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Review of the 1976-77 British Columbia Herring Fishery and Spawn Abundance

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Industry Report No. 110**



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Les numéros de 1 à 91 de cette série ont été publiés à titre de rapports sur les travaux de la Direction du développement industriel, de rapports techniques de la Direction du développement industriel, et de rapports techniques de la Direction des services aux pêcheurs. Le nom de la série a été changé à partir du rapport numéro 92.

La page couverture porte le nom de l'établissement auteur où l'on peut se procurer les rapports sous couverture cartonnée.

Fisheries and Marine Service

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HERRING FISHERY AND SPAWN ABUNDANCE

by

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PREFACE

Surveys of herring spawn deposition were initiated in British Columbia in 1937. Records for the earlier years in this series are fragmentary. Publication of the results began with the 1947 survey and has varied in form and detail with the development of information requirements. The length (in miles) and intensity (very light, light, medium, heavy, or very heavy) of individual spawnings on the West Coast of Vancouver Island are recorded for the years 1947-1954 in the Reports of the British Columbia Department of Fisheries for these years. Spawnings on the Lower East Coast of Vancouver Island are included beginning in 1953. Miles of spawn (adjusted to the length that would have been deposited had the intensity been the same for all spawnings) are recorded by statistical area for the entire coast for the years 1951-1957 in Reports of the British Columbia Department of Fisheries for the years 1955-1957. Records in this form are given and assessed for the years 1955-1969 in a series of Circulars of the Nanaimo Biological Station of the Fisheries Research Board of Canada. Detailed records of date, length, width, intensity, miles, and millions of eggs have been consolidated for individual spawnings for the years 1951-1970 in Technical Report No. 359 of the Fisheries Research Board of Canada. Information on the date, length, width, intensity, and miles for individual spawnings for the years 1970-1976 is presented and discussed in a series of Technical Reports of the Northern and Southern Operations Branches of the Operations Directorate (now Field Services Branch). Information on the timing of spawnings by statistical area was added beginning in 1976. References for the individual publications involved are given in Appendix 1. Beginning with 1977, standard square yards replaced miles of spawn as the index of abundance of spawn and reporting was transferred to the new Industry Report Series.

Historical records of herring catches in British Columbia since its inception in 1877 have been reported and discussed periodically since 1935 (Appendix 2) and are summarized by population up to the 1961-1962 season in Bulletin 143 of the Fisheries Research Board of Canada. Since 1950, herring catches have been recorded by month and statistical area in British Columbia Catch Statistics. Weekly catches by subdivisions of statistical areas and individual landings by locality for the 1950-1951 to 1969-1970 fishing seasons are reported in Manuscript Reports No. 1168 and 1184, respectively, of the Fisheries Research Board of Canada. Information on catches by statistical area and subsections thereof for the herring season (July-June) has been included with the annual reports on spawn deposition since 1972. References for the individual publications involved are given in Appendix 2.

It is the purpose of this report (and subsequent reports in this series) to summarize information on the fishery and spawn depositions at the end of each herring season for the benefit of fishermen and other interested parties.

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ABSTRACT

Webb, L. A., and A. S. Hourston. 1979. Review of the 1976-77 British Columbia herring fishery and spawn abundance. Fish. Mar. Serv. Industry Rep. 110: 47 p.

The 1976-77 roe herring fishery took 81,000 tons with a landed value of \$29 million. The food fishery took another 7,000 tons worth \$0.9 million. Spawn deposition was 17.0 million standard square yards, well above the 7-year average of 11.6 million. Historic catch and spawn deposition records are referenced.

Key words: Pacific herring, fishery, catch, spawn.

RÉSUMÉ

Webb, L. A., and A. S. Hourston. 1979. Review of the 1976-77 British Columbia herring fishery and spawn abundance. Fish. Mar. Serv. Industry Rep. 110: 47 p.

En 1976-1977, les prises de hareng oeuvé ont totalisé 81,000 tonnes, ce qui représente une valeur au débarquement de 29 millions de dollars. Pour ce qui est des captures destinées à l'utilisation du poisson lui-même, elles se sont montées à 7,000 tonnes, soit une valeur de 0.9 million de dollars. Les dépôts d'oeufs couvraient 17 millions de verges carrées normales, dépassant donc de loin la moyenne des 7 dernières années établie à 11.6 millions. Le rapport présente des données antérieures sur des prise et les dépôts d'oeufs, étayées par des références.

Mots clés: hareng du Pacifique, pêche, prise, oeufs.

INTRODUCTION

Prior to each fishing season, the Pacific Herring Committee (a body charged with the management of all British Columbia herring stocks) proposes catch limits for each major herring stock. The proposals are then reviewed by representatives of the fishing industry before the establishment of final management guidelines. In advance of each major roe fishery, when the fish are near the spawning grounds, test fishing is carried out to verify stock size and age compositions. Acoustic biomass estimates are made by Patrol and chartered vessels. Catch limits may be adjusted on the basis of these pre-fishery and other observations early in the fishery.

After it appears safe to proceed with proposed fishing patterns, it is then necessary to determine when the herring roe will be mature enough to meet market demands. Ideally, at least ten percent of the total catch weight should be roe of sufficient quality to satisfy markets. Once these requirements are met, the fishery is opened. It is the Fishery Officer's job to ensure that stocks are not over-exploited.

Unlike the salmon fishery, it is not possible to count the numbers of herring on spawning grounds to determine fishery escapement. In order to measure escapements in the herring fishery, Fishery Officers determine the actual area covered by herring spawn. The following report tables all depositions recorded in 1977 and summarizes depositions by statistical area (Figs. 1 and 2) back to 1970.

SURVEY METHODS

The data base for the fishery portion of the current report is extracted from Fishery Officers' daily radio-telephone reports to Field Operations Headquarters in Vancouver. The reports contain pre-fishery test data, fishery gear counts, opening and closure times, catch estimates hailed on the grounds (Table 1), and weather reports. Another valuable source of data is in the written accounts submitted by some district Fishery Officers describing each fishery. The official landed catch figures (Tables 2 and 3) are compiled from fishing company sales slips, obtained by the Economics and Special Industry Services Directorate. Since sales slip catches are reported primarily by statistical area and not by actual fishing location or Management Unit, (geographically "close" fishing and spawning locations) the narrative on the various fisheries uses both "hailed" and "landed" catch data.

In the section "The amount of herring spawn deposited in 1977" all data are processed by computer from annual field reports as submitted by District Officers to Vancouver Headquarters. The data are recorded by officers who measure the length and width of each deposition. Since most spawnings occur in the intertidal and upper subtidal zone, the deeper extent

Figure 1 Northern Statistical Areas

DEPARTMENT OF THE ENVIRONMENT FISHERIES OPERATIONS

STATISTICAL MAP

SHOWING AREAS OF CATCH FOR
BRITISH COLUMBIA WATERS
(NORTHERN HALF)

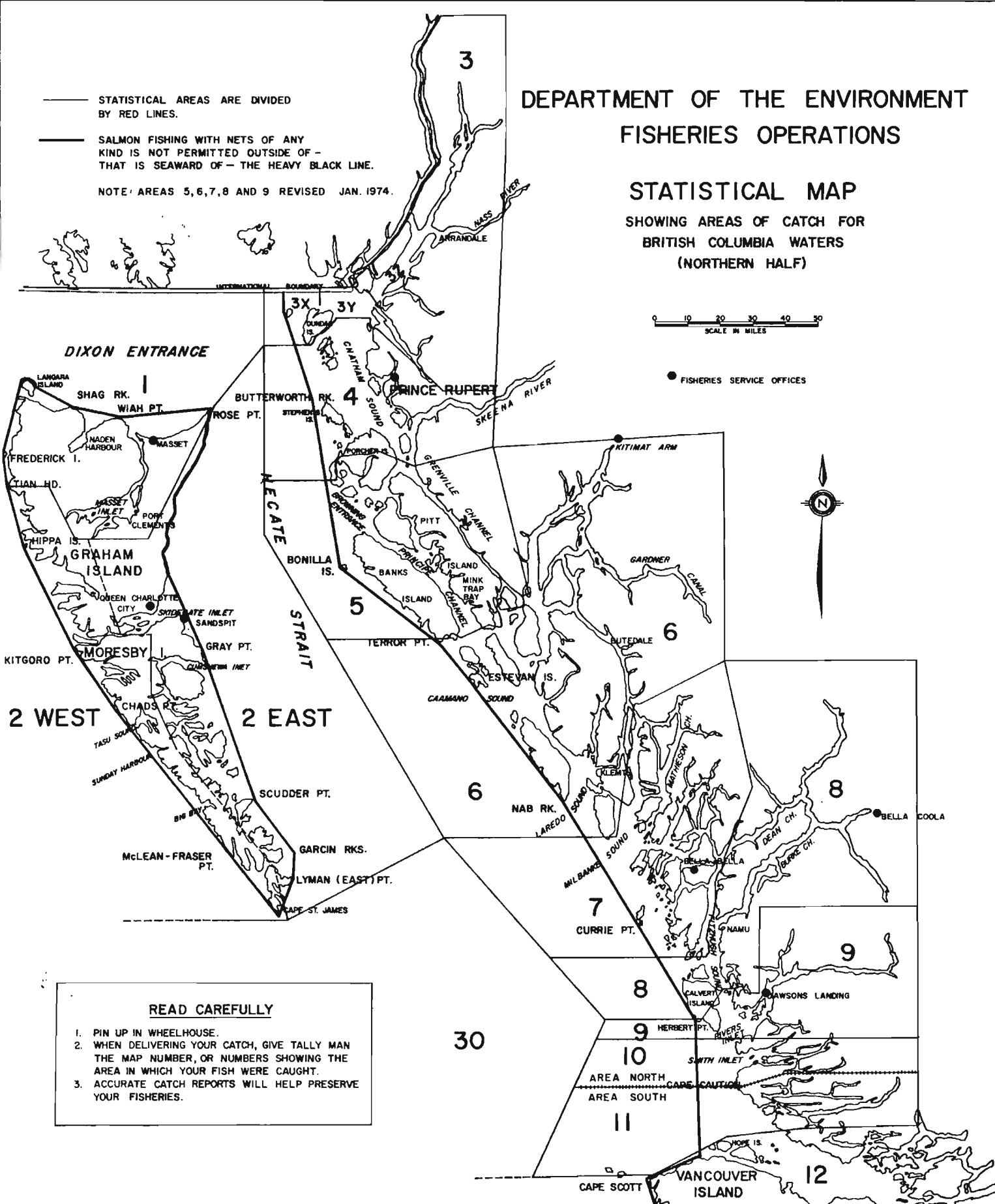
— STATISTICAL AREAS ARE DIVIDED BY RED LINES.

— SALMON FISHING WITH NETS OF ANY KIND IS NOT PERMITTED OUTSIDE OF — THAT IS SEAWARD OF — THE HEAVY BLACK LINE.

NOTE: AREAS 5, 6, 7, 8 AND 9 REVISED JAN. 1974.



● FISHERIES SERVICE OFFICES



READ CAREFULLY

1. PIN UP IN WHEELHOUSE.
2. WHEN DELIVERING YOUR CATCH, GIVE TALLY MAN THE MAP NUMBER, OR NUMBERS SHOWING THE AREA IN WHICH YOUR FISH WERE CAUGHT.
3. ACCURATE CATCH REPORTS WILL HELP PRESERVE YOUR FISHERIES.

READ CAREFULLY

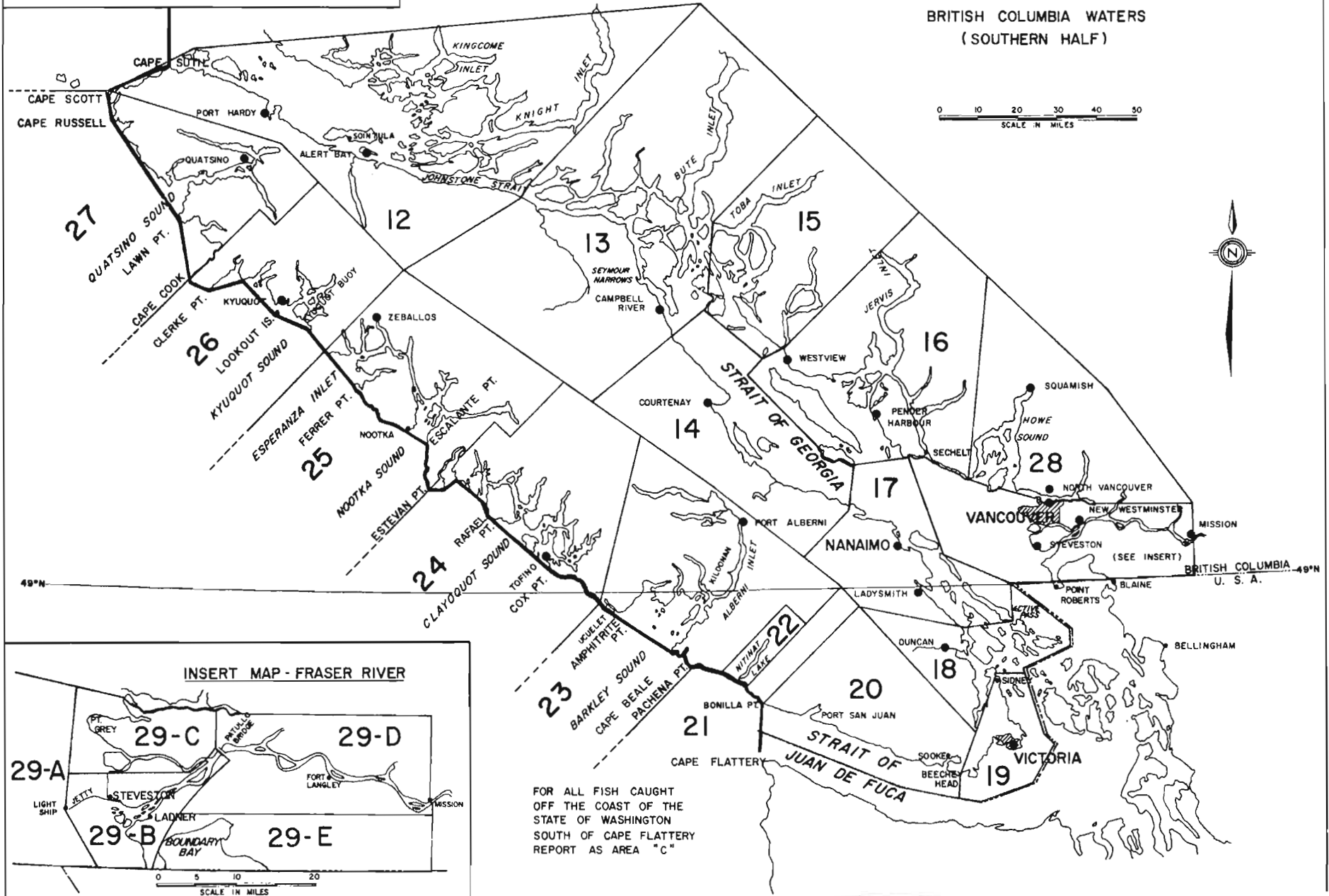
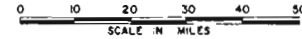
1. PIN UP IN WHEELHOUSE.
2. WHEN DELIVERING YOUR CATCH, GIVE TALLY MAN THE MAP NUMBER, OR NUMBERS SHOWING THE AREA IN WHICH YOUR FISH WERE CAUGHT.
3. ACCURATE CATCH REPORTS WILL HELP PRESERVE YOUR FISHERIES.
4. FOR COMPLETE DETAILS, CONSULT BRITISH COLUMBIA FISHERIES REGULATIONS.

- STATISTICAL AREAS ARE DIVIDED BY RED LINES
- SALMON FISHING WITH NETS OF ANY KIND IS NOT PERMITTED OUTSIDE OF - THAT IS SEAWARD OF - THE HEAVY BLACK LINE.
- FISHERIES SERVICES OFFICES

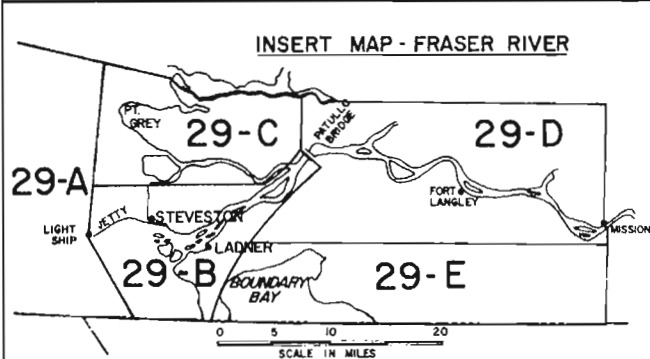
DEPARTMENT OF THE ENVIRONMENT
FISHERIES SERVICE

STATISTICAL MAP

SHOWING AREAS OF CATCH FOR
BRITISH COLUMBIA WATERS
(SOUTHERN HALF)



INSERT MAP - FRASER RIVER



FOR ALL FISH CAUGHT
OFF THE COAST OF THE
STATE OF WASHINGTON
SOUTH OF CAPE FLATTERY
REPORT AS AREA "C"

of depositions has to be ascertained by dragging a hook apparatus to determine if herring eggs are on deep water vegetation such as algae. By plotting such deep drag sample sites on large scale charts, estimates of deposition width are obtained.

The "Miles of Spawn" index, used from the 1930's to 1976 has been under review for several years. Because deposition widths were not included in calculations (unless depositions were over 100 yards wide) and the intensity weighting system was inadequate (light spawnings were overweighted and heavy spawnings underweighted), the "Miles of Spawn" index is now replaced by a new index.

Department of Fisheries researchers have supplied Fishery Officers with a methodology that more accurately weights herring spawn depositions according to their intensity. This new methodology utilizes widths of spawning patches and coupled with the new intensity scale, generates the index "Square Yards at a Standard Intensity of Medium". Due to the large numbers involved, the term used will be KSY² (Thousands of Square Yards at Medium Intensity). The method of calculation is: Multiply the length x width x the weighting factor (Table 4) and divide by 1,000, i.e., a deposition of 600 yards x 15 yards at medium-heavy intensity would be $600 \times 15 \times 1.40 \div 1,000 = 12.60 \text{ KSY}^2$.

THE 1976-77 BRITISH COLUMBIA FOOD AND BAIT FISHERY

About 7,000 tons of herring were caught in the 1976-77 food and bait fisheries (Table 2) with a landed value to fishermen of approximately \$875,000. Catches and landed values were up from the 6,071 tons and \$720,000 landed value of the 1975-76 fishery. A small portion of the 1976-77 food catch was exported to Europe, but the majority of the catch was to supply markets in Japan.

As in 1975-76, Canadian fishermen and fishing companies fished locations close to processing plants to minimize cost and maximize product freshness. The Lower East Coast Sub-District (Areas 17, 18, and 19; Fig. 2), with about 4,962 tons hauled from November to the end of January was by far the most productive district. Some of the more prominent fishing locations in the Lower East Coast were Plumper Sound, Navy Channel, Trincomali Channel, Satellite Channel and Pylades Channel.

While plenty of fish were available to fishermen throughout the November-January period, many small fish in the catches and some spilling of fish by fishermen prompted fishery managers to close the district in mid-January. After companies agreed not to spill fish, the area was re-opened and during this last week of fishing (January 23-28), 4,250 tons were landed.

While fish size requirements appeared to be slightly different from one buyer to the next, generally, fish not less than 120 grams in weight and over 20 centimetres in standard length were demanded.

The next largest food fishery occurred in the Northern Herring Sub-District (Areas 3, 4, and 5), where an estimated 827 tons of herring were caught. Most of these fish were caught in January and favoured fishing locations were Dundas Island, Freeman Pass, Ede Pass and Dunira Island. Catching small fish did not seem to be a problem in this district.

In the Middle East Coast Sub-District (Areas 13, 14, 15, and 16), the 578 ton fishery in January took place almost entirely in Deepwater Bay and Granite Bay. However, both locations were closed due to small fish in the catches and most of the vessels left to fish in the Lower East Coast.

Aside from these three major fisheries, food and bait fisheries in the Queen Charlotte Islands, West Coast Vancouver Island, Upper East Coast and the Central Coast collectively accounted for only about 454 landed tons from July, 1976 to February, 1977. An additional estimated 150 to 200 tons were caught in all areas between May 1, 1976 to July, 1976 for food or bait purposes.

THE 1977 HERRING ROE FISHERY

In early February, guidelines for the upcoming herring roe fishery given to the fishing industry detailed entry and licencing requirements, proposed fishing patterns and catch quotas for each herring sub-district. The quotas were determined by availability of herring stocks and previously determined market demands for our roe product. The Pacific Herring Committee indicated in the guidelines that proposed catches would be as follows:

Herring Divisions	Catch in tons	Sub-districts included
Queen Charlotte Islands	14,000	Queen Charlotte Islands
North Coast	4,000	Northern
Central Coast	13,000	Upper and Lower Central
Johnstone Strait	2,000	Upper East Coast
Gulf of Georgia	10,000	Middle and Lower East Coast
West Coast of Vancouver Island	37,000	Lower and Upper West Coast
Total	80,000	

It was indicated in the guidelines that if stocks returned at a higher level than predicted, up to 85,000 tons might be taken, keeping in mind that fishing would not exceed safe levels of exploitation. As in 1976, an attempt would be made to manage the fishery to provide 35% of the total allowable catch to the gillnetters and 65% to the seiners. The following is a resume of the fishery by sub-district.

The 1977 British Columbia herring roe fishery took place almost entirely in the month of March. Major stocks in southern British Columbia matured slightly later than normal and those in northern British Columbia appeared to be ready a little early, hence, in 1977 there was a very compressed herring roe season compared to 1976.

Fishermen landed 80,872 tons of roe herring in 1977, having a landed value to fishermen of over 29 million dollars. This is comparable to the 86,835 tons worth 22 million dollars in 1976 and 58,728 tons in 1975 worth 12.5 million dollars.

QUEEN CHARLOTTE ISLANDS (AREAS 1 AND 2)

Sales slip landings (Table 3) indicate a total catch of 14,179 tons in the Queen Charlotte Islands with the gillnetters landing 1,674 tons and the seiners 12,505 tons. In Area 2, major fisheries took place in Louscoone and Skincuttle Inlets.

The first seine fishery to open in this district was Louscoone Inlet. After being opened at noon on March 16 for four hours to the 65 seiners present, Fishery Officers recorded a hailed catch of 2,275 tons. A second opening on March 20 for one and one-half hours saw 27 seiners taking an additional hailed catch of 1,250 tons. Roe yields as determined on the fishing grounds ranged between 11.5% to 14%.

Gillnetters hailed 1,650 tons from Bag Harbour and Jedway Bay in Skincuttle Inlet. A peak of 46 skiffs participated. This fishery lasted a full fishing week, March 20 at 1400 hours to March 25 at 1400 hours. Roe tests in the field from this gillnet fishery ranged from 12%-14%. A seine opening in Skincuttle Inlet on March 20 at 1400 hours was closed very quickly when Officers saw low (5%-8%) roe yield in tests. Only 150 tons of fish were hailed during this brief opening, even though about 102 seiners were present. On March 24 at 0600 hours, the fishery was re-opened since test sets showed yields in the order of 11%-13%. About 138 seiners were present for this eight hour fishery and when completed, hailed catches totalled 9,021 tons. Houston Inlet was a major fishing location in Area 2 in 1977.

NORTH COAST (AREAS 3, 4, AND 5)

Total landings in the Northern Herring Sub-District roe fishery were 7,328 tons. Gillnets landed 1,634 tons and seines 5,694 tons. In Area 3, test fishing early on Tuesday, March 29 indicated sufficient stocks with maturities in the order of 13%. Approximately 170 seiners were on hand for a short 15 minute opening at 0845 hours on March 29. While only about 60 boats were able to set, because of the congestion, the fishery had a hailed catch of about 4,062 tons. This fishery took place in Stumaun Bay in the Port Simpson region. The Area 3 and 4 gillnet fishery opened at 1550 hours on Sunday, March 27 and closed at 1800 hours on March 29. Hails of about 650 tons were noted from the Port Simpson region and 248 tons from Big Bay. This opening coincided with an Area 5 (Kitkatla) gillnet opening, where gear counts ranged from 30 to 150 skiffs. In Area 5, test fishing on March 27 indicated roe yields ranging from 12% to 15% and sufficient stocks to warrant the short 15 minute seine opening at 1550 hours. Although some 160 seiners were in the area, only 45-50 sets were made due to strong winds and a heavy congestion of vessels off Serpentine Inlet and near Snass Point. Officers attempted to delay this fishery opening until Area 3 stocks ripened but were forced to open due to the ripeness of the fish in pre-fishery test sets. The Area 5 gillnet fishery commenced on March 27 at 1550 hours and closed on March 28 at noon. The 150 gillnetters favoured fishing in the Serpentine Inlet location and hails indicated a catch of about 725 tons.

UPPER CENTRAL (AREA 6)

Landed figures from sales slips indicate a total of 873 tons caught with gillnetters landing 809 tons. Hailed data, on the other hand, indicate a total of 1,308 tons caught, with 958 tons to gillnets and 350 tons to seines.

The gillnet fishery in the Upper Central opened on Sunday, March 20 at 1400 hours. Areas 7 and 8 were opening at this time after a weekend closure but Areas 6, 9, and 10 opened for the first time on this date. Estimated peaks of 22 seiners and 60 gillnet skiffs operated in the Laredo Sound region and the fishery centred in the Kitasu Bay area. Area 6 was closed with 958 tons hailed for gillnets, along with Areas 7 and 8. A short seine opening on March 20 in Kitasu Bay saw 22 seiners hail 350 tons.

LOWER CENTRAL (AREAS 7, 8, 9, AND 10)

The Central Herring Sub-District recorded a total landed catch of 11,083 tons of roe herring, 6,853 from gillnetters and 4,230 tons from seiners. Landed data indicate that almost all of the catch came from Statistical Area 7 with a total of 10,861 tons landed.

In Area 7, the first fishery opened for gillnets on Sunday, March 6 at 1400 hours. The 75 gillnetters, fishing mostly around Boddy Pass, Thompson Bay and Stryker Bay, hailed around 330 tons in the first week. Despite opening one week earlier than anticipated, Officers noted roe yields ranging

between 10% and 13% on opening day. In the second week of operation, numbers of gillnetters peaked at close to 150 units and by the end of the week hailed catches for the area totalled slightly over 2,000 tons for the two week's fishing. In the third week of fishing (ending March 25), prominent gillnet fishing locations were Cape Mark, Powell Anchorage, Reid Passage and Boddy Pass. Cape Mark, with hailed catches of almost 3,000 tons, was by far the best location with up to 170 skiffs operating the last few days before a closure on Friday, March 25. A significant reason for the large amount of gear was the news of the good fishing drawing fishermen from other locations. The Boddy Pass location closed on March 23 at 1400 hours and Thompson Bay and Waskesiu Pass closed on March 21 at 1100 hours. After these closures, many of the 90 skiffs moved to Cape Mark.

Two seine fishery openings in Area 7 produced a total hailed catch of around 4,893 tons, 2,483 tons of which came from Thompson Bay on March 20 (82 seiners - 3 1/2 hours) and 2,410 tons from Kildidt Sound on March 24 (75 seiners - 4 1/2 hours). The roe yields from these seine fisheries were considered very good at around 13% recovery.

Though opened at the same time as Area 7, Areas 8, 9, and 10 attracted few fishermen. No gillnet or seine hailed catches are noted in Areas 8 or 10. Area 9 had a total of 29 tons of gillnet fish hailed from the head of Rivers Inlet from a peak of 16 skiffs counted on March 22.

UPPER EAST COAST (AREAS 11 AND 12)

The landed catch in the Upper East Coast Sub-District totalled only 68 tons by gillnetters in 1977. No fisheries took place in Statistical Area 11 in 1977. In Statistical Area 12, the proposed first opening date of February 27 was postponed when insufficient stocks were found to warrant a fishery. On Sunday, March 13, at 1400 hours, Wakeman Sound, Kingcome Inlet and the head of Knight Inlet were opened for gillnets only. On March 15, only 6 skiffs were observed in the vicinity of Wakeman Sound. The total catch to date was 10 tons with a roe yield of about 14%. By Monday, March 21, 13 skiffs in Wakeman Sound and 25 skiffs at the head of Knight Inlet were not catching any fish. On March 23, the entire area opened with exception of Fife Sound, Lamer Pass, Retreat Pass, Hardy Bay, Beaver Harbour, Misty Pass, Arrow Pass, Monday Anchorage and Beware Pass. Statistical Area 12 did not re-open after the weekend closure on Friday, March 25 at 1400 hours. By this time only 46 tons total had been hailed by the gillnets.

MIDDLE EAST COAST (AREAS 13, 14, 15, AND 16)

Sales slip data indicate a 1977 catch of 11,842 tons of herring in the Middle East Coast herring Sub-District. Landings of 7,570 tons by gillnet and 4,272 tons by seine in Area 14 accounted for the total tonnage in this sub-district as no openings were made in Areas 13, 15, and 16.

The gillnet fishery in Area 14 opened on March 7 at 1400 hours with a peak of about 325 skiffs counted. The gillnet activity centred in Northwest Bay, French Creek and adjacent to the Big Qualicum River. Officers closed Northwest Bay on March 15 for conservation of local spawning stocks but left the other portions of Area 14 open until 1400 hours Thursday, March 17. By then, hailed gillnet catches had fulfilled the Gulf of Georgia 10,000 ton catch limit. As early as March 3, good roe yields 10%-15% were obtained by test fishing in some locations in Area 14. Throughout this two week fishery, excellent roe yields of around 13% were noted.

The first seine fishery in Area 14 occurred in the Comox-Qualicum region from French Creek to Deep Bay on March 9 from 1400 hours to March 11 at 1400 hours after tests indicated around 10% roe yields. Gear counts on the opening showed only 5 seiners and 3 packers present since the West Coast Vancouver Island fishery had attracted most of the gear.

On Sunday, March 13 at 1400 hours, 110 seiners and 42 packers were present for a short 4 hour opening in which hailed figures were in the order of 4,000 - 6,000 tons. Roe yields of around 8%-10% were reported by processing companies from Area 14.

LOWER EAST COAST (AREAS 17, 18, AND 19)

A total of 881 tons of herring was landed from this sub-district in 1977. A gillnet fishery in Nanoose Bay between 1400 hours, March 9 and 1400 hours on March 15 took only 120 tons. Better fishing in Area 14 prompted many fishermen to move so that only 35 of the original 88 skiffs remained in Nanoose Bay until the March 15 closure. In Area 18, landings of 761 tons were comparable to catches of 831 tons and 726 tons caught in 1975 and 1976 respectively. Fishing commenced on February 27 with about 75 skiffs in the Ganges-Long Harbour region. By March 2, only 81 tons had been hailed despite an increase in gear to 81 skiffs. By the week's end a total of 330 tons had been hailed. The fishery was closed on March 15 at 1400 hours.

No seine fisheries took place in Areas 17 or 18 in 1977.

LOWER WEST COAST VANCOUVER ISLAND (AREAS 23 AND 24)

Landed figures in the Lower West Coast totalled 30,555 tons with 10,768 tons taken by gillnets and 19,787 tons by seines.

Anticipated first opening dates (February 27 for gillnets and March 1 for seines) were delayed when test fishing by two chartered seiners indicated that abundance and maturity stages of stocks in Areas 23 and 24 were not adequate to commence fishing operations.

In Area 23, gillnet fishing opened on March 7 at 0800 hours and continued through until March 9 at 1400 hours. Some 450 skiffs were present for the opening but fishing began slowly due to very poor weather conditions (near storm force winds). The fleet was centered around the Stopper Islands but large numbers of skiffs stretched from Maggie River to Dutch Harbour.

Because of stormy conditions, officers realized that hailed data was going to be difficult to collect. Immediately prior to the closure a rough estimate of 5,000 tons was made. However, shortly after the closure, when weather conditions improved, a more detailed survey made by officers changed the hailed figures to around 3,800 tons. Most of the catch had in fact been made just prior to the closure on March 9. Landed figures from sales slips showed 3,246 tons caught.

The Area 23 seine fishery commenced on March 10 at 0800 hours and lasted 2 1/2 hours (one two hour opening with a half-hour extension). Favourable weather conditions continued throughout the fishery. Although 30,000-50,000 tons of fish were reported in the area, the fleet was directed away from the Mayne Bay-Macoah Passage area because of immature fish in this region. A catch of about 14,850 tons was hailed by seiners.

A combination of packers (90 present), brine barges and trucks with totes were used to transport the product to plants in the lower mainland. Roe recoveries (12%-13%) were very high from both gillnet and seine fisheries in this area.

In Area 24, gillnetting commenced on Tuesday, March 1 at 1800 hours in Hesquiat Harbour. Then, on Sunday, March 6 at 1400 hours, the balance of Area 24 was opened. Until Wednesday, March 9 very poor weather hampered gillnets in exposed areas such as Hesquiat Harbour. Consequently, only about 100 skiffs were in the area for the opening, with concentrations in Hesquiat Harbour, Steamer Cove, White Pine Cove, Bawden Bay and Hecate Bay - Yellow Bank. Very poor fishing was noted in all locations with exception of Bawden Bay and White Pine Cove. After the closure of Area 23 on March 9, many skiffs from there began arriving in Area 24. By the end of the week about 280 skiffs were counted. Approximately 2,000 tons were hailed by gillnets up to the March 11 weekend closure. When the fishery was re-opened on Sunday, March 13 at 1400 hours, most of the fleet had moved to the Bawden Bay-White Pine Cove and Hecate Bay-Elbow Bank locations. By Wednesday, at 1800 hours, when the fishery was closed, heavy concentrations of gear were noted on the east side of Vargas Island where fishermen enjoyed excellent fishing. Roe yields were in the order of 11%-13% for this entire fishery.

The seine fishery in Area 24 commenced on March 10 at 0800 hours with 42 seiners present. On Friday, March 11, Sydney and Shelter Inlets were closed at 1000 hours for conservation of local stocks while the remainder of Area 24 was left open until 1400 hours, Friday, March 11. About 7,000 tons were hailed by this time, mostly from Sydney and Shelter Inlets with some from around Bawden Bay. Two additional 3-hour seine openings on Sunday, March 13 at 1430 hours and on Monday, March 14 at 0900 hours took place in Area 24 with a total of about 1,000 tons hailed. These openings were restricted to the lower portion of Area 24.

UPPER WEST COAST OF VANCOUVER ISLAND (AREAS 25, 26, AND 27)

Landed data show 4,063 tons total catch in the Upper West Coast of Vancouver Island with seines accounting for 751 tons and gillnets for 3,312 tons.

Gillnet fishing began on Sunday, March 6 at 1400 hours in Areas 25, 26, and 27. While openings and closures were the same as those in Area 24, initial notices to fishermen detailed 48 hour opening. However, extensions were required to attain catch limits. Except for a closure inside Nootka Sound, all locations were open to gillnet fishing. In Area 25, approximately 46 skiffs were counted as early as February 26 in anticipation of an opening on February 27. In spite of some spawnings in Port Langford, a lack of mature stocks did not warrant an opening earlier than March 6. When the area opened, 70 skiffs were present in the vicinity of Rosa Harbour, Nuchatlitz and Port Langford. Extreme weather prevailed for most of this fishing week but excellent roe yields ranging between 12%-14% were noted by Officers on March 10. By March 11, 750 tons of catch were hailed. The low catch was a result of poor weather restricting fishing to sheltered fishing locations. The fishery re-opened on March 13 and by March 16 at 1800 hours, the hailed catch of some 84 skiffs had risen to a total of about 3,300 tons with roe yields as high as 15%.

Area 25 had one small seine fishery in which 885 tons were hailed (751 tons landed). Some 56 seiners fished outside Nootka Sound from 0400 hours to 2100 hours on March 15 on what were believed to be Bajo Reef stocks.

In Area 26, no seine fisheries took place but a small gillnet fishery near Kyuquot netted around 120 tons (hailed catch) for the peak number of 20 gillnetters present.

THE AMOUNT OF HERRING SPAWN DEPOSITED IN 1977

In 1977, a total of 16,966,500 standard square yards of herring spawn was deposited on the British Columbia shoreline (Table 5). With exception of 1976 (17.4 million standard square yards) the 1977 deposition was the largest since 1970. Between 1970 and 1976 the average amount deposited was 11.6 million standard square yards. In 1977, the Middle East Coast (6.3 million square yards) and Lower East Coast (4.6 million square yards) sub-districts had, by far, the most spawn. The Queen Charlotte Island, Lower Central, Lower East Coast, and Northern sub-districts followed with 1.2, 1.2, 1.1, and 1.1 million standard square yards respectively.

Timing of herring spawnings (Table 6) shows traces of spawn beginning in the first week in February with continued spawning until the third week of June. However, about 78% of all recorded depositions were recorded during March. The location, date and size of individual spawnings is given in Table 7.

SUMMARY

1. In the 1976-77 herring season, approximately 7,000 tons were landed for food purposes. That fishery was worth about \$875,000.00 landed value to the fishermen. The largest food herring fishery occurred in the Lower East Coast sub-district with almost 5,000 tons caught between November, 1976 and January, 1977. The Northern and Middle East Coast sub-districts provided catches of about 800 tons and 600 tons respectively.
2. In 1977, herring roe landings of approximately 81,000 tons were worth an estimated \$29 million dollars landed value to the fishermen. The West Coast of Vancouver Island had the largest catch of all the divisions in 1977 with over 43% (34,883 tons) of the total catch. The Queen Charlotte Islands, with 14,179 tons landed, the Middle East Coast 11,842 tons and the Lower Central with 11,083 tons provided 18%, 15%, and 14% respectively of the total 1977 roe fishery catch. Catches in both the Northern (7,328 tons landed) and the Middle East Coast sub-districts (11,842 tons) were larger in 1977 than in 1975 or 1976.
3. Some 244 licenced seines landed about 58% (47,303 tons) of the herring roe catch and almost all the food herring. Some 1,330 licenced gillnetters landed about 42% (33,564 tons) of the herring roe catch.
4. A total of 16,966,500 standard square yards of herring spawn was deposited on the British Columbia coast in 1977. This compares favourably with the 7-year average (1970-76) of 11.6 million standard square yards. Approximately 78% of all recorded spawning occurred in the month of March. All sub-districts had good spawnings in 1977.

Table 1. The herring roe fishery hailed tonnages (estimated by Fishery Officers during the fishery) by sub-district, statistical area management unit, and gear type.

Sub-District	Statistical Area	Section or Management Unit	Gear		M.U. Totals	Sub-District Totals
			Gillnet	Seine		
<u>Queen Charlottes</u>						
	1		-	-	-	
	2 west	Louscoone In. (012)	-	3,525	3,525	
		Inskio Ch. (013)	-	-	-	
		Rennel Snd. (014)	-	-	-	
	2 east	Cumshewa (022)	-	-	-	
		Skincuttle In. (023)	1,650	9,171	10,821	
		Skidegate (024)	-	-	-	
			1,650	12,695		14,346
<u>Northern</u>						
	3	Port Simpson (033)	431	4,062	4,493	
	4	Big Bay (043)	476	-	476	
		Digby Is. (044)	-	-	-	
		N. Porcher Is. (045)	-	-	-	
	5	Kitkatla (053)	725	1,297	2,022	
			1,632	5,359		6,991
<u>Upper Central</u>						
	6	Laredo Snd. (064)	958	350	1,308	
			958	350		1,308
<u>Lower Central</u>						
	7	Thompson Bay (073)	4,716	2,483	7,199	
		Kildidt Snd. (074)	63	2,410	2,473	
		Other Outside (071)	1,597	-	1,597	
	8	Kwakshua Ch. (083)	-	-	-	
		Burke Ch. (084)	-	-	-	
		Other Outside (081)	-	-	-	
	9	Mouth Rivers In. (092)	-	-	-	
		Head Rivers In. (093)	29	-	29	
		Other Rivers In. (091)	-	-	-	
	10	Takush Hbr. (102)	-	-	-	
			6,405	4,893		11,298
<u>Upper East Coast</u>						
	11		-	-	-	
	12	Knight In. (124)	-	-	-	
		Kingcome In. (125)	46	-	46	
		Upper Johnstone St. (122)	-	-	-	
		Other 12 Mainland (123)	-	-	-	
		Queen Charlotte St. (121)	-	-	-	
			46	-	46	46
<u>Middle East Coast</u>						
	13	Bute Inlet (133)	-	-	-	
		Other 13 Gulf (134)	-	-	-	
		Kanish Bay (135)	-	-	-	
		Heriot Bay (136)	-	-	-	
	14	Comox-Qualicum (140)	7,103	4,000	11,103	
	15	Toha Inlet (150)	-	-	-	
	16	Jervis Inlet (160)	-	-	-	
			7,103	4,000	11,103	11,103
<u>Lower East Coast</u>						
	17	Nanoose Bay (173)	120	-	120	
	18	Ganges-Long Hbr. (182)	781	-	781	
			901	-	901	901
<u>Lower West Coast</u>						
	23	Barkley Snd. (W) (232)	3,800	14,850	18,650	
	24	Other Clayoquot Snd. (241)	3,100	900	4,000	
		Sidney In. (242)	50	7,000	7,050	
		Hesquiat Hbr. (243)	150	-	150	
		Hecate Bay (244)	3,000	100	3,100	
			10,100	22,850	32,950	32,950
<u>Upper West Coast</u>						
	25	McKay Pass (253)	-	-	-	
		Other Nootka (251)	-	885	885	
		Esperanza (252)	3,300	-	3,300	
	26	Kyuquot Snd. (261)	120	-	120	
	27	Quatsino Snd. (272)	-	-	-	
			3,420	885	4,305	4,305
						83,248
					ALL	83,248

Table 2. The 1976-77 herring food and bait landings (in tons) by sub-district, statistical area, and month.

Sub-district	Area	TONS LANDED								Totals
		1976				1977				
		July	August	September	October	November	December	January	February	
Queen Charlotte Islands	1	--	--	--	--	--	--	6	--	6
	2	68	6	13	--	--	--	2	--	89
		68	6	13	--	--	--	8	--	95
Northern	3	--	--	--	--	--	40	43	--	83
	4	--	--	--	--	--	115	456	--	571
	5	--	--	--	--	114	59	--	--	173
		--	--	--	--	114	214	499	--	827
Upper Central	6	--	--	--	--	--	--	353	--	353
		--	--	--	--	--	--	353	--	353
Lower Central	7	--	--	--	--	--	--	--	--	--
	8	--	--	--	--	--	--	--	--	--
	9	--	--	--	--	--	--	--	--	--
	10	--	--	--	--	--	--	--	--	--
Upper East Coast	11	--	--	--	--	--	--	--	--	--
	12	6	--	--	--	--	--	--	--	6
		6	--	--	--	--	--	--	--	6
Middle East Coast	13	--	--	--	1	--	--	538	--	539
	14	--	--	--	--	--	--	--	--	--
	15	--	--	--	--	--	--	--	--	--
	16	10	--	8	--	--	--	8	13	39
		10	--	8	1	--	--	546	13	578
Lower East Coast	17	--	--	--	--	148	360	170	--	678
	18	--	--	--	--	12	429	3,833	1	4,275
	19	--	--	--	1	9	--	--	--	10
	20	--	--	--	--	--	--	--	--	--
		--	--	--	1	169	789	4,003	1	4,963
Lower West Coast	21	--	--	--	--	--	--	--	--	--
	22	--	--	--	--	--	--	--	--	--
	23	24	--	--	--	--	--	--	--	24
	24	--	--	--	--	--	--	--	--	--
		24	--	--	--	--	--	--	--	24
Upper West Coast	25	--	--	--	--	--	--	--	--	--
	26	--	--	--	--	--	--	--	--	--
	27	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
MONTHLY TOTALS		108	6	21	2	283	1,003	5,409	14	6,846

SOURCE: Environment Canada, Economics and Special Industry Services Branch (contains some preliminary data).

Table 3. Herring roe fishery landings (in tons) from 1975-1977 by sub-district, statistical area and gear type.

Sub-district	Area	TONS LANDED								
		1975			1976			1977		
		CN	SN	ALL	CN	SN	ALL	CN	SN	ALL
Queen Charlotte	1	--	--	---	18	--	18	--	--	---
	2	116	8,937	9,053	1,979	13,698	15,677	1,674	12,505	14,179
		116	8,937	9,053	1,997	13,698	15,695	1,674	12,505	14,179
Northern	3	--	--	---	67	1,362	1,429	298	3,562	3,860
	4	--	166	166	237	--	237	604	977	1,581
	5	12	1,699	1,711	--	2,460	2,460	732	1,155	1,887
		12	1,865	1,877	304	3,822	4,126	1,634	5,694	7,328
Upper Central	6	2,351	417	2,768	1,185	875	2,060	809	64	873
		2,351	417	2,768	1,185	875	2,060	809	64	873
Lower Central	7	3,539	1,447	4,986	5,618	5,580	11,198	6,807	4,230	11,037
	8	557	2,376	2,933	294	378	672	--	--	--
	9	107	--	107	308	--	308	42	--	42
	10	223	--	223	110	5	115	4	--	4
		4,426	3,823	8,249	6,330	5,963	12,293	6,853	4,230	11,083
Upper East Coast	11	7	--	7	3	--	3	--	--	---
	12	756	643	1,399	446	1,314	1,760	68	--	68
		763	643	1,406	449	1,314	1,763	68	--	68
Middle East Coast	13	--	367	367	--	166	166	--	--	---
	14	285	--	285	4,638	21	4,659	7,570	4,272	11,842
	15	49	--	49	65	--	65	--	--	---
	16	254	237	491	1	--	1	--	--	---
		588	605	1,193	4,704	187	4,891	7,570	4,272	11,842
Lower East Coast	17	4,475	242	4,717	2,258	--	2,258	120	--	120
	18	831	1	832	726	--	726	761	--	761
	19	--	--	---	--	--	---	--	--	---
	20	--	--	---	--	--	---	--	--	---
		5,306	243	5,549	2,984	--	2,984	881	--	881
Lower West Coast	21	--	--	---	--	--	---	--	--	---
	22	--	--	---	--	--	---	--	--	---
	23	3,161	6,077	9,238	9,789	8,886	18,675	3,246	12,307	15,553
	24	4,287	6,824	11,111	5,736	12,528	18,264	7,522	7,480	15,002
		7,448	12,901	20,349	15,525	21,414	36,939	10,768	19,787	30,555
Upper West Coast	25	1,584	6,694	8,278	2,141	3,794	5,935	3,204	751	3,955
	26	5	--	5	63	--	63	108	--	108
	27	1	--	1	86	--	86	--	--	---
		1,590	6,694	8,284	2,290	3,794	6,084	3,312	751	4,063
ALL DISTRICTS		22,600	36,128	58,728	35,768	51,067	86,835	33,569	47,303	80,872

SOURCE: Environment Canada, Economics and Special Industry Services Branch (contains some preliminary data from company sales slips).

Table 4. Herring spawn intensity categories and weighting factors used to calculate square yards of spawn at medium intensity.

	NO. EGGS PER LINEAL INCH OF EELGRASS OR JAPWEED	NO. EGGS PER SQUARE INCH OF KELP, ROCK- WEED OR SEA LETTUCE	NO. EGGS / SQUARE YARD	WEIGHTING FACTOR
1. <i>Very light</i>	1-25	1-50	41,914	.05
2. <i>Very light-light</i>			152,683	.20
3. <i>Light</i>	25-100	50-200	352,242	.40
4. <i>Light-medium</i>			556,187	.65
5. <i>Medium</i>	100-250	200-500	843,259	.00
6. <i>Medium-heavy</i>			1,184,776	1.40
7. <i>Heavy</i>	250-500	500-1000	1,579,407	1.90
8. <i>Heavy-very heavy</i>			2,026,052	2.40
9. <i>Very heavy</i>	500 up	1000 up	2,523,780	3.00

Source: Personal communication with researchers A.S. Hourston and R.D. Humphreys, Research and Resource Services, Pacific Biological Station, Nanaimo.

Table 5. The amount of herring spawn (square yards at a standard intensity of medium) deposited in the coastal waters of British Columbia from 1970-1977 by herring sub-district and statistical area.

Area	Spawning Years							
	1970	1971	1972	1973	1974	1975	1976	1977
Queen Charlotte Islands								
1	0.1	-	-	-	598.3	66.4	372.1	503.3
2E	1745.2	1337.0	995.3	392.7	375.7	427.9	527.4	569.4
2W	<u>96.2</u>	<u>137.0</u>	<u>220.6</u>	<u>272.4</u>	<u>332.4</u>	<u>390.6</u>	<u>319.3</u>	<u>148.0</u>
	1841.5	1474.0	1215.9	665.1	1306.4	884.9	1218.8	1220.7
Northern								
3	240.2	367.0	100.2	167.8	116.0	4.6	47.4	55.5
4	246.7	143.9	625.9	1167.7	106.0	753.1	1354.4	328.3
5	<u>582.6</u>	<u>215.3</u>	<u>154.6</u>	<u>225.2</u>	<u>517.1</u>	<u>578.5</u>	<u>524.9</u>	<u>672.0</u>
	1069.5	726.2	880.7	1560.7	739.1	1336.2	1926.7	1055.8
Upper Central								
6	<u>1017.9</u>	<u>64.5</u>	<u>111.1</u>	<u>492.3</u>	<u>116.1</u>	<u>252.8</u>	<u>148.9</u>	<u>118.8</u>
	1017.9	64.5	111.1	492.3	116.1	252.8	148.9	118.8
Lower Central								
7	350.6	145.8	100.0	560.6	332.8	492.2	572.0	843.8
8	330.2	274.2	251.2	337.0	204.1	298.7	369.7	256.0
9	445.1	75.4	43.5	344.8	85.2	207.7	81.2	94.4
10	<u>65.4</u>	<u>155.3</u>	<u>18.2</u>	<u>34.5</u>	<u>21.3</u>	<u>20.8</u>	<u>19.5</u>	<u>7.2</u>
	1191.3	650.7	412.9	1276.9	643.4	1019.4	1042.4	1201.4
Upper East Coast								
11	9.8	18.5	5.9	1.8	1.0	4.6	7.3	3.7
12	<u>608.4</u>	<u>391.4</u>	<u>636.8</u>	<u>1286.5</u>	<u>1092.1</u>	<u>1594.9</u>	<u>749.4</u>	<u>536.2</u>
	618.2	409.9	642.7	1288.3	1093.1	1599.5	756.7	539.9
Middle East Coast								
13	87.5	216.8	184.9	47.7	104.5	262.3	103.2	85.6
14	-	1081.3	82.0	56.7	368.5	1746.4	3621.1	4678.9
15	124.9	206.0	270.4	466.9	229.6	419.8	1049.8	1485.7
16	<u>569.0</u>	<u>235.7</u>	<u>122.1</u>	<u>122.3</u>	<u>10.2</u>	<u>88.6</u>	<u>15.4</u>	<u>15.5</u>
	781.4	1739.8	659.4	693.6	712.8	2517.1	4789.5	6265.7
Lower East Coast								
17	872.2	1326.3	257.2	1168.3	2895.5	1749.4	2397.7	1054.7
18	389.2	295.3	250.5	226.5	422.6	948.0	49.8	71.1
19	-	-	0.2	-	0.4	-	-	-
20	<u>0.1</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
	1261.5	1621.6	507.9	1394.8	3318.5	2697.4	2447.5	1125.8
Lower West Coast								
22	-	0.2	-	-	-	-	-	-
23	829.8	825.5	707.2	404.8	908.9	779.8	2411.6	3246.6
24	<u>341.8</u>	<u>1103.8</u>	<u>1578.0</u>	<u>77.0</u>	<u>1662.4</u>	<u>2317.8</u>	<u>2188.1</u>	<u>1350.3</u>
	1171.6	1929.5	2285.2	481.8	2571.3	3097.6	4599.7	4596.9
Upper West Coast								
25	263.8	346.2	1349.1	1586.7	604.3	1373.9	366.2	755.5
26	87.0	187.8	313.4	186.0	77.7	66.0	30.8	7.0
27	<u>74.2</u>	<u>16.8</u>	<u>16.3</u>	<u>83.3</u>	<u>-</u>	<u>299.7</u>	<u>31.4</u>	<u>48.9</u>
	425.0	550.8	1678.8	1856.0	682.0	1739.6	428.4	811.4
Southern Mainland								
28	2.6	60.1	-	-	12.0	-	-	-
29	<u>31.0</u>	<u>237.5</u>	<u>45.0</u>	<u>15.2</u>	<u>52.5</u>	<u>320.0</u>	<u>69.3</u>	<u>30.0</u>
	33.6	297.6	45.0	15.2	64.5	320.0	69.3	30.0
All Sub-Districts	9411.8	9464.5	8439.9	9724.8	11247.2	15464.5	17428.1	16966.5

Table 6. Timing of 1977 spawn depositions by statistical area.

AREA CODE	HEHRING SPAWN TIMING SUMMARY FOR 1977 (PERCENT OF DEPOSITION)																														TOTAL SPAWN STD IN 1000'S								
	JAN					FEB					MAR					APR					MAY					JUN													
	WK 1	WK 2	WK 3	WK 4	WK 5	WK 1	WK 2	WK 3	WK 4	WK 5	WK 1	WK 2	WK 3	WK 4	WK 5	WK 1	WK 2	WK 3	WK 4	WK 5	WK 1	WK 2	WK 3	WK 4	WK 5	WK 1	WK 2	WK 3	WK 4	WK 5		WK 1	WK 2	WK 3	WK 4	WK 5			
AREA U1						2	1		T		88	5		5																						503.3			
AREA U2E														6	19	32			3	8	6	3			20							T					569.4		
AREA U2W											1	T	12	12		72																					148.0		
AREA U3														84											15												55.5		
AREA U4														90		3	1		T					T	T				3							328.3			
AREA U5														T		T	T	13	78	7				T							T					672.0			
AREA U6											T	29	4	31		1	T	32																			118.8		
AREA U7											1	2	7	5		83	1																				843.8		
AREA U8											4					46											36	T	11								256.0		
AREA U9											59	16	23				T																				94.4		
AREA 10																									53	1	45								7.2				
NORTHERN B C TOTAL AREAS 1-10						T	T		T		12	2	1	4	16	31	T	4	15	2	T	T	3	T		2	T	T								3596.7			
AREA 11														31	2	66																					3.7		
AREA 12														1	49	24	10	13																				536.2	
AREA 13														11	3	T	25	1	58																		85.6		
AREA 14											6	18	42	28		T		2						1												4678.9			
AREA 15														100																							1485.7		
AREA 16											T	57				43																					15.5		
AREA 17											T	69	10	T	T																						1054.7		
AREA 18														T	14	23	50	T	4	T	7															71.1			
AREA 23														58	35	4	2																					3246.6	
AREA 24											2	85	11																								1350.3		
AREA 25														81		16	T				1															755.5			
AREA 26														53		46																					7.0		
AREA 27											4	7				8	13	66																			48.9		
AREA 29														33		67																					30.0		
SOUTHERN B C TOTAL AREAS 11-29											T	4		2	37	39	12	T	1	T	1			T															13369.8
TOTAL B C						T	1	T	3		4	30	31	10	3	7	T	1	3	T	T	T	T	T		T	T	T								16966.5			

Table 7. The location, date and size of individuals herring spawnings by statistical area in 1977.

Spawning ground	Date spawned		Length Yds.	Width Yds.	Inten- sity	Std. Sq. Yds. (1000's)
	Start	End				
Area: 1, North Coast Q.C.I.						
Alexandra Narrows	02/01		450	20	3	3.60
Alexandra Narrows	02/01		200	20	3	1.60
Alexandra Narrows	02/07		250	20	3	2.00
Alexandra Narrows	02/07		450	20	3	3.60
Alexandra Narrows	02/11		1500	20	1	1.50
Alexandra Narrows	02/11		100	10	3	.40
Alexandra Narrows	02/11		400	20	3	3.20
Tee Island	02/11		200	10	1	.10
Naden Harbour	02/22		200	100	1	1.00
Naden Harbour	02/22		300	10	1	.15
Naden Harbour	03/01		225	15	5	3.37
Naden Harbour	03/01		800	100	1	4.00
Naden Harbour	03/02		700	100	3	28.00
Naden Harbour	03/02		275	15	5	4.12
Naden Harbour	03/02		1900	150	3	144.00
Naden Harbour	03/05		600	600	3	144.00
Naden Harbur	03/05		900	400	3	114.00
Naden Harbour	03/05		500	10	1	.25
Naden Harbour	03/10		400	200	1	4.00
Naden Harbour	03/11		1000	25	3	10.00
Naden Harbour	03/11		200	20	1	.20
Naden Harbour	03/11		300	15	3	1.80
Naden Harbour	03/11		400	15	3	2.40
Naden Harbour	03/23		1000	25	3	10.00
Naden Harbour	03/24		800	50	3	16.00
Area Total			14050			503.30
Area: 2E, East Coast Q.C.I.						
Bag Harbour	03/24		800	5	3	1.60
Jedway	03/28	03/31	5200	10	4	33.80
Burnaby Island	03/29		3200	5	5	16.00
Huxley Island	03/31		1400	5	3	2.80
Burnaby Island	03/31		1200	7	7	15.96
Burnaby Island	03/31		3700	5	3	7.40
George Bay	03/31		4000	10	6	56.00
Tangle Cove	03/31		1200	10	5	12.00
Conglomerate Point	04/01		100	10	3	.40
Burnaby Island	04/01	04/02	5400	15	3	32.40
Burnaby Island	04/01		1800	20	4	23.40
Burnaby Island	04/01	04/02	1800	5	3	3.60
Burnaby Island	04/01	04/02	1000	10	5	10.00

Table 7 (cont'd)

Spawning ground	Date spawned		Length Yds.	Width Yds.	Inten- sity	Std. Sq. Yds. (1000's)
	Start	End				
Area: 2E, East Coast Q.C.I. (cont'd)						
Renner Point	04/02		2600	15	5	39.00
Renner Point	04/02		4600	10	5	46.00
Kingfisher Cove	04/03		1200	5	3	2.40
Conglomerate Point	04/05	04/07	900	10	7	17.10
Conglomerate Point	04/05	04/07	1500	5	1	.37
Conglomerate Point	04/05	04/07	1100	5	1	.27
Kingfisher Cove	04/05		2000	10	3	8.00
Davey Islets	04/18		1000	50	3	20.00
Skidegate Inlet	04/22		300	10	3	1.20
Skidegate Inlet	04/22		300	10	3	1.20
Beattie Anchorage	04/27	04/28	1000	10	5	10.00
Beattie Anchorage	04/28		4300	8	5	34.40
Skidegate Inlet	04/29		2400	40	3	38.40
Skidegate Inlet	05/02		1100	10	3	4.40
Skidegate Inlet	05/03		1400	10	5	14.00
Barge Point	05/18		2000	10	7	38.00
Barge Point	05/18		800	20	3	6.40
Barge Point	05/18		900	10	1	.45
Davey Islets	05/18		1000	50	1	2.50
Alliford Bay	05/20		1000	15	7	28.50
Alliford Bay	05/20		900	10	5	9.00
Maude Island	05/20		2000	15	5	30.00
Shingle Bay	06/21		200	30	3	2.40
Area Total			65300			569.36
Area: 2W, West Coast Q.C.I.						
Louscoone Inlet	03/10		500	4	3	.80
Louscoone Inlet	03/14		1000	4	3	1.60
Louscoone Inlet	03/21		400	5	3	.80
Louscoone Inlet	03/26		500	4	1	.10
Louscoone Inlet	03/27		1500	5	3	3.00
Louscoone Inlet	03/28		1600	6	5	9.60
Louscoone Inlet	03/28	03/29	1000	5	3	2.00
Louscoone Inlet	03/28	03/29	1200	3	3	1.44
Louscoone Inlet	03/28		1500	4	3	2.40
Louscoone Inlet	03/29	03/30	300	2	1	.03
Louscoone Inlet	03/29	03/30	800	3	3	.96
Louscoone Inlet	03/29	03/30	300	5	5	1.50
Louscoone Inlet	03/29	03/30	800	20	5	16.00
Louscoone Inlet	03/30		450	3	3	.54
Flamingo Inlet	04/02	04/03	200	5	1	.05

Table 7 (cont'd)

Spawning ground	Date spawned		Length Yds.	Width Yds.	Inten- sity	Std. Sq. Yds. (1000's)
	Start	End				
Area 2W, West Coast Q.C.I. (cont'd)						
Flamingo Inlet	04/02	04/03	500	8	1	.20
Port Louis	04/04	04/05	250	8	1	.10
Port Louis	04/04	04/05	1200	4	1	.24
Port Louis	04/04	04/05	300	6	1	.09
Inskip Channel	04/05	04/06	4700	12	5	56.40
Inskip Channel	04/05	04/06	1300	15	5	19.50
Inskip Channel	04/05	04/06	100	20	5	2.00
Inskip Channel	04/05	04/06	250	30	5	7.50
Inskip Channel	04/05	04/06	1500	10	5	15.00
Shields Bay	04/05	04/06	1000	3	3	1.20
Shields Bay	04/05	04/06	250	10	4	1.62
Clapp Basine	04/05	04/06	900	3	1	.13
Downie Island	04/07	04/08	1200	12	1	.72
Seal Inlet	04/07	04/08	100	5	3	.20
Seal Inlet	04/07	04/08	150	8	3	.48
Seal Inlet	04/07	04/08	800	5	3	1.60
Seal Inlet	04/07	04/08	100	6	3	.24
Area Total			26650			148.05
Area: 3, Nass						
Stumaun Bay	03/31	04/01	500	30	3	6.00
Stumaun Bay	03/31	04/01	400	10	3	1.60
Stumaun Bay	03/31	04/01	3000	10	1	1.50
Stumaun Bay	03/31	04/01	300	15	3	1.80
Stumaun Bay	03/31	04/01	600	300	2	36.00
Finlayson Island-East	05/17	05/18	500	40	2	4.00
Finlayson Island-East	05/17	05/18	300	30	1	.45
Finlayson Island-East	05/17	05/18	600	30	2	3.60
Finlayson Island-East	05/17	05/18	300	40	1	.60
Area Total			6500			55.55
Area: 4, Skeena						
Pearl Harbour	03/30		80	30	2	.48
Pearl Harbour	03/30		30	10	3	.12
Pearl Harbour	03/30		20	5	3	.04
Pearl Harbour	03/30		20	15	2	.06
Pearl Harbour	03/30		100	30	2	.60
Pearl Harbour	03/30		300	50	2	3.00
Pearl Harbour	03/30		300	10	3	1.20

Table 7 (cont'd)

Spawning ground	Date spawned		Length Yds.	Width Yds.	Inten- sity	Std. Sq. Yds. (1000's)
	Start	End				
Area: 4, Skeena (cont'd)						
Big Bay	03/31		900	15	1	.67
Big Bay	03/31		2400	150	2	72.00
Burnt Cliff Island	03/31		400	50	4	13.00
Burnt Cliff Island	03/31		100	5	3	.20
Burnt Cliff Island	03/31		50	50	3	1.00
Burnt Cliff Island	03/31		10	5	3	.02
Burnt Cliff Island	03/31		300	15	2	.90
Burnt Cliff Island	03/31		300	25	3	3.00
Burnt Cliff Island	03/31		300	50	3	6.00
South Island	03/31		1200	400	3	192.00
South Island	03/31		100	20	3	.80
South Island	03/31		100	5	3	.20
Big Bay	04/01		600	30	2	3.60
Big Bay	04/01		400	100	2	8.00
Big Bay	04/09	04/11	1200	20	1	1.20
Big Bay	04/09	04/11	800	30	1	1.20
Big Bay	04/09	04/11	1000	30	1	1.50
Simpson Point	04/09	04/11	600	30	1	.90
Simpson Point	04/09	04/11	300	5	1	.07
Finlayson Island-West	04/23	04/24	30	5	2	.03
Finlayson Island-West	04/23	04/24	100	30	1	.15
Finlayson Island-West	04/23	04/24	100	10	1	.05
Finlayson Island-West	04/23	04/24	50	10	1	.02
Finlayson Island-West	04/23	04/24	100	15	1	.07
Finlayson Island-West	04/23	04/24	30	30	2	.18
Finlayson Island-West	04/23	04/24	100	20	1	.10
Finlayson Island-West	04/23	04/24	75	30	2	.45
Finlayson Island-West	05/17	05/18	100	30	2	.60
Finlayson Island-West	05/17	05/18	200	50	2	2.00
Ada Island	05/27		75	5	2	.07
Ada Island	05/27		50	5	1	.01
Kelp Passage	06/03		150	75	1	.56
Kelp Passage	06/03		80	2	2	.03
Kelp Passage	06/03		100	2	2	.04
Kelp Passage	06/03		150	100	3	6.00
Kelp Passage	06/03		400	20	3	3.20
Kelp Passage	06/03		175	2	2	.07
Kelp Passage	06/03		250	2	2	.10
Tugwell Island	06/05		100	50	3	2.00
Tugwell Island	06/05		150	25	2	.75
Area Total			14475			328.27

Table 7 (cont'd)

Spawning ground	Date spawned		Length Yds.	Width Yds.	Inten- sity	Std. Sq. Yds. (1000's)
	Start	End				
Area: 5, Grenville-Principe						
Dries Inlet	03/28		25	25	3	.25
Wilcox Group	04/03		20	10	1	.01
Porcher Peninsula	04/13		20	10	1	.01
Wilcox Group	04/13		30	10	1	.01
Gurd Island	04/17		100	5	3	.20
Porcher Peninsula	04/20		200	10	3	.80
Porcher Peninsula	04/20		200	20	3	1.60
Serpentine Inlet	04/20		300	30	3	3.60
Serpentine Inlet	04/20		150	20	2	.60
Billy Islands	04/20		400	10	3	1.60
Billy Islands	04/20		250	15	3	1.50
Billy Islands	04/20		600	20	3	4.80
Billy Islands	04/20		200	10	3	.80
Clamshell Island	04/21		450	250	4	73.12
Clamshell Island	04/21		200	25	3	2.00
Ness Islands	04/22	04/23	3000	65	5	195.00
Gurd Island	04/22		500	5	3	1.00
Gurd Island	04/22		400	250	7	190.00
Gurd Island	04/22		500	30	3	6.00
Gurd Island	04/22		500	10	3	2.00
Ness Islands	04/23		300	20	5	6.00
Gurd Island	04/23		750	20	3	6.00
Gurd Island	04/23		1000	20	5	20.00
Billy Bay	04/23		1300	10	3	5.20
Billy Islands	04/24		125	75	3	3.75
Billy Islands	04/24		250	10	4	1.62
Billy Islands	04/24		250	10	4	1.62
Gurd Island	04/24		2000	20	4	26.00
Wilcox Group	04/24		150	20	4	1.95
Wilcox Group	04/24		100	10	3	.40
Billy Bay	04/24		70	20	3	.56
Billy Bay	04/24		65	15	3	.39
Porcher Peninsula	04/25		200	20	5	4.00
Billy Islands	04/25		750	10	3	3.00
Billy Islands	04/25		450	5	4	1.46
Billy Islands	04/25		450	10	4	2.92
Billy Islands	04/25		1450	10	4	9.42
Billy Islands	04/25		400	10	3	1.60
Gurd Island	04/25		450	20	5	9.00
Gurd Island	04/25		850	20	6	23.80
Gurd Island	04/25		150	20	4	1.95
Gasboat Passage	04/29		400	200	4	52.00
Indian Harbour	05/18		1500	3	4	2.92
Indian Harbour	05/18		100	6	5	.60

Table 7 (cont'd)

Spawning ground	Date spawned		Length Yds.	Width Yds.	Inten- sity	Std. Sq. Yds. (1000's)
	Start	End				
Area: 5, Grenville-Principe (cont'd)						
Penninsula Point	06/08		30	2	5	.06
Penninsula Point	06/08		1000	1	4	.65
Curtis Inlet	06/12		70	3	4	.14
Curtis Inlet	06/12		70	2	4	.09
Area Total			22725			672.03
Area: 6, Butedale						
Wathl Creek	03/10	03/12	1400	10	1	.70
Kitimat Mission	03/10	03/12	200	10	1	.10
Parsons Anchorage	03/17	03/20	600	30	3	7.20
Parsons Anchorage	03/18	03/20	2500	10	3	10.00
Kitasu Bay	03/18	03/20	1750	5	2	1.75
Marvin Islands	03/18	03/21	700	30	3	8.40
Wilby Point	03/18	03/21	4600	8	2	7.36
Weeteeam Bay	03/25	03/27	900	5	3	1.80
Weeteeam Bay	03/25	03/27	3000	3	2	1.80
Weeteeam Bay	03/25	03/27	1000	4	3	1.60
Weeteeam Bay	03/29	03/31	3750	10	5	37.50
Higgins Passage	04/06	04/08	600	10	2	1.20
Khutze Inlet	04/11		250	3	4	.49
Meyers Passage	04/15	04/16	665	6	6	5.59
Meyers Passage	04/15	04/16	2335	3	6	9.81
Meyers Passage	04/15	04/16	1500	5	6	10.50
Meyers Passage	04/15	04/16	1165	8	6	13.05
Area Total			26915			118.84
Area: 7, Bella Bella						
Watt Bay	03/13	03/15	150	10	3	.60
Spitfire Island	03/13	03/15	1500	10	3	6.00
Watt Bay	03/14	03/15	400	10	3	1.60
Spitfire Island	03/14	03/15	100	5	3	.20
Spitfire Island	03/15	03/16	120	10	1	.06
Nalau Passage	03/18		100	5	3	.20
Reid Passage	03/19	03/21	1000	5	4	3.25
Reid Passage	03/19	03/21	1500	15	4	14.62
Spider Anchorage	03/21		100	5	1	.02
Cape Mark	03/25		100	50	4	3.25
Cape Mark	03/25		1000	5	4	3.25

Table 7 (cont'd)

Spawning ground	Date spawned		Length Yds.	Width Yds.	Inten- sity	Std. Sq. Yds. (1000's)
	Start	End				
Area: 7, Bella Bella (cont'd)						
Cape Mark	03/25		150	10	5	1.50
Cape Mark	03/25		200	10	3	.80
Thompson Bay (Head)	03/26		100	2	1	.01
Stryker Island	03/27	03/28	200	3	3	.24
Kakushdish Hbr.	03/28		1800	5	3	3.60
Princess Alice Island	03/28	03/31	250	4	3	.40
Princess Alice Island	03/28	03/31	15	10	5	.15
Princess Alice Island	03/28	03/31	100	1	1	.00
Princess Alice Island	03/28	03/31	150	2	3	.12
Princess Alice Island	03/28	03/31	250	100	7	47.50
Stewart Inlet	03/28	03/29	150	5	1	.04
Cape Mark	03/29		500	10	3	2.00
Cape Mark	03/29		400	10	3	1.60
Cape Mark	03/29		550	10	3	2.20
Houghton Islands	03/29	04/01	180	60	3	4.32
Cultus Sound	03/30	03/31	300	7	4	1.36
Kinsman Inlet	03/30	03/31	500	8	5	4.00
Thompson Bay (Head)	03/30	04/01	200	4	3	.32
Thompson Bay (Head)	03/30	04/01	100	3	3	.12
Cultus Sound	03/31	04/01	50	5	3	.10
McNaughton Group	03/31	04/01	150	5	3	.30
Princess Alice Island	03/31	04/01	200	2	3	.16
Princess Alice Island	03/31	04/01	100	3	3	.12
Princess Alice Island	03/31	04/02	200	20	5	4.00
Princess Alice Island	03/31	04/01	150	5	7	1.42
Princess Alice Island	03/31	04/01	170	3	5	.51
Princess Alice Island	03/31	04/02	225	20	7	8.55
Princess Alice Island	03/31	04/02	150	3	1	.02
Princess Alice Island	03/31	04/01	150	4	5	.60
Princess Alice Island	03/31	04/02	300	5	5	1.50
Princess Alice Island	03/31	04/01	250	2	5	.50
Princess Alice Island	03/31	04/01	250	3	7	1.42
Princess Alice Island	03/31	04/01	300	2	3	.24
Princess Alice Island	03/31	04/01	25	4	7	.19
Cape Mark	03/31		100	5	3	.20
Cape Mark	03/31		100	10	3	.40
Houghton Islands	03/31	04/01	250	8	3	.80
Houghton Islands	03/31	04/01	100	50	7	9.50
Cultus Sound	04/01	04/02	50	5	5	.25
McNaughton Group	04/01	04/02	100	20	5	2.00
Stryker Island	04/01	04/03	600	5	3	1.20
Stryker Island	04/01	04/03	150	2	1	.01
Stryker Island	04/01	04/03	500	4	3	.80
Stryker Island	04/01	04/03	300	5	3	.60

Table 7 (cont'd)

Spawning ground	Date spawned		Length Yds.	Width Yds.	Inten- sity	Std. Sq. Yds. (1000's)
	Start	End				
Area: 7, Bella Bella (cont'd)						
Stryker Island	04/01	04/03	300	15	7	8.55
Stryker Island	04/01	04/03	400	2	1	.04
Stryker Island	04/01	04/03	70	15	5	1.05
Stryker Island	04/01	04/03	350	10	3	1.40
Stryker Island	04/01	04/03	100	20	7	3.80
Stryker Island	04/01	04/03	400	3	5	1.20
Houghton Islands	04/01	04/04	200	50	3	4.00
Houghton Islands	04/01		15	8	3	.05
Houghton Islands	04/01	04/02	200	4	3	.32
Houghton Islands	04/01	04/02	75	4	5	.30
Houghton Islands	04/01	04/02	150	50	5	7.50
Stewart Inlet	04/01		150	5	1	.04
Cultus Sound	04/02	04/03	50	10	3	.20
Cecilia Island	04/02		200	10	5	2.00
Reid Passage	04/02		1100	10	5	11.00
Reid Passage	04/02		800	10	5	8.00
Houghton Islands	04/02	04/04	150	10	3	.60
Houghton Islands	04/02	04/04	100	4	5	.40
Spider Island	04/02	04/04	320	25	5	8.00
Spider Island	04/02	04/04	100	70	7	13.30
Spider Island	04/02	04/05	210	30	7	11.97
Spider Island	04/02	04/03	50	20	5	1.00
Spider Island	04/02	04/04	110	10	5	1.10
Spider Island	04/02	04/04	275	10	5	2.75
Spider Island	04/02	04/04	75	8	5	.60
Spider Island	04/02	04/05	80	20	5	1.60
Spider Anchorage	04/02	04/05	500	30	5	15.00
Spider Anchorage	04/02	04/05	165	15	5	2.47
Spider Anchorage	04/02	04/03	250	100	3	10.00
Spider Anchorage	04/02	04/04	175	5	5	.88
Triquet Island	04/02	04/04	300	15	5	4.50
Triquet Island	04/02	04/04	1800	25	3	18.00
Triquet Island	04/02	04/04	150	30	3	1.80
Spitfire Island	04/02	04/04	100	100	5	10.00
Spitfire Island	04/02	04/03	50	10	5	.50
Spider Island	04/03	04/04	1000	70	5	70.00
Spider Island	04/03	04/04	500	50	5	25.00
Spider Island	04/03	04/04	100	100	5	10.00
Spider Island	04/03	04/04	150	100	5	15.00
Spider Anchorage	04/03	04/04	250	10	5	2.50
Spider Anchorage	04/03	04/05	1000	20	5	20.00
Spider Anchorage	04/03	04/04	200	50	1	.50
Triquet Island	04/03		50	50	3	1.00
Tirquet Island	04/03	04/04	40	15	3	.24

Table 7 (cont'd)

Spawning ground	Date spawned		Length Yds.	Width Yds.	Inten- sity	Std. Sq. Yds. (1000's)
	Start	End				
Area: 7, Bella Bella (cont'd)						
Spitfire Island	04/03	04/04	50	20	3	.40
Spitfire Island	04/03		50	25	5	1.25
Klikstoatli Harbour	04/03	04/05	900	10	5	9.00
Cultus Sound	04/04	04/07	700	5	3	1.40
Cultus Sound	04/04	04/06	300	20	5	6.00
Cultus Sound	04/04	04/07	1800	5	3	3.60
Kinsman Inlet	04/04	04/05	250	10	5	2.50
Cecilia Island	04/04		200	15	6	4.20
Lambard Inlet	04/04		500	15	6	10.50
Lady Trutch Pass	04/04		2800	15	6	58.80
Lady Trutch Pass	04/04		2000	10	6	28.00
Lady Trutch Pass	04/04		800	10	6	11.20
Stryker Island	04/04	04/05	200	50	3	4.00
Stryker Island	04/04	04/05	100	12	3	.48
Stryker Island	04/04	04/06	200	75	5	15.00
Stryker Island	04/04	04/06	100	50	7	9.50
Princess Alice Island	04/04	04/05	500	4	3	.80
Princess Alice Island	04/04	04/05	100	50	5	5.00
Houghton Islands	04/04	04/08	400	6	3	.96
Houghton Islands	04/04		200	3	3	.24
Houghton Islands	04/04	04/08	200	8	3	1.60
Houghton Islands	04/04	04/08	150	40	7	11.40
Spider Island	04/04	04/07	85	5	5	.43
Spider Island	04/04	04/07	160	15	5	2.40
Spider Anchorage	04/04	04/06	90	15	3	.54
Spider Anchorage	04/04		35	10	3	.14
Spider Anchorage	04/04		50	5	5	.25
Spider Anchorage	04/04	04/05	125	10	3	.50
Spider Anchorage	04/04	04/05	175	5	3	.35
Spider Anchorage	04/04	04/05	65	8	3	.21
Spider Anchorage	04/04	04/05	200	10	5	2.00
Triquet Island	04/04		210	20	5	4.20
Triquet Island	04/04		65	15	3	.39
Cultus Sound	04/05	04/08	1200	20	5	24.00
Cultus Sound	04/05	04/07	175	60	5	10.50
Cultus Sound	04/05	04/08	650	5	5	3.25
Cultus Sound	04/05	04/08	550	10	5	5.50
McNaughton Group	04/05	04/07	200	7	5	1.40
McNaughton Group	04/05	04/06	50	10	3	.20
Houghton Islands	04/05		100	2	3	.08
Houghton Islands	04/05	04/08	100	50	7	9.50
Houghton Islands	04/05	04/08	300	6	3	.72
Spider Anchorage	04/05		110	5	5	.55
Spider Anchorage	04/05		50	5	3	.10
Spitfire Channel	04/05	04/08	320	20	7	12.16

Table 7 (cont'd)

Spawning ground	Date spawned		Length Yds.	Width Yds.	Inten- sity	Std. Sq. Yds. (1000's)
	Start	End				
Area: 7, Bella Bella (cont'd)						
Cultus Sound	04/06	04/07	200	10	3	.80
Cultus Sound	04/06	04/07	150	5	5	.75
Cultus Sound	04/06	04/07	200	2	3	.16
Cultus Sound	04/06	04/07	300	5	5	1.50
Cultus Sound	04/06	04/07	400	5	5	2.00
Cultus Sound	04/06	04/08	350	4	3	.56
Cultus Sound	04/06	04/08	350	10	5	3.50
Cultus Sound	04/06	04/08	1100	5	5	5.50
St John Harbour	04/06	04/09	800	3	4	1.56
McNaughton Group	04/06	04/07	100	20	3	.80
McNaughton Group	04/06	04/07	950	25	5	23.75
Waskesiu Pass	04/06	04/09	800	20	4	10.40
Cape Mark	04/06	04/08	300	2	4	.39
Manley Island	04/06	04/08	900	3	5	2.70
Spitfire Island	04/06	04/08	475	15	5	7.12
Louisa Cove	04/06	04/08	6000	5	4	19.50
Louisa Cove	04/06	04/09	1500	5	5	7.50
Edwards Point	04/06	04/09	2000	20	5	40.00
McNaughton Group	04/07		50	10	3	.20
Spitfire Island	04/07	04/09	210	5	5	1.05
Swordfish Bay	04/07	04/08	310	5	1	.08
Mustang Bay	04/14		800	5	4	2.60
Mustang Bay	04/14		1400	5	4	4.55
Mustang Bay	04/14		600	10	4	3.90
Target Bay	04/14		400	3	4	.78
Area Total			68105			843.76
Area: 8, Bella Coola						
North Bentinck Arm	03/04	03/09	610	20	1	.61
North Bentinck Arm	03/04	03/09	2230	3	1	.33
North Bentinck Arm	03/04	03/09	900	9	3	3.24
North Bentinck Arm	03/04	03/09	1215	2	4	1.58
North Bentinck Arm	03/04	03/09	2230	2	1	.22
North Bentinck Arm	03/04	03/09	610	20	3	4.88
North Bentinck Arm	03/04	03/09	50	2	1	.00
North Bentinck Arm	03/04	03/09	2025	3	2	1.21
North Bentinck Arm	03/04	03/09	1820	3	1	.27
North Bentinck Arm	03/04	03/09	1820	2	1	.18
Fitz Hugh Sound	04/03	04/10	500	2	3	.40
Fitz Hugh Sound	04/03	04/10	150	2	3	.12
Fitz Hugh Sound	04/03	04/10	100	2	3	.08
Fitz Hugh Sound	04/03	04/10	600	2	3	.48

Table 7 (cont'd)

Spawning ground	Date spawned		Length Yds.	Width Yds.	Inten- sity	Std. Sq. Yds. (1000's)
	Start	End				
Area: 8, Bella Coola (cont'd)						
Fitz Hugh Sound	04/03	04/10	1000	20	4	13.00
Fitz Hugh Sound	04/03	04/10	200	1	3	.08
Pruth Bay	04/03	04/06	200	20	5	4.00
Pruth Bay	04/03	04/06	300	3	4	.58
Pruth Bay	04/03	04/06	150	2	3	.12
Pruth Bay	04/03	04/06	150	150	3	9.00
Pruth Bay	04/03	04/06	200	4	3	.32
Pruth Bay	04/03	04/06	300	4	3	.48
Pruth Bay	04/03	04/06	200	200	3	16.00
Pruth Bay	04/03	04/06	200	150	3	12.00
Pruth Bay	04/03	04/06	150	2	4	.19
Keith Anchorage	04/03	04/06	150	50	4	4.87
Keith Anchorage	04/03	04/06	400	3	1	.06
Keith Anchorage	04/03	04/06	150	100	4	9.75
Keith Anchorage	04/03	04/06	100	10	3	.40
Keith Anchorage	04/03	04/10	200	4	3	.32
Kwakume Point	04/03	04/10	150	20	6	4.20
Kwakume Point	04/03	04/10	200	200	5	40.00
Kwakume Point	04/03	04/10	300	2	3	.24
Kwakume Point	04/03	04/06	150	2	3	.12
Kwakume Point	04/03	04/06	100	1	1	.00
Kwakume Point	04/03	04/06	50	30	4	.97
Kwakume Point	04/03	04/06	150	2	3	.12
Whidbey Point	04/03	03/10	150	5	3	.30
Whidbey Point	04/03	03/10	75	15	3	.45
Whidbey Point	04/03	03/10	100	20	1	.10
Illahie Inlet	04/06	04/10	150	5	3	.30
Burke Channel	06/05	06/09	7200	2	5	14.40
Burke Channel	06/05	06/09	3000	2	5	6.00
Burke Channel	06/05	06/10	4000	2	5	8.00
Burke Channel	06/07	06/09	800	3	5	2.40
Burke Channel	06/07	06/09	4000	3	6	16.80
Burke Channel	06/07	06/09	14080	3	4	27.46
Burke Channel	06/07	06/09	4000	3	5	12.00
Burke Channel	06/07	06/09	5500	2	4	7.15
Burke Channel	06/10	06/13	100	3	4	.19
Burke Channel	06/15	06/20	10000	3	5	30.00
Area Total			73165			256.02
Area: 9, Rivers Inlet						
Rivers Inlet-Head	03/10	03/12	5400	2	1	.54
Rivers Inlet-Head	03/10	03/12	1800	3	1	.27

Table 7 (cont'd)

Spawning ground	Date spawned		Length Yds.	Width Yds.	Inten- sity	Std. Sq. Yds. (1000's)
	Start	End				
Area: 9, Rivers Inlet (cont'd)						
Rivers Inlet-Head	03/10	03/12	150	60	1	.45
Rivers Inlet-Head	03/10	03/12	130	40	1	.26
Rivers Inlet-Head	03/10	03/12	4000	5	1	1.00
Rivers Inlet-Head	03/10	03/12	3300	5	3	6.60
Rivers Inlet-Head	03/10	03/12	3000	5	3	6.00
Rivers Inlet-Head	03/10	03/12	2000	2	3	1.60
Rivers Inlet-Head	03/10	03/12	800	3	5	2.40
Rivers Inlet-Head	03/10	03/12	1800	5	5	9.00
Rivers Inlet-Head	03/10	03/12	700	3	7	3.99
Rivers Inlet-Head	03/10	03/12	1000	4	1	.20
Rivers Inlet-Head	03/10	03/12	1000	3	5	3.00
Rivers Inlet-Head	03/10	03/12	300	3	7	1.71
Rivers Inlet-Head	03/10	03/12	7200	3	3	8.64
Rivers Inlet-Head	03/10	03/12	800	5	5	4.00
Kilbella Bay	03/10	03/12	2300	6	2	2.76
Shotbolt Bay	03/10	03/12	800	10	1	.40
Shotbolt Bay	03/10	03/12	400	3	7	2.28
Shotbolt Bay	03/10	03/12	1800	4	1	.36
Shotbolt Bay	03/10	03/12	600	16	1	.48
Kilbella Bay	03/24	03/27	1900	3	6	7.98
Kilbella Bay	03/24	03/27	3700	3	3	4.44
Kilbella Bay	03/24	03/27	600	4	5	2.40
Kilbella Bay	03/24	03/27	100	4	7	.76
Kilbella Bay	03/24	03/27	2200	2	1	.22
Sandell Bay	03/31	04/03	100	4	5	.40
Sandell Bay	03/31	04/03	200	3	4	.39
Sandell Bay	03/31	04/03	1400	2	3	1.12
Sandell Bay	03/31	04/03	100	6	7	1.14
Sandell Bay	03/31	04/03	500	2	5	1.00
Sandell Bay	03/31	04/03	400	80	3	12.80
Sandell Bay	03/31	04/03	500	5	5	2.50
Sandell Bay	03/31	04/03	600	3	1	.09
Sandell Bay	03/31	04/03	600	3	6	2.52
Draney Inlet	04/13		750	2	3	.60
Goose Bay	04/13		100	2	3	.08
Area Total			53030			94.38
Area: 10, Smith Inlet						
Indian Island	05/05	05/08	1150	2	3	.92
Indian Island	05/05	05/08	500	9	3	1.80
Indian Island	05/05	05/08	800	3	3	.96
Indian Island	05/05	05/08	1200	2	1	.12

Table 7 (cont'd)

Spawning ground	Date spawned		Length Yds.	Width Yds.	Inten- sity	Std. Sq. Yds. (1000's)
	Start	End				
Area: 10, Smith Inlet (cont'd)						
Smith Inlet (Head)	05/10	05/11	1200	2	1	.12
Smith Inlet (Head)	05/16	05/18	2250	3	3	2.70
Smith Inlet (Head)	05/16	05/18	550	2	1	.05
Smith Inlet (Head)	05/16	05/18	300	4	3	.48
Area Total			7950			7.15
Area: 11, Seymour-Belize						
Nugent Sound	03/15	03/18	1800	1	4	1.17
Nugent Sound	03/24		100	1	5	.10
Nugent Sound	04/05	04/07	3700	1	4	2.40
Nugent Sound	04/05		185	1	3	.07
Area Total			5785			3.75
Area: 12, Alert Bay						
Wakeman Sound	03/13		2000	5	5	10.00
Knight Inlet	03/21		3200	3	5	9.60
Knight Inlet	03/21		3000	200	3	240.00
Knight Inlet	03/21		4000	3	5	12.00
Knight Inlet	03/22		5000	4	7	38.00
Knight Inlet	03/24		2000	3	5	6.00
Bougey Bay	03/25		2000	20	5	40.00
Knight Inlet	03/25		2000	2	3	1.60
Knight Inlet	03/25		5000	3	3	6.00
Claydon Bay	03/26		500	20	5	10.00
Wakeman Sound	03/26		6200	5	5	31.00
Monday Anchorage	03/30		3000	10	7	57.00
Karlukwees	03/30		500	5	3	1.00
Wakeman Sound	04/01		12800	5	5	64.00
Keogh Shoals	04/04		2000	5	5	10.00
Area Total			53200			536.20
Area: 13, Quathiaski						
Bute Inlet	03/17	03/18	8170	3	3	9.80
Bute Inlet	03/26		2700	3	3	3.24
Hyacinthe Bay	03/30		200	5	1	.05
Hycinthe Bay	03/31		25	10	1	.01
Hyacinthe Bay	03/31		100	5	1	.02
Bute Inlet	04/01		200	3	3	.24

Table 7 (cont'd)

Spawning ground	Date spawned		Length Yds.	Width Yds.	Inten- sity	Std. Sq. Yds. (1000's)
	Start	End				
Area: 13, Quathiaski (cont'd)						
Hyacinthe Bay	04/02		700	10	3	2.80
Hyacinthe Bay	04/02		200	3	3	.24
Bute Inlet	04/03		1000	3	3	1.20
Bute Inlet	04/03		40	1	3	.02
Hyacinthe Bay	04/03	04/04	1600	7	5	11.20
Hyacinthe Bay	04/03	04/04	200	5	3	.40
Loughborough Inlet	04/04		300	2	3	.24
Hyacinthe Bay	04/04	04/05	70	70	4	3.18
Hyacinthe Bay	04/04		200	5	7	1.90
Deepwater Bay	04/09		300	4	5	1.20
Deepwater Bay	04/09		50	5	5	.25
Granite Bay	04/12		20	20	3	.16
Granite Bay	04/15	04/16	1000	7	5	7.00
Bells Bay	04/16	04/17	200	50	3	4.00
Bells Bay	04/16	04/17	1500	8	7	22.80
Kanish Bay	04/16	04/17	800	7	7	10.64
Granite Bay	04/18	04/19	150	3	5	.45
Granite Bay	04/18	04/19	450	10	5	4.50
Area Total			20175			85.55
Area: 14, Comox						
Union Bay	03/07	03/10	4000	60	5	240.00
Union Bay	03/07	03/10	800	60	6	67.20
Bowser	03/10		1500	60	5	90.00
Bowser	03/10		1200	65	5	78.00
Bowser	03/10		1800	30	1	2.70
Bowser	03/10		350	80	1	1.40
Big Qualicum River	03/10		300	30	5	9.00
Big Qualicum River	03/10		550	30	3	6.60
Big Qualicum River	03/10		275	30	7	15.67
Nile Creek	03/10		850	50	3	17.00
Nile Creek	03/10		550	50	3	11.00
Nile Creek	03/10		1100	55	1	3.02
Big Qualicum River	03/11		400	30	3	4.80
Big Qualicum River	03/11		900	55	7	94.05
Little Qualicum River	03/11		550	50	9	82.50
Little Qualicum River	03/11		650	75	7	92.62
Little Qualicum River	03/11		450	40	4	11.70
Northwest Bay	03/13	03/15	4000	500	1	100.00
Northwest Bay	03/13	03/15	300	50	7	28.50
Nuttal Bay	03/13	03/14	200	100	7	38.00
Big Qualicum River	03/14		900	75	5	67.50

Table 7 (cont'd)

Spawning ground	Date spawned		Length Yds.	Width Yds.	Inten- sity	Std. Sq. Yds. (1000's)
	Start	End				
Area: 14, Comox (cont'd)						
Little Qualicum River	03/14		1150	60	5	69.00
Downes Point	03/14		1500	30	5	45.00
Qualicum Beach	03/15	03/17	6000	30	5	180.00
Qualicum Beach	03/15	03/16	2000	45	6	126.00
French Creek	03/15	03/17	4000	200	6	1120.00
Parksville	03/16	03/17	2500	125	5	312.50
Big Qualicum River	03/17		575	80	7	87.40
Big Qualicum River	03/17		900	75	5	67.50
Big Qualicum River	03/17		900	25	1	1.12
Big Qualicum River	03/17		1000	40	3	16.00
Big Qualicum River	03/17		600	60	5	36.00
Little Qualicum River	03/17		850	35	5	29.75
Little Qualicum River	03/18		1000	50	1	2.50
Little Qualicum River	03/18		800	50	3	16.00
Deep Bay	03/22		700	80	3	22.40
Deep Bay	03/22		1500	100	4	97.50
Deep Bay	03/22		1700	75	3	51.00
Deep Bay	03/22		550	40	1	1.10
Lambert Channel	03/24		900	60	7	102.60
Lambert Channel	03/24		1100	55	5	60.50
Denman Island	03/24		1400	30	3	16.80
Denman Island	03/24		2800	50	5	140.00
Gartley Point	03/24		3700	75	5	277.50
Hart Creek	03/24		2800	60	5	168.00
Hart Creek	03/24		1000	75	5	75.00
Komas Bluff	03/24		1650	65	4	69.71
Komas Bluff	03/24		800	50	4	26.00
Komas Bluff	03/24		1300	30	5	39.00
Komas Bluff	03/24		625	75	7	89.06
Komas Bluff	03/24		600	75	8	108.00
Comox Harbour	04/02		900	20	1	.90
Hindoo Creek	04/20		1450	75	5	108.75
Comox Flats	04/08		1700	30	1	2.55
Union Bay	05/14		700	75	5	52.50
Area Total			73275			4678.92
Area: 15, Westview						
Scuttle Bay	03/15	03/16	600	200	5	120.00
Atrevida Reef	03/15	03/16	1000	600	7	1140.00
Atrevida Reef	03/15	03/16	1100	20	5	22.00
Atrevida Reef	03/15	03/16	1800	100	5	180.00
Dinner Rock	03/15	03/16	2500	6	4	9.75

Table 7 (cont'd)

Spawning ground	Date spawned		Length Yds.	Width Yds.	Inten- sity	Std. Sq. Yds. (1000's)
	Start	End				
Area: 15, Westview (cont'd)						
Savary Island	03/16	03/18	2000	100	1	10.00
Savary Island	03/16	03/18	1200	50	1	3.00
Hernando Island	03/16		1000	20	1	1.00
Area Total			11200			1485.75
Area: 16, Pender Harbour						
Garden Bay	03/03	03/04	100	1	1	.00
Deserted Bay	03/15	03/16	250	5	1	.06
Green Bay	03/17	03/23	350	15	6	7.35
Gerrans Bay	03/18		200	4	3	.32
Bargain Bay	03/20		150	15	3	.90
Bargain Bay	03/20		100	3	3	.12
Deserted Bay	03/21		200	5	1	.05
Porpoise Bay	04/07		500	10	1	.25
Deserted Bay	04/07		400	40	3	6.40
Area Total			2250			15.46
Area: 17, Nanaimo						
Dunsmuir Island	03/06		200	25	3	2.00
Degnew Bay	03/06		200	10	3	.80
Nanoose Bay-Head	03/09	03/14	1350	15	3	8.10
Gabriola Island South	03/10		500	20	3	4.00
Yellow Point	03/13		150	1	3	.06
Yellow Point	03/13		3200	1	1	.16
Cedar Ramp	03/13		1000	250	9	750.00
Boat Harbour	03/13		1100	1	3	.44
Boat Harbour	03/13		1200	1	1	.06
Boat Harbour	03/13		600	5	3	1.20
Boat Harbour	03/13		250	40	5	10.00
Gabriola Island South	03/13		500	30	5	15.00
Gabriola Island South	03/13		200	30	3	2.40
Dorcas Point	03/14		100	35	3	1.40
Nanoose Bay	03/14		1700	25	3	17.00
Nanoose Bay	03/14		1200	25	3	12.00
Nanoose Bay	03/14		600	25	3	6.00
Blunden Point	03/14		600	50	3	12.00
Blunden Point	03/14		2800	50	3	56.00
Blunden Point	03/14		900	25	3	9.00
Nanoose Bay-Head	03/14		2800	15	3	16.80
Icarus Point	03/14	03/18	1500	35	3	21.00

Table 7 (cont'd)

Spawning ground	Date spawned		Length Yds.	Width Yds.	Inten- sity	Std. Sq. Yds. (1000's)
	Start	End				
Area: 17, Nanaimo (cont'd)						
Icarus Point	03/15	03/18	1125	50	3	22.50
Icarus Point	03/18		1500	30	3	18.00
Icarus Point	03/18		1750	40	3	28.00
Icarus Point	03/18		2700	25	3	27.00
Departure Bay	03/21		300	20	3	2.40
Coffin Point	03/21		300	75	3	9.00
North Cove	03/25		900	30	1	1.35
Coffin Point	03/30		350	60	1	1.05
Area Total			31575			1054.72
Area: 18, Cowichan						
Lyall Harbour	02/18		135	10	1	.07
Selby Cove	02/22		100	4	1	.02
Ganges Harbour	02/23		250	10	1	.12
Annette Inlet	03/23		200	5	4	.65
Glenthorne Passage	02/23		150	10	1	.07
Glenthorne Passage	02/23		50	3	5	.15
Glenthorne Passage	02/23		100	3	4	.19
King Islets	02/23		50	15	1	.04
Glenthorne Passage	02/24		20	2	1	.00
Boot Cove	02/25		300	20	5	6.00
Glenthorne Passage	02/26		40	2	3	.03
Lyall Harbour	02/27		800	5	4	2.60
Ganges Harbour	02/27		75	10	3	.30
Ganges Harbour	03/01		50	5	3	.10
Ganges Harbour	03/01		50	5	3	.10
Boot Cove	03/03		40	4	3	.06
Annette Inlet	03/03		60	5	1	.01
Annette Inlet	03/04		100	5	1	.02
Ganges Harbour	03/05		200	75	5	15.00
Ganges Harbour	03/05		390	7	3	1.09
Lyall Harbour	03/08		150	3	3	.18
Ganges Harbour	03/09		300	15	3	1.80
Ganges Harbour	03/09		400	150	3	24.00
Ganges Harbour	03/09		300	50	3	6.00
Annette Inlet	03/09		50	3	3	.06
Annette Inlet	03/09		75	3	3	.09
Ganges Harbour	03/10		120	10	3	.48
Ganges Harbour	03/10		325	10	3	1.30
Ganges Harbour	03/13		150	10	3	.60
Ganges Harbour	03/13		75	3	3	.09
Ganges Harbour	03/13		525	5	3	1.05

Table 7 (cont'd)

Spawning ground	Date spawned		Length Yds.	Width Yds.	Inten- sity	Std. Sq. Yds. (1000's)
	Start	End				
Area: 18, Cowichan (cont'd)						
Lyall Harbour	03/14		175	5	1	.04
Long Harbour	03/19		75	3	3	.09
Long Harbour	03/19		50	2	3	.04
Ganges Harbour	03/22		350	10	1	.17
Ganges Harbour	03/23		250	10	1	.12
Ganges Harbour	03/24		600	100	1	3.00
Boot Cove	03/25		100	10	1	.05
Ganges Harbour	03/29		575	7	1	.20
Birdseye Cove	03/30		60	5	1	.01
Welbury Bay	04/03		75	9	7	1.28
Welbury Bay	04/03		100	12	7	2.28
Welbury Bay	04/03		200	5	4	.65
Bedwell Harbour	04/05		700	25	1	.87
Area Total			8940			71.13
Area: 19, Vicotria						
No Deposition Recorded						
Area: 20, Juan De Fuca						
No Deposition Recorded						
Area: 21, Swiftsure						
No Deposition Recorded						
Area: 23, Barkley Sound						
Stopper Islands	03/10	03/13	1200	15	4	11.70
Larkin Island	03/11		1200	25	9	90.00
Stopper Islands	03/11		800	20	6	22.40
Macoah Passage	03/11		1300	25	6	45.50
Mocah Passage	03/11		1000	35	5	35.00
Mayne Bay	03/13	03/14	1000	20	9	60.00
Mayne Bay	03/13	03/14	900	15	6	18.90
Mayne Bay	03/13	03/14	900	60	5	54.00
Mocah Passage	03/13	03/14	2800	150	6	588.00
Toquart Bay	03/14	03/15	500	7	7	6.65
Toquart Bay	03/14	03/15	2300	300	6	966.00
Toquart Bay	03/14	03/15	500	35	3	7.00
Mocah Passage	03/15	03/16	1800	150	7	513.00
Macoah Passage	03/15	03/16	700	150	6	147.00

Table 7 (cont'd)

Spawning ground	Date spawned		Length Yds.	Width Yds.	Inten- sity	Std. Sq. Yds. (1000's)
	Start	End				
Area: 23, Barkley Sound (cont'd)						
Forbes Island	03/15	03/16	900	15	6	18.90
David Island	03/15	03/16	750	15	5	11.25
Hand Island	03/15	03/16	750	15	4	7.31
Hand Island	03/15	03/16	650	15	3	3.90
Hand Island	03/15	03/16	1800	10	7	34.20
Hand Island	03/15	03/16	1400	20	6	39.20
Equis Beach	03/16	03/17	2100	17	6	49.98
Macoah Passage	03/16		2300	60	6	193.20
Macoah Passage	03/16		1600	15	4	15.60
Spilling Islet	03/16		300	10	4	1.95
Ottaway Islet	03/16		300	15	3	1.80
St Ines Island	03/16		800	20	3	6.40
Twin River	03/16		500	20	3	4.00
Bryant Island	03/17		500	100	4	32.50
Equis Beach	03/19		300	20	6	8.40
Ucluelet	03/19		1400	30	3	16.80
Dutch Harbour	03/19		300	50	2	3.00
Ucluelet	03/20		1400	30	2	8.40
Dutch Harbour	03/20		300	10	4	1.95
Hand Island	03/20		900	30	5	27.00
Dutch Harbour	03/23		600	50	5	30.00
Useless Inlet	03/24		500	200	5	100.00
Flemming Island	04/04		2640	6	4	10.30
Ucluelet	04/05	04/06	2640	15	6	55.44
Area Total			42530			3246.63
Area: 24, Clayoquot Sound						
Hesquiat Harbour	03/02		200	20	3	1.60
Hesquiat Harbour	03/02		100	25	3	1.00
Hesquiat Harbour	03/02		300	20	3	2.40
Hesquiat Harbour	03/02		150	30	3	1.80
Hesquiat Harbour	03/02		800	100	3	32.00
Hesquiat Harbour	03/02		100	25	3	1.00
Vargas Island	03/12		150	100	7	28.50
Vargas Island	03/12		800	200	5	160.00
Vargas Island	03/12		50	10	7	.95
Vargas Island	03/12		600	200	5	120.00
Vargas Island	03/12		600	75	5	45.00
Vargas Island	03/12		100	15	7	2.85
Vargas Island	03/12		50	7	5	.35
Vargas Island	03/12		50	30	7	2.85
Big Whitepine Cove	03/14		18	10	3	.07

Table 7 (cont'd)

Spawning ground	Date spawned		Length Yds.	Width Yds.	Inten- sity	Std. Sq. Yds. (1000's)
	Start	End				
Area: 24, Clayoquot Sound (cont'd)						
Big Whitepine Cove	03/14		50	6	5	.30
Big Whitepine Cove	03/14		15	6	7	.17
Big Whitepine Cove	03/14		200	150	7	57.00
Big Whitepine Cove	03/14		20	6	5	.12
Big Whitepine Cove	03/14		40	10	3	.16
Big Whitepine Cove	03/14		15	6	3	.04
Big Whitepine Cove	03/14		20	4	3	.03
Big Whitepine Cove	03/14		18	6	3	.04
Big Whitepine Cove	03/14		50	10	3	.20
Little Whitepine Cove	03/14		25	5	3	.05
Little Whitepine Cove	03/14		15	5	3	.03
Little Whitepine Cove	03/14		12	4	3	.02
Little Whitepine Cove	03/14		25	5	3	.05
Little Whitepine Cove	03/14		25	5	3	.05
Little Whitepine Cove	03/14		20	4	3	.03
Little Whitepine Cove	03/14		20	5	3	.04
Little Whitepine Cove	03/14		200	40	3	3.20
Little Whitepine Cove	03/14		25	5	5	.13
Little Whitepine Cove	03/14		15	3	3	.02
Meares Island	03/14		300	75	3	9.00
Meares Island	03/14		75	15	3	.45
Vargas Island	03/14		50	6	3	.12
Vargas Island	03/14		100	25	5	2.50
Vargas Island	03/14		50	6	5	.30
Vargas Island	03/14		150	125	7	35.62
Vargas Island	03/14		75	12	5	.90
Vargas Island	03/14		70	20	5	1.40
Bawden Bay	03/14		30	10	5	.30
Bawden Bay	03/14		75	8	3	.24
Bawden Bay	03/14		15	10	5	.15
Bawden Bay	03/14		30	8	5	.24
Bawden Bay	03/14		50	15	7	1.42
Bawden Bay	03/14		15	4	7	.11
Bawden Bay	03/14		20	6	5	.12
Bawden Bay	03/14		20	5	3	.04
Stockham Island	03/14		75	10	3	.30
Yellow Bank	03/14		1100	35	5	38.50
Yellow Bank	03/14		600	175	7	199.50
Yellow Bank	03/14		1200	15	3	7.20
Saranac Island	03/14		200	15	5	3.00
Saranac Island	03/14		40	4	5	.16
Saranac Island	03/14		100	6	5	.60
Elbow Bank	03/14		100	50	3	2.00
Elbow Bank	03/14		1000	350	5	350.00

Table 7 (cont'd)

Spawning ground	Date spawned		Length Yds.	Width Yds.	Inten- sity	Std. Sq. Yds. (1000's)
	Start	End				
Area: 24, Clayoquot Sound (cont'd)						
Elbow Bank	03/14		200	200	7	76.00
Meares Island	03/15		200	50	5	10.00
Meares Island	03/15		450	3	5	1.35
Meares Island	03/15		450	3	5	1.35
Meares Island	03/15		400	12	3	1.92
Meares Island	03/15		150	75	7	21.37
Meares Island	03/15		450	4	5	1.80
Meares Island	03/15		150	75	7	21.37
Meares Island	03/15		40	10	7	.76
Meares Island	03/15		300	125	5	37.50
Meares Island	03/15		60	6	7	.68
Meares Island	03/15		300	30	3	3.60
Meares Island	03/15		75	12	5	.90
Epper Pass	03/15		60	20	3	.48
Epper Pass	03/15		600	75	3	18.00
Epper Pass	03/15		100	20	3	.80
Epper Pass	03/15		250	150	3	15.00
Epper Pass	03/15		15	5	5	.08
Ritchie Bay	03/15		100	30	5	3.00
Ritchie Bay	03/15		125	10	3	.50
Ritchie Bay	03/15		50	10	5	.50
Ritchie Bay	03/15		75	15	3	.45
Ritchie Bay	03/15		200	10	3	.80
Ritchie Bay	03/15		80	20	3	.64
Ritchie Bay	03/15		50	20	5	1.00
Vargas Island	03/16		250	10	5	2.50
Vargas Island	03/16		75	10	7	1.42
Vargas Island	03/16		35	16	7	1.06
Vargas Island	03/16		150	20	5	3.00
Vargas Island	03/16		150	12	3	.72
Vargas Island	03/16		150	15	5	2.25
Vargas Island	03/16		250	8	5	2.00
Steamer Cove	03/16		25	15	5	.38
Steamer Cove	03/16		25	8	5	.20
Steamer Cove	03/16		20	10	3	.08
Steamer Cove	03/16		15	10	3	.06
Steamer Cove	03/16		30	10	5	.30
Steamer Cove	03/16		15	10	3	.06
Steamer Cove	03/16		30	10	3	.12
Steamer Cove	03/16		25	8	3	.08
Area Total			16593			1350.33

Table 7 (cont'd)

Spawning ground	Date spawned		Length Yds.	Width Yds.	Inten- sity	Std. Sq. Yds. (1000's)
	Start	End				
Area: 25, Nootka Sound						
Port Langford	02/23	03/16	900	300	5	270.00
Port Langford	02/23	03/16	500	300	3	60.00
Port Langford	02/23	03/16	500	300	7	285.00
Nuchatlitz Village	03/12	03/16	200	50	1	.50
Nuchatlitz Village	03/12	03/16	1300	500	1	32.50
Nuchatlitz Village	03/12	03/16	25	25	1	.03
Nuchatlitz Village	03/12	03/16	175	50	1	.44
Nuchatlitz Village	03/12	03/16	200	20	1	.20
Nuchatlitz Village	03/12	03/16	150	20	1	.15
Nuchatlitz Village	03/12	03/16	350	50	5	17.50
Nuchatlitz Village	03/12	03/16	175	75	7	24.94
Nuchatlitz Village	03/12	03/16	50	10	5	.50
Nuchatlitz Village	03/12	03/16	100	100	5	10.00
Outer Nuchatlitz	03/12	03/16	100	100	5	10.00
Outer Nuchatlitz	03/12	03/16	150	50	3	3.00
Outer Nuchatlitz	03/12	03/16	100	100	3	4.00
Outer Nuchatlitz	03/12	03/16	150	100	1	.75
Outer Nuchatlitz	03/12	03/16	300	50	3	6.00
Outer Nuchatlitz	03/12	03/16	2900	100	1	14.50
Rosa Harbour	03/15		25	25	3	.25
Rosa Harbour	03/15		50	50	3	1.00
Rosa Harbour	03/15		100	40	3	1.60
Rosa Harbour	03/15		700	50	1	1.75
Rosa Harbour	03/15		300	25	1	.37
Rosa Harbour	03/15		750	50	1	1.87
Friendly Cove	04/14		50	50	5	2.50
Friendly Cove	04/14		50	50	1	.12
Friendly Cove	04/14		200	75	3	6.00
Area Total			10550			755.48
Area: 26, Kyuquot Sound						
Clanninick Cove	02/15	03/13	1500	50	1	3.75
McLean Island	03/18		80	40	3	1.28
McLean Island	03/18		100	50	3	2.00
Area Total			1680			7.03
Area: 27, Quatsino Sound						
Leeson Harbour	02/20		500	15	1	.37
Hazard Point	02/20		200	30	2	1.20
Greenwood Point	02/21		500	20	1	.50

Table 7 (cont'd)

Spawning ground	Date spawned		Length Yds.	Width Yds.	Inten- sity	Std. Sq. Yds. (1000's)
	Start	End				
Area: 27, Quatsino Sound (cont'd)						
Hazard Point	02/24		600	15	3	3.60
Apple Bay	03/05		100	10	1	.05
Apple Bay	03/05		150	15	1	.11
Leeson Harbour	03/06		300	20	1	.30
Stephens Bay	03/07		200	10	5	2.00
Stephens Bay	03/07		200	20	3	1.60
Ildstad Island	03/08		200	20	3	1.60
Leeson Harbour	03/12		400	10	5	4.00
Leeson Harbour	03/12		200	15	3	1.20
Browning Inlet	03/18		400	20	1	.40
Greenwood Point	03/21		800	15	5	12.00
Greenwood Point	03/21		350	30	7	19.95
Area Total			5100			48.89
Area: 28, Howe Sound						
No Deposition Recorded						
Area: 29, Fraser River						
Boundary Bay	02/22		2000	100	1	10.00
Boundary Bay	03/19		4000	100	1	20.00
Area Total			6000			30.00
Grand Total			667718			16966.55

APPENDIX 1

PUBLICATIONS OF HERRING SPAWN DEPOSITIONS IN BRITISH COLUMBIA IN ORDER BY PUBLICATION SERIES AND YEAR OF SPAWNING.

1. Tester, A. L., and J. C. Stevenson. 1947. Results of the west coast of Vancouver Island herring investigation, 1946-47. Rep. British Columbia Dept. Fish. for 1946: 42-71.
2. Tester, A. L., and J. C. Stevenson. 1949. Results of the west coast of Vancouver Island herring investigation, 1947-48. Rep. British Columbia Dept. Fish. for 1947: 41-86.
3. Stevenson, J. C. 1950. Results of the west coast of Vancouver Island herring investigation, 1948-49. Rep. British Columbia Dept. Fish. for 1948: 37-84.
4. Stevenson, J. C., and J. A. Lanigan. 1950. Results of the west coast of Vancouver Island herring investigation, 1949-50. Rep. British Columbia Dept. Fish. for 1949: 41-80.
5. Stevenson, J. C., A. S. Hourston, and J. A. Lanigan. 1951. Results of the west coast of Vancouver Island herring investigation, 1950-51. Rep. British Columbia Dept. Fish. for 1950: 51-84.
6. Stevenson, J. C., A. S. Hourston, K. J. Jackson, and D. N. Outram. 1953. Results of the west coast of Vancouver Island herring investigation, 1951-1952. Rep. British Columbia Dept. Fish. for 1951: 57-87.
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8. Taylor, F. H. C., and D. N. Outram. 1954. Results of the investigation of the herring population on the west coast and lower east coast of Vancouver Island in 1953-54. Rep. British Columbia Dept. Fish. for 1953: 52-75.
9. Taylor, F. H. C. 1955. The status of the major herring stocks in British Columbia in 1954-55. Rep. British Columbia Dept. Fish. for 1954: 51-73.
10. Taylor, F. H. C., A. S. Hourston, and D. N. Outram. 1956. The status of the major herring stocks in British Columbia in 1955-56. Rep. British Columbia Dept. Fish. for 1955: 51-80.
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12. Outram, D. N. 1955. Extent of herring spawning in British Columbia waters during 1955. Fish. Res. Board Can. Nanaimo Biol. Sta. Circ. 37: 10 p. (Reprinted in Western Fisheries 51(1): 15 [4 p.].
13. Outram, D. N. 1956. Amount of herring spawn deposited in British Columbia coastal waters in 1956. Fish. Res. Board Can. Nanaimo Biol. Sta. Circ. 42: 13 p. (Reprinted in Western Fisheries 53(1): 16 [3 p.].
14. Outram, D. N. 1957. Extent of herring spawning in British Columbia in 1957. Fish. Res. Board Can. Nanaimo Biol. Sta. Circ. 46: 12 p. (Reprinted in part in Western Fisheries 54(6): 22 [3 p.].
15. Outram, D. N. 1958. The 1958 herring spawn deposition in British Columbia coastal waters. Fish. Res. Board Can. Nanaimo Biol. Sta. Circ. 50: 13 p.
16. Outram, D. N. 1959. The extent of the 1959 herring spawning in British Columbia coastal waters. Fish. Res. Board Can. Nanaimo Biol. Sta. Circ. 56: 13 p. (Reprinted in Western Fisheries 59(5): 46 [4 p.], Canadian Fisherman 47(3): 40-43.
17. Outram, D. N. 1961. The propagation of herring (Clupea pallasii) in the coastal waters of British Columbia, with a summary of spawning success in 1960. Fish. Res. Board Can. Nanaimo Biol. Sta. Circ. 60: 23 p.
18. Outram, D. N. 1963. The 1961 herring spawn deposition in British Columbia coastal waters. Fish. Res. Board Can. Nanaimo Biol. Sta. Circ. 71: 12 p.
19. Outram, D. N. 1963. The extent of herring spawning in British Columbia in 1962. Fish. Res. Board Can. Nanaimo Biol. Sta. Circ. 69: 19 p.
20. Outram, D. N. 1963. The extent of herring spawning in British Columbia in 1963. Fish. Res. Board Can. Nanaimo Biol. Sta. Circ. 70: 12 p.
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25. Outram, D. N. 1968. The 1968 herring spawn deposition in the coastal waters of British Columbia. Fish. Res. Board Can. Nanaimo Biol. Sta. Circ. 86: 9 p.

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28. Humphreys, R. D., and L. A. Webb. 1970. The abundance of herring spawn in the coastal waters of B.C., 1970. Fish. Erv. Pac. Region Tech. Rep. 1970-9: 22 p.
29. Humphreys, R. D., and L. A. Webb. 1971. The abundance of herring spawn in the coastal waters of B.C. 1971. Fish. Serv. Pac. Region Tech. Rep. 1971-11: 26 p.
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31. Humphreys, R. D., and L. A. Webb. 1973. The abundance of herring spawn in the coastal waters of B.C. 1973. Fish. Mar. Serv. Tech. Rep. PAC/T-73-10: 36 p.
32. Webb, L. A. 1974. The abundance of herring spawn in the coastal waters of British Columbia 1974. Fish. Mar. Serv. Tech. Rep. PAC/T-74-17: 39 p.
33. Webb, L. A. 1975. The abundance of herring spawn in the coastal waters of British Columbia 1975. Fish. Mar. Serv. Tech. Rep. PAC/T-75-28: 50 p.
34. Webb, L. A. 1976. Review of the 1975-76 herring fishery and spawn abundance. Fish. Mar. Serv. Field Serv. Tech. Rep. PAC/T-76-19: 33 p.

APPENDIX 2

REFERENCES FOR HERRING CATCH DATA

A. CATCH BY FISHING SEASON

1. Tester, Albert L. 1935. The herring fishery of B.C. - past and present. Biol. Board Can. Bull. 47: 37 p. (Reprinted in Rep. British Columbia Commissioner Fish. for 1934: 76-102).
2. Tester, A. L. 1945. Herring catch statistics. Fish. Res. Board Can. Pac. Biol. Sta. Circ. 5: 1 p.
3. Taylor, F. J. C. 1955. The Pacific herring (Clupea pallasii) along the Pacific coast of Canada. Internat. North Pac. Fish. Comm. Bull. 1: 105-128.
4. Taylor, F. H. C. 1964. Life history and present status of British Columbia herring stocks. Fish. Res. Board Can. Bull. 143: 81 p.
5. Hourston, A. S., and R. S. K. Isaacson. 1972. Weekly herring catches (tons) in British Columbia waters by population, subpopulation and area, 1950-51 to 1969-70. Fish. Res. Board Can. MS Rep. 1168: 115 p.
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7. Humphreys, R. D., and L. A. Webb. 1972. The abundance of herring in the coastal waters of B.C. 1972. Fish. Mar. Serv. Pac. Region Tech. Rep. 1972-11: 31 p.
8. Humphreys, R. D., and L. A. Webb. 1973. The abundance of herring spawn in the coastal waters of B.C. 1973. Fish. Mar. Serv. Tech. Rep. PAC/T-73-10: 36 p.
9. Webb, L. A. 1974. The abundance of herring spawn in the coastal waters of British Columbia 1974. Fish. Mar. Serv. Tech. Rep. PAC/T-74-17: 39 p.
10. Webb, L. A. 1975. The abundance of herring spawn in the coastal waters of British Columbia 1975. Fish. Mar. Sev. Tech. Rep. PAC/T-75-28: 50 p.

B. CATCH BY CALENDAR YEAR

British Columbia Catch Statistics. Published annually since 1951 by the Department of Fisheries (or Fisheries and Forestry, Environment, Fisheries and Environment), Vancouver.