

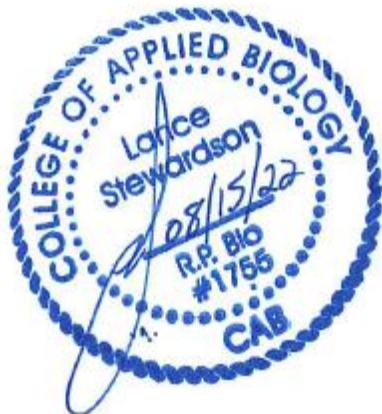
Wild Juvenile Salmonid Monitoring Program 2022

Jervis Inlet and Sechelt Inlet, BC

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Summary

Beach seine sampling was conducted on behalf of Grieg Seafood in Jervis Inlet and Sechelt Inlet, BC in 2022. Sampling was completed to monitor sea lice abundance, prevalence, and intensity on juvenile wild salmon. This report presents the data from the seventh year of beach seining and sea lice analysis conducted for wild juvenile salmonid monitoring in Jervis Inlet and Sechelt Inlet, BC by Grieg Seafood.

Sampling was conducted during four separate sampling events in April and May 2022, selected to coincide with the peak outmigration period of juvenile salmonids. Sampling was completed at 15 sites within Jervis Inlet and Sechelt Inlet, BC. The sites were selected based on their locations relative to existing aquaculture sites located in the area.

A total of 30 individuals from each target species captured, or all the individuals present (if less than 30 were collected), were retained from each of the 15 sites during the sampling events. Total catch numbers of each species were recorded. Water quality measurements including temperature salinity and dissolved oxygen were recorded at each site during each sampling event.

Collected sample fish were frozen and analyzed in the lab for the presence of sea lice by Mainstream Biological Consulting. Sea lice observed on the individual fish specimens during laboratory analysis were initially identified as either *Lepeophtheirus spp.* or *Caligus sp.* These lice are assumed to be *L. salmonis* and *C. clemensi* due to the lack of documented infestation of Pacific salmon by other species. The lice were recorded by life stage and the sex of pre-adult or adult motile lice was determined.

This data summary report documents the observed sea lice infestation rate on retained samples collected in Jervis Inlet and Sechelt Inlet, BC in 2022. A total of 1189 samples underwent lab analysis for sea lice infestation including 590 chum salmon (*Oncorhynchus keta*), 599 pink salmon (*Oncorhynchus gorbuscha*). No chinook salmon, coho salmon sockeye salmon or Atlantic salmon were captured during sampling completed in Jervis Inlet and Sechelt Inlet, BC in 2022. From the total sample population 121 individual samples were found to be infested with 146 sea lice. The calculated prevalence for the total sample population was 10.2 %, the sea lice abundance was 0.12 and the average intensity was 1.2 for the sample population collected in Jervis Inlet and Sechelt Inlet in 2022.

A total of 1804 chum salmon were captured, representing 32.8 % of all captured samples. Of the 1804 chum salmon captured, 590 were kept for lab analysis for sea lice infestation. A total of 58 chum smolts were found to be infested with 73 lice resulting in a calculated prevalence of 9.8 %, abundance of 0.12 and average intensity of 1.3 for the chum salmon sample population.

A total of 3690 pink salmon were captured, representing 67.1 % of all captured samples. Of the 3690 pink salmon captured, 599 were kept for lab analysis for sea lice infestation. 63 pink salmon were found to be infested with 73 lice resulting in a calculated prevalence of 10.5 %, abundance of 0.12 and average intensity of 1.2 for the pink salmon sample population.

A total of 145 *Lepeophtheirus salmonis* sea lice of various life stages were identified on 120 juvenile salmonids and one *Caligus clemensi* sea lice was identified on one juvenile salmon analyzed in the lab. There were no samples that were infested with both a *L. salmonis* and a *C. clemensi* sea louse

A total of 73 *Lepeophtheirus salmonis* sea lice of various life stages were identified on 58 juvenile chum and no *Caligus clemensi* were identified on the chum salmon analyzed in the lab. Of the infested chum salmon, none were infested with both a *L. salmonis* and a *C. clemensi* sea louse.

A total of 72 *Lepeophtheirus salmonis* sea lice were identified on 62 juvenile pink salmon and one *Caligus clemensi* sea lice was observed on one of the juvenile pink salmon analyzed in the lab. Of the infested pink salmon, none were infested with both a *L. salmonis* and a *C. clemensi* sea louse.

A comparison of the prevalence, abundance and intensity of sea lice species found on chum and pink salmon was completed for sample data from 2016 to 2022 collected in Jervis Inlet and Sechelt Inlet, BC. This data is presented in summary tables in Appendix IV.

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1.0 Introduction

At the request of Grieg Seafood BC, beach seine sampling to capture wild juvenile salmon to be analyzed for sea lice infestation took place at 15 sites located in Jervis Inlet and Sechelt Inlet, BC (Figure 1). The sample collection occurred during four weeks between April 11, 2022, and May 25, 2022. These dates were selected to coincide with the estimated peak outmigration dates of juvenile salmonids.

Parasitic copepods from the family Caligidae (sea lice) found in the coastal waters of British Columbia are divided into two genera: *Lepeophtheirus* and *Caligus*. Eleven species of *Lepeophtheirus* have been identified infesting fish in the Pacific Ocean, while only one species of *Caligus* (*Caligus clemensi*) have been identified (Margolis and Arthur 1979; McDonald and Margolis, 1995). *Caligus clemensi* infect an extremely wide range of natural hosts in the marine environment including salmonids and non-salmonids; while *L. salmonis* natural hosts on the Pacific coast have been found to include Pacific salmon, threespine stickleback and Pacific herring. *Lepeophtheirus* spp. sea lice found on salmonid specimens were assumed to be *L. salmonis* due to the lack of documented infestations of Pacific salmon by other *Lepeophtheirus* lice species (Jones and Nemec, 2004).

Both these genera have similar life histories and developmental stages (Kabata, 1972; Johnson and Albright, 1991a). The sea lice hatch from eggs and develop through two free-swimming naupili stages before developing into an infectious free-swimming copepodid. At this point, the sea lice attach to their host and develop through several chalimus stages. The chalimus are “non-motile” and are attached to their host by a frontal filament. The final chalimus stage terminates as the sea lice become “motile” and are no longer attached to their hosts by the frontal filament. The sea lice can now move freely on the fish as they develop through a pre-adult stage before becoming reproductively viable adults.

Water temperature and salinity are two environmental variables that influence sea lice development, growth, survival, and reproductive rate. In British Columbia, surface seawater temperatures range from approximately 6 °C to 13 °C. Research on sea lice abundance conducted in the Jervis Inlet and Sechelt Inlet and elsewhere on the coast of British Columbia indicates that surface water temperature during the winter months does not appear to hinder the season abundance of *L. salmonis* (Saksida et al. 2007a, b).

The rate of development and the generation times for *C. elongates* are strongly temperature dependent (Tully 1992) and although this research has not been conducted, similar relationships with temperature are to be expected for *C. clemensi* (Jones and Johnson, 2015). Survival and development of *L. salmonis* is optimal in high salinity seawater. Under laboratory conditions copepodid survival was limited to conditions where salinity was greater than 10 ppt (Johnson and Albright, 1991b).

Grieg Seafood requested monitoring of sea lice abundance, prevalence, and intensity on juvenile wild salmon within Jervis Inlet and Sechelt Inlet in support of the Aquaculture Stewardship Certification for their aquaculture sites within the area. This data summary report documents the observed sea lice infestation rates on retained juvenile salmonids collected in Jervis Inlet and Sechelt Inlet in 2022. This report presents the data from the seventh year of beach seining and sea lice analysis conducted for wild juvenile salmonid monitoring in Jervis Inlet and Sechelt Inlet, BC by Grieg Seafood.

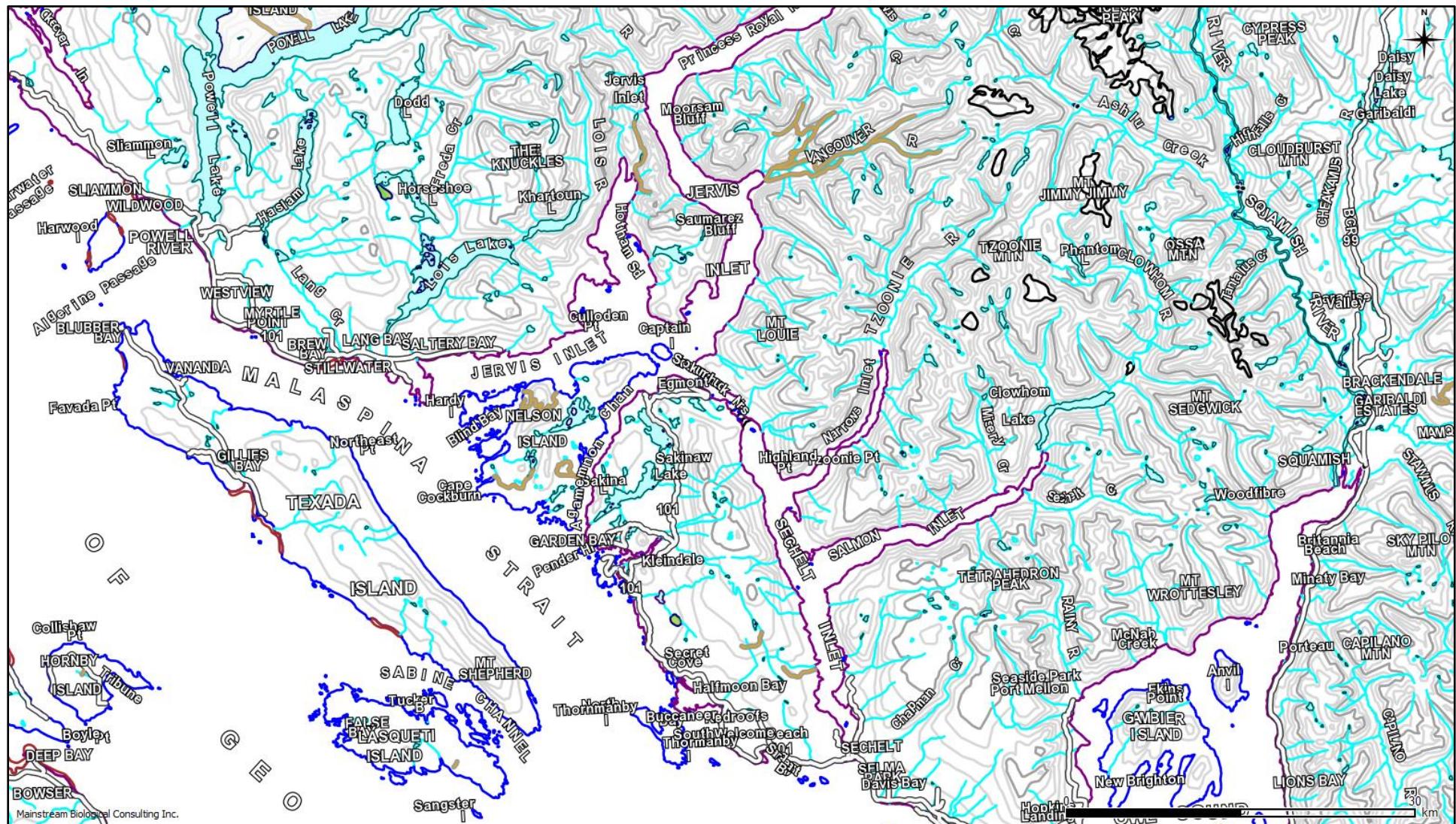


Figure 1: An overview map showing the location of Jervis Inlet and Sechelt Inlet on the mainland coast of BC.

2.0 Methods

The fish inspected for sea lice infestation were collected from 15 sites in Jervis Inlet and Sechelt Inlet, BC. These sites were chosen based on their locations relative to existing aquaculture sites in the area. Each site was sampled once each week during four sampling weeks in 2022 between April 11 and May 25.

2.1 Site Locations

The 15 sites at which beach seining was conducted to collect specimens for sea lice analysis consisted of seven sites within Jervis Inlet (Figure 2) and eight sites within Sechelt Inlet (Figure 3). GPS coordinates collected in the field for the sites are presented in Table 1.

Table 1: The site number and location of the 15 beach seine sites where fish were collected for sea lice analysis in Jervis Inlet and Sechelt Inlet, BC in 2022.

Site #	Latitude	Longitude
1	49 46.899	124 12.960
2	49 46.904	124 10.260
3	49 47.792	124 06.236
4	49 49.094	124 06.015
5	49 49.020	123 57.967
6	49 46.485	124 03.371
7	49 45.201	124 10.165
8	49 33.398	123 46.122
9	49 36.479	123 46.290
10	49 38.476	123 45.116
11	49 37.820	123 48.605
12	49 39.502	123 49.155
13	49 41.275	123 52.600
14	49 37.564	123 50.650
15	49 32.641	123 47.919

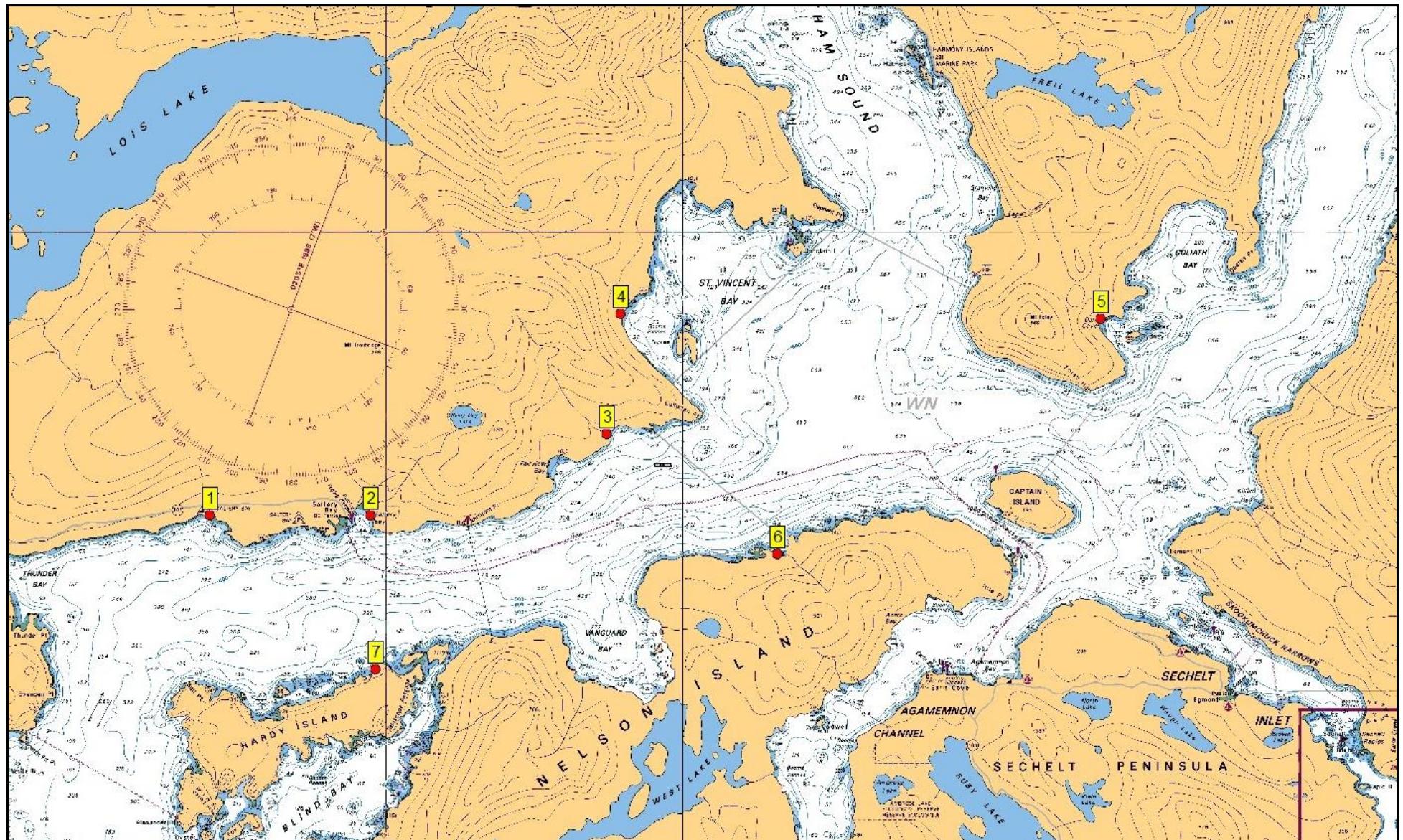


Figure 2: The approximate locations of the seven beach seine sites in Jervis Inlet, BC sampled in 2022.

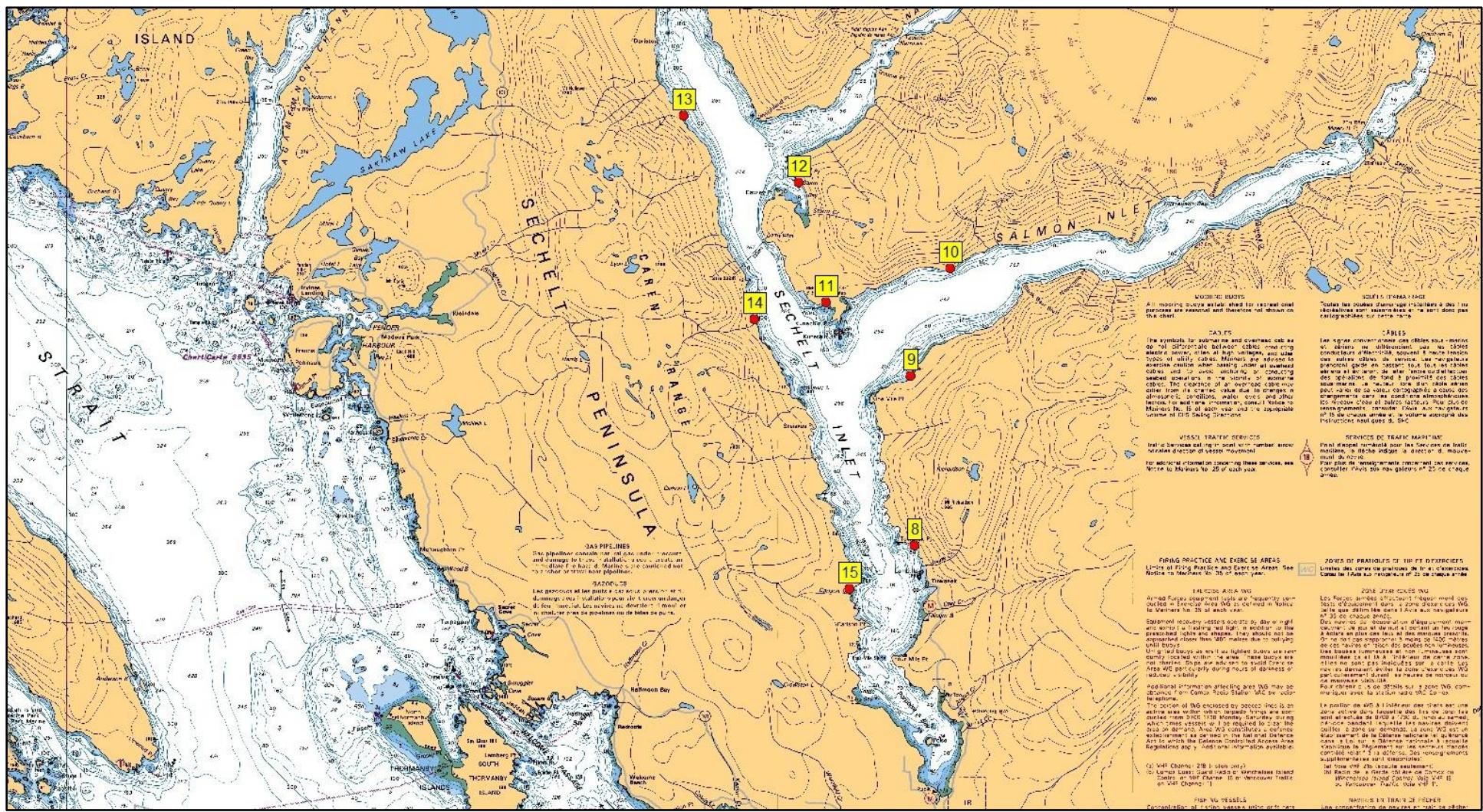


Figure 3: The approximate locations of the eight beach seine sites in Sechelt Inlet, BC sampled in 2022.

2.2 Field Procedures

Procedures for beach seining, fish collection and field data recording adapted from procedures utilized by the Department of Fisheries and Oceans (DFO) were used for juvenile salmon sampling by Mainstream Biological Consulting staff during sampling in Jervis Inlet and Sechelt Inlet in 2022.

An 18ft Boston Whaler, powered by a 60 horse-power outboard motor, was used to access the beach seine sites. A 150 ft (45.7 m) long by 12 ft (3.7 m) deep beach seine net was used to capture specimens. The net was constructed in three 50 ft (15.2 m) sections. The centre bunt section consists of one-quarter inch diameter diamond mesh, while the two side panels (wings) consist of half-inch diameter diamond mesh. Floats were located every 30 cm along the top-line and a lead line weighted the bottom of the net.

A three-person crew was utilized to conduct the beach seine sets and retrieve samples in a consistent manner at each of the 15 selected sites. All beaches were approached slowly by boat and one crewmember was put ashore with the towline from one end of the beach seine net. The onshore crewmember held the towline at one side of the sample site, while the second crewmember ensured the net deployed smoothly off the bow or side of the boat. The third crewmember, the boat operator, backed the boat in a wide semicircle towards the opposite side of the sample site and remained on the boat to record field data. When the net was fully deployed, the second crewmember stepped into the shallow water with the towline or tossed it to the awaiting crewmember on shore. A slow retrieval of the net began immediately.

As the net was slowly retrieved, surface and one meter water quality data was collected for temperature salinity and dissolved oxygen using a YSI Pro Quatro Probe.

The crewmembers retrieved the net evenly from opposite ends ensuring that the lead line remained as close to the bottom as possible. All retrieved netting was piled on the beach above the water level. As the retrieval reached the net bunt, the lead line was retrieved at a faster rate than the floats to allow the netting of the bunt to form a bag under the captured fish. The lead line was then pulled up onto the beach above the water level. One crewmember worked their way around the outside of the net in the shallow water to ensure the floats stayed above the surface of the water. In this manner a small, shallow bag formed from the bunt of the net held the captured fish in the water.

The three crewmembers participated in the collection of individual fish to ensure that captured fish remained in the net for as short a period of time as possible. The net was manipulated, if necessary, in response to rising or falling tides to ensure the captured fish remained in the net and were held in sufficient water to minimize stress. The level of sufficient water was dependant on the size and numbers of captured fish but was generally thought of as enough water to minimize fish contact with the net or with other fish.

A total of 30 individuals from each target species captured, or all of the individuals present (if less than 30 were collected), were retained as samples for sea lice infestation analysis. Individual fish were randomly “swam” into an appropriately sized whirlpac bag. All handling of fish was kept to a minimum.

When all the fish for retention were collected, a total catch number for each species was recorded. The fish remaining in the net were counted out of the seine net, or an

estimate of the remaining fish was made (estimates were used when it appeared that more than 500 individuals from any given species remained in the net). The total of fish remaining in the net was added to the number of retained individuals to calculate a total capture number for a given species.

A crewmember recorded all the information from each beach seine set in a standardized field form. The information recorded included the following:

- Site number (Site 1-15)
- Date
- Time at the end of the individual fish collection
- Comments on weather and oceanic condition
- Total capture and retained fish numbers for each specimen group; and
- Water temperature (°C) and salinity (ppt) and dissolved oxygen (mg/L) to one decimal place
- GPS coordinates
- The number of salmonid mortalities

The retained fish from each site were packaged separately in re-sealable bags and labelled with the site number (Site 1-15) and the week number (Week 1, 2, 3 or 4). Site sample bags were placed in a cooler with ice. The specimens were transferred to a portable freezer immediately upon return to shore.

The beach seine net was reloaded onto the bow of the boat. Crewmembers scanned the net for obvious holes, which were repaired immediately if found. Remaining sample gear and coolers were reloaded into the boat and stored for transit between sites.

The above procedures for beach seine net deployment and retrieval, as well as those described for fish collection, were repeated at all 15 sample sites.

2.3 Laboratory Procedures

The laboratory procedures for sea lice analysis have been adapted from the procedures demonstrated by Sheila Dawe and Eliah Kim at the Pacific Biological Station in Nanaimo, BC, during sea lice identification training that was conducted on April 1, 2004. Additional sea lice identification training by Paul Callow was conducted at the Pacific Biological Station in September 2007.

Fish samples were thawed immediately prior to analysis. Individual fish were identified to species and counted. The results of this identification and count were compared to the reported data found on the field data sheets.

A standardized data sheet was used to record sea lice analysis results from each site. The site and week number, sample date and number of fish and specimen groups present were recorded. The date of the analysis was also noted on the data sheet. Data from individual fish was recorded as the analysis proceeded.

Individual fish, when thawed, were removed from their bag, using a pair of forceps at the caudal peduncle, and placed in a petri dish. Each bag was labelled chronologically with an individual identification number (1 – 727). Each fish was then scanned for the presence of sea lice under a stereoscopic dissection microscope. The microscope was

set at a magnification of 20X for the preliminary survey of each fish sample, but magnification was occasionally increased to 40X during individual sea lice identification.

Microscopic analysis of each individual fish began at the anterior end of the left side of the specimen. The head was examined first, after which a scan was made along the dorsal half of the specimen working towards the posterior end and the tail. The dorsal fin was lifted and expanded, as was the caudal fin, with a pair of forceps. From the posterior end a return scan was made along the ventral half of the specimen back to the head. The anal fin, pelvic fin and pectoral fin were also lifted and expanded using a pair of forceps. The fish was then flipped using a pair of forceps at the caudal peduncle and the procedure was repeated on the right-hand side of the specimen. Additional scans were made longitudinally down the fish if the entire depth of the fish could not be seen in a single pass. Any sea lice observed on the fish were removed and placed in a petri dish with saline solution.

Each individual bag was visually inspected after the removal of the fish for the presence of pre-adult or adult sea lice that may have become dislodged during handling. Any sea lice found in the sample bags were identified under the microscope using the same characteristics outlined above. These “loose” sea lice were recorded on the data sheet with the data for the corresponding specimen and it was assumed that the lice had come from that individual.

Sea lice were identified using characteristics outlined by Kabata (1972) and Johnson and Albright (1991a). Sea lice observed on individual fish were identified as either non-motile chalimus (including copepodid), or motile pre-adults and adults. Non-motile sea lice were identified as either of the two chalimus stages for *Lepeophtheirus salmonis* (Hamre et al., 2013) or four chalimus stages for *Caligus clemensi*. Motile lice, either pre-adults or adults, were identified as either *Lepeophtheirus salmonis* or *Caligus clemensi* and the sex of the louse was determined.

Chalimus were identified to species primarily by characteristics of the frontal filament. However, size, shape, genital development, and leg development were used as secondary identifying characteristics for speciation as well as primary indicators for life stage identification. Motile sea lice were identified to species by the presence or absence of lunules. If lunules were absent the louse was identified as *Lepeophtheirus spp.* The louse was identified as *Caligus spp.* if lunules were present.

Sea lice found on captured specimens were not identified to species, but have been assumed to be either *L. salmonis* or *C. clemensi* due to the lack of documented infestations of Pacific salmon by other species of sea lice (Jones and Nemec, 2004).

After microscopic analysis individual fish specimens were measured (fork length for salmonids) in millimetres and weighed (recorded to the nearest tenth of a gram). Lengths and weights were also recorded on the data sheet with the specimen’s corresponding sea lice analysis results. The fish were then returned to their respective individual bags and the fish from each site were repackaged in the large re-sealable bags. All samples were then refrozen.

In order to allow for quality assurance of sea lice identification, all sea lice were placed in labelled vials and preserved in 70% isopropyl alcohol. Ten percent of the deloused fish specimens were randomly selected by specimen number and retained. Both the preserved lice and retained deloused fish specimens will be kept at the office of Mainstream Biological Consulting in Campbell River for five years.

2.4 Data Analysis

Surface water quality data collected for temperature salinity and dissolved oxygen was summarized to report the minimum and maximum values as well as the calculated averages for each sample week.

Beach seine fish sample composition was summarized by species and site for each week. The recorded fork lengths and weights for the chum salmon sample population and pink salmon sample population were summarized to present minimum and maximum values as well as calculated averages. Sea lice infestation rates, including the number of infested fish and the number of sea lice identified, were determined for the chum and pink salmon sample population. Prevalence, as defined as the number of host fish found to have one or more sea lice compared to the total number of host fish examined, while abundance, as defined as the total number of sea lice observed compared to the total number of host fish examined. The intensity of sea lice infestation, as described by the number of sea lice found on a single salmon was summarized. Average intensity was calculated by dividing the total number of sea lice identified by the number of infested fish.

Statistical analysis of the spatial and temporal distribution of sea lice was not conducted. Spatial and temporal analysis has been limited to the simple presentation and discussion of the number of sea lice found on fish specimens collected from each site during each of the sampling events.

3.0 Results

The following sections outline the results of beach seine collection and subsequent sea lice inspection of juvenile salmonids collected from Jervis Inlet and Sechelt Inlet, BC, in 2022. Water quality field data is presented in Appendix I, beach seine fish capture data is included in Appendix II and data with respect to the fish sample population including sea lice lab analysis results are located in Appendix III.

3.1 Water Quality Parameters

Surface measurements of water temperature, salinity, and dissolved oxygen taken during beach seining at each of the 15 sites during the four sample periods are presented in Table 2. One meter depth measurements of water temperature, salinity and dissolved oxygen taken during beach seining at each of the 15 sites during the four sample periods are presented in Table 3. The field data recorded at each site is included in Appendix I.

Recorded surface water temperatures ranged from a low of 6.6°C recorded at Site 12 on April 12, 2022, to a high of 14.2 °C recorded at Site 4 on May 24, 2022 (Table 2; Appendix I). Calculated weekly average surface water temperatures increased from a low of 8.5 °C for April 11/12, 2022, up to a maximum weekly average of 12.8°C for May 24/25, 2022.

Recorded surface water salinity ranged from a low of 10.2 ppt recorded at Site 5 on April 11, 2022, to a high of 27.5 ppt recorded at Site 7 on May 9, 2022 (Table 2; Appendix I). Calculated weekly average surface salinity varied over the sample period from a low of 21.2 ppt on April 11/12, 2022, to a high of 25.0 ppt on May 9/10, 2022.

Recorded surface dissolved oxygen ranged from a low of 7.6 mg/L ppt recorded at Site 12 and Site 9 on May 25, 2022, to a high of 12.2 mg/L at Site 11 on April 12, 2022 (Table 2 Appendix I). Calculated weekly average surface dissolved oxygen decreased over the sample period from a high of 10.9 mg/L on April 11/12, 2022, to a low of 8.8 mg/L on May 24/25, 2022.

Recorded one meter water temperatures ranged from a low of 8.2°C recorded at Site 11 on April 12, 2022, to a high of 14.2 °C recorded at Site 4 on April 24, 2022 (Table 3; Appendix I). Calculated weekly average one meter water temperatures increased from a low of 8.9 °C for April 11/12, 2022, up to a maximum weekly average of 12.8°C for May 24/25, 2022.

Recorded one meter water salinity ranged from a low of 15.4 ppt recorded at Site 10 on May 25, 2022, to a high of 27.5 ppt recorded at Site 7 on May 9, 2022 (Table 3; Appendix I). Calculated weekly average one meter salinity varied over the sample period from a low of 22.6 ppt on May 24/25, 2022, to a high of 25.0 ppt on April 25/26, 2022.

Recorded one meter depth dissolved oxygen ranged from a low of 7.3 mg/L ppt recorded at Site 12 on May 25, 2022, to a high of 12.8 mg/L at Site 11 on April 12, 2022 (Table 3 Appendix I). Calculated weekly average one meter depth dissolved oxygen decreased over the sample period from a high of 11.5 mg/L on April 11/12, 2022, to a low of 9.0 mg/L on May 24/25, 2022.

Table 2: Surface water quality parameters recorded at beach seine sites in Jervis Inlet and Sechelt Inlet in 2022.

Site	April 11/12			April 25/26			May 9/10			May 24/25		
	Salinity (ppt)	Temp. (°C)	DO (mg/l)	Salinity (ppt)	Temp. (°C)	DO (mg/l)	Salinity (ppt)	Temp. (°C)	DO (mg/l)	Salinity (ppt)	Temp. (°C)	DO (mg/l)
1	26.9	8.7	8.9	25.6	9.8	11.2	26.8	10.8	9.5	23.0	13.2	9.6
2	25.4	8.9	10.1	25.2	9.8	11.4	24.9	10.6	9.9	22.9	13.3	9.7
3	17.2	8.3	11.4	23.2	10.6	11.7	26.4	11.7	9.6	20.7	13.9	9.7
4	24.4	8.0	11.7	24.6	10.9	12.1	22.4	12.1	9.3	22.2	14.2	9.6
5	10.2	8.5	9.9	24.3	10.6	10.5	22.2	11.9	9.8	21.7	13.4	9.7
6	20.1	8.8	10.7	25.4	10.0	11.6	27.0	11.4	9.8	23.1	13.5	9.9
7	26.7	8.7	10.1	26.5	9.4	10.1	27.5	11.3	9.6	24.0	13.8	9.6
8	20.2	6.9	11.9	21.8	8.6	10.4	25.5	11.6	9.3	22.0	12.2	8.6
9	23.8	9.4	12.1	23.6	9.9	10.5	25.9	10.8	8.6	23.0	12.4	7.6
10	18.6	9.0	10.6	24.3	10.1	10.6	24.7	11.4	10.3	15.3	12.3	9.0
11	22.3	8.5	12.2	24.2	9.9	10.7	25.8	10.9	7.9	21.7	12.3	8.3
12	14.2	6.6	11.0	24.2	9.4	10.0	25.9	10.9	8.8	21.5	12.2	7.6
13	25.2	9.1	9.5	24.5	9.7	10.8	22.6	10.3	11.0	23.4	11.5	8.0
14	21.7	9.1	12.0	24.4	9.9	11.0	25.6	10.8	9.8	23.4	11.9	7.9
15	21.3	8.6	11.8	23.3	9.9	10.0	21.4	10.6	10.3	23.4	11.8	8.0
Average	21.2	8.5	10.9	24.3	9.9	10.8	25.0	11.1	9.6	22.1	12.8	8.8

Table 3: One meter water quality parameters recorded at beach seine sites in Jervis Inlet and Sechelt Inlet in 2022.

Site	April 11/2			April 25/26			May 9/10			May 24/25		
	Salinity (ppt)	Temp. (°C)	DO (mg/l)	Salinity (ppt)	Temp. (°C)	DO (mg/l)	Salinity (ppt)	Temp. (°C)	DO (mg/l)	Salinity (ppt)	Temp. (°C)	DO (mg/l)
1	-	-	-	25.6	9.8	11.3	22.4	10.8	9.8	23.9	13.3	10.0
2	25.5	8.9	10.2	25.5	9.8	11.5	27.0	10.9	9.9	23.9	13.3	9.8
3	26.7	8.3	10.5	25.4	10.3	12.4	-	-	-	23.0	14.0	9.8
4	26.7	8.6	12.2	24.8	11.0	12.0	26.7	12.1	9.7	22.5	14.2	9.6
5	-	-	-	25.2	10.6	10.9	25.8	12.0	10.0	21.8	13.5	10.6
6	26.9	8.9	10.7	25.5	10.0	11.6	27.3	11.3	10.0	23.6	13.5	10.2
7	26.7	8.7	10.1	26.6	9.4	10.1	27.5	11.4	9.7	24.1	13.8	9.9
8	22.9	9.0	12.5	24.2	10.3	10.6	25.5	11.6	9.2	22.5	12.3	8.3
9	23.8	9.7	12.6	24.8	10.0	10.6	26.0	10.9	8.9	23.5	12.4	7.9
10	19.9	9.1	12.2	24.4	10.1	11.0	24.9	11.5	10.4	15.4	12.3	9.0
11	23.2	8.2	12.8	24.4	9.8	10.9	25.9	11.0	9.2	21.8	12.3	8.4
12	-	-	-	-	-	-	-	-	-	22.7	12.0	7.3
13	25.6	9.2	9.5	24.6	9.7	10.9	23.8	10.5	10.9	23.5	11.4	7.8
14	22.7	9.2	12.3	24.6	9.9	11.3	26.6	10.7	9.7	23.7	11.9	8.0
15	21.7	8.6	12.3	24.1	10.3	10.3	24.2	10.6	9.6	23.6	11.8	7.8
Average	24.4	8.9	11.5	25.0	10.1	11.1	25.7	11.2	9.8	22.6	12.8	9.0

3.2 Fish Sample Composition

A total of 5496 fish were captured during beach seine sampling conducted in Jervis Inlet and Sechelt Inlet in 2022 (Table 4). A summary of the total number of fish captured and collected as specimens at each site over the collection period can be found in Table 5. Totals of fish captured and collected specimens at each site over the entire collection period can be found in Appendix II. Of the 5496 fish captured, 590 Chum salmon and 599 pink salmon were retained and underwent lab analysis. The total collected fish from each species and the percentage that it represents of the total beach seine capture population is presented in Table 4. No chinook salmon, coho salmon, sockeye salmon, or Atlantic salmon were captured during sampling completed in Jervis Inlet and Sechelt Inlet in 2022.

Pink salmon were the most common species and were captured in greater numbers than any other species during sampling in Jervis Inlet and Sechelt Inlet in 2022. Captured pink salmon accounted for 67.1 % of all captured fish.

Table 4: The total of collected individuals of each fish species captured in Jervis Inlet and Sechelt Inlet, BC between March 30, 2022, and May 13, 2022, and the percentage of the total capture population that they represent.

Common Name	Capture Totals (% of total capture population)	Collection Totals	Collection %
Chum salmon	1804 (32.8%)	590	32.7
Pink Salmon	3690 (67.1 %)	599	16.2
Three Spine-Stickleback	2 (0.04)	0	0.0
All Species	5496	1189	21.6

Table 5: The number of captured fish (Capture Total) and the number of individual fish collected (Sample Total) from each of the 15 sample sites in Jervis Inlet and Sechelt Inlet, BC between April 11, and May 25, 2022.

Site	Chum		Pink		Stickleback		Capture Total	Sample Total
	Capture Total	Sample Total	Capture Total	Sample Total	Capture Total	Sample Total		
1	266	110	57	51	0	0	323	161
2	36	36	68	45	0	0	104	81
3	196	34	662	45	0	0	858	79
4	241	119	425	119	0	0	666	238
5	490	90	1205	87	0	0	1695	177
6	14	14	108	37	0	0	122	51
7	85	31	455	46	0	0	540	77
8	1	1	23	23	0	0	24	24
9	0	0	1	1	0	0	1	1
10	5	5	63	41	0	0	68	46
11	0	0	15	15	0	0	15	15
12	70	31	2	2	0	0	72	33
13	71	58	13	13	0	0	84	71
14	328	60	581	62	0	0	909	122
15	1	1	12	12	2	0	15	13
Totals	1804	590	3690	599	2	0	5496	1189

3.3 Fish Sample Size Statistics

Summary statistics for weight and fork length were calculated for the sample population of juvenile salmonids. Length and weight data were summarized by sampling event for each species.

3.3.1 Chum Salmon

The weights of 590 chum smolts collected during the four sampling events ranged from 0.2 g to 2.5 g and averaged 0.6 g (SD = 0.3). The fork length of the chum smolts ranged from 25 mm to 61 mm and averaged 36 mm (SD = 5). Chum salmon weight and length data was summarized by sampling week (Table 6).

Table 6: Average weights and lengths of chum salmon collected in Jervis Inlet and Sechelt Inlet in 2022 summarized by sampling event.

Parameter	Chum Salmon			
	March 30/31, 2022 (n=132)	April 14/15, 2022 (n=248)	April 28/29, 2022 (n=111)	May 12/13, 2022 (n=99)
	Weight (g)	0.5	0.6	0.8
Length (mm)	33	35	40	39

3.3.2 Pink Salmon

The weights of 599 pink smolts collected during the four sampling events ranged from 0.2 g to 3.5 g and averaged 0.6 (SD = 0.3). The fork length of the pink smolts ranged from 22 mm to 71 mm and averaged 35 mm (SD = 6). Pink salmon weight and length data was summarized by sampling week (Table 7).

Table 7 Average weights and lengths of pink salmon collected in Jervis Inlet and Sechelt Inlet in 2022 summarized by sampling event.

Parameter	Pink Salmon			
	March 30/31, 2022 (n=145)	April 14/15, 2022 (n=228)	April 28/29, 2022 (n=109)	May 12/13, 2022 (n=117)
	Weight (g)	0.4	0.6	0.6
Length (mm)	32	36	36	28

3.4 Sea Lice Infestation Rates

The results of the laboratory analysis for the presence of sea lice on the wild juvenile salmonid sample population collected in Jervis Inlet and Sechelt Inlet in 2022 are presented in Table 8. The data recorded for each fish in the sample population during lab analysis is included in Appendix III. A total of 1189 samples were collected at 15 sites in Jervis Inlet and Sechelt Inlet in 2022 and were inspected for sea lice infestation. Of the 1189 samples collected, a total of 121 salmon in the sample population were found to be infested with 146 sea lice (Table 8). This data reflects the identification of sea lice of either species (*L. salmonis* and *C. clemensi*) on inspected samples.

The sea lice prevalence in the sample population collected in Jervis Inlet and Sechelt Inlet in 2022 was 10.2 % and the abundance was 0.12 (Table 8).

The intensity of sea lice infestation, as defined as the number of sea lice on a single infested salmon, ranged from one louse found on 98 individuals to a maximum of three lice found on two individual juvenile salmon. The average intensity of the sample population within Jervis Inlet and Sechelt Inlet was 1.2 for the sample population (Table 8).

Table 8: Results of analysis for sea lice infestation on the sample population collected by beach seine in Jervis Inlet and Sechelt Inlet, BC in 2022.

Species	Sample size (n)	Total number of lice observed	Total number of fish infested	Prevalence (%)	Abundance	Average Intensity
chum	590	73	58	9.8	0.12	1.3
pink	599	73	63	10.5	0.12	1.2
Total	1189	146	121	10.2	0.12	1.2

3.4.1 Infestation Rates on Chum Salmon

The results of the laboratory analysis for sea lice infestation for chum salmon are presented by site in Table 9. A total of 58 chum salmon were found to be infested with 73 sea lice. The largest number of chum salmon infested with sea lice (12 chum) were from Site 1 and Site 14 and the greatest number of sea lice (16) were found on samples collected from Site 1 (Table 9).

A total of 58 chum salmon were found to be infested with at least one sea louse. The prevalence of sea lice on the chum salmon sample population (n=590) collected in Jervis Inlet and Sechelt Inlet in 2022 was 9.8 %. Sea lice prevalence calculated by site for chum salmon is presented in Table 9. Sea lice prevalence calculated by site for the total chum sample population was highly variable ranging from a low of 0.0 % at Sites 6, 8, 10, 15 to a high of 20.0 % at Site 14.

A total of 73 sea lice were identified during laboratory analysis of retained chum salmon. The abundance of sea lice on the chum salmon sample population (n=590) collected in Jervis Inlet and Sechelt Inlet in 2022 was 0.12. Sea lice abundance was calculated by site and is presented in Table 9. The highest sea lice abundance (0.25) was at Site 14.

Within the chum salmon sample population, a total of 73 sea lice were found on 58 fish resulting in a sample population average intensity of 1.3. The highest sea lice intensity was 1.4 at Site 4 and Site 5.

Table 9: The number of sea lice found on chum salmon collected in Jervis Inlet and Sechelt Inlet, BC in 2022 summarized by the 15 sites where beach seining was conducted. Calculated sea lice prevalence and abundance is also included by site.

Site	# of Chum Analyzed	# of Infested Chum	Average Weight of Infested Chum (g)	# of Lice	Prevalence (%)	Abundance	Average Intensity
1	110	12	0.7	16	10.9	0.15	1.3
2	36	3	0.8	4	8.3	0.11	1.3
3	34	2	0.7	2	5.9	0.06	1.0
4	119	9	1.0	13	7.6	0.11	1.4
5	90	5	1.1	7	5.6	0.08	1.4
6	14	0	-	0	0.0	0.00	0.0
7	31	5	0.6	5	16.1	0.16	1.0
8	1	0	-	0	0.0	0.00	0.0
9	0	0	-	0	-	-	-
10	5	0	-	0	0.0	0.00	0.0
11	0	0	-	0	-	-	-
12	31	1	0.6	1	3.2	0.03	1.0
13	58	9	0.7	10	15.5	0.17	1.1
14	60	12	0.8	15	20.0	0.25	1.3
15	1	0	-	0	0.0	0.00	0.0
Total	590	58	0.8	73	9.8	0.12	1.3

3.4.2 Infestation Rates on Pink

The results of the laboratory analysis for sea lice infestation for pink salmon are presented by site in Table 10. A total of 63 pink salmon were found to be infested with 73 sea lice. The largest number of pink salmon infested with sea lice (21 pink) and the greatest number of sea lice (22) were found on samples collected from Site 4 (Table 10).

A total of 63 pink salmon were found to be infested with at least one sea louse. The prevalence of sea lice on the pink salmon sample population ($n=599$) collected in Jervis Inlet and Sechelt Inlet in 2022 was 10.5 %. Sea lice prevalence calculated by site for pink salmon is presented in Table 10. Sea lice prevalence calculated by site for the total pink sample population was highly variable ranging from a low of 0.0 % at Sites 9, 12, and 15 to a high of 17.7 % at Site 14.

A total of 73 sea lice were identified during laboratory analysis of retained pink salmon. The abundance of sea lice on the pink salmon sample population ($n=599$) collected in Jervis Inlet and Sechelt Inlet in 2022 was 0.12. Sea lice abundance was calculated by site and is presented in Table 10. The highest sea lice abundance (0.23) was at Site 14.

Within the pink salmon sample population, a total of 73 sea lice were found on 63 fish resulting in a sample population average intensity of 1.2. The highest sea lice intensity was 2.0 at Site 13.

Table 10: The number of sea lice found on pink salmon collected in Jervis Inlet and Sechelt Inlet, BC in 2022 summarized by the 15 sites where beach seining was conducted. Calculated sea lice prevalence and abundance is also included by site.

Site	# of Chum Analyzed	# of Infested Chum	Average Weight of Infested Chum (g)	# of Lice	Prevalence (%)	Abundance	Average Intensity
1	51	7	0.5	9	13.7	0.18	1.3
2	45	2	0.7	2	4.4	0.04	1.0
3	45	2	1.2	3	4.4	0.07	1.5
4	119	21	0.7	22	17.6	0.18	1.0
5	87	4	0.4	4	4.6	0.05	1.0
6	37	3	1.0	4	8.1	0.11	1.3
7	46	4	0.6	4	8.7	0.09	1.0
8	23	4	0.3	4	17.4	0.17	1.0
9	1	0	-	0	0.0	0.00	0.0
10	41	2	0.7	3	4.9	0.07	1.5
11	15	2	0.6	2	13.3	0.13	1.0
12	2	0	-	0	0.0	0.00	0.0
13	13	1	0.6	2	7.7	0.15	2.0
14	62	11	0.7	14	17.7	0.23	1.3
15	12	0	-	0	0.0	0.00	0.0
Total	599	63	0.6	73	10.5	0.12	1.2

3.5 Infestation by Sea Lice Species

A total of 145 *Lepeophtheirus salmonis* sea lice of various life stages were identified on 120 juvenile salmonids and one *Caligus clemensi* sea lice was identified on one juvenile salmon analyzed in the lab. There were no samples that were infested with both a *L. salmonis* and a *C. clemensi* sea louse (Appendix III).

3.5.1 Infestation by Life Stage on Chum Salmon

An analysis of the species of sea lice identified on the 58 chum infested salmon collected in Jervis and Sechelt inlet was completed and is presented in Table 11. A total of 73 *Lepeophtheirus salmonis* sea lice of various life stages were identified on 58 juvenile chum and no *Caligus clemensi* were identified on the chum salmon analyzed in the lab (Appendix III). The sea lice species identified on chum salmon are also presented by site in Table 12

Table 11: The number of sea lice in each life stage by species identified on the chum salmon sample population from Jervis Inlet and Sechelt Inlet in 2022. LEP = *Lepeophtheirus salmonis*, CAL = *Caligus clemensi*

Life Stage ¹	April 11/12	April 25/26	May 9/10	May 24/25
LEP Co	6	13	7	2
LEP C1	4	9	2	0
LEP C2	2	5	5	2
LEP NM NOT ID	0	0	2	0
LEP PAM	2	3	4	1
LEP PAF	0	0	0	3
LEP AM	0	1	0	0
LEP AF	0	0	0	0
LEP MOT NOT ID	0	0	0	0
TOTAL LEP	14	31	20	8
CAL Co	0	0	0	0
CAL C1	0	0	0	0
CAL C2	0	0	0	0
CAL C3	0	0	0	0
CAL C4	0	0	0	0
CAL NM NOT ID	0	0	0	0
CAL PAM	0	0	0	0
CAL PAF	0	0	0	0
CAL AM	0	0	0	0
CAL AF	0	0	0	0
CAL MOT NOT ID	0	0	0	0
TOTAL CAL	0	0	0	0

¹ Lice life stage codes: Co = copepodid, C1-4 = chalimus 1-4, PAM = pre-adult male, PAF = pre-adult female, AM = adult male, AF = adult female

Table 12: The number and species of sea lice found on chum salmon collected in Jervis Inlet and Sechelt Inlet in 2022 summarized by week and by the sites where beach seining was conducted. LEP = *Lepeophtheirus salmonis* CAL = *Caligus clemensi*

Site	Sample Week																TOTAL		
	April 11/12				April 25/26				May 9/10				May 24/25						
	# of Chum Analyzed	# of Infested Chum	# of LEP	# of CAL	# of Chum Analyzed	# of Infested Chum	# of LEP	# of CAL	# of Chum Analyzed	# of Infested Chum	# of LEP	# of CAL	# of Chum Analyzed	# of Infested Chum	# of LEP	# of CAL	# of Chum Analyzed	# of Infested Chum	# of Lice
1	30	2	3	0	30	5	6	0	30	5	7	0	20	0	0	0	110	12	16
2	9	0	0	0	25	1	2	0	1	1	1	0	1	1	1	0	36	3	4
3	-	-	-	-	30	2	2	0	-	-	-	-	4	0	0	0	34	2	2
4	30	1	2	0	30	2	2	0	29	4	6	0	30	2	3	0	119	9	13
5	-	-	-	-	30	0	0	0	30	2	3	0	30	3	4	0	90	5	7
6	1	0	0	0	13	0	0	0	-	-	-	-	-	-	-	-	14	0	0
7	-	-	-	-	30	5	5	0	-	-	-	-	1	0	0	0	31	5	5
8	-	-	-	-	-	-	-	-	-	-	-	-	1	0	0	0	1	0	0
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
10	-	-	-	-	-	-	-	-	-	-	-	-	5	0	0	0	5	0	0
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
12	30	1	1	0	-	-	-	-	1	0	0	0	-	-	-	-	31	1	1
13	2	0	0	0	30	7	7	0	19	2	3	0	7	0	0	0	58	9	10
14	30	5	8	0	30	7	7	0	-	-	-	-	-	-	-	-	60	12	15
15	-	-	-	-	-	-	-	-	1	0	0	0	-	-	-	-	1	0	0
Totals	132	9	14	0	248	29	31	0	111	14	20	0	99	6	8	0	590	58	73

3.5.2 Infestation by Life Stage on Pink Salmon

An analysis of the sea lice species identified on the 63 infested pink salmon collected in Jervis and Sechelt inlet was completed and is presented in Table 13. A total of 72 *Lepeophtheirus salmonis* sea lice were identified on 62 juvenile pink salmon and one *Caligus clemensi* sea louse was observed on one of the juvenile pink salmon analyzed in the lab (Appendix III). Of the infested pink salmon, none were infested with both a *L. salmonis* and a *C. clemensi* sea louse. The sea lice species identified on pink salmon are also presented by site in Table 14

Table 13: The number of sea lice in each life stage by species identified on the pink salmon sample population from Jervis Inlet and Sechelt Inlet in 2022. LEP = *Lepeophtheirus salmonis*, CAL = *Caligus clemensi*

Life Stage ¹	April 11/12	April 25/26	May 9/10	May 24/25
LEP Co	13	7	5	3
LEP C1	0	2	2	2
LEP C2	5	10	1	4
LEP NM NOT ID	0	0	0	0
LEP PAM	2	0	4	1
LEP PAF	2	1	0	0
LEP AM	0	4	0	4
LEP AF	0	0	0	0
LEP MOT NOT ID	0	0	0	0
TOTAL LEP	22	24	11	14
CAL Co	0	0	0	0
CAL C1	0	0	0	0
CAL C2	1	0	0	0
CAL C3	0	0	0	0
CAL C4	0	0	0	0
CAL NM NOT ID	0	0	0	0
CAL PAM	0	0	0	0
CAL PAF	0	0	0	0
CAL AM	0	0	0	0
CAL AF	0	0	0	0
CAL MOT NOT ID	0	0	0	0
TOTAL CAL	1	0	0	0

Table 14: The number and species of sea lice found on pink salmon collected in Jervis Inlet and Sechelt Inlet in 2022 summarized by week and by the sites where beach seining was conducted. LEP = *Lepeophtheirus salmonis* CAL = *Caligus clemensi*

Site	Sample Week																TOTAL		
	April 11/12				April 25/26				May 9/10				May 24/25						
	# of Chum Analyzed	# of Infested Chum	# of LEP	# of CAL	# of Chum Analyzed	# of Infested Chum	# of LEP	# of CAL	# of Chum Analyzed	# of Infested Chum	# of LEP	# of CAL	# of Chum Analyzed	# of Infested Chum	# of LEP	# of CAL	# of Chum Analyzed	# of Infested Chum	# of Lice
1	30	3	5	0	5	2	2	0	13	2	2	0	3	0	0	0	51	7	9
2	10	1	1	0	30	0	0	0	4	0	0	0	1	1	1	0	45	2	2
3	-	-	-	-	30	1	1	0	6	0	0	0	9	1	2	0	45	2	3
4	30	4	4	0	30	3	3	0	29	9	8	0	30	5	6	0	119	21	22
5	3	0	0	0	30	1	1	0	30	1	1	0	24	2	2	0	87	4	4
6	-	-	-	-	35	3	4	0	1	0	0	0	1	0	0	0	37	3	4
7	5	0	0	0	30	4	4	0	9	0	0	0	2	0	0	0	46	4	4
8	6	1	1	0	1	0	0	0	-	-	-	-	16	3	3	0	23	4	4
9	1	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	1	0	0
10	10	2	3	0	1	0	0	0	-	-	-	-	30	0	0	0	41	2	3
11	12	2	2	0	-	-	-	-	3	0	0	0	-	-	-	-	15	2	2
12	2	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	2	0	0
13	6	0	0	0	5	1	2	0	1	0	0	0	1	0	0	0	13	1	2
14	30	6	6	1	30	5	7	0	1	0	0	0	1	0	0	0	62	11	14
15	-	-	-	-	1	0	0	0	11	0	0	0	-	-	-	-	12	0	0
Totals	145	19	22	1	228	20	24	0	108	12	11	0	118	12	14	0	599	63	73

4.0 Conclusions

This report presents the data from the seventh year of beach seining and sea lice analysis conducted for wild juvenile salmonid monitoring in Jervis Inlet and Sechelt Inlet, BC by Grieg Seafood, BC. This report is limited to the summary and presentation of the 2022 collected data.

A total of 1189 samples underwent lab analysis for sea lice infestation including 590 chum salmon, and 599 pink salmon. A total of 121 collected samples were found to be infested with sea lice in the total sample population resulting in a calculated sea lice prevalence of 10.2 % in 2022. A total of 146 sea lice were found during laboratory analysis resulting in an abundance of 0.12 and an average intensity of 1.2 for the total sample population.

A total of 1804 chum salmon were captured, representing 32.8 % of all captured samples. Of the 1804 chum salmon captured, 590 were kept for lab analysis for sea lice infestation. A total of 58 chum smolts were found to be infested with 73 lice resulting in a calculated prevalence of 9.8 %, abundance of 0.12 and average intensity of 1.3 for the chum salmon sample population.

A total of 3690 pink salmon were captured, representing 67.1 % of all captured samples. Of the 3690 pink salmon captured, 599 were kept for lab analysis for sea lice infestation. 63 pink salmon were found to be infested with 73 lice resulting in a calculated prevalence of 10.5 %, abundance of 0.12 and average intensity of 1.2 for the pink salmon sample population.

A total of 145 *Lepeophtheirus salmonis* sea lice of various life stages were identified on 120 juvenile salmonids and one *Caligus clemensi* sea lice was identified on one juvenile salmon analyzed in the lab. There were no samples that were infested with both a *L. salmonis* and a *C. clemensi* sea louse

A total of 73 *Lepeophtheirus salmonis* sea lice of various life stages were identified on 58 juvenile chum and no *Caligus clemensi* were identified on the chum salmon analyzed in the lab. Of the infested chum salmon, none were infested with both a *L. salmonis* and a *C. clemensi* sea louse.

A total of 72 *Lepeophtheirus salmonis* sea lice were identified on 62 juvenile pink salmon and one *Caligus clemensi* sea lice was observed on one of the juvenile pink salmon analyzed in the lab. Of the infested pink salmon, none were infested with both a *L. salmonis* and a *C. clemensi* sea louse.

5.0 References

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Appendix I – Field Data

Date	Site Name	Salinity	Temperature	Dissolved	Salinity	Temperature	Dissolved
		(ppt)	(deg C.)	(mg/L)	(ppt)	(deg C.)	(mg/L)
		0.2m	0.2m	0.2m	1.0m	1.0m	1.0m
11-Apr-22	Site 1	26.9	8.7	8.9			
11-Apr-22	Site 2	25.4	8.9	25.4	25.5	8.9	10.2
11-Apr-22	Site 3	17.2	8.3	11.4	26.7	8.3	10.5
11-Apr-22	Site 4	24.4	8.0	11.7	26.7	8.6	12.2
11-Apr-22	Site 5	10.2	8.5	9.9			
11-Apr-22	Site 6	20.1	8.8	10.7	26.9	8.9	10.7
12-Apr-22	Site 7	26.7	8.7	10.1	26.7	8.7	10.1
12-Apr-22	Site 8	20.2	6.9	11.9	22.9	9.0	12.5
12-Apr-22	Site 9	23.8	9.4	12.1	23.8	9.7	12.6
12-Apr-22	Site 10	18.6	9.0	10.6	19.9	9.1	12.2
12-Apr-22	Site 11	22.3	8.5	12.2	23.2	8.2	12.8
12-Apr-22	Site 12	14.2	6.6	11.0			
12-Apr-22	Site 13	25.2	9.1	9.5	25.6	9.2	9.5
12-Apr-22	Site 14	21.7	9.1	12.0	22.7	9.2	12.3
12-Apr-22	Site 15	21.3	8.6	11.8	21.7	8.6	12.3
25-Apr-22	Site 1	25.6	9.8	11.2	25.6	9.8	11.3
25-Apr-22	Site 2	25.2	9.8	11.4	25.5	9.8	11.5
25-Apr-22	Site 7	26.5	9.4	10.1	26.6	9.4	10.1
25-Apr-22	Site 6	25.4	10.0	11.6	25.5	10.0	11.6
25-Apr-22	Site 3	23.2	10.6	11.7	25.4	10.3	12.4
25-Apr-22	Site 4	24.6	10.9	12.1	24.8	11.0	12.0
25-Apr-22	Site 5	24.3	10.6	10.5	25.2	10.6	10.9
26-Apr-22	Site 8	21.8	8.6	10.4	24.2	10.3	10.6
26-Apr-22	Site 9	23.6	9.9	10.5	24.8	10.0	10.6
26-Apr-22	Site 10	24.3	10.1	10.6	24.4	10.1	11.0
26-Apr-22	Site 11	24.2	9.9	10.7	24.4	9.8	10.9
26-Apr-22	Site 12	24.2	9.4	10.0			
26-Apr-22	Site 13	24.5	9.7	10.8	24.6	9.7	10.9
26-Apr-22	Site 14	24.4	9.9	11.0	24.6	9.9	11.3
26-Apr-22	Site 15	23.3	9.9	10.0	24.1	10.3	10.3
9-May-22	Site 1	26.8	10.8	9.5	22.4	10.8	9.8
9-May-22	Site 2	24.9	10.6	9.9	27.0	10.9	9.9
9-May-22	Site 7	27.5	11.3	9.6	27.5	11.4	9.7
9-May-22	Site 6	27.0	11.4	9.8	27.3	11.3	10.0
9-May-22	Site 3	26.4	11.7	9.6			
9-May-22	Site 4	22.4	12.1	9.3	26.7	12.1	9.7
9-May-22	Site 5	22.2	11.9	9.8	25.8	12.0	10.0
10-May-22	Site 8	25.5	11.6	9.3	25.5	11.6	9.2
10-May-22	Site 9	25.9	10.8	8.6	26.0	10.9	8.9
10-May-22	Site 10	24.7	11.4	10.3	24.9	11.5	10.4

Date	Site Name	Salinity	Temperature	Dissolved	Salinity	Temperature	Dissolved
		(ppt)	(deg C.)	(mg/L)	(ppt)	(deg C.)	(mg/L)
		0.2m	0.2m	0.2m	1.0m	1.0m	1.0m
10-May-22	Site 11	25.8	10.9	7.9	25.9	11.0	9.2
10-May-22	Site 12	25.9	10.9	8.8			
10-May-22	Site 13	22.6	10.3	11.0	23.8	10.5	10.9
10-May-22	Site 14	25.6	10.8	9.8	26.6	10.7	9.7
10-May-22	Site 15	21.4	10.6	10.3	24.2	10.6	9.6
24-May-22	Site 1	23.0	13.2	9.6	23.9	13.3	10.0
24-May-22	Site 2	22.9	13.3	9.7	23.9	13.3	9.8
24-May-22	Site 7	24.0	13.8	9.6	24.1	13.8	9.9
24-May-22	Site 6	23.1	13.5	9.9	23.6	13.5	10.2
24-May-22	Site 3	20.7	13.9	9.7	23.0	14.0	9.8
24-May-22	Site 4	22.2	14.2	9.6	22.5	14.2	9.6
24-May-22	Site 5	21.7	13.4	9.7	21.8	13.5	10.6
25-May-22	Site 8	22.0	12.2	8.6	22.5	12.3	8.3
25-May-22	Site 9	23.0	12.4	7.6	23.5	12.4	7.9
25-May-22	Site 10	15.3	12.3	9.0	15.4	12.3	9.0
25-May-22	Site 11	21.7	12.3	8.3	21.8	12.3	8.4
25-May-22	Site 12	21.5	12.2	7.6	22.7	12.0	7.3
25-May-22	Site 13	23.4	11.5	8.0	23.5	11.4	7.8
25-May-22	Site 14	23.4	11.9	7.9	23.7	11.9	8.0
25-May-22	Site 15	23.4	11.8	8.0	23.6	11.8	7.8

Appendix II – Capture and Collection Sample Totals

Date	Site Name	Pink Captured	Pink Retained	Chum Captured	Chum Retained	TSB Captured	TSB Retained	Salmonid Mortalities	Weather Comments	Comments
11-Apr-22	Site 1	36	30	127	30	0	0	5	Calm, sunny	juvenile sand lance
11-Apr-22	Site 2	10	10	9	9	0	0	0	calm in bay	set around anchor blocks
11-Apr-22	Site 3	0	0	0	0	0	0	0	choppy	set on bluff in lee of wind
11-Apr-22	Site 4	70	30	80	30	0	0	4	slight chop	muddy runoff from gravel mine at set location
11-Apr-22	Site 5	3	3	0	0	0	0	0	slight chop	
11-Apr-22	Site 6	0	0	1	1	0	0	0	heavy chop	
12-Apr-22	Site 7	5	5	0	0	0	0	0	calm, sunny	
12-Apr-22	Site 8	6	6	0	0	0	0	0	calm	2 juvenile ling, 2 sculpins
12-Apr-22	Site 9	1	1	0	0	0	0	0	slight chop	2 flounder
12-Apr-22	Site 10	10	10	0	0	0	0	0	calm in lee of point	sculpins, pipefish, 1 juvenile ling
12-Apr-22	Site 11	12	12	0	0	0	0	0	calm	sculpins
12-Apr-22	Site 12	2	2	69	30	0	0	0	calm	lots of weeds
12-Apr-22	Site 13	6	6	2	2	0	0	0	slight chop	sculpins
12-Apr-22	Site 14	32	30	40	30	0	0	0	calm, cloudy	sculpins
12-Apr-22	Site 15	0	0	0	0	0	0	0	calm, raining hard	flounders, sculpins
25-Apr-22	Site 1	5	5	61	30	0	0	0	sun, cloud, calm	1 pipefish, 20 sculpins, 4 camper visitors
25-Apr-22	Site 2	53	30	25	25	0	0	0	sun, cloud, calm	1 sculpin, 1 juvenile lingcod
25-Apr-22	Site 7	439	30	84	30	0	0	5	sun, cloud, calm	sculpins
25-Apr-22	Site 6	106	35	13	13	0	0	0	hail, calm	4 sand lance
25-Apr-22	Site 3	647	30	192	30	0	0	0	overcast, calm	no by catch
25-Apr-22	Site 4	197	30	78	30	0	0	1	overcast, calm	1 juvenile lingcod, 5 sand lance
25-Apr-22	Site 5	328	30	373	30	0	0	2	overcast, calm	2 sculpins
26-Apr-22	Site 8	1	1	0	0	0	0	0	overcast, calm	4 shiner perch, 6 sculpins
26-Apr-22	Site 9	0	0	0	0	0	0	0	overcast, calm	1 gunnel
26-Apr-22	Site 10	1	1	0	0	0	0	0	overcast, calm	2 cutthroat, 1 pipefish, 1 greenling, 1 sculpin
26-Apr-22	Site 11	0	0	0	0	0	0	0	overcast, calm	No fish caught
26-Apr-22	Site 12	0	0	0	0	0	0	0	overcast, calm	1 sculpin
26-Apr-22	Site 13	5	5	43	30	0	0	0	overcast, calm	No bycatch, kingfisher
26-Apr-22	Site 14	547	30	288	30	0	0	0	overcast, calm	sand lance
26-Apr-22	Site 15	1	1	0	0	0	0	0	sun, cloud, calm	gobies, flounder, hermit crab, sculpins, shrimp
9-May-22	Site 1	13	13	58	30	0	0	0	sun, calm	sculpins, flatfish
9-May-22	Site 2	4	4	1	1	0	0	0	sun, cloud, calm	2 gunnel, 5 sculpin
9-May-22	Site 7	9	9	0	0	0	0	0	Calm, sunny	1 flatfish
9-May-22	Site 6	1	1	0	0	0	0	0	calm, sun/cloud	plankton bloom along beach, 1 sculpin
9-May-22	Site 3	6	6	0	0	0	0	0	slight chop, cloud, sun	
9-May-22	Site 4	36	29	36	29	0	0	0	calm, cloudy	sculpins
9-May-22	Site 5	850	30	80	30	0	0	1	calm, sun, cloud	sculpins
10-May-22	Site 8	0	0	0	0	0	0	0	calm, cloud	fried egg jellyfish, sea cucumber
10-May-22	Site 9	0	0	0	0	0	0	0	calm, cloud	starry flounder, 2 sculpins, 1 pipefish, 1 juvenile lingcod
10-May-22	Site 10	0	0	0	0	0	0	0	calm, cloud	20 pile perch, 30 shiner perch, 10 striped perch, 1 flatfish, 8 juvenile rockfish, 1 juvenile ling, 2 gunnel
10-May-22	Site 11	3	3	0	0	0	0	0	calm, cloud	1 pipefish

Date	Site Name	Pink Captured	Pink Retained	Chum Captured	Chum Retained	TSB Captured	TSB Retained	Salmonid Mortalities	Weather Comments	Comments
10-May-22	Site 12	0	0	1	1	0	0	0	calm, cloud	2 sculpins
10-May-22	Site 13	1	1	19	19	0	0	0	sun, calm	sand lance, 1 sculpin
10-May-22	Site 14	1	1	0	0	0	0	0	sun, calm	1 gunnel, 2 sculpins
10-May-22	Site 15	11	11	1	1	0	0	0	sunny, calm	flatfish, sculpins
24-May-22	Site 1	3	3	20	20	0	0	0	overcast, calm	4 sand lance, 6 flounder, 2 sculpins
24-May-22	Site 2	1	1	1	1	0	0	0	overcast, calm	3 juvenile greenlings
24-May-22	Site 7	2	2	1	1	0	0	0	overcast, calm	47 shiner perch, 2 juvenile greenling
24-May-22	Site 6	1	1	0	0	0	0	0	overcast, calm	4 pile perch, 4 juvenile greenling
24-May-22	Site 3	9	9	4	4	0	0	0	overcast, calm	1 sculpin
24-May-22	Site 4	122	30	47	30	0	0	0	overcast, calm	2 sculpin, 1 pipefish
24-May-22	Site 5	24	24	37	30	0	0	0	overcast, calm	2 gobies, 4 juvenile greenling, 1 hake
25-May-22	Site 8	16	16	1	1	0	0	0	overcast, calm	sculpins, 20 shiner perch, 1 fried egg jellyfish
25-May-22	Site 9	0	0	0	0	0	0	0	overcast, calm	1 sculpin
25-May-22	Site 10	52	30	5	5	0	0	1	overcast, calm	8 juvenile rockfish, striped perch, shiner perch, sculpins
25-May-22	Site 11	0	0	0	0	0	0	0	overcast, calm	
25-May-22	Site 12	0	0	0	0	0	0	0	overcast, calm	4 sculpin
25-May-22	Site 13	1	1	7	7	0	0	0	choppy, overcast	shiner perch, striped perch, 2 gunnels, 1 greenling, 1 pipefish
25-May-22	Site 14	1	1	0	0	0	0	0	overcast, calm	1 juvenile rockfish, 1 shiner perch, jellyfish
25-May-22	Site 15	0	0	0	0	2	0	0	overcast, calm	2 juvenile greenling, 20 flatfish

Appendix III – Sea Lice Analysis Data

SITE	WEEK	DATE COLLECTED	DATE EXAMINED	FISH SPECIES	FISH NUMBER	LENGTH IN MM	WEIGHT IN G	LEP Co	LEP C1	LEP C2	LEP NM NOT ID	LEP PAM	LEP PAF	LEP AM	LEP AF	LEP MOT NOT ID	CAL Co	CAL C1	CAL C2	CAL C3	CAL C4	CAL NM NOT ID	CAL PAM	CAL PAF	CAL AM	CAL AF	CAL MOT NOT ID	TOT LICE ID	TOT LEP	TOT CAL	
Site 4	4	24-May-22	11-Jul-22	Chum	193	43	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 4	4	24-May-22	11-Jul-22	Chum	194	43	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 4	4	24-May-22	11-Jul-22	Chum	195	51	1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 4	4	24-May-22	11-Jul-22	Chum	196	47	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 4	4	24-May-22	11-Jul-22	Chum	197	42	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 4	4	24-May-22	11-Jul-22	Chum	198	41	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 4	4	24-May-22	11-Jul-22	Chum	199	52	1.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 4	4	24-May-22	11-Jul-22	Chum	200	33	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 4	4	24-May-22	11-Jul-22	Chum	201	33	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 4	4	24-May-22	11-Jul-22	Chum	202	32	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 4	4	24-May-22	11-Jul-22	Chum	203	33	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 4	4	24-May-22	11-Jul-22	Chum	204	41	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 4	4	24-May-22	11-Jul-22	Pink	205	38	0.6	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 4	4	24-May-22	11-Jul-22	Pink	206	43	0.8	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 4	4	24-May-22	11-Jul-22	Pink	207	48	1.1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 4	4	24-May-22	11-Jul-22	Pink	208	50	1.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 4	4	24-May-22	11-Jul-22	Pink	209	47	1.2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Site 4	4	24-May-22	11-Jul-22	Pink	210	36	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 4	4	24-May-22	11-Jul-22	Pink	211	47	1.1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Site 4	4	24-May-22	11-Jul-22	Pink	212	42	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 4	4	24-May-22	11-Jul-22	Pink	213	44	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 4	4	24-May-22	11-Jul-22	Pink	214	32	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 4	4	24-May-22	11-Jul-22	Pink	215	45	1.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 4	4	24-May-22	11-Jul-22	Pink	216	37	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 4	4	24-May-22	11-Jul-22	Pink	217	32	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 4	4	24-May-22	11-Jul-22	Pink	218	35	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 4	4	24-May-22	11-Jul-22	Pink	219	43	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 4	4	24-May-22	11-Jul-22	Pink	220	35	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 4	4	24-May-22	11-Jul-22	Pink	221	49	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 4	4	24-May-22	11-Jul-22	Pink	222	43	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 4	4	24-May-22	11-Jul-22	Pink	223	32	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 4	4	24-May-22	11-Jul-22	Pink	224	46	0.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 4	4	24-May-22	11-Jul-22	Pink	225	42	0.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 4	4	24-May-22	11-Jul-22</																												

Site	Week	Date Collected	Date Examined	Fish Species	Fish Number	Length in mm	Weight in g	LEP Co	LEP C1	LEP C2	LEP NM Not ID	LEP PAM	LEP PAF	LEP AM	LEP AF	LEP Mot Not ID	CAL Co	CAL C1	CAL C2	CAL C3	CAL C4	CAL NM Not ID	CAL PAM	CAL_PAF	CAL AM	CAL AF	CAL Mot Not ID	Tot Lice ID	Tot LEP	Tot CAL
Site 14	2	26-Apr-22	18-Jul-22	Chum	739	40	0.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Chum	740	41	1.0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Site 14	2	26-Apr-22	18-Jul-22	Chum	741	46	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Chum	742	48	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Chum	743	43	1.1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Site 14	2	26-Apr-22	18-Jul-22	Chum	744	37	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Chum	745	38	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Chum	746	39	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Chum	747	40	0.8	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Site 14	2	26-Apr-22	18-Jul-22	Chum	748	37	0.7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Site 14	2	26-Apr-22	18-Jul-22	Chum	749	36	0.6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Site 14	2	26-Apr-22	18-Jul-22	Chum	750	41	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Chum	751	37	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Chum	752	37	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Chum	753	36	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Chum	754	46	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Chum	755	37	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Chum	756	48	1.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Chum	757	41	0.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Chum	758	42	0.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Chum	759	33	0.5	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Site 14	2	26-Apr-22	18-Jul-22	Pink	760	39	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Pink	761	36	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Pink	762	44	0.8	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0
Site 14	2	26-Apr-22	18-Jul-22	Pink	763	39	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Pink	764	36	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Pink	765	37	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Pink	766	48	1.4	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Site 14	2	26-Apr-22	18-Jul-22	Pink	767	49	1.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Pink	768	34	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Pink	769	47	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Pink	770	45	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Pink	771	39	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Pink	772	37	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Pink	773	37	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Pink	774	44	1.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Pink	775	38	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Pink	776	51	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 14	2	26-Apr-22	18-Jul-22	Pink	777	38	0.6	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0

Site	Week	Date Collected	Date Examined	Fish Species	Fish Number	Length in mm	Weight in g	LEP Co	LEP C1	LEP C2	LEP NM Not ID	LEP PAM	LEP PAF	LEP AM	LEP AF	LEP Mot Not ID	CAL Co	CAL C1	CAL C2	CAL C3	CAL C4	CAL NM Not ID	CAL PAM	CAL_PAF	CAL AM	CAL AF	CAL Mot Not ID	Tot Lice ID	Tot LEP	Tot CAL				
Site 6	2	25-Apr-22	19-Jul-22	Pink	895	47	1.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Site 6	2	25-Apr-22	19-Jul-22	Pink	896	36	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Site 6	2	25-Apr-22	19-Jul-22	Pink	897	47	1.4	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0			
Site 6	2	25-Apr-22	19-Jul-22	Pink	898	41	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Site 6	2	25-Apr-22	19-Jul-22	Pink	899	37	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Site 6	2	25-Apr-22	19-Jul-22	Pink	900	35	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Site 6	2	25-Apr-22	19-Jul-22	Pink	901	34	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Site 6	2	25-Apr-22	19-Jul-22	Pink	902	41	0.8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0		
Site 6	2	25-Apr-22	19-Jul-22	Pink	903	33	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 6	2	25-Apr-22	19-Jul-22	Pink	904	37	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 6	2	25-Apr-22	19-Jul-22	Pink	905	31	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 6	2	25-Apr-22	19-Jul-22	Chum	906	36	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 6	2	25-Apr-22	19-Jul-22	Chum	907	45	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 6	2	25-Apr-22	19-Jul-22	Chum	908	33	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 6	2	25-Apr-22	19-Jul-22	Chum	909	42	0.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 6	2	25-Apr-22	19-Jul-22	Chum	910	31	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 6	2	25-Apr-22	19-Jul-22	Chum	911	34	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 6	2	25-Apr-22	19-Jul-22	Chum	912	29	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 6	2	25-Apr-22	19-Jul-22	Chum	913	25	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 6	2	25-Apr-22	19-Jul-22	Chum	914	33	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 6	2	25-Apr-22	19-Jul-22	Chum	915	40	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 6	2	25-Apr-22	19-Jul-22	Chum	916	32	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 6	2	25-Apr-22	19-Jul-22	Chum	917	32	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 6	2	25-Apr-22	19-Jul-22	Chum	918	33	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 12	1	12-Apr-22	19-Jul-22	Chum	919	35	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 12	1	12-Apr-22	19-Jul-22	Chum	920	35	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 12	1	12-Apr-22	19-Jul-22	Chum	921	33	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 12	1	12-Apr-22	19-Jul-22	Chum	922	32	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 12	1	12-Apr-22	19-Jul-22	Chum	923	33	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 12	1	12-Apr-22	19-Jul-22	Chum	924	32	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 12	1	12-Apr-22	19-Jul-22	Chum	925	40	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 12	1	12-Apr-22	19-Jul-22	Chum	926	34	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 12	1	12-Apr-22	19-Jul-22	Chum	927	33	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 12	1	12-Apr-22	19-Jul-22	Chum	928	34	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 12	1	12-Apr-22	19-Jul-22	Chum	929	31	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 12	1	12-Apr-22	19-Jul-22	Chum	930	38	0.6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Site 12	1	12-Apr-22	19-Jul-22	Chum	931	36	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 12	1	12-Apr-22	19-Jul-22	Chum	932	31	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 12	1	12-Apr-22	19-Jul-22	Chum	933	43	0.7	0	0	0	0																							

SITE	WEEK	DATE COLLECTED	DATE EXAMINED	FISH SPECIES	FISH NUMBER	LENGTH IN MM	WEIGHT IN G	LEP Co	LEP C1	LEP C2	LEP NM NOT ID	LEP PAM	LEP PAF	LEP AM	LEP AF	LEP MOT NOT ID	CAL Co	CAL C1	CAL C2	CAL C3	CAL C4	CAL NM NOT ID	CAL PAM	CAL PAF	CAL AM	CAL AF	CAL MOT NOT ID	TOT LICE ID	TOT LEP	TOT CAL	
Site 5	2	25-Apr-22	20-Jul-22	Chum	973	31	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 5	2	25-Apr-22	20-Jul-22	Chum	974	30	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 5	2	25-Apr-22	20-Jul-22	Chum	975	29	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 5	2	25-Apr-22	20-Jul-22	Chum	976	34	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 5	2	25-Apr-22	20-Jul-22	Chum	977	34	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 5	2	25-Apr-22	20-Jul-22	Chum	978	32	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 5	2	25-Apr-22	20-Jul-22	Chum	979	30	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 5	2	25-Apr-22	20-Jul-22	Chum	980	33	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 5	2	25-Apr-22	20-Jul-22	Pink	981	26	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 5	2	25-Apr-22	20-Jul-22	Pink	982	31	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 5	2	25-Apr-22	20-Jul-22	Pink	983	27	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 5	2	25-Apr-22	20-Jul-22	Pink	984	29	0.4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Site 5	2	25-Apr-22	20-Jul-22	Pink	985	29	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 5	2	25-Apr-22	20-Jul-22	Pink	986	29	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 5	2	25-Apr-22	20-Jul-22	Pink	987	32	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 5	2	25-Apr-22	20-Jul-22	Pink	988	30	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 5	2	25-Apr-22	20-Jul-22	Pink	989	29	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 5	2	25-Apr-22	20-Jul-22	Pink	990	32	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 5	2	25-Apr-22	20-Jul-22	Pink	991	30	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 5	2	25-Apr-22	20-Jul-22	Pink	992	29	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 5	2	25-Apr-22	20-Jul-22	Pink	993	30	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 5	2	25-Apr-22	20-Jul-22	Pink	994	30	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 5	2	25-Apr-22	20-Jul-22	Pink	995	34	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 5	2	25-Apr-22	20-Jul-22	Pink	996	30	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 5	2	25-Apr-22	20-Jul-22	Pink	997	32	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 5	2	25-Apr-22	20-Jul-22	Pink	998	28	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 5	2	25-Apr-22	20-Jul-22	Pink	999	26	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 5	2	25-Apr-22	20-Jul-22	Pink	1000	30	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 5	2	25-Apr-22	20-Jul-22	Pink	1001	31	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 5	2	25-Apr-22	20-Jul-22	Pink	1002	28	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 5	2	25-Apr-22	20-Jul-22	Pink	1003	29	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 5	2	25-Apr-22	20-Jul-22	Pink	1004	30	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 5	2	25-Apr-22	20-Jul-22	Pink	1005	29	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site 5	2	25-Apr-22																													

Site	Week	Date Collected	Date Examined	Fish Species	Fish Number	Length in mm	Weight in g	LEP Co	LEP C1	LEP C2	LEP NM Not ID	LEP PAM	LEP PAF	LEP AM	LEP AF	LEP Mot Not ID	CAL Co	CAL C1	CAL C2	CAL C3	CAL C4	CAL NM Not ID	CAL PAM	CAL_PAF	CAL AM	CAL AF	CAL Mot Not ID	Tot Lice ID	Tot LEP	Tot CAL			
Site 7	2	25-Apr-22	20-Jul-22	Chum	1012	39	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Site 7	2	25-Apr-22	20-Jul-22	Chum	1013	37	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Site 7	2	25-Apr-22	20-Jul-22	Chum	1014	36	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Site 7	2	25-Apr-22	20-Jul-22	Chum	1015	38	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Site 7	2	25-Apr-22	20-Jul-22	Chum	1016	35	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Site 7	2	25-Apr-22	20-Jul-22	Chum	1017	37	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Site 7	2	25-Apr-22	20-Jul-22	Chum	1018	35	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Site 7	2	25-Apr-22	20-Jul-22	Chum	1019	39	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Site 7	2	25-Apr-22	20-Jul-22	Chum	1020	39	0.6	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0		
Site 7	2	25-Apr-22	20-Jul-22	Chum	1021	40	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 7	2	25-Apr-22	20-Jul-22	Chum	1022	42	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 7	2	25-Apr-22	20-Jul-22	Chum	1023	39	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 7	2	25-Apr-22	20-Jul-22	Chum	1024	36	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 7	2	25-Apr-22	20-Jul-22	Chum	1025	41	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 7	2	25-Apr-22	20-Jul-22	Chum	1026	37	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 7	2	25-Apr-22	20-Jul-22	Chum	1027	49	1.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 7	2	25-Apr-22	20-Jul-22	Chum	1028	35	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 7	2	25-Apr-22	20-Jul-22	Chum	1029	34	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 7	2	25-Apr-22	20-Jul-22	Chum	1030	42	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 7	2	25-Apr-22	20-Jul-22	Chum	1031	33	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 7	2	25-Apr-22	20-Jul-22	Chum	1032	40	0.5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0		
Site 7	2	25-Apr-22	20-Jul-22	Chum	1033	39	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 7	2	25-Apr-22	20-Jul-22	Chum	1034	37	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 7	2	25-Apr-22	20-Jul-22	Chum	1035	36	0.5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0		
Site 7	2	25-Apr-22	20-Jul-22	Chum	1036	40	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 7	2	25-Apr-22	20-Jul-22	Chum	1037	35	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 7	2	25-Apr-22	20-Jul-22	Chum	1038	42	0.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 7	2	25-Apr-22	20-Jul-22	Chum	1039	39	0.7	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0		
Site 7	2	25-Apr-22	20-Jul-22	Chum	1040	36	0.5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	
Site 7	2	25-Apr-22	20-Jul-22	Pink	1041	42	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 7	2	25-Apr-22	20-Jul-22	Pink	1042	43	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 7	2	25-Apr-22	20-Jul-22	Pink	1043	39	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 7	2	25-Apr-22	20-Jul-22	Pink	1044	36	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 7	2	25-Apr-22	20-Jul-22	Pink	1045	35	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 7	2	25-Apr-22	20-Jul-22	Pink	1046	37	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Site 7	2	25-Apr-22	20-Jul-22	Pink	1047	38	0.5	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	
Site 7	2	25-Apr-22	20-Jul-22	Pink	1048	39	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 7	2	25-Apr-22	20-Jul-22	Pink	1049	47	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 7	2	25-Apr-22	20-Jul-22	Pink	1050	43	0.8	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0

SITE	WEEK	DATE COLLECTED	DATE EXAMINED	FISH SPECIES	FISH NUMBER	LENGTH IN MM	WEIGHT IN G	LEP Co	LEP C1	LEP C2	LEP NM NOT ID	LEP PAM	LEP PAF	LEP AM	LEP AF	LEP MOT NOT ID	CAL Co	CAL C1	CAL C2	CAL C3	CAL C4	CAL NM NOT ID	CAL PAM	CAL PAF	CAL AM	CAL AF	CAL MOT NOT ID	TOT LICE ID	TOT LEP	TOT CAL	
Site 14	1	12-Apr-22	22-Jul-22	Chum	1090	39	0.9	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	
Site 14	1	12-Apr-22	22-Jul-22	Chum	1091	33	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Chum	1092	31	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Chum	1093	30	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Chum	1094	33	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Chum	1095	31	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Chum	1096	34	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Chum	1097	30	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Chum	1098	32	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Chum	1099	30	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Chum	1100	35	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Pink	1101	27	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Pink	1102	38	0.8	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0
Site 14	1	12-Apr-22	22-Jul-22	Pink	1103	28	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Pink	1104	28	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Pink	1105	29	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Pink	1106	33	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Pink	1107	27	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Pink	1108	30	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Pink	1109	30	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Pink	1110	40	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Pink	1111	28	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Pink	1112	37	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Pink	1113	30	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Pink	1114	27	0.3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	
Site 14	1	12-Apr-22	22-Jul-22	Pink	1115	35	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Pink	1116	33	0.4	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	
Site 14	1	12-Apr-22	22-Jul-22	Pink	1117	27	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Pink	1118	30	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Pink	1119	26	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Pink	1120	27	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Pink	1121	37	0.6	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Site 14	1	12-Apr-22	22-Jul-22	Pink	1122	38	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 14	1	12-Apr-22	22-Jul-22	Pink	1123	29	0.3	0	0	0</																					

SITE	WEEK	DATE COLLECTED	DATE EXAMINED	FISH SPECIES	FISH NUMBER	LENGTH IN MM	WEIGHT IN G	LEP Co	LEP C1	LEP C2	LEP NM NOT ID	LEP PAM	LEP PAF	LEP AM	LEP AF	LEP MOT NOT ID	CAL Co	CAL C1	CAL C2	CAL C3	CAL C4	CAL NM NOT ID	CAL PAM	CAL_PAF	CAL AM	CAL AF	CAL MOT NOT ID	TOT LICE ID	TOT LEP	TOT CAL
Site 14	1	12-Apr-22	22-Jul-22	Pink	1129	32	0.3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	
Site 14	1	12-Apr-22	22-Jul-22	Pink	1130	32	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 2	4	24-May-22	22-Jul-22	Chum	1131	47	1.3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	
Site 2	4	24-May-22	22-Jul-22	Pink	1132	46	1.2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	
Site 2	1	11-Apr-22	25-Jul-22	Chum	1133	32	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 2	1	11-Apr-22	25-Jul-22	Chum	1134	31	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 2	1	11-Apr-22	25-Jul-22	Chum	1135	30	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 2	1	11-Apr-22	25-Jul-22	Chum	1136	30	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 2	1	11-Apr-22	25-Jul-22	Chum	1137	28	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 2	1	11-Apr-22	25-Jul-22	Chum	1138	30	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 2	1	11-Apr-22	25-Jul-22	Chum	1139	30	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 2	1	11-Apr-22	25-Jul-22	Chum	1140	30	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 2	1	11-Apr-22	25-Jul-22	Chum	1141	28	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 2	1	11-Apr-22	25-Jul-22	Pink	1142	27	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 2	1	11-Apr-22	25-Jul-22	Pink	1143	47	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 2	1	11-Apr-22	25-Jul-22	Pink	1144	28	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 2	1	11-Apr-22	25-Jul-22	Pink	1145	31	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 2	1	11-Apr-22	25-Jul-22	Pink	1146	32	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 2	1	11-Apr-22	25-Jul-22	Pink	1147	27	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 2	1	11-Apr-22	25-Jul-22	Pink	1148	29	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 2	1	11-Apr-22	25-Jul-22	Pink	1149	27	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 2	1	11-Apr-22	25-Jul-22	Pink	1150	27	0.2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Site 2	1	11-Apr-22	25-Jul-22	Pink	1151	29	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 11	1	12-Apr-22	25-Jul-22	Pink	1152	27	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 11	1	12-Apr-22	25-Jul-22	Pink	1153	28	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 11	1	12-Apr-22	25-Jul-22	Pink	1154	37	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 11	1	12-Apr-22	25-Jul-22	Pink	1155	38	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 11	1	12-Apr-22	25-Jul-22	Pink	1156	35	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 11	1	12-Apr-22	25-Jul-22	Pink	1157	30	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 11	1	12-Apr-22	25-Jul-22	Pink	1158	29	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 11	1	12-Apr-22	25-Jul-22	Pink	1159	60	2.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 11	1	12-Apr-22	25-Jul-22	Pink	1160	37	0.5	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Site 11	1	12-Apr-22	25-Jul-22	Pink	1161	30	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 11	1	12-Apr-22	25-Jul-22	Pink	1162	34	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 11	1	12-Apr-22	25-Jul-22	Pink	1163	38	0.6	0	0	0	0	1	0																	

SITE	WEEK	DATE COLLECTED	DATE EXAMINED	FISH SPECIES	FISH NUMBER	LENGTH IN MM	WEIGHT IN G	LEP Co	LEP C1	LEP C2	LEP NM NOT ID	LEP PAM	LEP PAF	LEP AM	LEP AF	LEP MOT NOT ID	CAL Co	CAL C1	CAL C2	CAL C3	CAL C4	CAL NM NOT ID	CAL PAM	CAL_PAF	CAL AM	CAL AF	CAL MOT NOT ID	TOT LICE ID	TOT LEP	TOT CAL
Site 8	1	12-Apr-22	25-Jul-22	Pink	1168	27	0.2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	
Site 8	1	12-Apr-22	25-Jul-22	Pink	1169	27	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 9	1	12-Apr-22	25-Jul-22	Pink	1170	30	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 6	1	11-Apr-22	25-Jul-22	Chum	1171	28	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 7	1	11-Apr-22	25-Jul-22	Pink	1172	37	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 7	1	11-Apr-22	25-Jul-22	Pink	1173	34	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 7	1	11-Apr-22	25-Jul-22	Pink	1174	38	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 7	1	11-Apr-22	25-Jul-22	Pink	1175	34	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 7	1	11-Apr-22	25-Jul-22	Pink	1176	33	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 3	3	09-May-22	25-Jul-22	Pink	1177	29	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 3	3	09-May-22	25-Jul-22	Pink	1178	22	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 3	3	09-May-22	25-Jul-22	Pink	1179	36	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 3	3	09-May-22	25-Jul-22	Pink	1180	29	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 3	3	09-May-22	25-Jul-22	Pink	1181	30	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 3	3	09-May-22	25-Jul-22	Pink	1182	31	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 5	1	11-Apr-22	25-Jul-22	Pink	1183	39	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 5	1	11-Apr-22	25-Jul-22	Pink	1184	24	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 5	1	11-Apr-22	25-Jul-22	Pink	1185	27	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 15	2	26-Apr-22	25-Jul-22	Pink	1186	29	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 6	3	09-May-22	25-Jul-22	Pink	1187	29	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 6	4	24-May-22	25-Jul-22	Pink	1188	32	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Site 10	2	26-Apr-22	25-Jul-22	Pink	1189	28	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Appendix IV – Historical Comparison (2016-2022)

A comparison of the historical results of analysis for sea lice infestation on chum salmon collected by beach seine in Jervis Inlet and Sechelt Inlet, BC from 2016 to 2022.

Year	Sample size	Total # of fish infested	Total # of lice observed	Prevalence (%)	Abundance	Intensity
2016	630	181	323	28.7	0.5	1.8
2017	920	89	163	9.7	0.2	1.8
2018	749	47	70	6.3	0.1	1.5
2019	446	49	52	11.0	0.1	1.1
2020	455	82	152	18.0	0.3	1.9
2021	721	44	49	6.1	0.1	1.1
2022	590	58	73	9.8	0.1	1.3
Total	4511	550	882	12.2	0.20	1.6

A comparison of the historical results of analysis for sea lice infestation on pink salmon collected by beach seine in Jervis inlet and Sechelt Inlet, BC from 2016 to 2022.

Year	Sample size	Total # of fish infested	Total # of lice observed	Prevalence (%)	Abundance	Intensity
2016	394	119	186	30.2	0.5	1.6
2017	2	0	0	0.0	0.0	0.0
2018	494	43	53	8.7	0.1	1.2
2019	1	0	0	0.0	0.0	0.0
2020	608	153	324	25.2	0.5	2.1
2021	0	-	-	-	-	-
2022	599	73	63	10.5	0.1	1.2
Total	2098	388	626	18.5	0.30	1.6