	T	D	A	A	A	A	T	D	A	T	D	T	D	A	T	D	D	T	D	D	T		7	8	8	2	
45	T	A	A	T	A	A	D	A	T	A	A	T	A	T	A	A	T	A	A	T	A	T	A		9	1	5	10		
46	A	T	A	A	T	A	A	T	A	T	A	A	T	A	A	A	A	A	A	A	T	A	A		15	0	6	4		

continued.

Set	Trap																										Total			
	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	A	D	T	-
47	T	A	A	T			T	A				A	T	A				T	A								6	0	5	14
48				T	A	A	T	A	A	A	T				A	T	A	A	T		T					9	0	6	10	
49	A	T	D	A	T	D	A	T	D	A	T	D	D	T	D	D	T	D	A	T	D	D	T	D	D	5	12	8	0	
50	A			A	A			A				T			T		T	A	A								6	0	2	17
51	A	A	A	A	A			T	A		T	A		T		T	A	T									9	0	4	12
52	T	A	A	A	T	D	A	T	D	D	T	D	D	T	D	A	T	D	A	T	D	D	T	T	5	11	9	0		
53				A			A				A		A	A	A	A	A	A	A	A	A	A	A	A	A	11	0	0	14	
54	A	B	A	A	A	A	A	A	A	B	B	B	A	B	B	A	B	A	B	A	B	B	B	B	10	0	0	5		
55	A	A	A	A	A	A	A	A	A	A	D	A	D													12	2	0	11	
56	T		A	T	A	A	T	D	A	T	A	D	T	D	D	T	A	D	T	D	T	D	D	D	6	8	8	3		
57		A	T		A			A	T	A		T		T		T	A	A	A	T	A	A	T	A	A	9	0	6	10	
58	T				A				A	T	A		T		T		T		T								3	0	5	17
59	A		A				A		A	A	A	A	A	A	A	A	A	B	A	B	B	B	B	B	B	12	0	0	7	
60	A	A	A	A	A	A	A				A		A	A	A	A	A	A	A	A	A	A	A	A	A	14	0	0	11	
61	A	A	T	D	D	T	D	D	T	D	A	T	D	D	T	D	A	T	A	T	D	A	T	A	7	9	8	1		
62	T	A		A	A	T	A	A	T	A	A	T	A				T	A	A	T	A	A	T	A	A	12	0	7	6	
63	A	T	A	A	T	A	A	T	D	A	T	D	D	T	A	D	T	D	D	T	D	A	T	D	D	8	9	8	0	
64	T	D	A	T	D	D	T	D	D	T	D	D	T	D	A	T	D	D	T	D	D	T	D	D	2	14	9	0		
65	T	A	A	T	A	A	T	A	A	A	A	T	A	A	T	A	A	T	A	A	T	A	A	T	T	14	0	8	3	
66	A	T	D	D	T	A	D	T	D	D	T	D	D	T	A	D	T	D	D	T	D	D	T	D	D	3	13	8	1	
67	T	A	A	T	A	A	T	D	D	A	A	A	D	A	T	A	T	A	T	A	A	D	D	T	T	10	4	6	5	
68	A	T	D	D	T	D	A	T	D	D	T	D	D	T	D	A	T	D	A	T	D	D	T	A	D	5	12	7	1	
69	D	A	T	D	T	T	A	T	A	A	T	A	A	A	T	A	A	T	D	A	T	D	D	T	D	8	6	7	4	
70	A	T	A	A	A	T	A	A	A	T	A	A	A	T	A	A	T	D	T	A	A	A	T	A	T	12	1	8	4	
71	D	A	T	D	D	T	A	D	T	D	D	T	A	D	T	D	D	T	D	D	T	D	D	T	D	3	13	8	1	
72	T	A		T	A	D	T	D	A	A	A	T	D	A	T	A	A	T	A	T	D	D	D	T	T	8	6	8	3	
73	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	15	0	0	10		
74	T	A	A	T	A	D	T	D	D	T	A	T	D	D	T	D	A	T	D	A	T	D	D	T	T	6	10	9	0	
75	T	A	D	T	D	A	T	A	D	T	D	D	T	A	D	T	D	D	T	D	D	T	D	D	4	12	9	0		
76	T	A	A	A	T			T	A	A	T	A	A	T	A	A	T	D	T	A	T	D	D	T	D	8	5	8	4	
77	A	A	A	A	A	A	A	A	A	A	B	A	B	A	B	A	B	A	B	B	B	B	B	B	12	0	0	3		
78	A	A	A	A	A	A	A	A	A	A	A	A	A	B	A	B	B	A	B	B	A	A	A	A	19	0	0	1		
79	A	A	A	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	9	0	0	7		
80	A	A	B	B	A	D	B	D	A	D	B	D	A	B	A	A	B	A	D	B	D	A	B	B	9	6	0	2		
81	T	A	D	T	A	D	T	D	D	T	D	D	T	D	A	T	D	D	T	D	D	T	D	T	T	3	13	9	0	
82	T	A	A	T	D	A	T	D	T	D	A	T	D	D	T	D	A	T	D	A	T	D	A	T	7	8	9	1		
83	A	T	D	D	T	A	T	A	D	T	D	D	T	F	A	D	T	D	D	T	A	A	T	D	D	6	10	8	1	
84	T	A	D	D	A	T	A	A	A	T	D	T	A	T	T	A	A	T	A	A	T	A	D	T	T	10	3	6	6	
85	T	D	A	T	D	A	T	D	A	T	D	T	D	A	T	T	D	D	T	D	D	T	T	A	5	9	8	3		
86	A		A	T	A	A	A	A	A	A	T	A	A	T	A	D	T	A	D	T	T	D	A	T	11	5	6	3		
87	A	A	A	T	A	D	T	D	D	T	D	A	T	T	A	A	T	A	A	T	A	D	T	D	D	7	4	4	10	
88	A	T	A	A	T	A	T	A	T	A	A	A	T	A	T	D	A	T	A	D	T	D	D	B	B	10	4	8	3	
89	A	A	A	B	A	B	A	A	A	A	B	A	B	D	D	D	A	D	A	B	B	B	B	A	9	4	0	6		
90		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	11	0	0	14		
91	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	13	0	0	12		

continued.

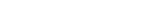
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92	A								A	A	A	A		A					A	A			A	A			10	0	0	15	
93	A							A	A					A	A	A							A				7	0	0	18	
94		A	T	A		T				A		T	A		T	A		T	A	A	T		A	T			8	0	7	10	
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98	A	T		A	T		A	T	A	A	T	A		A		A	A	A	T	A	A	T	D	D	D		11	2	6	6	
99	A	A	T	A	A	T	A	A	T	A	D	T	D	A	T	A	A	T	A	A	T	D	D	T	A		13	4	8	0	
100							A	A												A								4	0	0	21
101	A	A	T	A	A	T	A	A	A	A	T	D	A	T		A	T	D	A	T	D	A	T			12	3	7	3		
102	A	A	T	A	A	T	A	T	A	A	A	T		T	A		A	A	T	A	A	T	A	A			11	0	6	8	
103	A	A	A	A	A	A	T	A	T	A	T		T	A	T		T	A		T	A	T				9	0	6	10		
104	A	A					A																					5	0	0	20
105	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A		15	0	0	10		
106	A	A	A	D	D	A	A	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	B		13	2	0	4		
107	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A		17	0	0	8		
108				A	A																							2	0	0	23
109	D	A	T	D	A	T	D	A	T	D	D	T	D	A	T	D	D	T	D	A	T	D	A	T	D		6	11	8	0	
110				A	A	T	A			A	A	A	A	A	A	A	A	T	A	A	T	A	A	A			11	0	3	11	
111	A	B	A	B	D	A	B	B	A	D	B	D	B	D	A	D	B	D	D	B	D	D	D	D		5	12	0	0		
112	A	B	B	B	A	A	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	A			8	0	0	7		
113		A	A	A	A				A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			7	0	0	18	
114	A	A	A	A	A				A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			6	0	0	19	
115	A	A	B	A	A	A	B	B	B	A	B	B	B	B	B	B	B	B	B	D	D	D	B	D		7	4	0	3		
116		A	T	A				A	T	A	T	A	T	A	T	A	T	A	D	T	D	D	T	D			7	3	6	9	
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122	A		T	A	A	T	A	A	T	A	A	T	A	T		T	A		A	T	A	T	A	T			11	0	7	7	
123			A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A		12	0	0	13		
124	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A		17	0	0	8		
125							A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			6	0	0	19	
126	T	A	A				T										T	A		T		T	T					3	0	5	17
127	T	A	A	T	D	A	T	D	A	T	D	D	T	D	A	T	D	A	T	D	A	T	D	D	T		7	9	9	0	
128		A	A	A	A	A			A	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T			8	0	3	14	
129	A	A	T	D	A	T	D	D	T	D	A	T	D	A	T	D	T	A	T	D	A	T	A	T		7	6	8	4		
130	T		T	A	A	T	A	A	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T		9	0	6	10		
131	A	T	A	A	T	A	A	T	A	A	T	A	T	A	T	D	D	T	D	A	T	D	D	T	D		9	7	8	1	
132		A					A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			6	0	0	19	
133	A		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A		11	0	0	14		
134			T	A		T	A		T		T	A		T	A		T	A		A	A	T	A	T			6	0	7	12	
135	A		T	T		T	A		T		T		T		T		T		A		A	A	A	A			5	0	4	16	
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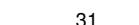
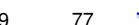
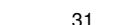
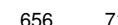
Set	Trap																										Total			
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139	T	A	T	A	T	D	T	D	T	D	A	T	A	T	D	T	D	T	D	T	D	T	D	T	T	4	8	12	1	
140	T	A	T	A	T	D	T	A	T	D	T	A	T	A	A	T	D	T	A	T	T	A	T	T	A	8	3	12	2	
141	T	A	T	D	T	A	T	D	T	D	T	D	T	D	T	D	T	A	T	T	A	T	T	A	T	4	6	12	3	
142	T	A	T	A	A	T	A	T	D	T	D	T	D	T	D	T	D	T	D	T	D	T	A	T	A	5	5	10	5	
143	T	A	T	D	T	A	T	D	T	D	T	D	T	A	T	D	T	D	T	D	T	D	T	D	T	3	9	13	0	
144	A	T	D	T	D	T	D	T	D	T	D	T	D	T	A	T	D	T	D	T	D	T	D	D	D	2	10	10	3	
145	T	A	T	T	A	T	D	T	A	T	D	T	A	T	A	T	A	A	T	A	T	A	T	D	T	8	3	12	2	
146		T	A					A		A	T						A	T	A	T	A	T	A	T	A	A	7	0	5	13
147	T		A	A	A	T	A	T		T	A						A	T	A	T	A	T	T	A	T	A	7	0	7	11
148	A	A	A	T	A	T	A	T	A	T	A	A	T	A	T	T	T	A	A	T	T	A	T	T	T	9	0	8	8	
149	T	A	T	A	T	A	A	T	D	T	D	T	A	T	D	T	D	T	D	T	D	T	D	T	T	5	7	12	1	
150	A	T	A	T	A	T	A	A	T	D	T	D	T	A	T	D	T	A	T	A	T	D	T	D	T	8	4	11	2	
152													A	T	A	A											3	0	1	21
153	T	A	T	A	A	A	A	A	A	T	A	T	A	T	T	A	T	T	A	T	T	T	A	A	A	9	0	8	8	
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155	A	T	A	T	A	T	T	A	T	A	T	A	T	A	T	A	A	T		D,F	D		D	9	2	9	5			

APPENDIX H SUMMARY OF SABLEFISH BIOLOGICAL DATA 2008.

Specimen counts of biological data collected for sablefish by set, including catch weight in kilograms and numbers of fish. Details include a tally of specimens recovered, tagged and sampled. Mean fork lengths for tagged sablefish and sampled male and female sablefish are listed. Set numbers highlighted in grey indicate standardized sets at offshore indexing localities, set numbers highlighted in green indicate standardized sets at mainland inlet localities and those in blue represent exploratory sets. All other sets are of the StRS type.

Set	Total Catch			Tagged Fish Counts			Tagged Fork Lengths(mm)			Specimen Count					Mean Fork Length(mm)		
	kg	Count	Count by Trap	Recover-Rerelease	Sampled	Released	Count	Mean	Fork Length	Sex	Maturity	Otoliths	Weight	Count	Proportion Males	Males	Females
1	454	230		0	0	63	63	582	57	57	56	57	57	57	0.91	563	601
2	154	28		0	0	13	13	785	15	15	15	15	15	15	0.00	0	789
3	456	149		1	0	34	35	643	54	54	54	54	54	54	0.57	633	667
4	651	279		1	0	91	92	606	60	59	59	60	60	60	0.78	585	656
5	1,371	576		4	0	241	245	612	49	49	49	49	49	49	0.90	589	638
6	243	99		0	0	0	0	98	98	98	98	51	51	98	0.77	607	671
7	275	94		2	0	0	2	732	92	92	92	54	54	92	0.40	596	668
8	310	135		1	1	0	2	680	133	133	133	61	61	133	0.45	559	632
9	182	58		0	0	0	0	58	58	58	58	58	58	58	0.50	627	688
10	456	165		0	0	0	0	122	122	122	50	50	50	122	0.52	619	672
11	911	340		3	0	108	111	623	55	55	55	55	55	55	0.76	610	652
12	194	72		0	0	15	15	660	37	37	37	37	37	37	0.27	654	698
13	597	160		0	0	55	55	692	42	42	42	42	42	42	0.02	701	697
14	447	147		0	0	54	54	664	50	50	49	50	45	50	0.38	629	691
15	710	264		0	0	111	111	624	54	54	54	54	54	54	0.87	625	656
16	255	52		0	0	11	11	735	38	38	38	38	38	38	0.00	0	756
17	837	319		0	0	134	134	609	56	56	56	56	56	56	0.11	610	639
18	988	384		2	0	135	137	631	60	60	60	60	60	60	0.30	577	634
19	1,280	471		0	0	146	146	633	59	59	59	59	59	59	0.27	595	638
20	590	276		0	0	109	109	585	60	60	60	60	60	60	0.68	549	622
21	905	378		1	0	107	107	598	62	62	62	62	62	62	0.81	583	655
22	639	269		1	0	78	79	595	48	48	48	48	48	48	0.71	586	635

continued.

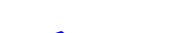
Set	Total Catch			Tagged Fish Counts			Tagged Fork Lengths(mm)		Specimen Count						Mean Fork Length(mm)		
	kg	Count	Count by Trap	Recover-Rerelease	Sampled	Released	Count	Mean	Fork Length	Sex	Maturity	Otoliths	Weight	Count	Proportion Males	Males	Females
23	249	77		0	1	20	21	696	31	31	30	31	30	31	0.23	656	714
24	399	163		0	0	53	53	626	50	50	48	50	47	50	0.76	611	714
25	529	134		0	0	52	52	708	53	53	53	53	53	53	0.08	638	703
26	547	154		1	0	48	49	672	48	48	48	48	48	48	0.31	614	706
27	147	68		4	0	0	4	567	64	64	64	48	48	64	0.70	579	637
28	221	67		0	0	0	0		65	65	65	65	65	65	0.32	650	696
29	531	186		0	0	0	0		125	125	125	52	52	125	0.44	592	701
30	1,122	425		2	0	0	2	590	130	130	130	48	48	130	0.20	594	641
31	732	301		0	0	95	95	605	45	45	45	45	45	45	0.56	579	663
32	448	162		0	0	64	64	635	57	57	57	57	57	57	0.68	621	676
33	268	103		0	0	0	0		103	103	103	53	53	103	0.66	607	661
34	1,280	590		0	0	249	249	592	56	56	56	56	56	56	0.50	559	625
35	524	264		0	0	42	42	658	32	32	32	32	32	32	0.47	603	695
36	1,728	574		0	0	187	187	649	44	44	44	44	44	44	0.34	616	695
37	1,162	533		1	0	182	182	584	63	63	63	63	63	63	0.75	578	670
38	835	206		0	0	52	52	712	54	54	54	54	54	54	0.06	647	709
39	983	528		2	0	151	153	555	50	50	50	50	50	50	0.76	543	635
40	616	225		0	0	0	0		140	140	140	58	58	140	0.41	593	687
41	139	53		2	0	0	2	557	51	51	51	51	51	51	0.55	585	684
42	179	64		0	0	0	0		64	64	64	51	51	64	0.48	602	673
43	376	168		1	0	0	1	557	124	124	124	54	54	124	0.77	592	636
44	185	93		1	0	0	1	603	92	92	92	49	49	92	0.72	569	620

continued.



Set	Total Catch			Tagged Fish Counts			Tagged Fork Lengths(mm)		Specimen Count						Mean Fork Length(mm)		
	kg	Count	Count by Trap	Recover-Rerelease	Sampled	Released	Count	Mean	Fork Length	Sex	Maturity	Otoliths	Weight	Count	Proportion Males	Males	Females
45	51	16		0	0	11	11	660	5	5	5	5	5	5	0.60	585	679
46	1,513	491		1	0	150	149	649	46	46	46	46	46	46	0.50	617	677
47	544	148		0	0	64	64	696	50	50	50	50	50	50	0.62	642	747
48	1,257	353		0	0	84	84	677	46	46	46	46	46	46	0.48	667	717
49	728	183		0	0	47	47	700	48	48	48	48	48	48	0.23	646	724
50	547	121		0	0	31	31	747	55	55	55	55	55	55	0.18	717	756
51	877	287		0	0	117	117	666	52	52	52	52	52	52	0.65	617	721
52	73	27		0	0	0	0		26	27	27	27	27	27	0.67	622	675
53	378	137		2	0	0	2	589	130	130	130	53	53	130	0.56	614	676
54	343	107		0	0	0	0		106	106	106	52	52	106	0.42	617	698
55	234	75		0	0	0	0		75	75	75	48	48	75	0.47	623	691
56	858	252		3	0	69	72	673	55	55	55	55	55	55	0.13	627	684
57	575	153		1	0	25	26	749	54	54	54	54	54	54	0.20	613	716
58	66	15		0	0	0	0		15	15	15	15	15	15	0.20	653	758
59	536	153		0	0	41	41	674	54	54	54	54	54	54	0.56	626	705
60	314	122		0	0	51	51	620	53	53	52	53	52	53	0.55	603	673
61	979	500		7	0	147	154	572	55	55	55	55	55	55	0.85	557	652
62	1,162	619		3	0	208	210	566	62	62	62	62	62	62	0.73	544	600
63	832	310		0	0	95	95	634	54	55	55	55	55	55	0.64	597	678
64	652	196		0	0	71	71	663	53	53	53	53	53	53	0.40	620	682
65	450	78		0	0	27	27	822	51	51	51	51	51	51	0.02	785	793
66	268	77		0	0	27	27	695	46	46	46	46	46	46	0.04	643	695

continued.

Set	Total Catch			Tagged Fish Counts			Tagged Fork Lengths(mm)		Specimen Count						Mean Fork Length(mm)		
	kg	Count	Count by Trap	Recover-Rerelease	Sampled	Released	Count	Mean	Fork Length	Sex	Maturity	Otoliths	Weight	Count	Proportion Males	Males	Females
67	1,072	495		3	0	174	177	591	49	49	49	49	49	49	0.88	575	639
68	1,083	382		3	0	143	146	645	55	55	55	55	6	55	0.58	620	674
69	34	9		0	0	0	0		9	9	9	9	9	9	0.11	644	713
70	381	135		0	0	53	53	635	54	54	54	54	54	54	0.63	629	697
71	89	31		0	0	0	0		30	30	30	30	30	30	0.50	605	700
72	100	25		1	0	0	1	673	24	24	24	24	24	24	0.21	664	738
73	410	150		2	0	0	2	672	144	144	144	58	58	144	0.75	613	691
74	185	72		0	0	0	0		72	72	72	47	47	72	0.60	594	700
75	1,109	446		0	0	172	172	617	57	57	57	57	57	57	0.81	604	675
76	491	170		3	0	69	72	639	49	49	49	49	49	49	0.57	608	684
77	169	45		0	0	13	13	712	26	26	25	26	26	26	0.08	641	735
78	109	35		0	0	6	6	697	28	28	28	28	28	28	0.21	600	678
79	20	5		0	0	1	1	877	4	4	4	4	4	4	0.50	674	688
80	634	181		3	0	69	72	664	55	55	55	55	55	55	0.84	637	779
81	101	21		0	0	4	4	755	18	18	18	18	18	18	0.06	684	751
82	1,008	285		2	0	87	89	695	55	55	55	55	55	55	0.35	646	718
83	315	63		0	0	10	10	722	43	43	43	43	43	43	0.21	705	757
84	203	39		0	0	17	17	764	22	22	22	22	22	22	0.00	0	773
85	1,462	338		2	0	157	159	727	58	58	58	58	58	58	0.21	693	763
86	24	7		0	0	0	0		7	7	7	7	7	7	0.14	648	705
87	95	29		0	0	0	0		29	29	29	29	29	29	0.45	667	691
88	264	71		2	0	0	2	650	70	70	70	56	56	70	0.24	636	721

continued.

Set	Total Catch			Tagged Fish Counts			Tagged Fork Lengths(mm)		Specimen Count						Mean Fork Length(mm)		
	kg	Count	Count by Trap	Recover-Rerelease	Sampled	Released	Count	Mean	Fork Length	Sex	Maturity	Otoliths	Weight	Count	Proportion Males	Males	Females
89	340	108		1	0	0	1	618	107	107	107	48	48	107	0.43	618	701
90	430	109		0	0	55	55	708	51	51	51	51	51	51	0.51	676	750
91	333	102		2	0	0	2	637	102	102	102	64	64	102	0.46	624	706
92	486	122		0	0	31	31	711	51	51	51	51	51	51	0.45	681	733
93	675	194		2	0	65	67	676	55	55	55	55	55	55	0.38	620	686
94	260	71		1	0	27	28	704	43	43	43	43	43	43	0.19	636	691
95	1,282	406		4	0	177	181	656	48	48	48	48	48	48	0.56	647	695
96	27	7		0	0	5	5	733	2	2	2	2	2	2	1.00	695	0
97	564	226		0	0	90	90	613	50	50	50	50	50	50	0.62	569	660
98	1,039	283		4	0	119	123	685	44	44	44	44	44	44	0.50	651	719
99	1,291	447		1	0	108	109	643	54	54	54	54	54	54	0.54	636	687
100	725	250		0	0	75	75	644	57	57	57	57	57	57	0.51	633	694
101	432	122		0	0	32	32	696	41	41	41	41	41	41	0.51	644	728
102	34	10		0	0	0	0		10	10	10	10	10	10	0.50	662	726
103	391	106		0	0	0	0		102	102	102	47	47	102	0.14	638	708
104	35	15		1	0	0	1	608	14	14	14	14	14	14	0.50	602	631
105	1,316	453		0	0	164	164	641	55	55	55	55	55	55	0.65	608	696
106	127	54		0	0	0	0		56	56	56	56	56	56	0.75	591	626
107	273	92		0	0	0	0		92	92	92	51	51	92	0.51	617	681
108	1,006	457		1	0	143	144	594	54	54	54	54	54	54	0.78	579	663
109	370	162		0	0	66	66	596	48	48	48	48	48	48	0.77	559	651
110	364	108		2	0	0	2	629	105	105	105	52	52	105	0.30	630	686

continued.

Set	Total Catch			Tagged Fish Counts			Tagged Fork Lengths(mm)		Specimen Count						Mean Fork Length(mm)		
	kg	Count	Count by Trap	Recover-Rerelease	Sampled	Released	Count	Mean	Fork Length	Sex	Maturity	Otoliths	Weight	Count	Proportion Males	Males	Females
111	301	76		2	0	27	29	695	17	17	17	17	17	17	0.18	648	722
112	641	179		0	0	0	0		144	144	144	64	64	144	0.31	628	701
113	141	43		2	0	0	2	616	41	41	41	41	41	41	0.34	646	701
114	95	29		0	0	0	0		29	29	29	29	29	29	0.31	642	696
115	471	152		1	0	51	52	652	48	48	48	48	48	48	0.40	620	651
116	320	108		1	0	34	35	642	47	47	47	47	47	47	0.45	606	684
117	350	123		0	0	38	38	639	52	52	52	52	52	52	0.63	602	646
118	525	167		2	0	62	64	652	50	50	50	50	50	50	0.54	644	679
119	93	27		0	0	0	0		27	27	25	27	27	27	0.22	650	693
120	832	232		0	0	69	69	668	53	53	53	53	53	53	0.51	621	706
121	692	197		0	0	82	82	692	45	45	45	45	45	45	0.67	682	694
122	245	54		0	0	17	17	752	37	37	37	37	37	37	0.11	705	786
123	7	2		0	0	0	0		2	2	2	2	2	2	1.00	651	0
124	31	8		0	0	8	8	692	0	0	0	0	0	0	0.00	0	0
125	38	9		0	0	2	2	716	7	7	7	7	7	7	0.00	0	698
126	972	239		0	0	83	83	719	53	53	53	53	53	53	0.19	675	733
127	216	43		0	0	0	0		44	44	44	44	44	44	0.11	646	759
128	577	169		0	0	0	0		132	132	132	54	54	132	0.50	630	713
129	820	182		0	0	43	43	706	52	52	52	52	52	52	0.33	638	771
130	663	168		0	0	67	67	681	54	54	54	54	54	54	0.28	641	708
131	207	57		0	0	0	0		57	57	57	57	57	57	0.49	628	739
132	40	10		0	0	0	0		10	10	10	10	10	10	0.40	643	765

continued.

Set	Total Catch			Tagged Fish Counts			Tagged Fork Lengths(mm)		Specimen Count						Mean Fork Length(mm)		
	kg	Count	Count by Trap	Recover-Rerelease	Sampled	Released	Count	Mean	Fork Length	Sex	Maturity	Otoliths	Weight	Count	Proportion Males	Males	Females
133	224	65		0	0	0	0	65	65	65	54	54	65	0.60	655	743	
134	498	87		0	0	30	30	785	45	45	45	45	45	0.00	0	791	
135	1,274	434		3	0	169	172	626	49	49	49	49	49	0.57	596	692	
136	51	27		0	0	8	8	564	19	19	19	19	19	0.11	549	550	
137	22	10		0	0	8	8	561	4	4	4	4	4	0.50	531	542	
138	416	168		1	0	94	95	585	61	61	61	61	61	0.28	565	619	
139	920	364		0	0	201	201	604	52	52	52	52	52	0.19	585	622	
140	1,012	330		1	0	165	165	637	45	45	45	45	45	0.29	597	651	
141	836	294		6	0	103	109	612	54	54	54	54	54	0.30	586	641	
142	531	194		3	1	95	99	602	43	43	43	43	43	0.33	594	611	
143	406	156		1	0	81	82	595	49	49	49	49	49	0.41	574	614	
144	196	77		1	0	36	37	604	40	40	40	40	40	0.30	584	596	
145	204	79		1	0	55	56	600	24	24	24	24	24	0.33	551	615	
146	229	67		4	0	39	43	656	25	25	25	25	25	0.20	597	676	
147	51	14		0	0	7	7	679	7	7	7	7	7	0.43	664	659	
148	270	91		2	0	40	42	623	49	49	49	49	49	0.29	603	653	
149	393	107		0	0	55	55	667	53	53	53	53	53	0.25	626	688	
150	613	164		1	0	82	83	657	52	52	52	52	52	0.52	639	711	
151	2	1		0	0	1	1	525	0	0	0	0	0	0.00	0	0	
152	17	6		0	0	6	6	613	0	0	0	0	0	0.00	0	0	
153	489	131		1	0	85	86	657	44	44	44	44	44	0.18	625	704	
154	722	189		3	0	112	115	670	47	47	47	47	47	0.26	604	701	

continued.

Set	Total Catch			Tagged Fish Counts			Tagged Fork Lengths(mm)		Specimen Count						Mean Fork Length(mm)		
	kg	Count	Count by Trap	Recover-Rerelease	Sampled	Released	Count	Mean	Fork Length	Sex	Maturity	Otoliths	Weight	Count	Proportion Males	Males	Females
155	117	29	<u> </u>	0	0	22	22	695	6	6	6	6	6	6	0.50	649	605
156	0	0	<u> </u>	0	0	0	0	0	0	0	0	0	0	0	0.00	0	156
157	3	3	<u> </u>	0	0	3	3	467	0	0	0	0	0	0	0.00	0	0
Total	78,273	26,802		123	3	8,177	8,297		8,124	8,125	8,116	6,770	6,710	8,126			

APPENDIX I SUMMARY OF SABLEFISH BIOLOGICAL DATA 2009.

Specimen counts of biological data collected for sablefish by set, including catch weight in kilograms and numbers of fish. Details include a tally of specimens recovered, tagged and sampled. Mean fork lengths for tagged sablefish and sampled male and female sablefish are listed. Set numbers highlighted in grey indicate standardized sets at offshore indexing localities and set numbers highlighted in green indicate standardized sets at mainland inlet localities. All other sets are of the StRS type.

Set	Total Catch			Tagged Fish Counts			Tagged Fork Lengths(mm)			Specimen Count					Mean Fork Length(mm)		
	kg	Count	Count by Trap	Recovered-Rerelease	Deceased	Released	Count	Mean	Fork Length	Sex	Maturity	Otoliths	Weight	Count	Proportion Males	Males	Females
1	225	92		0	0	39	39	603	43	43	43	43	43	43	0.79	609	673
2	1,304	617		0	0	189	189	579	72	72	72	72	72	72	0.85	567	675
3	242	84		1	0	0	1	597	82	83	83	83	83	83	0.24	605	657
4	133	54		0	0	0	0	54	54	54	54	54	54	54	0.63	597	659
5	619	283		1	0	98	99	584	52	52	52	52	52	52	0.77	571	672
6	175	61		2	0	0	2	627	59	59	59	59	59	59	0.37	584	687
7	585	197		0	0	45	45	634	56	56	56	56	56	56	0.36	622	655
8	164	54		0	0	0	0	52	52	52	52	52	52	52	0.37	627	683
9	303	138		2	0	0	2	573	108	108	108	50	50	108	0.82	586	615
10	581	196		0	0	56	56	631	77	77	76	77	76	77	0.43	621	677
∞	11	1,063		1	0	112	112	648	50	50	50	50	50	50	0.56	624	700
	12	519		0	0	64	64	634	57	57	57	57	57	57	0.39	603	680
	13	827		3	0	86	89	606	60	59	59	60	59	60	0.85	589	659
	14	125		1	0	12	13	697	18	18	18	18	18	18	0.06	650	706
	15	214		0	0	25	25	678	32	32	32	32	32	32	0.03	612	702
	16	578		0	0	62	62	629	55	55	55	55	55	55	0.15	589	642
	17	1,043		0	0	189	189	590	51	51	51	51	51	51	0.47	568	601
	18	1,375		2	0	250	251	607	52	52	51	52	51	52	0.71	600	636
	19	346		0	0	62	62	592	51	51	51	51	51	51	0.71	578	667
	20	539		0	0	78	78	607	53	53	53	53	53	53	0.51	595	625
	21	123		0	0	0	0	691	26	26	26	26	26	26	0.08	674	743
	22	169		0	0	7	7	691	38	38	38	38	38	38	0.00	0	676
	23	1,133		5	0	191	196	590	56	56	56	56	56	56	0.82	593	598
	24	59		0	0	0	0	56	27	27	27	27	27	27	0.67	593	607

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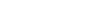
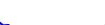
Set	Total Catch			Tagged Fish Counts			Tagged Fork Lengths(mm)		Specimen Count						Mean Fork Length(mm)		
	kg	Count	Count by Trap	Recover-Rerelease	Deceased	Released	Count	Mean	Fork Length	Sex	Maturity	Otoliths	Weight	Count	Proportion Males	Males	Females
25	57	21		0	0	0	0	21	21	21	21	21	21	21	0.29	605	655
26	103	41		0	0	0	0	41	41	41	41	41	41	41	0.15	548	636
27	302	129		1	0	59	60	605	58	58	58	58	58	58	0.41	553	616
28	266	69		1	0	16	17	692	52	52	52	52	52	52	0.06	659	709
29	247	127		1	0	28	29	621	35	35	28	35	28	35	0.63	603	683
30	223	100		1	0	9	10	659	45	45	44	45	40	45	0.58	615	693
31	359	132		0	0	29	29	632	49	49	49	49	49	49	0.82	614	698
32	604	156		0	0	46	46	704	76	76	76	76	76	76	0.07	603	712
33	442	180		2	0	56	58	620	52	52	52	52	52	52	0.77	586	672
34	254	92		0	0	0	0	83	83	83	54	54	83	0.67	617	675	
35	45	14		0	0	0	0	14	14	14	14	14	14	14	0.64	630	733
36	524	177		0	0	45	45	645	62	62	62	62	62	62	0.60	632	700
37	782	290		1	0	91	92	625	52	52	52	52	52	52	0.58	601	668
38	230	94		4	0	0	4	677	90	90	90	54	54	90	0.68	581	676
39	17	4		0	0	2	2	695	2	2	2	2	2	2	0.50	595	739
40	67	24		0	0	0	0	24	24	24	24	24	24	24	0.50	607	668
41	59	19		0	0	0	0	19	19	19	19	19	19	19	0.21	597	691
42	77	31		0	0	0	0	31	31	31	31	31	31	31	0.65	558	692
43	147	56		0	0	0	0	56	56	56	56	56	56	56	0.73	596	695
44	555	245		0	0	102	102	601	58	58	58	58	58	58	0.74	585	634
45	182	49		0	0	16	16	701	30	30	30	30	30	30	0.20	616	689
46	278	74		0	0	19	19	661	55	55	55	55	55	55	0.31	601	712
47	91	23		0	0	9	9	672	14	14	14	14	14	14	0.36	690	710
48	149	47		1	0	17	18	670	29	29	29	29	29	29	0.31	628	684

continued.

Set	Total Catch			Tagged Fish Counts			Tagged Fork Lengths(mm)		Specimen Count						Mean Fork Length(mm)		
	kg	Count	Count by Trap	Recover-Rerelease	Deceased	Released	Count	Mean	Fork Length	Sex	Maturity	Otoliths	Weight	Count	Proportion Males	Males	Females
49	697	251		4	0	71	75	643	60	60	60	60	60	60	0.63	605	671
50	52	14		0	0	3	3	695	10	11	11	11	11	11	0.45	629	743
51	65	24		0	0	5	5	544	19	19	19	19	19	19	0.42	659	619
52	753	262		1	0	88	89	622	49	50	50	50	50	50	0.72	608	674
53	113	34		0	0	0	0		34	34	34	34	34	34	0.38	642	705
54	256	97		0	0	0	0		98	98	98	54	54	98	0.74	606	669
55	262	80		0	0	0	0		72	72	72	72	72	72	0.43	629	687
56	639	189		0	0	86	86	653	61	61	61	61	61	61	0.46	641	695
57	204	62		0	0	19	19	642	39	39	39	39	39	39	0.56	640	700
58	71	12		0	0	8	8	776	5	5	5	5	5	5	0.00	0	761
59	201	87		0	0	0	0		87	87	87	51	51	87	0.77	583	658
60	85	35		0	0	0	0		35	35	35	35	35	35	0.49	579	666
61	723	255		1	0	92	92	635	56	56	56	56	56	56	0.43	591	704
62	326	84		0	0	31	31	694	54	54	54	54	54	54	0.11	708	703
63	646	256		1	0	71	72	616	65	66	66	66	66	66	0.33	572	648
64	1,119	594		2	0	183	185	561	50	50	50	50	50	50	0.78	550	595
65	513	104		0	0	49	49	776	55	55	55	55	55	55	0.07	654	761
66	1,428	727		7	0	243	250	568	64	64	64	64	64	64	0.83	560	616
67	420	99		0	0	23	23	678	56	56	56	56	56	56	0.09	631	694
68	934	374		0	0	80	80	630	53	53	53	53	53	53	0.60	592	663
69	443	159		1	0	45	46	634	60	60	60	60	60	60	0.45	599	659
70	423	123		0	0	60	60	658	53	53	53	53	53	53	0.26	633	670
71	1,048	432		2	0	164	166	607	47	48	48	48	48	48	0.85	598	670
72	458	148		0	0	56	56	662	55	55	55	55	55	55	0.24	650	660

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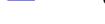
Set	Total Catch			Tagged Fish Counts			Tagged Fork Lengths(mm)		Specimen Count						Mean Fork Length(mm)		
	kg	Count	Count by Trap	Recovered-Rerelease	Deceased	Released	Count	Mean	Fork Length	Sex	Maturity	Otoliths	Weight	Count	Proportion Males	Males	Females
73	144	43		0	0	0	0	43	43	43	43	43	43	43	0.42	625	713
74	556	198		1	0	65	65	627	62	62	62	62	62	62	0.73	614	674
75	1,290	384		0	0	132	132	675	60	60	60	60	60	60	0.48	641	707
76	667	176		0	0	75	75	693	52	52	52	52	52	52	0.37	656	729
77	456	109		0	0	0	0	109	108	109	58	58	109	0.27	684	757	
78	255	81		0	0	0	0	81	81	81	51	51	81	0.44	607	693	
79	263	83		1	0	0	1	700	81	81	81	61	61	81	0.49	619	707
80	333	140		0	0	0	0	109	109	109	52	52	109	0.72	578	678	
81	894	340		2	0	117	117	617	52	52	52	52	52	52	0.60	613	677
82	648	187		1	0	53	54	675	53	53	53	53	53	53	0.26	638	683
83	1,125	341		1	0	118	119	667	57	57	57	57	57	57	0.60	628	705
84	399	85		0	0	15	15	750	50	50	50	50	50	50	0.08	669	744
85	748	220		1	0	102	103	664	46	46	46	46	46	46	0.35	645	724
86	387	143		8	0	33	41	615	52	52	52	52	52	52	0.83	621	734
87	221	79		0	0	13	13	644	31	31	31	31	31	31	0.87	601	800
88	450	102		0	0	45	45	738	50	50	50	50	50	50	0.18	686	767
89	592	185		2	0	0	2	618	103	103	102	53	53	103	0.44	610	694
90	74	19		0	0	0	0	19	19	19	19	19	19	19	0.16	658	718
91	129	37		0	0	0	0	38	38	38	38	38	38	38	0.42	649	711
92	99	25		0	0	0	0	25	25	25	25	25	25	25	0.36	643	752
93	33	9		0	0	0	0	9	9	9	9	9	9	9	0.11	620	698
94	291	73		0	0	31	31	710	41	41	41	41	41	41	0.27	620	711
95	547	143		0	0	37	37	717	52	52	52	52	52	52	0.52	655	728
96	464	123		0	0	40	40	675	54	54	54	54	54	54	0.26	650	688



continued.

Set	Total Catch			Tagged Fish Counts			Tagged Fork Lengths(mm)		Specimen Count						Mean Fork Length(mm)		
	kg	Count	Count by Trap	Recover-Rerelease	Deceased	Released	Count	Mean	Fork Length	Sex	Maturity	Otoliths	Weight	Count	Proportion Males	Males	Females
97	958	264		0	0	92	92	673	65	65	65	65	65	65	0.26	634	708
98	374	82		0	0	25	25	733	49	49	49	49	49	49	0.10	762	755
99	221	95		0	0	29	29	595	50	50	50	50	50	50	0.70	574	697
100	30	6		0	0	0	0		6	6	6	6	6	6	0.00	0	723
101	259	88		0	0	24	24	656	52	52	52	52	52	52	0.62	639	688
102	155	50		0	0	21	21	658	29	29	29	29	29	29	0.52	621	711
103	81	28		1	0	7	8	669	20	20	20	20	20	20	0.80	630	721
104	15	6		0	0	0	0		6	6	6	6	6	6	0.83	612	684
105	100	42		0	0	0	0		42	42	42	42	42	42	0.36	549	620
106	305	92		0	0	0	0		72	72	72	72	72	72	0.22	614	686
107	116	50		0	0	0	0		50	50	50	50	50	50	0.46	562	616
108	6	2		0	0	0	0		2	2	2	2	2	2	0.50	609	662
109	690	255		1	0	66	67	626	58	58	58	58	57	58	0.67	608	667
110	138	50		1	0	8	9	623	41	41	41	41	41	41	0.71	613	678
111	736	202		0	0	0	0		118	118	118	118	118	118	0.29	606	695
112	282	69		0	0	0	0		69	69	69	51	51	69	0.12	619	719
113	27	9		0	0	0	0		9	9	9	9	9	9	0.56	617	682
114	23	6		0	0	0	0		6	6	6	6	6	6	0.33	582	745
115	396	170		0	0	0	0		117	118	118	54	54	118	0.43	572	620
116	307	117		0	0	42	42	601	54	54	54	54	54	54	0.33	590	618
117	292	103		0	0	38	38	607	53	54	54	54	54	54	0.43	601	643
118	773	252		0	0	92	92	624	53	53	53	53	53	53	0.42	602	674
119	794	273		0	0	96	96	633	54	54	54	54	54	54	0.57	596	654
120	137	36		0	0	16	16	712	20	20	20	20	20	20	0.15	699	721

continued.

Set	Total Catch			Tagged Fish Counts			Tagged Fork Lengths(mm)		Specimen Count						Mean Fork Length(mm)		
	kg	Count	Count by Trap	Recover-Rerelease	Deceased	Released	Count	Mean	Fork Length	Sex	Maturity	Otoliths	Weight	Count	Proportion Males	Males	Females
121	7	2		0	0	0	0		2	2	2	2	2	2	0.00	0	691
122	254	76		0	0	38	38	642	39	39	39	39	39	39	0.18	568	635
123	74	27		0	0	0	0		27	27	27	27	27	27	0.30	543	632
124	164	61		0	0	0	0		61	61	61	61	61	61	0.56	582	650
125	39	9		0	0	0	0		9	9	9	9	9	9	0.22	565	732
126	32	7		0	0	5	5	755	2	2	2	2	2	2	0.00	0	722
127	767	253		1	0	85	86	625	64	64	64	64	64	64	0.44	589	679
128	75	22		0	0	6	6	676	16	16	16	16	16	16	0.38	698	726
129	402	135		0	0	46	46	622	37	37	37	37	37	37	0.51	580	625
130	178	51		0	0	14	14	658	37	37	37	37	37	37	0.22	616	678
131	604	179		1	0	65	66	657	58	58	58	58	58	58	0.57	619	693
132	42	11		0	0	0	0		11	11	11	11	11	11	0.27	669	713
133	66	23		0	0	0	0		23	23	23	23	23	23	0.43	574	682
134	130	29		0	0	13	12	737	16	16	16	16	16	16	0.06	741	753
135	109	23		0	0	11	11	768	12	12	12	12	12	12	0.00	0	724
136	1,023	364		2	0	185	186	620	56	56	56	56	56	56	0.16	539	627
137	1,436	665		0	0	302	302	576	77	77	77	77	77	77	0.27	559	601
138	1,065	551		0	0	351	351	562	58	58	58	58	58	58	0.38	567	585
139	421	224		0	0	59	59	565	49	49	49	49	49	49	0.35	536	554
140	274	149		0	0	85	85	551	50	50	50	50	50	50	0.38	525	573
141	693	309		0	0	179	179	584	52	52	52	52	52	52	0.29	557	598
142	646	290		4	0	143	147	580	60	60	60	60	60	60	0.27	539	613
143	1,231	485		1	0	290	290	599	57	57	57	57	57	57	0.42	567	628
144	816	303		3	0	142	145	614	53	53	52	53	53	53	0.15	597	632

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continued.

Set	Total Catch			Tagged Fish Counts			Tagged Fork Lengths(mm)		Specimen Count						Mean Fork Length(mm)		
	kg	Count	Count by Trap	Recover-Rerelease	Deceased	Released	Count	Mean	Fork Length	Sex	Maturity	Otoliths	Weight	Count	Proportion Males	Males	Females
145	649	238		3	0	133	136	612	57	56	57	57	57	57	0.29	593	634
146	85	28		0	0	14	14	649	14	14	14	14	14	14	0.14	629	622
147	200	71		0	0	36	36	612	35	35	35	35	35	35	0.26	603	636
148	222	69		1	0	26	27	648	43	43	43	43	43	43	0.23	597	649
149	878	221		2	0	95	97	689	50	50	50	50	50	50	0.24	649	714
150	657	174		3	0	67	69	674	52	52	52	52	52	52	0.42	636	702
152	28	13		0	0	10	10	564	3	3	3	3	3	3	0.67	570	568
153	142	41		0	0	15	15	641	26	26	26	26	26	26	0.23	576	683
154	215	49		0	0	19	19	675	30	30	30	30	30	30	0.40	619	749
155	351	95		1	0	31	32	687	49	49	49	49	49	49	0.39	612	652
Total	62,638	22,521		91	0	7,383	7,464		7,275	7,279	7,269	6,708	6,691	7,282			

APPENDIX J SUMMARY OF BIOLOGICAL DATA FOR OTHER SPECIES 2008.

Details of biological data collected from species other than sablefish during the 2008 survey. The number of specimens taken for length and sex, proportion males and mean lengths are listed by species and set number.

Species Name	Set	Length Type	Specimen Count			Mean Length(mm)			
			Length	Sex	Total Count	Proportion Males	Males	Females	No sex
ARROWTOOTH FLOUNDER	6	FORK LENGTH	1	1	1	0.00	0	594	0
	9		67	66	88	0.02	541	567	656
	10		8	8	31	0.00	0	573	590
	12		17	17	21	0.00	0	579	0
	21		8	8	8	0.00	0	605	630
	26		52	52	193	0.00	0	580	0
	37		3	3	5	0.00	0	593	592
	42		18	18	18	0.00	0	591	0
	45		13	13	13	0.08	541	573	0
	47		95	95	95	0.00	0	575	0
	48		4	4	5	0.00	0	623	0
	49		20	20	20	0.00	0	576	0
	59		21	21	22	0.00	0	547	560
	68		4	4	5	0.00	0	618	716
	71		3	3	3	0.50	458	514	572
	72		33	33	33	0.03	558	546	0
	74		14	14	14	0.00	0	554	510
	76		11	11	11	0.10	561	526	524
	78		82	82	85	0.00	0	553	531
	79		77	77	89	0.02	484	577	515
	81		6	6	73	0.00	0	558	0
111			28	28	31	0.00	0	585	543
	112		44	44	67	0.00	0	573	552
DARKBLOTTCHED ROCKFISH	42	FORK LENGTH	1	1	1	0.00	0	410	0
DOVER SOLE	14	FORK LENGTH	1	1	1	0.00	0	498	0
GREENSTRIPED ROCKFISH	45	FORK LENGTH	2	2	2	0.00	0	331	0
	47		1	1	1	0.00	0	347	0
LONGSPINE THORNYHEAD	13	FORK LENGTH	1	0	1	0.00	0	0	295
PACIFIC FLATNOSE	2	FORK LENGTH	5	5	5	1.00	488	0	0
	13		2	2	2	0.50	443	392	0
	16		3	3	3	0.33	489	483	0
	25		1	1	1	0.00	0	461	0
	38		2	2	2	1.00	472	0	0
	46		1	1	1	1.00	374	0	0
	65		1	1	1	1.00	485	0	0
	66		2	2	2	0.50	454	440	0
	69		1	1	1	1.00	375	0	0
	87		1	1	1	0.00	0	425	0
101			1	1	1	0.00	0	382	0
PACIFIC HALIBUT	28	FORK LENGTH	1	1	2	1.00	698	0	0
PACIFIC OCEAN PERCH	42	FORK LENGTH	1	1	1	0.00	0	433	0
	72		1	1	1	1.00	440	0	0
REDBANDED ROCKFISH	3	FORK LENGTH	1	1	1	0.00	0	436	0
	12		5	5	6	0.60	448	480	0
	14		3	3	3	0.67	425	474	0

continued.

Species Name	Set	Length Type	Specimen Count			Mean Length(mm)			
			Length	Sex	Total Count	Proportion Males	Males	Females	No sex
	15		1	1	1	1.00	350	0	0
	23		2	2	2	0.00	0	400	0
	26		4	4	4	0.50	469	494	0
	28		10	10	11	0.70	409	387	0
	35		15	15	15	0.60	477	493	0
	42		6	6	6	0.67	394	401	0
	45		15	15	15	0.60	463	485	0
	47		1	1	1	0.00	0	443	0
	48		8	8	8	0.50	383	368	0
	49		13	13	14	0.54	459	452	0
	59		5	5	5	0.80	494	422	0
	68		1	1	1	0.00	0	330	0
	72		3	3	3	0.33	360	399	0
	77		10	10	11	0.78	445	472	457
	78		4	4	4	0.75	438	478	0
	79		2	2	2	1.00	477	0	0
	81		5	5	6	0.20	465	451	0
	82		1	1	1	0.00	0	475	0
	83		22	22	22	0.55	448	528	0
	84		76	76	76	0.38	465	467	0
	88		2	2	2	0.50	476	499	0
	94		12	12	12	0.67	413	423	0
	95		1	1	1	1.00	361	0	0
	96		3	3	3	0.00	0	493	0
	103		2	2	2	0.50	385	391	0
	110		1	1	1	1.00	399	0	0
	111		3	3	3	0.67	511	551	0
	123		5	5	5	0.80	465	574	0
	124		2	2	2	0.50	541	384	0
	125		4	4	4	0.75	403	491	0
ROSETHORN ROCKFISH	3	FORK LENGTH	1	1	1	0.00	0	329	0
	9		1	1	1	1.00	312	0	0
	12		1	1	1	1.00	327	0	0
	28		1	1	1	0.00	0	330	0
	45		2	2	2	1.00	248	0	0
	49		2	2	4	0.50	331	300	0
	94		1	1	1	0.00	0	312	0
	110		1	1	1	1.00	312	0	0
	111		1	1	1	0.00	0	266	0
ROUGHEYE/BLACKSPOTTED ROCKFISH COMPLEX	3	FORK LENGTH	6	6	6	0.50	508	534	0
	9		11	11	11	0.73	476	503	0
	11		2	2	2	1.00	511	0	0
	12		11	11	11	0.36	478	487	0
	14		8	8	8	0.88	442	464	0
	21		12	12	12	0.50	493	486	0
	23		1	1	2	0.00	0	487	0
	26		3	3	3	0.67	483	766	0
	42		4	4	4	0.75	448	509	0
	43		3	3	3	0.00	0	497	0
	48		7	7	8	0.71	457	466	0
	49		6	6	6	0.50	446	596	0
	67		1	1	1	0.00	0	417	0
	68		27	26	27	0.17	468	467	488
	72		18	18	18	0.50	470	438	0
	80		72	72	72	0.47	490	493	0
	81		5	5	5	0.80	646	691	0
	82		11	11	12	0.36	511	518	0
	83		2	2	2	0.50	476	656	0
	88		52	52	52	0.63	479	482	0
	93		9	9	9	0.78	470	484	0

continued.

Species Name	Set	Length Type	Specimen Count			Mean Length(mm)		
			Length	Sex	Total Count	Proportion Males	Males	Females
	94		24	24	24	0.54	495	475
	95		9	9	9	0.44	498	475
	103		45	45	49	0.44	463	471
	110		10	10	10	0.60	506	477
	111		14	14	14	0.50	496	578
	112		5	5	5	0.20	460	453
	115		1	1	1	1.00	502	0
	117		10	10	10	0.60	494	508
	127		60	60	102	0.48	470	454
	130		41	41	107	0.51	478	466
SHORTRAKER ROCKFISH	10	FORK LENGTH	1	1	1	1.00	539	0
	15		1	1	1	0.00	0	557
	21		1	1	1	1.00	716	0
	37		1	1	1	1.00	625	0
	43		1	1	1	0.00	0	562
	54		2	2	2	1.00	493	0
	68		1	1	1	1.00	664	0
	76		4	4	4	0.50	443	538
	79		1	1	1	1.00	752	0
	80		17	17	17	0.82	671	586
	81		5	5	5	0.20	707	774
	82		3	3	3	0.33	684	582
	83		3	3	3	0.67	767	603
	88		2	2	2	1.00	634	0
	93		2	2	2	0.50	643	597
	94		1	1	1	0.00	0	670
	95		1	1	1	0.00	0	620
	103		5	5	5	0.80	630	676
	110		3	3	3	0.33	650	649
	112		1	1	1	1.00	734	0
	115		3	3	3	0.33	592	510
	117		6	6	6	0.00	0	620
	120		1	1	1	0.00	0	584
	130		2	2	2	0.00	0	623
SHORTSPINE THORNYHEAD	11	FORK LENGTH	1	1	1	0.00	0	434
WIDOW ROCKFISH	84	FORK LENGTH	1	0	1	0.00	0	306
YELLOWEYE ROCKFISH	45	FORK LENGTH	18	18	18	0.28	565	565
	47		1	1	1	1.00	563	0
	77		7	7	7	0.71	575	546
	84		27	27	30	0.52	569	516
	96		2	2	2	0.00	0	576
YELLOWMOUTH ROCKFISH	47	FORK LENGTH	1	1	1	1.00	506	0
DOVER SOLE	21	TOTAL LENGTH	2	2	2	1.00	413	0
EMARGINATE SNAILFISH	2	TOTAL LENGTH	23	23	27	0.55	385	406
	13		7	7	7	0.33	371	348
GIANT GRENADEIER (PECTORAL RATTLAILED)	2	TOTAL LENGTH	19	19	19	0.00	0	1067
	13		5	5	5	0.40	792	976
	16		14	14	14	0.07	759	975
	19		1	1	1	0.00	0	812
	25		5	5	5	0.00	0	995
	38		6	6	6	0.33	787	1137
	40		3	4	4	0.25	0	877
	44		1	1	1	1.00	548	0
	50		4	4	4	0.25	740	915
	56		3	3	3	0.00	0	877
	57		1	1	1	1.00	831	0

continued.

Species Name	Set	Length Type	Specimen Count			Mean Length(mm)		
			Length	Sex	Total Count	Proportion Males	Males	Females
	65		3	3	3	0.33	850	1028
	66		8	8	16	0.00	0	1206
	92		2	2	2	0.00	0	1005
	122		10	10	13	0.20	771	1101
	126		10	10	10	0.00	0	1219
	132		5	5	5	0.00	0	999
PACIFIC GRENADEIER	2	TOTAL LENGTH	47	47	47	0.64	647	674
	7		1	1	1	1.00	583	0
	13		9	9	9	0.89	570	635
	16		18	18	18	0.72	627	660
	19		4	4	5	1.00	552	0
	25		24	24	24	0.54	612	658
	36		3	3	3	0.33	460	594
	38		32	32	32	0.78	578	654
	46		8	8	8	0.88	574	640
	50		36	36	36	0.89	571	610
	56		16	16	17	1.00	544	0
	57		18	18	18	0.94	573	594
	58		1	1	2	0.00	0	632
	65		50	50	50	1.00	607	0
	66		45	45	110	0.87	586	683
	121		7	7	7	0.71	574	514
	122		30	30	66	0.93	600	656
	126		29	29	29	0.79	592	565
PACIFIC SLEEPER SHARK	2	TOTAL LENGTH	1	1	1	1.00	1009	0

APPENDIX K SUMMARY OF BIOLOGICAL DATA FOR OTHER SPECIES 2009.

Details of biological data collected from species other than sablefish during the 2009 survey. The number of specimens taken for length and sex, proportion males and mean lengths are listed by species and set number.

Species Name	Set	Length Type	Specimen Count			Mean Length(mm)			
			Length	Sex	Total Count	Proportion Males	Males	Females	No sex
ARROWTOOTH FLOUNDER	7	FORK LENGTH	49	49	55	0.00	0	561	578
	8		20	20	58	0.05	450	565	0
	10		20	20	46	0.05	446	539	0
	11		5	4	11	0.00	0	584	535
	12		35	35	53	0.00	0	565	650
	17		17	17	18	0.00	0	573	559
	18		1	1	1	0.00	0	606	0
	24		1	1	1	0.00	0	575	0
	34		5	5	6	0.25	451	547	535
	40		35	35	43	0.00	0	559	0
	43		1	1	2	0.00	0	594	0
	46		56	56	56	0.00	0	556	0
	47		9	9	9	0.00	0	526	0
	50		2	2	2	0.00	0	597	0
	51		26	26	26	0.00	0	541	0
	55		17	17	17	0.00	0	560	590
	56		4	4	4	0.00	0	598	0
	57		2	2	2	0.00	0	649	0
	69		32	32	32	0.00	0	537	0
	70		55	55	58	0.00	0	550	552
	74		6	6	6	0.00	0	532	0
	78		66	66	66	0.00	0	555	518
	79		49	49	49	0.00	0	547	567
	80		5	5	5	0.00	0	583	0
	81		3	3	3	0.00	0	520	0
	94		19	19	29	0.05	532	545	0
	100		2	2	3	0.00	0	525	0
	105		3	3	3	0.00	0	548	0
	106		21	21	90	0.00	0	550	515
	109		7	7	7	0.14	422	547	0
	124		6	6	6	0.00	0	544	0
	129		29	29	110	0.03	584	530	0
BOCACIO	51	FORK LENGTH	1	1	1	1.00	692	0	0
	58		1	1	1	1.00	751	0	0
CANARY ROCKFISH	121	FORK LENGTH	1	1	1	1.00	568	0	0
DOVER SOLE	124	FORK LENGTH	1	1	1	1.00	456	0	0
GREENSTRIPED ROCKFISH	121	FORK LENGTH	1	1	1	0.00	0	296	0
LINGCOD	39	FORK LENGTH	3	3	3	0.00	0	870	0
	40		1	1	1	0.00	0	886	0
	45		3	3	3	0.00	0	897	0
	46		1	1	1	0.00	0	868	0
	47		6	6	7	0.00	0	856	810
	50		2	2	2	0.00	0	976	0
	51		4	4	4	0.00	0	860	0
	55		2	2	2	0.00	0	1028	0
	57		8	8	8	0.25	869	922	0
PACIFIC HALIBUT	7	FORK LENGTH	1	1	2	1.00	870	0	0
	18		1	1	1	0.00	0	0	678
	79		1	1	1	1.00	731	0	0
PACIFIC OCEAN PERCH	7	FORK LENGTH	1	1	1	1.00	410	0	0

continued.

Species Name	Set	Length Type	Specimen Count			Mean Length(mm)			
			Length	Sex	Total Count	Proportion Males	Males	Females	No sex
	69		1	1	1	0.00	0	400	0
REDBANDED ROCKFISH	7	FORK LENGTH	3	3	3	0.33	390	415	0
	8		1	1	1	0.00	0	340	0
	10		1	1	2	1.00	467	0	0
	11		1	1	1	0.00	0	356	0
	12		2	2	2	0.50	455	370	0
	17		2	2	2	1.00	315	0	0
	35		3	3	3	0.33	353	312	0
	39		3	3	3	0.00	0	450	0
	40		2	2	2	0.50	352	322	0
	45		18	18	18	0.83	480	443	0
	46		18	18	18	0.17	454	484	0
	47		18	18	19	0.22	444	456	0
	50		3	3	3	0.00	0	469	0
	51		11	11	11	0.73	450	518	0
	55		3	3	3	0.00	0	368	0
	56		4	4	4	0.50	421	402	0
	57		16	16	16	0.75	480	473	0
	58		19	19	20	0.63	456	485	0
	69		4	4	4	0.50	392	426	0
	70		4	4	4	0.50	424	381	0
	78		3	3	3	0.33	380	419	0
	82		1	1	2	1.00	464	0	0
	84		5	4	5	0.50	485	438	512
	85		1	1	1	1.00	496	0	0
	90		2	2	2	1.00	388	0	0
	94		3	3	3	0.67	405	444	0
	100		4	4	4	1.00	434	0	0
	112		4	4	4	0.25	332	434	0
	116		1	1	1	1.00	485	0	0
	117		3	3	3	0.67	446	537	0
ROSETHORN ROCKFISH	7	FORK LENGTH	2	2	2	0.50	290	300	0
	10		1	1	1	1.00	214	0	0
	55		1	1	1	0.00	0	302	0
	56		1	1	1	1.00	333	0	0
	63		1	1	1	1.00	232	0	0
	85		1	1	1	1.00	319	0	0
ROUGHEYE/BLACKSPOTTED ROCKFISH COMPLEX	7	FORK LENGTH	8	8	8	0.63	468	543	0
	8		5	5	5	0.80	465	440	0
	9		1	1	1	1.00	480	0	0
	10		6	6	6	0.67	498	561	0
	11		12	12	14	0.42	444	475	0
	12		5	5	5	1.00	456	0	0
	18		6	6	6	0.83	509	571	0
	34		2	2	2	1.00	427	0	0
	35		32	32	32	0.65	477	484	596
	40		36	36	36	0.58	458	467	0
	43		12	12	12	0.50	481	472	0
	52		12	12	13	0.58	532	491	0
	55		8	8	8	0.88	437	448	0
	56		56	56	56	0.64	481	481	0
	69		3	3	3	0.67	409	564	0
	70		3	3	3	0.33	495	488	0
	74		1	1	1	0.00	0	484	0
	78		25	25	25	0.80	451	433	0
	82		31	31	31	0.19	451	450	0
	84		33	33	34	0.42	568	559	0
	85		14	14	15	0.50	506	444	0
	87		3	3	3	0.33	506	508	0
	90		13	13	13	0.38	454	462	0

continued.

Species Name	Set	Length Type	Specimen Count			Mean Length(mm)			
			Length	Sex	Total Count	Proportion Males	Males	Females	No sex
	94		11	11	11	0.55	445	534	0
	96		9	9	9	0.67	473	496	0
	106		42	42	42	0.69	467	472	0
	111		23	23	23	0.43	459	462	0
	112		19	19	19	0.68	475	469	0
	117		1	1	1	0.00	0	501	0
	118		26	26	26	0.65	466	468	0
	123		9	9	9	0.33	452	506	0
	125		26	26	50	0.54	463	475	0
	129		9	9	9	0.56	470	469	0
	130		19	19	19	0.58	469	486	0
	131		21	21	21	0.43	468	480	0
SHARPCHEW ROCKFISH	100	FORK LENGTH	1	1	1	1.00	243	0	0
SHORTRAKER ROCKFISH	30	FORK LENGTH	1	1	1	1.00	688	0	0
	40		1	1	1	1.00	544	0	0
	43		3	3	3	0.33	603	589	0
	52		9	9	9	0.33	604	565	0
	82		8	8	9	0.38	665	686	0
	84		3	3	3	0.67	685	677	0
	85		1	1	1	1.00	759	0	0
	86		3	3	3	0.67	548	544	0
	87		21	21	21	0.33	631	570	0
	96		5	5	5	0.60	525	593	0
	97		1	1	1	0.00	0	535	0
	111		1	1	1	0.00	0	555	0
	112		2	2	2	1.00	537	0	0
	118		3	3	3	0.33	642	610	0
	123		1	1	1	0.00	0	632	0
	127		1	1	1	0.00	0	432	0
	129		2	2	2	0.00	0	628	0
	130		5	5	5	0.60	625	585	0
	131		2	2	2	0.00	0	591	0
	136		1	1	1	1.00	754	0	0
	147		2	2	2	0.50	548	726	0
SILVERGRAY ROCKFISH	58	FORK LENGTH	1	1	1	0.00	0	612	0
YELLOW EYE ROCKFISH	39	FORK LENGTH	6	6	6	0.00	0	553	0
	47		1	1	1	1.00	539	0	0
	50		3	3	3	1.00	604	0	0
	58		47	47	47	0.66	574	535	0
	121		3	3	3	1.00	677	0	0
DOVER SOLE	8	TOTAL LENGTH	3	3	3	0.33	500	500	0
	9		1	1	1	1.00	440	0	0
	29		1	1	1	0.00	0	447	0
NORTH PACIFIC SPINY DOGFISH	7	TOTAL LENGTH	48	48	132	0.52	667	666	0
	10		2	2	2	0.50	714	684	0
	12		11	11	11	0.64	768	678	0
	17		7	7	7	0.29	712	852	0
	39		3	3	3	0.67	767	988	0
	45		20	20	20	0.35	829	907	0
	46		3	3	3	0.00	0	848	0
	47		8	8	8	0.50	804	1010	0
	50		18	18	18	0.11	793	927	0
	51		4	4	4	0.25	835	982	0
	56		1	1	1	0.00	0	1037	0
	57		10	10	10	0.30	752	941	0
	58		6	6	6	0.17	778	757	0
	70		18	18	19	0.44	807	922	0
	94		20	20	33	0.35	825	979	0

continued.

Species Name	Set	Length Type	Specimen Count			Mean Length(mm)			
			Length	Sex	Total Count	Proportion Males	Males	Females	No sex
	100		40	40	40	0.18	868	1004	0
PACIFIC FLATNOSE	14	TOTAL LENGTH	5	5	5	0.80	489	581	0
	15		6	6	6	0.50	444	427	0
	21		9	9	9	0.89	488	472	0
	22		3	3	3	0.00	0	450	0
	32		5	5	5	0.40	555	537	0
	37		1	1	1	0.00	0	388	0
	41		1	1	1	0.00	0	365	0
	62		3	3	3	0.67	452	414	0
	72		2	2	2	1.00	443	0	0
	73		1	1	1	0.00	0	400	0
	98		3	3	3	1.00	481	0	0
	102		1	1	1	1.00	382	0	0
	120		1	1	1	0.00	0	435	0
PACIFIC SLEEPER SHARK	81	TOTAL LENGTH	1	0	1	0.00	0	0	927
SHORTSPINE THORNYHEAD	48	TOTAL LENGTH	1	1	2	0.00	0	432	0
	49		2	2	2	0.00	0	481	0
	52		2	2	2	0.00	0	453	0
	69		2	2	2	0.00	0	243	0
	75		2	2	2	0.50	262	273	0
	91		1	1	1	0.00	0	551	0

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