Transfers of Eggs and Young of Pacific Salmon Within British Columbia

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ABSTRACT

Aro, K. V. 1979. Transfers of eggs and young of Pacific salmon within British Columbia. Fish. Mar. Serv. Tech. Rep. 861: 145 p.

Since 1884 many transfers involving large numbers of eggs and young of Pacific salmon have been made in British Columbia. The majority of the transfers have involved eggs and young of sockeye salmon. Lesser number of transfers of eggs and young of pink, chum, coho, and chinook salmon have been made. Available information on transfers of salmon eggs and young between river systems and between tributaries of large river systems in British Columbia are summarized. Included are records of three transfers of sockeye salmon eggs to British Columbia from Alaska. Information is also included on transfers of Pacific salmon from British Columbia to other parts of Canada and to other countries.

RESUME

Aro, K. V. 1979. Transfers of eggs and young of Pacific salmon within British Columbia. Fish. Mar. Serv. Tech. Rep. 861: 145 p.

Depuis 1884 ont eu lieu, en Colombie-Brittannique, de nombreux transferts portant sur de grandes quantités d'oeufs et de jeunes saumons du Pacifique. La majorité des transferts concernaient des jeunes et des oeufs de saumon rouge, mais on note, en moins grand nombre, des transferts de saumon rose, de coho, de saumon kéta et de saumon quinnat. Le rapport donne un résumé de l'information recueillie relativement aux transferts de jeunes et d'oeufs entre réseaux fluviaux et entre affluents des grands cours d'eau en Columbie-Brittannique. Il expose les données de trois transferts d'oeufs de saumon rouge de l'Alaska à la Colombie-Britannique, ainsi que des renseignements sur le transfert, dans d'autres régions du Canada et à l'étranger, de saumon du Pacifique provenant de la Colombie-Britannique.

INTRODUCTION

Since the establishment of the first salmon hatchery in British Columbia in 1884 millions of eggs and young of salmon and trout have been transferred throughout British Columbia and, in the case of some species, eggs have been brought into the province from elsewhere. In recent years questions have been raised regarding the effects of these transfers on native stocks. It has been suggested that salmon stocks spawning in a particular area may be genetically tuned to the environment in that area and that introduction of fish with a different genetic make-up could, if the latter survive to intermingle with native stocks, produce hybrid fish not as well adapted to the local environment as were the native fish. Another consequence of transfers may be the introduction or spread of fish diseases and parasites from one water system to another. The purpose of this report is to tabulate those transfers of Pacific salmon to and within British Columbia for which data are available. No attempt will be made to assess the success or failure of any of the transfers.

Since 1884 eggs and young of Pacific salmon have been shipped from British Columbia to other parts of Canada and overseas. Information available on such transfers is included.

SOURCES OF INFORMATION

The data on transfers were collected from various reports, papers, and individuals listed in Appendix A. These sources of data may be summarized as follows:

1. Reports on fish-breeding contained in Annual Reports of the Department of Fisheries, Department of Marine and Fisheries, and Department of the Naval Service, 1884 to 1916-17.

2. Annual Reports on Fish Culture, Department of the Naval Service, Department of Marine and Fisheries, and Department of Fisheries, 1917 to 1941.

3. Reports of the Commissioner of Fisheries for British Columbia, 1903 to 1921.

4. Annual reports of various fisheries organizations including the Pacific Biological Station, the International Pacific Salmon Fisheries Commission, the Resource Development Branch of the Department of Fisheries, the Skeena Salmon Management Committee, and the Washington Department of Fisheries.

5. Annual reports of some hatcheries and miscellaneous data stored in the National Archives in Ottawa, in the Records Centre of the National Archives at Tunney's Pasture in Ottawa, in files of the Department of Fisheries and Environment in Vancouver

and New Westminster, and in files of the International Pacific Salmon Fisheries Commission.

6. Reports and research papers by various individuals and organizations.

7. Personal communication with various individuals.

Information on fish cultural activities from these sources were recorded on work sheets in as much detail as possible. Wherever available the following information was recorded for each hatchery and eyeing station by species and by brood year:

1. The locations where eggs were collected,
2. The number of eggs collected at each location,
3. The locations where the eggs and young fish were incubated and/or reared,
4. The locations where the eggs and young fish were distributed,
5. The numbers of eggs and young fish which were distributed at each location.

From these work sheets tabulations have been prepared for areas which have received eggs and young fish from other areas. Distributions of eggs and young fish within watersheds where the eggs were collected have not been tabulated for this report.

The names of locations where eggs were collected and where eggs and young fish were distributed and other names mentioned in this report are listed alphabetically with a short geographical description in Appendix B.

The reliability and the detail in which the fish cultural activities were reported varied considerably in the reports and files examined. In the case of the published reports for the federal hatcheries the data are reasonably well documented for the period 1884 to 1910, very poorly documented for the years 1911 to 1916, and quite well documented for the years 1917 to 1941, particularly in the later years. Annual reports for individual hatcheries and files for some hatcheries are available from about 1913 onward in files of the Fisheries and Marine Service stored in Vancouver and New Westminster and at the Records Centre of the National Archives. The data from the Provincial hatchery at Seton Lake and the two private hatcheries (Nimpkish Lake and Namu) are very poorly documented. In many instances part of the information is not available or is available only in general terms.

Other transfers of salmon by various organizations and by private individuals may have occurred without being recorded, but the incidence of such unrecorded transfers would be small.

EARLY HATCHERIES

A brief history of the salmon hatcheries which operated in British Columbia during the period 1884 to 1941 is necessary to understand the trends and reasons for transfers of salmon in British Columbia.

The earliest salmon hatcheries in British Columbia were built during the infancy of the province. When construction of the first, the Fraser River hatchery, commenced in 1883 British Columbia had been a province of Canada only 12 years. Completion of the Canadian Pacific Railway was still a few years away. Many of the later hatcheries were located in isolated areas which were not served by railroads or roads. In fact some of the old hatchery sites even today cannot be reached by road or rail. Travel to and from some hatcheries and transport of eggs, fry, and supplies was often by several means including railroads, sternwheelers, coastal steamers, small boats, pack trains, horse and wagon, on foot, and in later years by motor vehicle over poor roads.

Some hatcheries were located in hostile environments. The Babine and Stuart Lake hatcheries were located in areas where several months of freezing weather occur every year. The Rivers Inlet hatchery was located at Owikeno Lake where sudden and severe storms and fluctuations in water levels washed out egg collecting fences regularly when the streams suddenly became raging torrents. The Anderson Lake hatchery was located in an area where the annual rainfall averages about 300 in. Working conditions at many hatcheries were far from ideal. Several lives were lost through drownings, other accidents, and illness. Nevertheless, the amount of work accomplished was impressive. In the years 1884 to 1941 a total of about 3.4 billion salmon eggs were collected. The greatest egg take in any 1 year was in 1913 when almost 155 million salmon eggs were collected. It was mainly during these years that many millions of eggs and fry were transferred throughout British Columbia.

A total of 17 salmon hatcheries (see Fig. 1) operated from 1884 to 1941. Fourteen of these hatcheries belonged to the federal government, one to the provincial government, and two to fishing concerns.

The names, locations, and the years of operation of the federal government hatcheries are as follows:

1. Fraser River hatchery at Bon Accord near New Westminster, 1884 to 1915.
2. Granite Creek hatchery on Tappen Creek at Shuswap Lake, 1901 to 1915.
3. Skeena River hatchery on Coldwater Creek on the Lakelse River, 1902 to 1917, and on Hatchery Creek at Lakelse Lake, 1920 to 1935.
4. Harrison Lake hatchery on Trout Lake Creek at Harrison Lake, 1904 to 1935.
5. Pemberton hatchery on the Birkenhead River, 1905 to 1936.

6. Rivers Inlet hatchery at the outlet of Owikeno Lake, 1905 to 1936.
7. Babine Lake hatchery on Morrison Creek at the outlet of Morrison Lake, 1907 to 1936.
8. Stuart Lake hatchery on Nancut Creek on the portage between Stuart and Babine lakes, 1907 to 1916, and 1919 to 1930.
9. Anderson Lake hatchery on Ternan Creek at the head of Henderson Lake, 1910 to 1936.
10. Cowichan Lake hatchery on the Cowichan River near the outlet of Cowichan Lake, 1910 to 1936.
11. Kennedy Lake hatchery on Clayoquot Arm of Kennedy Lake, 1910 to 1936.
12. New Westminster hatchery in New Westminster, 1915 to 1921.
13. Cultus Lake hatchery at Cultus Lake from about 1916 to 1937. This hatchery was operated first as a sub-hatchery of the Harrison Lake hatchery. It consisted of two parts, one located on the Sweltzer River, the other at Smith Falls Creek.
14. Pitt Lake hatchery near Alvin on the Pitt River from about 1916 to 1936. This hatchery also operated first as a sub-hatchery of the Harrison Lake hatchery.

The British Columbia government operated a salmon hatchery at Seton Lake from 1903 until 1917. Information on egg collections and distributions of eggs and fry from this hatchery are poorly documented. The Seton Lake hatchery was loaned in 1918 to the federal government which operated it that season only.

Private salmon hatcheries were operated by the Alert Bay and Namu canneries. The former hatchery, which was located on Tlakwa Creek near the head of Nimpkish Lake, operated from 1902 to 1924 and in 1926 and 1927. The Nimpkish Lake hatchery raised sockeye salmon exclusively. There is no indication in the available records that any transfers of sockeye to or from the Nimpkish system occurred. The Namu hatchery, located at Namu Lake, operated from about 1915 to 1923. Little information is available on its activities. Published annual reports of the Fish Culture Branch indicate that in some years transfers of sockeye eggs from the Rivers Inlet hatchery and of pink eggs from the Harrison Lake hatchery were made to the Namu hatchery. Correspondence and annual reports of the Rivers Inlet hatchery indicate that sockeye eggs were transferred from the Rivers Inlet hatchery to the Namu hatchery in several other years as well. A report in the Pacific Fisherman (1915) indicates that attempts were made, at least in 1 year, to collect sockeye eggs near Namu.

The Seton Lake hatchery and the federal government hatcheries, with the exception of the Cowichan Lake hatchery, raised sockeye mostly although in some years eggs of other salmon were collected and reared, sometimes to fill the hatchery when sufficient sockeye eggs could not be obtained. On occassion some of the hatcheries reared eggs of steelhead, rainbow, cutthroat, and brown trout, Atlantic salmon, brook trout, Dolly Varden char, kokanee, and whitefish. The Cowichan Lake hatchery raised chinook, coho, and various species of game fish.

Initially salmon hatcheries were constructed to augment the local runs of salmon. Even before construction of the Fraser River hatchery began in 1883 there was concern that overfishing was occurring on the Fraser River. It was thought that the greater survival from egg to fry in the hatcheries over natural survival would produce greater returns of adult fish. In the years when the Fraser River hatchery was the sole hatchery most of the fry produced were released in areas where the eggs had been collected. However, eggs and fry were distributed to other localities, mainly on the lower mainland and on Vancouver Island, sometimes to supplement local runs or sometimes to start new runs. Later as additional hatcheries were constructed the same practices were followed except that on many occasions large shipments of eyed eggs were sent from hatcheries which had abundant supplies of eggs to others which were unable to collect sufficient eggs locally. The fry from these eggs were released locally by the hatcheries which received the shipments.

After 1919, with the prospects of reaching an agreement with the United States regarding the Fraser River runs, the Canadian government undertook to build up the sockeye runs upstream from Hells Gate. These runs had declined to low levels, following the rock slide at Hells Gate and continued heavy fishing. During the period 1919 to 1931 large numbers of sockeye eggs were transferred from lower Fraser River and Skeena River spawning areas to spawning areas on the upper Fraser. To compensate for sockeye eggs shipped to the Fraser River from Lakelse Lake eggs from the Birkenhead River were shipped by the Pemberton hatchery to the Skeena River hatchery. During the same period larger numbers of sockeye eggs were transferred also to points on Vancouver Island and along the northern coast of British Columbia. Sockeye eggs were planted at Great Central and Sproat lakes from collections at Henderson Lake, at Comox Lake from collections at Henderson and Owikeno lakes, at the Nanaimo Lakes from collections at Owikeno Lake, at Maggie Lake from collections at Henderson and Cultus lakes, and in several small lake systems along the northern British Columbia coast from collections at Owikeno Lake.

Transfers of pink, chum, coho, and chinook eggs and young were made from time to time, sometimes in attempts to start new runs, at other times to supplement local runs.

In 1924 the Biological Board of Canada appointed a Research Committee to advise and assist in the solving of fish cultural problems. Included on this committee were Dr. W. A. Clemens and Dr. R. E. Foerster from the Pacific Biological Station at Nanaimo. Studies regarding sockeye salmon were commenced by Dr. Foerster at Cultus Lake. These studies, amongst other matters, were to determine the relative value and efficiency of different methods of artificial propagation and of natural reproduction. From these studies the following conclusion was reached:

> "On the whole it may reasonably be concluded that in an area such as Cultus Lake, where a natural run of sockeye occurs with a reasonable expectancy of successful spawning, artificial propagation, for purposes of continuing the run to that area, is unnecessary and, if producing any additional results over natural spawning, these would not appear to be in any way commensurate with the cost.

This conclusion may not apply to areas where there is no reasonable expectation of successful natural propagation."

In the light of the findings at Cultus Lake, and as natural runs of salmon, with a reasonable expectancy of successful spawning occurred to the areas where salmon hatcheries were operated, the Minister of Fisheries (the Hon. J. E. Michaud), on the advice of the Deputy Minister of Fisheries (W. A. Found), recommended on February 21, 1936, that when the season's operations at the Babine Lake, Lakelse Lake, Rivers Inlet, Anderson Lake, Kennedy Lake, Cultus Lake-Smith Falls, Pitt Lake, Harrison Lake, and Pemberton hatcheries were completed, they be closed, and be disposed of to the best advantage, and that the employees therein be then retired under the conditions provided by law. As recommended the sockeye hatcheries in British Columbia (with the exception of Cultus Lake where further study was carried out for a year longer) were closed in 1936 as per Order in Council P.C. 518 dated March 2, 1936. The Cowichan Lake hatchery, which from March 31, 1935, had been managed by the Biological Board although financed by the Fish Culture Branch, was transferred to the Biological Board on April 1, 1936. The Anderson Lake hatchery was re-opened annually from 1938 to 1941 as an egg collection site and eyeing station for transfers of sockeye eggs from Henderson Lake to Maggie Lake.

RECENT FISH CULTURAL ACTIVITIES INVOLVING TRANSFERS OF SALMON

Since the early hatcheries were closed, transfers of salmon eggs and young have been made in attempts to re-establish or enhance old runs or to establish new runs, and as part of research studies. These transfers have been carried out by the International Pacific Salmon Fisheries Commission at New Westminster, by the Pacific Biological Station at Nanaimo, and by the Fisheries and Marine Service at Vancouver. Transfers by the IPSFC have been directed mainly to re-establishing upper Fraser River sockeye runs which were decimated by early logging dams and by the Hells Gate slide. Transfers by the Pacific Biological Station have been of an experimental nature involving mainly the other species of Pacific salmon. The Fisheries and Marine Service has carried out various transfers in recent years involving most species. The most recent transfers of coho and chinook by the Fisheries and Marine Service involve the facilities on the Capilano River, Puntledge River, Qualicum River, Quinsam River, Robertson Creek, and Rosewall Creek. These recent transfers of coho and chinook are not included in this report.

TRANSFERS OF PACIFIC SALMON WITHIN BRITISH COLUMBIA

Information on transfers of Pacific salmon within British Columbia are listed in Tables 1 to 56 and are illustrated in Fig. 2 to 22. For most species the data have been broken down into several tables and figures by geographic areas. In most tables, the data listed include, where available, the brood year; the names of the hatcheries, fish cultural facilities, or

agencies which collected, eyed, and distributed the eggs and fish; the source of the eggs; the numbers of eggs collected and/or received; the numbers of eggs and young fish planted; and the locations where the eggs and fish were planted. In the figures the brood year and the stream or area of origin are shown for each location or area to which eggs and young fish were transferred. In the tables and figures and in the following text, all references to years are to the brood years from which the eggs and young fish originated irrespective of the calendar years in which transfers occurred. The tables and figures include only transfers between different watersheds or distant parts of large watersheds, with the exception of some local transfers which may be of particular interest. For example, the tables and figures include available information on transfers of sockeye eggs collected at Owikeno Lake by the Rivers Inlet hatchery to other watersheds but do not include transfers of Owikeno Lake sockeye eggs and young within the Owikeno Lake watershed with the exception of a planting of sockeye eggs at Walkus Lake, a barren lake, which drains into Owikeno Lake. However, information on plantings of eggs and young fish in their native area is included in cases where they had been reared at a hatchery or field station in another watershed or a distant part of the same watershed. For example, the tables and figures include plantings at Harrison Lake of sockeye eggs and young which had been reared at the Cultus Lake hatchery from eggs collected originally at Harrison Lake.

As mentioned earlier the reliability and detail in which the fish cultural activities were reported varied considerably in the various source documents. In many instances, information is lacking on the disposition of some egg collections or on the origin of some plantings. In some cases where a hatchery received eggs from several areas, it is not possible to determine from the source documents the exact origin of each planting made by that hatchery. For example, it is not possible to determine the exact origin of each planting of sockeye fry by the Fraser River hatchery from the 1905 brood because the hatchery in that year collected eggs from the Pitt River and received large shipments of eggs which had been collected on the Birkenhead River by the Pemberton hatchery and at Shuswap Lake by the Granite Creek hatchery. In such cases, all locations from which eggs were collected are shown as the possible source of the eggs and young fish which were transferred to different localities.

In reports of the Fraser River hatchery concerning the disposition of fry hatched from the 1884 and 1885 egg collections, the species of the fry which were distributed is not given. The eggs of both sockeye and chinook were collected in those years. Transfers of these fry therefore have been included in tables and figures concerning both species.

In the section which follows, the transfers of eggs and young salmon are discussed by species.

SOCKEYE

Large numbers of sockeye eggs and young sockeye have been transferred throughout British Columbia. These tranfers are listed in Table 1 to 33 and are shown in Fig. 2 to 15 by convenient geographic areas.

1. Lower Fraser Valley streams downstream from Nicomen Slough excluding the Pitt River system

Transfers of sockeye to this area are illustrated in Fig. 2 and are listed in Table 1. The plantings were made from the Fraser River hatchery and its successor the New Westminster hatchery. In the earlier years, the Fraser River hatchery obtained its supply of eggs at fish collecting facilities in the Harrison system. Following transfer of the collecting facilities to the Harrison Lake hatchery the Fraser River hatchery obtained its egg supply elsewhere. Eggs were collected from the Pitt River system and at Cultus Lake and in some years large shipments of Birkenhead River and Shuswap Lake sockeye eggs were received from the Pemberton and Granite Creek hatcheries, respectively. The New Westminster hatchery likewise depended on outside sources for its sockeye egg supply. Shipments of Pitt River sockeye eggs were received from the Pitt Lake hatchery in several years and in 1 year Owikeno Lake sockeye eggs from the Rivers Inlet hatchery.

Eggs and fry from these various sources were planted in the Coquitlam, Fraser, Nicomekl, Salmon, Serpentine, and Stave Rivers, Kanaka Creek, the creeks at the Fraser River and New Westminster hatcheries, and in several streams the locations of which are not known.

2. Pitt River system

Transfers of sockeye to the Pitt River system, which are illustrated in Fig. 3 and listed in Table 2, were made from the Fraser River, New Westminster, and Pitt Lake hatcheries. The Fraser River hatchery collected sockeye eggs in the earlier years from the Harrison system and later from the Pitt River system and Cultus Lake. In several of the later years shipments of eggs originating from the Birkenhead River and from streams at Shuswap Lake were received from the Pemberton and Granite Creek hatcheries, respectively. The New Westminster hatchery obtained its supply of eggs from the Pitt River system. In 2 years the Pitt Lake hatchery received shipments of Sweltzer River sockeye eggs from the Cultus Lake hatchery.

Thus the Pitt River system has received sockeye which originated in the Harrison system, Birkenhead River, Cultus Lake, and Shuswap Lake. Also sockeye fry reared at the Fraser River and New Westminster hatcheries from eggs collected in the Pitt River system were returned to the Pitt River system. In one instance plantings were made in the Pitt River system of sockeye fry which had been incubated at the New Westminster hatchery from Pitt River sockeye eggs along with sockeye eggs collected and eyed by the Rivers Inlet hatchery at Owikeno Lake.

In 1907 a shipment of Lakelse Lake sockeye eggs was sent from the Skeena River hatchery to the New Westminster Exhibition via the Fraser River hatchery. The ultimate disposition of these eggs and the disposition of fry hatched at the Fraser River hatchery from eggs collected on the Birkenhead River by the Pemberton hatchery in 1907 is not known. It is possible that when the exhibition closed the Lakelse Lake sockeye eggs were returned to the Fraser River hatchery and that the eggs or resulting fry were planted in the area where the Fraser River hatchery normally distributed eggs and young sockeye.

The transfers of sockeye were made to Pitt Lake, the Pitt River, and tributaries including the Alouette River.

3. Lower Fraser Valley streams between Nicomen Slough and Kawkawa Lake, excluding the Harrison system

Transfers of sockeye to this area are shown in Fig. 4 and are listed in Table 3. Plantings were made in this area by the Fraser River, New Westminster, Harrison, and Cultus Lake hatcheries. In years when transfers occurred the Fraser River hatchery had obtained its egg supply from the Harrison system and Cultus Lake, the New Westminster hatchery from the Pitt River system, and the Harrison Lake hatchery from local streams and from Cultus Lake. The Cultus Lake hatchery, besides obtaining eggs locally, received in 2 years large shipments of Birkenhead River sockeye eggs from the Pemberton hatchery. The Cultus Lake hatchery also reared Harrison Lake sockeye eggs to the eyed and fingerling stages at which stages they were planted at Harrison Lake. Eggs and fry from these sources were planted in the Chilliwack River, Cultus Lake, Kawkawa Lake, Nicomen Slough, Ruby Creek, Silver Lake, Silverhope Creek, Sumas Lake, Sumas River, and Vedder River.

The Pacific Salmon Research Station at Cultus Lake received in 1926 small numbers of Henderson Lake, Birkenhead River, and Owikeno Lake sockeye eggs from the Anderson Lake, Pemberton, and River Inlet hatcheries, respectively. The disposition of these eggs is not known.

4. Harrison system

Transfers of sockeye to the Harrison system, which are shown in Fig. 5 and listed in Table 4, were made by the Fraser River, Harrison Lake, Pemberton, and Cultus Lake hatcheries. In years when plantings of sockeye were made in the Harrison system by the Fraser River hatchery the eggs had been collected in the Harrison system. The Harrison Lake hatchery besides collecting eggs locally collected eggs in some years at Cultus Lake, in 1 year from the Pitt River, and in 1913 at China Bar in the Fraser Canyon from sockeye held up by the Hells Gate rock slide. Shipments of Pitt River, Birkenhead River, Shuswap Lake, Sweltzer River, and Alaska sockeye eggs were received by the Harrison Lake hatchery from the Fraser River, Pemberton, Granite Creek, Cultus Lake, and Afognak hatcheries, respectively. The shipments of Alaska sockeye eggs in 1917 and 1918 from the Afognak hatchery on Afognak Island, Alaska, probably had been collected at Litinik Lake on Afognak Island and/or at Uganik Lake on Kodiak Island, where the Afognak hatchery usually obtained its supply of sockeye eggs. Eggs collected at Harrison Lake in 1927 and 1928 were eyed and some young were reared to the fingerling stage at Cultus Lake hatchery before being returned to Harrison Lake for planting.

The sockeye transferred to the Harrison system were planted in the Harrison River, Harrison Lake, and tributaries.

5. Lillooet River system

Few transfers of sockeye to the Lillooet River system occurred (Fig. 6). In 1928 and 1929 sockeye eggs collected in the Sweltzer River by

the Cultus Lake hatchery were shipped to the Pemberton hatchery (Table 5). From these shipments eyed eggs and fry were planted in the neighbouring Seton-Anderson system and some fry were released in the Birkenhead River. Between 1920 and 1931 sockeye fry incubated at the Pemberton hatchery from eggs collected from the Birkenhead River were released in Horseshoe and Adie lakes, small lakes within the Lillooet River drainage (Fig. 6 and Table 6).

6. Thompson River system

Transfers to the Thompson River system are shown in Fig. 7.

a. Nicola River

From the 1909 collection of sockeye eggs from Scotch and Tappen creeks by the Granite Creek hatchery 2 million eggs were planted in the Nicola River (Table 7).

b. North Thompson River tributaries

Sockeye eggs were planted in the Barrière River and Louis Creek from the 1909 collection of eggs by the Granite Creek hatchery from Scotch and Tappen creeks (Table 8), and in the Barrière River by the International Pacific Salmon Fisheries Commission from collections made on the Raft River in the years 1956 to 1960 (Table 9).

c. South Thompson River system

Transfers to and within the South Thompson River system were carried out by federal authorities in the years 1902 to 1931 (Table 10), and by the International Pacific Salmon Fisheries Commission from 1949 to 1975 (Table 11). Up to 1914 plantings in the area were made by the Granite Creek hatchery. This hatchery, because of the cyclical nature of the sockeye runs to Shuswap Lake, was unable to get a full supply of eggs locally every year. Therefore, in some years shipments including eggs from the Harrison system, the Birkenhead River, and possibly the Pitt River were received from the Fraser River, Harrison Lake, and Pemberton hatcheries. In 1913 the Granite Creek hatchery also received sockeye eggs collected from the Fraser River at China Bar. Following closure of the Granite Creek hatchery no transfers were made to Shuswap Lake until the period 1921 to 1931 when large numbers of sockeye eggs from the Sweltzer River were transferred to the area by the Cultus Lake and Harrison Lake hatcheries and from the Birkenhead River by the Pemberton hatchery. Also plantings of eggs collected on the Adams River in 1929 and 1930 were made in other tributaries of Shuswap Lake. Most of the transfers made in the Shuswap area by the International Pacific Salmon Fisheries Commission have been internal ones. However, in 3 years sockeye eggs from Taseko Lake were planted in the Upper Adams River and in 2 years fingerlings which had been reared at the Quesnel field station from eggs collected on the Seymour River were released in the Upper Adams River.

7. Seton-Anderson system

Transfers to the Seton-Anderson system (Fig. 8) were made by federal

and provincial authorities in the years 1915 to 1930 (Table 12), and in 1950 by the International Pacific Salmon Fisheries Commission (Table 13). The provincially owned Seton Lake hatchery distributed in Seton and Anderson lakes fry reared from Birkenhead River sockeye eggs collected and eyed by the Pemberton hatchery in 1915 and 1916. Following closure of the Seton Lake hatchery large numbers of eggs and fry were planted in the Seton-Anderson system by the Pemberton hatchery. These eggs and fry were of Birkenhead River origin except in 1 year when eggs and fry of Sweltzer River origin were planted in the system. Most of the Sweltzer River sockeye eggs had been eyed at the Cultus Lake hatchery before shipment to the Pemberton hatchery, but some were shipped as green eggs from Cultus Lake to Pemberton. From eggs collected on the Adams River in 1950 the International Pacific Salmon Fisheries Commission planted eggs in Portage Creek and fingerlings, which had been reared at the Quesnel field station, in Anderson Lake.

8. Quesnel and Bowron systems and Lac la Hache

Transfers to the Quesnel and Bowron systems and to Lac la Hache are shown in Fig. 9.

a. Quesnel River system

From 1922 to 1928 sockeye eggs were planted annually in the Quesnel River system (Table 14). Eggs planted in 1922, 1923, 1927, and 1928 had been collected from the Birkenhead River and had been eyed at the Pemberton hatchery. In 1924, 1925, and 1926 the eggs had been collected and eyed at Lakelse Lake by the Skeena River hatchery.

The International Pacific Salmon Fisheries Commission carried out several transfers of sockeye to the Quesnel River system (Table 15). These transfers included plantings of eggs collected in the Adams and Stellako rivers; releases of fry and fingerlings reared from eggs collected on the Adams, Seymour, Bowron, and Stellako rivers; and stocking an artificial spawning ground at the Quesnel field station with mature sockeye from the Stellako River. All the young sockeye were reared at the Quesnel field station with the exception of fingerlings reared from eggs collected on the Bowron River in 1947. These eggs were eyed on the Bowron River and then were flown to the Samish hatchery in Burlington, Washington State. Some of these eyed eggs were transferred to the University of Washington in Seattle where they were hatched. The resulting fingerlings were shipped to the Horsefly River via the Leavenworth hatchery at Leavenworth, Washington. The remainder of the eyed eggs were transferred from the Samish hatchery to the Skagit hatchery at Marblemount, Washington, where they were reared to the fingerling stage and then were planted in the Horsefly River. In 1972 Stellako sockeye eggs which had been fertilized with milt from precocious male sockeye from the Horsefly River were planted in the Horsefly River.

b. Bowron River system

In 1924, 1925, and 1926 sockeye eggs collected at Lakelse Lake and eyed at the Skeena River hatchery were planted in the Bowron River system (Table 16).

c. Lac la Hache

Sockeye fingerlings which had been reared at the Quesnel field station from eggs collected on the Adams River in 1950 were released in Lac la Hache (Table 17), by the International Pacific Salmon Fisheries Commission.

9. Stuart Lake system and Nadina River system

Transfers to the Stuart Lake system and to the Nadina River system are shown in Fig. 10.

a. Nadina River system

Sockeye eggs were planted in the Nadina River from eggs collected at Lakelse Lake and eyed at the Skeena River hatchery in 1926 and from eggs collected on the Birkenhead River and eyed at the Pemberton hatchery in 1927 and 1928 (Table 18). The International Pacific Salmon Fisheries Commission planted sockeye eggs collected in 1956 from Forfar Creek in Creek "X" at Nadina Lake (Table 19).

b. Stuart Lake system

Large numbers of sockeye eggs and young were planted in the Stuart Lake system in the years 1907 to 1928 by the Stuart Lake hatchery (Table 20), and a single planting of sockeye eggs collected in Gluske Creek was made to Hatdudatehl Creek at Tezzeron Lake in 1961 by the International Pacific Salmon Fisheries Commission (Table 21).

The Stuart Lake hatchery, because of the cyclical nature of the runs to the Stuart Lake system and because of the decline in these runs caused by the Hells Gate rock slide, depended upon outside sources for its egg supply. In most years the hatchery obtained its supply of eggs from streams at Babine Lake but in 1922, 1923, 1924, and 1928 the hatchery received shipments of Birkenhead River sockeye eggs from the Pemberton hatchery and in 1925 and 1926 Lakelse Lake sockeye eggs from the Skeena River hatchery. Eggs and young sockeye from all sources were scattered throughout the system. In the belief that they would provide natural rearing ponds for young sockeye the operators of the Stuart Lake hatchery planted fry in many small barren lakes in the vicinity of the hatchery. These fish in several instances became landlocked.

10. Southern mainland coast of British Columbia and east coast of Vancouver Island

Transfers to lakes and streams along the lower mainland coast and along the east coast of Vancouver Island are shown in Fig. 11.

a. Southern mainland coast

Plantings of fry were made in the Squamish River and in Sakinaw

Lake by the Fraser River hatchery (Table 22). The fry released in the Squamish River originated from eggs collected in the Harrison system, at Cultus Lake, possibly the Pitt River, and in 1 year from eggs collected in the Birkenhead River, at Shuswap Lake, and/or in the Pitt River. Fry released in Sakinaw Lake originated from egg collections in the Harrison system, Birkenhead River, and Pitt River and at Shuswap Lake. The eggs from the Birkenhead River and Shuswap Lake were collected and eyed by the Pemberton and Granite Creek hatcheries.

b. East coast of Vancouver Island

Plantings of sockeye were made in the Cowichan and Nanaimo River systems and in the Cruikshank River at Comox Lake (Table 23). The several transfers of eggs and fry to the Nanaimo and Cowichan River systems between 1885 and 1904 originated from egg collections in the Harrison system by the Fraser River hatchery. Fry planted in Cowichan Lake from the 1905 brood by the Fraser River hatchery originated from eggs collected in the Birkenhead River, at Shuswap Lake, and/or in the Pitt River. These eggs were collected and eyed by the Pemberton, Granite Creek, and Fraser River hatcheries, respectively. Eggs collected at Owikeno Lake by the Rivers Inlet hatchery were planted in the Nanaimo River between the first and second lakes in 1932 and in the Cruikshank River in 1922 and 1923. Plantings of eggs collected at Henderson Lake by the Anderson Lake hatchery were made in the Cruikshank River annually from 1924 to 1929.

11. West coast of Vancouver Island

Transfers of sockeye in lakes and streams along the west coast of Vancouver Island are shown in Fig. 12.

a. Henderson and Kennedy lakes

Fry from the 1905 and 1906 broods were planted in Henderson and Kennedy lakes by the Fraser River hatchery (Table 24). The hatchery in both years collected a small number of eggs on the Pitt River but received most of its egg supply from the Pemberton and Granite Creek hatcheries in 1905 and from the Pemberton hatchery in 1906. Therefore, the plantings from the 1905 collections may have originated from eggs collected from the Birkenhead River and/or Shuswap Lake and possibly some from the Pitt River. The fry from the 1906 brood would have originated from eggs collected from the Birkenhead River and possibly from the Pitt River.

Late in the fall of 1915 a consignment of 100,000 sockeye eggs was forwarded to Seattle, Washington, from the Yes Bay hatchery in southeastern Alaska. Of this consignment, 50,000 eggs were shipped to the Anderson Lake hatchery at Henderson Lake (Table 24) and 50,000 were sent to the hatchery at Quinault Lake in Washington. According to Cobb (1921), "The intention was as soon as the fry, hatched from these eggs, had developed into fingerlings to mark each lot with a distinctive marking and plant them in waters near the hatcheries, with the object of proving that the adult fish would return to the stream in which they had passed their early existence, no matter where the eggs where taken." This plan could not be carried out at the Anderson Lake hatchery, as the young fish resulting from the eggs were not strong

enough to survive marking. They were therefore liberated without being marked. Those hatched at Quinault Lake were marked and liberated in the summer of 1916.

b. Somass River system

Fry from the 1905 and 1906 broods were planted by the Fraser River hatchery in Sproat Lake (Table 25) during the same period when the hatchery planted fry in Henderson and Kennedy lakes. The fry were of the same origin.

During the period 1921 to 1932 large numbers of sockeye eggs were planted at McCoy, Great Central, and Sproat lakes in the Somass River system (Table 25). These eggs were collected and eyed at Henderson Lake by the Anderson Lake hatchery.

c. McAllister Lake

Small numbers of eggs and fry of Henderson Lake origin were planted in McAllister Lake, a small lake near the Anderson Lake hatchery (Table 26).

d. Maggie Lake

Eight plantings of sockeye eggs were made at Maggie Lake during the period 1929 to 1941 (Table 27). The eggs were collected at Henderson Lake and were eyed at the Anderson Lake hatchery except in 1936 when the eggs were collected from the Sweltzer River and were eyed at the Cultus Lake hatchery.

e. Small lakes in the vicinity of the Kennedy Lake hatchery

Between 1914 and 1935 eggs, fry, and fingerlings of Kennedy Lake origin were planted by the Kennedy Lake hatchery in several small lakes in the vicinity of the hatchery (Table 28).

f. Quatsino Sound, Tranquil River, Megin River, and Cecilia Lake

Eyed eggs from the Fraser River hatchery's collection in 1904 from the Harrison system and the Pitt River were sent to a resident of Quatsino for planting in a nearby stream (Table 29). The name and location of this stream are not given. A population of kokanee are reported to spawn in the stream which flows into Colony Lake near Quatsino. It is possible that the eggs were planted in this stream and gave rise to this population of kokanee.

Plantings of eyed Kennedy Lake sockeye eggs were made by the Kennedy Lake hatchery in Tranquil Creek, in the Megin River, and at Cecilia Lake (Table 29).

12. Northern British Columbia coast

In the period 1915 to 1927 sockeye eggs collected at Owikeno Lake and eyed at the Rivers Inlet hatchery were transferred to the Namu hatchery and were planted in several lake systems along the northern British Columbia

coast and in Walkus Lake at Owikeno Lake (Fig. 13 and Table 30). The ultimate disposition of the eggs shipped to the Namu hatchery is not known in some years but it is believed that the eggs and/or young fish were distributed at Namu Lake as they were in the last 4 years when shipments were made. The planting of eggs at Walkus Lake is attributed to have given rise to a population of landlocked sockeye in the lake. Walkus Lake which is located at the headwaters of Genesee Creek is not accessible to salmon because of an impassable waterfall located downstream from the lake.

13. Lakelse Lake

To compensate for shipments of Lakelse Lake sockeye eggs sent to the Upper Fraser River, large numbers of sockeye eggs collected from the Birkenhead River and eyed at the Pemberton hatchery were shipped to the Skeena River hatchery in the years 1924 to 1927. The eggs and young fish were distributed in Lakelse Lake and tributary streams (Fig. 14 and Table 31).

14. Babine Lake

No transfers of sockeye eggs from other watersheds to Babine Lake are known to have occurred. However, eggs and fry of Babine Lake origin were planted at Babine Lake by the Stuart Lake hatchery (Fig. 15 and Table 32) on several occasions. Fry reared at the Stuart Lake hatchery from eggs collected at Babine Lake in 1914 and 1920 were released in Babine Lake and in Gullwing Creek, respectively. Eyed eggs of Babine Lake origin were planted by the Stuart Lake hatchery in Pierre and Pinkut creeks in 1921. It is possible that these eggs were eyed at a temporary eyeing station at Babine Lake and were planted directly without leaving Babine Lake as was done in 1915. In 1928 the Stuart Lake hatchery's entire egg collection from Pierre and Pinkut creeks was tranferred to the Babine Lake hatchery. The 1928 annual report of the Stuart Lake hatchery states that these eggs had been "placed in the hatchery" when word was received to return the collection to Babine Lake. From their own collection of eggs from Morrison Creek in 1928 and from the eggs turned over by the Stuart Lake hatchery the Babine Lake hatchery planted eggs in Tahlo Creek and fry and fingerlings in Morrison Lake and Morrison Creek.

15. Nanika River

Sockeye eggs were transferred from Pinkut Creek at Babine Lake to the Nanika River at Morice Lake by the Fish Culture Branch of the Department of Fisheries in the years 1960 to 1965 (Fig. 15 and Table 33). Eggs were planted in an incubation channel in 1964 and 1965. Fry which had been incubated from the 1960 to 1964 egg collections were released into the Nanika River.

PINK

Pink salmon have been transferred to and within the Fraser River system, to Vancouver Island streams, to the Namu hatchery, to McClinton

Creek, and to Kleanza Creek (Fig. 16 and Tables 34 to 44).

1. Lower Fraser Valley

Several transfers of pink salmon occurred within and to the lower Fraser Valley (Table 34). The transfers within the lower Fraser Valley are poorly documented. Transfers to the area include release of pink fry of Oyster River origin in Widgeon Slough by the New Westminster hatchery, release of fry of Courtenay River origin at an unknown location or locations, two plantings of eggs collected on the Lakelse River in Wahleach Creek, and transfer of pink eggs from Tom Browne Creek to the Cultus Lake field station (IPSFC).

2. Seton River system

Pink salmon eggs were tranferred to the Seton Lake hatchery on at least three occasions (Table 35). The disposition of pink eggs transferred from the Rivers Inlet hatchery in 1914 was not reported. The eggs likely were incubated at the Seton Lake hatchery and the resulting fry probably were released in Seton Lake as were fry hatched from eggs collected on the Mamquam River by the Seton Lake hatchery the following year. In 1918 over 15 million pink eggs were collected on the Oyster River for incubation at the Seton Lake hatchery. Most of these eggs were planted in creeks near the hatchery because the hatchery's water system failed and because many of the hatchery staff became ill with the Spanish influenza. Some fry also were released, probably into Seton Lake.

3. Vancouver Island

Transfers of pink salmon have been made to the Cowichan River, Nile Creek, Qualicum River, Robertson Creek, Headquarters Creek, and Amor de Cosmos Creek on Vancouver Island. Twenty six fingerlings were released from fry incubated by the Cowichan River from eggs transferred from the Cultus Lake hatchery in 1925 (Table 36). The eggs probably had been collected in the vicinity of the Cultus Lake hatchery. Pink eggs which had been collected on the Tsolum River in 1949, 1950, and 1951 were planted in Nile Creek (Table 37). Pink eggs collected from the Atnarko, Indian, and Tsolum rivers, and from Amor de Cosmos and Kleanza creeks were planted in Robertson Creek during the period 1959 to 1964 (Table 38). In 1963 and 1964 eggs collected from the Cheakamus River and Amor de Cosmos Creek were planted in the Qualicum River (Table 39). Pink salmon eggs collected on the Kakweiken River in 1971 were transferred to Headquarters Creek where fry incubated from eggs fertilized with milt from male Kakweikan pinks and from eggs fertilized with milt from male Tsolum pinks were released (Table 40). In 1975 pink salmon collected on Tom Browne Creek were transferred to Amor de Cosmos Creek. Releases were made into Amor de Cosmos Creek of fry which had been hatched from eggs fertilized with milt collected from male Tom Browne Creek pinks, with milt collected and frozen in 1974 from male pinks at Amor de Cosmos Creek, and with milt from accelerated male pinks hatched from an egg collection in 1974 at Amor de Cosmos Creek (Table 41).

4. Namu hatchery

Pink salmon eggs were transferred to the Namu hatchery from the Harrison Lake hatchery in 1919 and 1921 (Table 42). These eggs and/or fry hatched from these eggs probably were planted in the vicinity of the hatchery.

5. McClinton Creek

Transfers of pink salmon eggs were made from the Tlell River to McClinton Creek in 1931, 1933, and 1935 (Table 43). The eggs from the 1933 collection were planted in McClinton Creek. Fry incubated at McClinton Creek from the eggs collected in 1931 and 1935 were released into the creek.

6. Kleanza Creek

Fry were hatched and released into Kleanza Creek from eggs collected in 1957 and 1958 on the Lakelse River and in 1959 on the Kitwanga River (Table 44).

CHUM

The few transfers of chum salmon in British Columbia (Fig. 17) took place within the Fraser River system (Table 45) and on Vancouver Island (Table 46). In 1902 and 1908 chum salmon eggs which had been collected in the Harrison system were transferred to the Granite Creek hatchery. The resulting fry from these eggs were released into Shuswap Lake. Chum salmon fry incubated at the Harrison Lake hatchery from eggs collected in the Sweltzer River in 1916 and eyed at the Cultus Lake hatchery were released in the Harrison system. The Harrison Lake hatchery planted chum eggs in Deer Lake from the 1920 collection in the Harrison system. Chum salmon eggs were planted in Nile Creek on Vancouver Island from collections of eggs in several nearby streams in the period 1946 to 1953.

COHO

The eggs and young of coho salmon were transferred within the lower Fraser Valley, to the Harrison system, to Shuswap Lake, and on Vancouver Island.

1. Lower Fraser Valley

The Fraser River and New Westminster hatcheries collected coho eggs and distributed coho fry throughout the lower Fraser Valley (Fig. 18 and Table 47). It is difficult to determine exactly what transfers occurred because much of the data is missing or is very poor. In cases where collections were made at several locations the reports do not indicate the origin of individual plantings. It can only be assumed that any one

planting could have originated from eggs collected at all the locations where egg collections were made.

2. Harrison system

Coho eggs were transferred from the Fraser River and Cultus Lake hatcheries to the Harrison Lake hatchery (Fig. 18 and Table 48). Fry hatched from eggs collected by the Fraser River hatchery at Tynehead Creek in 1912 and by the Cultus Lake hatchery in 1918 were distributed. The disposition of eggs transferred from the Fraser River hatchery in 1911 is not known. The eggs or the resulting fry probably were planted at Harrison Lake.

3. Shuswap Lake

In 1907 coho eggs collected in "Fraser River tributaries" and eyed by the Fraser River hatchery were transferred to the Granite Creek hatchery (Fig. 19 and Table 49). The disposition of these eggs is not given. The eggs probably were incubated to the fry stage and the fry probably were released into Shuswap Lake from the hatchery.

4. Vancouver Island

Coho eggs and fry were transferred to lakes and streams on southern Vancouver Island by the Cowichan Lake, Anderson Lake, and Kennedy Lake hatcheries (Fig. 20 and Table 50). Fry hatched from eggs collected in 1910 probably at Henderson Lake were planted by the Anderson Lake hatchery in Ternan Lake near the hatchery. The Kennedy Lake hatchery planted eggs and fry derived from the 1931 egg collection at Kennedy Lake in two small lakes in the Kennedy River drainage. From egg collections in the Cowichan River system the Cowichan Lake hatchery released fry in several streams on southern Vancouver Island from the 1915 brood and planted eggs in the Goldstream River from the 1933 and 1934 broods.

CHINOOK

Transfers of chinook eggs and young were made within the Fraser Valley, to Shuswap Lake, to and on Vancouver Island, and to Morrison Creek.

1. Fraser Valley

All the transfers of chinook within the Fraser Valley were made by the Fraser River and Harrison Lake hatcheries. These hatcheries obtained their supply of chinook eggs from the Harrison River. Chinook fry were released in the Fraser, Coquitlam, Alouette, Stave, Sumas, Vedder, and Harrison rivers; in Pitt, Cultus, and Harrison lakes; and in three streams, the locations of which are not known (Fig. 21 and Table 51).

2. Shuswap Lake

Chinook eggs collected in the Harrison system in 1907 and 1908 by the Harrison Lake hatchery were transferred to the Granite Creek hatchery (Fig. 22 and Table 52). The fry hatched from the 1907 collection probably were released into Shuswap Lake from the hatchery as were the fry incubated from the 1908 brood. The number of fry released is not available.

3. Vancouver Island

Fry incubated from eggs collected in the Harrison system were distributed by the Fraser River hatchery in the Cowichan River from the 1885 and 1904 egg collections and in the Nanaimo River from the 1885 egg collection (Fig. 22 and Table 53). The fry distributed from the 1885 brood may have been partly or entirely sockeye.

Chinook eggs and young were planted in the Goldstream, Campbell, and Quinsam rivers by the Cowichan Lake hatchery (Fig. 22 and Table 54). The Cowichan Lake hatchery obtained its supply of chinook eggs from the Cowichan River.

Chinook eggs collected on the Sproat River and eyed at the Sproat River eyeing station in 1931, 1932, and 1934 were transferred to the Anderson Lake hatchery. Fry and fingerlings reared from these eggs were released in the Anderson River and in Clemens Creek at Henderson Lake (Fig. 22 and Table 55).

4. Morrison Creek

Chinook fry hatched from eggs collected in 1930 from the Babine River downstream from Nilkitkwa Lake were released into Morrison Creek (Table 56).

TRANSFERS OF PACIFIC SALMON EGGS FROM BRITISH COLUMBIA TO POINTS OUTSIDE THE PROVINCE

In the source documents, references were noted regarding transfers of eggs of Pacific salmon from British Columbia to other parts of Canada and to other countries. While such transfers are of little concern insofar as this study is concerned they are nevertheless of historical interest. Therefore, transfers of eggs of each of the five species of Pacific salmon from British Columbia to points outside the province are discussed briefly in the following sections.

SOCKEYE

The eggs of sockeye salmon were transferred from British Columbia to the Ottawa hatchery, Hawaii, New Zealand, Australia, the Banff hatchery

and the University of Toronto (Table 57).

Ottawa hatchery

The annual report of the Fraser River hatchery (Wilmot 1891) reports that 100,000 eyed eggs from the 1889 egg collection at Weaver Creek were shipped on February 4, 1890, to the experimental hatchery in Ottawa. The annual report of the Ottawa hatchery (Wilmot 1891) reported having received 150,000 eyed sockeye eggs. The disposition of the fry hatched from these eggs is not given specifically. The hatchery reported having distributed 112,000 "salmon fry" in 1890, 84,000 to Meache's Lake, 14,000 to Knowlton Lake, and 14,000 to Smallions Lake, all in Quebec. These may have included some Atlantic salmon fry as the hatchery also reported having received 25,000 salmon ova from the Restigouche hatchery. The report also mentioned the loss of some "Fraser River salmon fry" which were shipped by express to Brome Lake in the Eastern Townships.

Hawaii

On January 7, 1897, 84,000 eyed eggs from the 1896 egg collection at Weaver Creek were shipped from the Fraser River hatchery to Honolulu, Hawaii (Prince 1897). It was reported that "although the eggs reached their destination in fairly good condition, yet they all perished before being placed in the hatchery troughs."

New Zealand

On December 13, 1899, the officer in charge of the Fraser River hatchery reported that "Yesterday, in accordance with your instructions, I had 500,000 of the ova carefully packed and shipped on the S.S. WARRIMOO, consigned to the care of the Colonial Secretary, Sydney, N.S.W., for the New Zealand Government" (Prince 1900). These sockeye eggs were from the 1889 collection at Weaver Creek. It was reported later (Prince 1903) that these eggs "turned bad in tansit, and en route at Honolulu it was found that while the upper trays of eggs were in good condition, the lower ones had died and undergone putrefaction."

In 1901 it was reported (Prince 1902) that "eggs for New Zealand were shipped to San Francisco on October 12, in care of Mr. Robinson, from this office, and he was able to hand them over there to Mr. Lambson, the United States Superintendent in California who was to accompany them to New Zealand, in a very satisfactory condition." These eggs were from the 1901 collection of 300,000 eggs at Canoe Creek, 4,500,000 from Scotch Creek, and 2,000,000 from Tappen Creek by the Granite Creek hatchery. The eggs were shipped to San Francisco via the Fraser River hatchery and Victoria. The size of the shipment is reported variously from 400,000 to 528,000 eggs. The eggs are said to have arrived in bad condition and only 116,200 fry to have hatched, of which 5,000 were liberated in tributaries of the Waitaki River, 91,200 in head tributaries of Lake Ohau and 20,000 retained in hatchery ponds (Stokell 1962). The latter were liberated in the Hakataramea River at various ages. In 1907 four sea-run fish were taken from Lake Ohau.

Since that time landlocked sockeye have been reported from Lake Ohau as late as 1961. In 1934 the lakes and tributary streams in the Waitaki basin above the Hakataramea were cut off from the sea by the construction of a power dam.

Australia

It was reported (Prince 1902) in 1901 that "1,000,000 eggs were shipped to Tasmania on September 17 in care of Mr. Morton, an officer of the Tasmanian government, who writes me from Hobart Town on November 2, that he had arrived there a week before and found about 50 per cent of the eggs in good condition, which taking all conditions into consideration he considered a very satisfactory result." Later it was reported (Prince 1903) regarding this shipment that "Owing to the high temperature of the water, some, transferred to the New South Wales government, perished after being hatched out in Sydney." The disposition of the eggs which remained in Tasmania is not known. The eggs shipped to Tasmania were from the same egg collection at Shuswap Lake as were the eggs sent to New Zealand in 1901 but may have been from an earlier part of that season's egg collection.

Banff hatchery

In 1923, 5,413 eyed sockeye eggs were transferred from the Harrison Lake hatchery to the Banff hatchery (Rodd 1923; unpublished annual report of Harrison Lake hatchery for 1923). These eggs were from the 1922 egg collection by the Harrison Lake hatchery from the Harrison River Rapids, the hatchery ditch, and Weaver Creek, and/or from the 2,000,000 eggs transferred to the Harrison Lake hatchery from the 1922 egg collection on the Birkenhead River by the Pemberton hatchery. It is reported that 4,503 fingerlings were released by the Banff hatchery but the release locations are not given (Rodd 1924).

University of Toronto

From the 1924 egg collection by the Harrison Lake hatchery from the Harrison River Rapids, the hatchery ditch, and Weaver Creek 1,000 eyed eggs were sent to the University of Toronto (Department of Fisheries file 706-7-8, Records Centre of the Public Archives, Tunney's Pasture, Ottawa). The fate of these eggs is not known.

PINK

Pink salmon eggs have been transferred from British Columbia to Washington State, Ontario, and Newfoundland (Table 58).

Washington

Pink salmon eggs collected on the Lakelse River by personnel of the Washington Department of Fisheries in the even-numbered years 1948 to

1956, inclusive, were flown to hatcheries in the State of Washington (Neave 1975; Ellis and Noble, undated; Washington State Department of Fisheries Annu. Rep. No. 60 to 66). Fingerlings reared from these eggs were released in the Puget Sound area. These plantings produced adult returns but in no instance produced a known return which approached the number required to replace the parent stock used.

Ontario

From pink salmon eggs collected in 1955 on the Lakelse River eyed eggs and fingerlings were planted in Goose Creek, Hudson Bay, and fingerlings in Lake Superior (Nunan 1967). The eggs were eyed at the Quesnel field station and were shipped to the Port Arthur hatchery to be cultured. Five hundred thirteen thousand eggs and 224,000 fingerlings were planted in Goose Creek and 21,450 fingerlings in Lake Superior (21,000 in the Current River, 350 at Pie Island, and 100 in the lake when the aircraft for Goose Creek was being loaded). Extensive surveys made in the Hudson and James Bay area failed to locate spawning adults. However, pink salmon have become established in the Great Lakes from the plantings in Lake Superior. Adult pinks were caught in Lake Superior in 1959 for the first time (Shumacher and Eddy 1960). In 1971, the eighth-generation, pink salmon were apparently abundant and widespread in Lake Superior (Lawrie and Rahrer 1972) and were reported for the first time in the Canadian portion of Lake Huron (Collin 1975).

Newfoundland

Pink salmon were planted in the North Harbour River in Newfoundland from collections of eggs made in 1958 from the Tsolum River, in 1959 from the Indian River, in 1962 from Tom Browne Creek, and in 1964, 1965, and 1966 from the Lakelse River (Pacific Biological Station Annu. Rep. 1958-59, 1959-60, and 1962-63 to 1966). Adult returns were reported from each of the plantings except from the small experimental planting in 1958 (Neave 1965; Lear 1975). Pinks have continued to return from natural spawnings but the runs have declined in numbers (Lear 1975).

CHUM

Only two transfers of chum salmon eggs have been made from British Columbia to points outside the province (Table 59). The Harrison Lake hatchery shipped 4,412 eggs collected in 1922 at the Harrison River Rapids to the Banff hatchery (Rodd 1923; unpublished annual report of Harrison Lake hatchery for 1923) and 1,000 eggs collected in 1924 at Weaver Creek to the University of Toronto (Department of Fisheries file 706-7-8, Records Centre of the Public Archives, Tunney's Pasture, Ottawa). In 1923 the Banff hatchery distributed 1,953 chum fingerlings at unspecified locations (Rodd 1924). The fate of the eggs shipped to the University of Toronto is not known.

COHO

Coho salmon eggs were sent from British Columbia to the Banff hatchery and to the University of Toronto (Table 60). From 25,000 eggs collected in 1922 at Cultus Lake and eyed at the Cultus Lake hatchery 21,080 fingerlings were distributed at unkown locations by the Banff hatchery (Rodd 1924; Department of Fisheries file 712-2-51, Records Centre of the Public Archives, Tunney's Pasture, Ottawa). The disposition of the 1,000 eggs sent to the University of Toronto by the Harrison Lake hatchery from its collection of coho eggs in 1924 from Weaver Creek and at the hatchery (Department of Fisheries file 706-7-8, Records Centre of the Public Archives, Tunney's Pasture, Ottawa) is not known.

CHINOOK

Chinook salmon eggs were transferred from British Columbia to Ontario, New Brunswick, the Banff hatchery, and to Washington State (Table 61).

Ontario

From collections of chinook eggs at the Harrison River Rapids in the years 1918 to 1924 the Harrison Lake hatchery shipped eggs to the Thurlow hatchery at Belleville, Ontario (Rodd 1919 and 1921 to 1925; unpublished annual reports of the Harrison Lake hatchery for 1923, 1924, and 1925; Department of Fisheries file 706-7-8, Records Centre of the Public Archives, Tunney's Pasture, Ottawa; unpublished Department of Fisheries material in files of IPSFC, New Westminster). Fry and fingerlings cultured from these eggs were planted in streams draining into Lake Ontario (Dymond et al. 1929; MacKay 1956; Parsons 1973). According to MacKay a few survived and reached weights up to 30 pounds (13.6 kg); most were seen in the Credit River. Several adults were observed spawning in Twelve-Mile Creek in the fall of 1927. MacKay states that it was evident that some of the introduced chinook attained maturity and spawned, but they did not become permanently established in fresh water.

One thousand eggs from the 1924 collection at the Harrison River Rapids were sent to the University of Toronto (Department of Fisheries file 706-7-8, Records Centre of the Public Archives, Tunney's Pasture, Ottawa). The disposition of these eggs is not known.

New Brunswick

From the shipment of eggs sent to the Thurlow hatchery from the 1920 egg collection at the Harrison River Rapids, 324,000 eyed eggs were transferred to the Grand Falls hatchery in New Brunswick (Rodd 1922). It is reported that 287,022 fingerling and yearling chinook were distributed by the Grand Falls hatchery (Rodd 1922, 1923) but the release locations are not given. Davidson and Hutchinson (1938) incorrectly quote Dymond et al. (1929) as stating that a chinook run had become established on the Saint John River. Whatever their source of information may have been, their

statement suggests that the young chinook reared at the Grand Falls hatchery were released in the Saint John River and that some mature chinook returned to the river. However, a run of chinook failed to develop in the Saint John River.

Banff hatchery

Five thousand ninety-six chinook eggs from the 1922 egg collection at the Harrison River Rapids by the Harrison Lake hatchery were transferred to the Banff hatchery (Rodd 1923; unpublished annual report of Harrison Lake hatchery for 1923). The Banff hatchery distributed 2,346 fingerlings at unknown locations the following year (Rodd 1924).

Washington

From chinook captured in the Wannock River in 1972, 35 ounces of milt were taken from 11 males and 12 pounds of eggs (about 15,000 eggs) from a large female (1972 Annu. Rep. Northern Operations and Inspection Branches, Department of the Environment). The eggs and milt were flown to Washington State where the milt was used to fertilize the Wannock River eggs and the eggs of Washington chinook. The intention was to rear the young from the Wannock River chinook eggs to maturity in saltwater pens in order to maintain a supply of "pure" Rivers Inlet chinook milt.

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APPENDIX A

SOURCES OF INFORMATION

Published reports

Babcock, J. P. 1904. Report of the Fisheries Commissioner for British Columbia for the year 1903. 15 p.

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APPENDIX B

ALPHABETICAL LISTING AND GEOGRAPHICAL DESCRIPTION OF NAMES USED IN THIS REPORT

Adams Lake: NW. of Shuswap L., Kamloops Dist.

Adams River: Flows S., SW. and SE. into W. end of Shuswap L., Kamloops Dist.

Adie Lake (local name): Adjacent to and trib. to head of Lillooet L., Lillooet Dist.

Afognak Lake (also known as Litnik Lake): On Afognak I., Alaska.

Alexander Lake (local name): Near Stuart Lake hatchery site, trib. to Stuart L., Rge. 5, Coast Dist.

Alouette River: Flows W. into Pitt R., S. of Pitt L., New Westminster Dist.

Alvin: P.O., N. end of Pitt L., New Westminster Dist.

Amback Creek: Flows W. into Owikeno L., Rge. 2, Coast Dist.

Amor de Cosmos Creek (also known as Bear River): Flows N. and NW. into Johnstone Str. near E. end, Sayward Dist.

Andalas Creek: Flows NE. into S. end of Lakelse L., Rge. 5, Coast Dist.

Anderson Lake: W. of Lillooet, Lillooet Dist.

Anderson Lake: See Henderson Lake.

Anderson River (local name): Flows from Henderson L. into Uchucklesit Inlet, Clayoquot Dist.

Anstey Arm: Shuswap L., Kamloops Dist.

Anstey River: Flows S. into Anstey Arm, Shuswap L., Kamloops Dist.

Antler Creek (local name): Flows into Sproat L. about 4 mi. from head, Clayoquot Dist.

Antoine Creek (local name): Near Stuart Lake hatchery site, trib. to Stuart L., Rge. 5, Coast Dist.

Ashlulm Creek: Flows S. into Owikeno L., Rge 2, Coast Dist.

Atnarko River: Flows W. into Bella Coola R., Rge. 3, Coast Dist.

Babine Lake: W. of Stuart L., Rge. 5, Coast Dist.

Babine River: Flows W. into Skeena R., Cassiar Dist.

Back Creek (local name): Near New Westminster hatchery site, New Westminster Dist.

Banff Hatchery: Banff, Alberta.

Barrière River: Flows SW. into North Thompson R., Kamloops Dist.

Bear Creek: Flows W. into Harrison L., E. of Long I., Yale Dist.

Bear Creek (local name): Flows into Serpentine R., New Westminster Dist.

Bear River: See Amor de Cosmos Creek.

Beaver Dam: See Blackwater Creek.

Big Qualicum River: See Qualicum River.

Big Silver Creek: Flows S. into Harrison L., Yale Dist.

Birkenhead River: Flows S. and E. into N. end of Lillooet L., Lillooet Dist.

Blackwater Creek (local name): Flows S. into N. end of Lakelse L., Rge. 5, Coast Dist. Also known as Beaver Dam.

Boise Creek: Flows NE. into Pitt R., N. of Pitt L., New Westminster Dist.

Bon Accord: Settlement at site of present day settlement of Port Mann on S. side of Fraser R., 4 mi. E. of New Westminster. Site of Fraser River hatchery.

Bonsall Creek: Flows NE. into Stuart Chan., NW. of Osborn Bay, Chemainus Dist.

Booth Creek (local name): In Coquitlam, New Westminster Dist.

Bowron River: Flows E. into Fraser R., SE. of Hansard L., Cariboo Dist.

Brome Lake: In eastern townships, Quebec.

Brunette River: Flows SE. and S. through New Westminster into Fraser R., New Westminster Dist.

Campbell River: Flows E. into Discovery Passage, Sayward Dist.

Canoe Creek: Flows N. into Salmon Arm, Shuswap L., Kamloops Dist.

Capilano River: Flows S. into First Narrows, Burrard Inlet, New Westminster Dist.

Cascade Creek (local name): Flows into Harrison Lake.

Cecilia Lake: E. of Holmes Inlet, W. of Easter L., Clayoquot Dist.

Charles Peters or Charles Peter's Creek and Slough (local names): Flow into Pitt R., N. of Pitt L., New Westminster Dist. Known also as Peters or Peter's Creek and Slough.

Cheakamus River: Flows S. and SW. into Squamish R., New Westminster Dist.

Chef Creek: Flows N. into Deep Bay, NW. of Bowser, Newcastle Dist. Known as Cook Creek in Fisheries Service records.

Chehalis River: Flows S. into Harrison R., New Westminster Dist.

Chelsales Slough (local name): Near the Harrison Lake hatchery site. Possibly the Chehalis River.

Chemainus River: Flows E., SE., and N. into Stuart Chan., S. of Chemainus, Chemainus Dist.

Chilliwack River: Flows W. through Chilliwack L. into Vedder R., New Westminster Dist.

China Bar: Fraser R., S. of mouth of Scuzzy Cr., Yale Dist.

Clark Creek (also known as Clark's Creek): Dungannon Township, Hastings County, Ontario.

Clark Point (also known as Clarke Point): N. side of Great Central L., Clayoquot Dist.

Clark's Creek: See Clark Creek.

Clayoquot Arm: N. end of W. side of Kennedy L., Clayoquot Dist.

Clayoquot River: Flows SW. into N. end of Clayoquot Arm, Clayoquot Dist.

Clearwater Creek: Flows N. into S. end of Lakelse L., Rge. 5, Coast Dist.

Clemens Creek: Flows SE. and SW. into N. end of Henderson L., Clayoquot Dist.

Cogburn Creek: Flows W. into Harrison L., Yale Dist.

Coldwater Creek: Flows E. into Lakelse R., W. of Lakelse L., Rge. 5, Coast Dist.

Colonial Creek (local name): At Newcastle, Clarke Township, Durham County, Ontario. Parsons (1973) refers to Colonial Creek as Graham Creek.

Colony Lake: E. of Mt. Byng, N. of Quatsino, Rupert Dist.

Comox Lake: Expansion of Puntledge R., SW. of Courtenay, Nelson Dist.

Cook Creek (local name): Former trib. of Chef Cr. which now flows independently into Deep Bay, NW. of Bowser, Newcastle Dist. Known as Chef and Lymn creek in Fisheries Service records.

Coquitlam River: Flows S. through Coquitlam L. into Fraser R., W. of Pitt R., New Westminster Dist.

Corbold Creek: Flows SW. into Pitt R., N. of Pitt L., New Westminster Dist.

Cottonwood Creek (local name): Flows into Harrison L.

Cougar Smith Creek: Flows NE. into Cowie Cr., SW. of Fanny Bay P.O., Newcastle Dist.

Courtenay River: Flows SE. into Comox Hr. through Courtenay, Comox Dist.

Cowichan Lake: Head of Cowichan R., E. of Nitinat R., Cowichan Lake Dist.

Cowichan River: Flows E. into Cowichan Bay, Cowichan Dist.

Coxe's or Cox's Slough (local names): Flows into Pitt R., New Westminster Dist.

Crawford Lake (local name): 1 1/2 mi. from Stuart Lake hatchery site, trib. to Stuart L.

Credit River: Toronto Township, Peel County, Ontario.

Cruikshank River: Flows S. and NE. into Comox L., Nelson Dist.

Cultus Lake: S. of Chilliwack, New Westminster Dist.

Cultus or Cultus Lake Creek (local names): Possibly Sweltzer R.

Cunningham Lake: N. of S. end of Babine L., Rge. 5, Coast Dist.

Current River: Flows S. into Thunder Bay, Thunder Bay Dist., Ontario.

Danson Creek (local name): Near New Westminster hatchery site.

Dawson Bay (local name): Pitt L., New Westminster Dist.

Dawson Creek (local name): Flows into Pitt L., New Westminster Dist.

Deer Lake: E. of Echo I., Harrison L., Yale Dist.

Douglas Creek: Flows S. and SW. into Little Harrison L., New Westminster Dist.

Drinkwater Creek: Flows SE. into W. end of Great Central L., Clayoquot Dist.

Eagle Creek (local name): Flows into Harrison L.

Eagle River: Flows SW. into Shuswap L., N. of Sicamous Narrows, Kamloops Dist.

Elbow Lake (local name): Adjacent and trib. to Clayoquot Arm, Clayoquot Dist.

Eliza Creek: See Sockeye Creek.

Farlton Creek (local name): Near Cowichan Lake hatchery site.

Felix Creek (local name): Flows into Trembleur L., Rge. 5, Coast Dist.

Fennell Creek: Flows W. into Barrière R., Kamloops Dist.

Ferrier Creek (local name): Flows into Trembleur L., Rge. 5, Coast Dist.

Finch Creek: Flows into Puget Sd., Washington State.

Fish Hatchery Creek: Flows W. into Pitt R., N. of Pitt L., New Westminster Dist.

Forfar Creek (local name): Flows into Middle R.

Four Mile Creek (local name): Flows N. into Babine L., Rge. 5, Coast Dist.

Fraser River: Flows NW. from Rocky Mtns., S. from Prince George and W. from Hope, into Strait of Georgia, New Westminster Dist.

Gates Lake: Hdwtrs. of Gates R., SW. of Anderson L., Lillooet Dist.

Gates River: Flows NE. into S. end of Anderson L., Lillooet Dist.

Genesee Creek: Flows W. into Owikeno L., N. of Machmell R., Rge. 2, Coast Dist.

Gilley, Gilleys or Gilly Creek (local names): Flows either into the Pitt R. or N. arm of the Fraser R., New Westminster Dist.

Glen Creek (local name): Near New Westminster hatchery site, New Westminster Dist.

Glendale River: See Tom Browne Creek.

Gluske Creek (local name): Flows into Takla L., Cassiar Dist.

Goldstream River: Flows SE. and N. into head of Finlayson Arm, Goldstream Dist.

Goose Creek: Flows NE. into Hudson Bay, Kenora Dist., P.P., Ontario.

Gracie Creek: Flows NE. into Two Rivers Arm, Sproat L., Clayoquot Dist.

Graham Creek (possibly same as Colonial Creek): Clarke Township, Durham County, Ontario.

Grand Falls Hatchery: Victoria County, New Brunswick.

Granite Creek: See Hatchery Creek.

Granite Creek: See Tappen Creek.

Grass Lake (local name): Near Stuart Lake hatchery site, trib. of Stuart L., Rge. 5, Coast Dist.

Great Central Lake: N. of Sproat L., Clayoquot Dist.

Gullwing Creek (also known as Six Mile Creek): Flows S. into E. end of Babine L., Rge. 5, Coast Dist.

Haagson's Slough (local name): Flows into Pitt L. or Pitt R., New Westminster Dist.

Hakataramea River: Flows into Waitaki R., New Zealand.

Harrison Lake: N. and W. of Fraser R., Yale and New Westminster Dist.

Harrison River: Flows SW. and SE. from Harrison L. into Fraser R., N. of Chilliwack, New Westminster Dist.

Harrison River Rapids: Harrison R., New Westminster Dist.

Hatchery Creek (also known as Granite Creek): Flows W. into Lakelse L., Rge. 5, Coast Dist.

Hatchery Creek (local name): Flows into Nancut Cr., Rge. 5, Coast Dist.

Hatdudatehl Creek: Flows SW. into Tezzeron L., Rge. 5, Coast Dist.

Hatzic Creek and Slough: N. of Hatzic L. and Fraser R., New Westminster Dist.

Headquarters Creek: Flows SE. and NE. into Tsolum R., E. of Wolf L., Comox Dist.

Heath Creek: Flows NW. into McCoy L., W. of Port Alberni, Alberni Dist.

Hells Gate: Fraser Canyon, S. of mouth of Scuzzy Cr., Yale Dist.

Henderson Lake (also known as Anderson Lake): NE. of Barkley Sd., W. of Alberni Inlet, Clayoquot Dist.

Hicks Lake: E. of S. end of Harrison L., Yale Dist.

Holmes Lake: S. of Captain Cove, Pitt I., Rge. 4, Coast Dist.

Hood Canal: Puget Sd., Washington State.

Hoodsport: Puget Sd., Washington State.

Horsefly Lake: S. of Quesnel L., Cariboo Dist.

Horsefly River: Flows W. into Horsefly Bay, Cariboo Dist.

Horseshoe Lake (local name): About 1 1/4 mi. N. of Pemberton hatchery site, Lillooet Dist. Was trib. to Lillooet R. but may have been diverted to Birkenhead R.

Hot Springs Creek (local name): Flows W. into Lakelse L., Rge. 5, Coast Dist.

Ilthpaya Lake: W. of Clayoquot Arm, N. of Kennedy R., Clayoquot Dist.

Indian River: Flows S. into Indian Arm, New Westminster Dist.

Jones Creek: See Wahleach Creek.

Kainet Creek: Flows W. into Kynoch Inlet, NE. of Mooto L., Rge. 3, Coast Dist.

Kakweiken River: Flows SW. into head of Thompson Sd., Rge. 1, Coast Dist.

Kanaka Creek: Flows W. into Fraser R., NW. of McMillan I., New Westminster Dist.

Kawkawa Lake: NE. of Hope, Yale Dist.

Kazchek Creek: Flows SW. into Middle R., N. of Trembleur L., Rge. 5, Coast Dist.

Kelvin Creek: Flows NE. into Koksilah R., S. of Duncan, Quamichan Dist.

Kennedy Lake: Expansion of Kennedy R., NW. of Barkley Sd., Clayoquot Dist.

Kennedy River: Flows SW. and NW. into Tofino Inlet through Kennedy L., Clayoquot Dist.

Kibbee Creek: Flows SW. into Bowron L., S. of Indian L., Cariboo Dist.

Kitwanga River: Flows S. into Skeena R., W. of Kitwanga, Cassiar Dist.

Kleanza Creek: Flows W. into Skeena R., N. of Zymoetz R., Rge. 5, Coast Dist.

Kleanza Creek Hatchery: On Klenza Creek.

Knowlton Lake: In Quebec.

Lac la Hache: Head of San Jose R., Lillooet Dist.

Lakelse Lake: Head of Lakelse R., Rge. 5, Coast Dist.

Lakelse River: Flows NW. into Skeena R., Rge. 5, Coast Dist.

Langley Creek (local name): Near Langley, New Westminster Dist. Possibly a trib. of the Nicomekl R.

Leavenworth Hatchery: Leavenworth, Washington State.

Leoni Creek (local name): Flows into Harrison R. at Chehalis Reserve, New Westminster Dist.

Lillooet River: Flows SE. into Harrison L., New Westminster Dist.

Lindsay Bay Creek (local name): Flows into Great Central L. about 8 mi. from outlet.

Litnik Lake: See Afognak Lake.

Little Horsefly River: Flows W. into Horsefly R., Cariboo Dist.

Little Qualicum River: Flows NE. and NW. into Strait of Georgia, W. of Qualicum Beach, Newcastle Dist.

Little Tuno Lakes (local name): Don Pen. E. of Port Blackney. Discharge into Blair Inlet W. of Knarled Pt., Rge. 3, Coast Dist.

Louis Creek: Flows N. into North Thompson R., Kamloops Dist.

Lynde Creek: Whitby Township, Ontario County, Ontario. Parsons (1973) combines releases in Lynes Creek and Lynn River under Lynde Creek.

Lynes Creek (local name): Flows into Lake Ontario, Ontario. Possibly the same as Lynde Creek.

Lynn River (local name): Flows into Lake Ontario, Ontario. Possibly the same as Lynde Creek.

Mabel Lake: W. of Upper Arrow L., Osoyoos Dist.

Maggie Lake: SE. of Kennedy L., W. of Toquart Bay, Clayoquot Dist.

Mamquam River: Flows W. and S. into mouth of Squamish R., New Westminster Dist.

Martin Lake (local name): E. of Clayoquot Arm, Kennedy L., about 1 1/2 mi. from head of Clayoquot Arm, Clayoquot Dist.

Meache's Lake: In Quebec.

Medowse Creek: Flows N. into W. end of Owikeno L., Rge. 2, Coast Dist.

Megin River: Flows W. through Megin L. and S. into Shelter Inlet, Clayoquot Dist.

Miami Creek: Flows N. into S. end of Harrison L., New Westminster Dist.

Middle Shuswap River (local name): Flows from Sugar L. to Mabel L., Osoyoos Dist.

Mitchell River: Flows SW. into Quesnel L., Cariboo Dist.

Morice Lake: Head of Morice R., NW. of Nanika L., Rge. 4, Coast Dist.

Morrison Creek: Flows S. into Babine L. from Morrison L., Cassiar Dist.

Morrison Lake: E. of N. end of Babine L., Cassiar Dist.

Mountain Creek (local name): Possibly Mountain Slough on N. side of Fraser R., E. of mouth of Harrison R., New Westminster Dist.

Mountain Slough (local name): Flows into Pitt R., New Westminster Dist.

Muriel Lake: W. of Clayoquot Arm, N. of Kennedy R., Clayoquot Dist.

McAllister Lake (local name): 1 1/4 mi. from Anderson Lake hatchery site, Clayoquot Dist.

McClinton Creek (local name): Flows into McClinton Bay, Masset Inlet, Q. C. Dist.

McCoy Lake: Head of McCoy Cr., W. of Port Alberni, Alberni Dist.

McDonald Lake: N. of Yes Bay, Cleveland Pen., southeastern Alaska.

McKay Creek (local name): Possibly Mackay Cr. which flows S. into Burrard Inlet, E. of Capilano R., New Westminster Dist.

McLaughlin Lake (local name): W. of McLaughlin Bay on Campbell I., Rge. 3, Coast Dist.

McLean Creek (local name): Near New Westminster hatchery site, New Westminster Dist.

Nadina Lake: Expansion of Nadina R., E. of Kidprice L., Rge. 4, Coast Dist.

Nadina River: Flows E. into Francois L., Rge. 4, Coast Dist.

Namu: P.O., Str. Ldg., Namu Hr., Rge. 2, Coast Dist.

Namu Lake: Expansion of Namu R., Rge. 2, Coast Dist.

Namu River: Flows SW. into Namu Hr., Rge. 2, Coast Dist.

Nanaimo Lakes: Expansion of Nanaimo R., SW. of Nanaimo, Dunsmuir Dist.

Nanaimo River: Flows E. and N. into Nanaimo Hr., Nanaimo Dist.

Nancut Creek: Flows NE. into Stuart L. from Cunningham L., Rge. 5, Coast Dist.

Nanika River: Flows NW. into Morice L., Rge. 5, Coast Dist.

Napanee River: Richmond and North Frederickburg townships, Lennox and Addington County, Ontario.

Nicola River: Flows W. and NW. into Thompson R., NE. of Spences Bridge, Kamloops Dist.

Nicomekl River: Flows SW. into Mud Bay, New Westminster Dist.

Nicomen Slough: N. side of Nicomen I., Fraser R., E. of Hatzic L., New Westminster Dist.

Nile Creek: Flows NE. into Qualicum Bay, Newcastle Dist.

Nilkitkwa Lake: Expansion of Babine R., N. of Babine L., Cassiar Dist.

Nimpkish Lake: Expansion of Nimpkish R., S. of Malcolm I., Rupert Dist.

No End or No-End Lake (local names): E. of Mink Trap Bay, Rge. 4, Coast Dist.

North Arm Creek (local name): Near New Westminster hatchery site, New Westminster Dist.

North Harbour River: Avalon Pen., Newfoundland.

North Thompson River: Flows S. into Thompson R., N. of Kamloops, Kamloops Dist.

Ohau Lake: Headwaters of Waitaki R., New Zealand.

O'Ne-ell Creek: Flows NE. into Middle R., Rge. 5, Coast Dist.

Ottawa Hatchery: Ottawa, Ontario.

Otter Lake (local name): Near Harrison Lake hatchery site. Possibly Weaver L.

Owikeno Lake: At head of Rivers Inlet, Rge. 2, Coast Dist.

Oyster River: Flows E. into Strait of Georgia, S. of Kuhushan Pt., Comox Dist.

Pie Island: Lake Superior, Thunder Bay Dist., Ontario.

Pierre Creek: Flows E. into Babine L., S. of Wright Bay, Rge. 5, Coast Dist.

Pinchi Creek: Flows S. into Stuart L., Rge. 5, Coast Dist.

Pine Point Creek (local name): Flows into Great Central L. about 15 mi. from outlet.

Pinkut Creek: Flows N. into Babine L., N. of Taltapin L., Rge. 5, Coast Dist.

Pitt Lake: Expansion of Pitt R., N. of Fraser R., New Westminster Dist.

Pitt River: Flows SW. into Fraser R., New Westminster Dist.

Polar or Polor Creek (local names): Flows into Great Central L. about 19 mi. from outlet.

Portage Creek (local name): Flows from Anderson L. to Seton L., Lillooet Dist.

Powell Creek (local name): Near Cowichan Lake hatchery site.

Puntledge Hatchery: Near Courtenay.

Qualicum River (also known as Big Qualicum River): Flows NE. into Strait of Georgia, S. of Qualicum Bay, Newcastle Dist.

Quatsino: N. side of Quatsino Sd., near head, Rupert Dist.

Quatsino Sound: N. of Brooks Bay, Rupert Dist.

Quesnel Field Station: At Horsefly Lake.

Quesnel Lake: Drains into Quesnel R., Cariboo Dist.

Quesnel River: Flows NW. and SW. into Fraser R., Cariboo Dist.

Quinsam River: Flows NE. into Campbell R. near mouth, Sayward Dist.

Raft River: Flows SW. into North Thompson R., Kamloops Dist.

Rainbow Lake (local name): Near Stuart Lake hatchery site, trib. to Stuart L., Rge. 5, Coast Dist.

Robertson Creek (local name): Secondary outlet of Great Central L.

Rosewall Creek: Flows NE. into Mud Bay, W. of Deep Bay, Newcastle Dist.

Ruby Creek: Flows into Fraser R., E. of Harrison L., Yale Dist.

Saint John River: Flows into Bay of Fundy, Saint John County, New Brunswick.

Sakinaw Lake: N. of Pender Hr., E. of Agamemnon Chan., New Westminster Dist.

Salmon Arm: SW. arm of Shuswap L., Kamloops Dist.

Salmon Creek (local name): Branch of Hatchery Cr., Lakelse L., Rge. 5, Coast Dist.

Salmon River: Flows NW. and NE. into Bedford Chan., Fraser R., New Westminster Dist.

Salmon River: Flows W., NE., and N. into S. end of Salmon Arm, Shuswap L., Kamloops Dist.

Samish Hatchery: Burlington, Washington State.

Samish River: Flows into Puget Sd., Washington State.

Schulbuckhand Creek (also known as Scully Creek): Flows NW. into S. end of Lakelse L., Rge. 5, Coast Dist.

Scotch Creek: Flows SW. into Shuswap L. near W. end, Kamloops Dist.

Scoular Lake: SE. of Captain Cove, Pitt I., Rge. 4, Coast Dist.

Scully Creek: See Schulbuckhand Creek.

Senora Creek (local name): Near Cowichan Lake hatchery site.

Serpentine River: Flows SW. into Mud Bay, New Westminster Dist.

Seton Lake: W. of Fraser R. and Lillooet, Lillooet Dist.

Seton River: Flows SE. into Fraser R., S. of Lillooet, Lillooet Dist.

Seymour Creek and Slough (local names): Flow into Harrison L.

Seymour River: Flows into Seymour Arm, Shuswap L., Kamloops Dist.

Shawnigan Creek: Flows N. through Shawnigan L. then SE. and E. into Mill Bay, Shawnigan Dist.

Shuswap Lake: W. of Revelstoke, Kamloops Dist.

Shuswap River: Flows through Sugar and Mabel Ls. and N. into Mara L., Kamloops Dist.

Silk-atkwa Bay (local name): In Salmon Arm, Shuswap L., Kamloops Dist.

Silver Lake: Expansion of Silverhope Cr., S. of Hope, Yale Dist.

Silver Lake (local name): Near Shuswap L., Kamloops Dist.

Silverhope Creek (not Silver): Flows N. into Fraser R., W. of Hope, Yale Dist.

Six Mile Creek: See Gullwing Creek.

Skagit Hatchery: Marblemount, Washington State.

Slough Creek (local name): Flows into Lakelse L., Rge. 5, Coast Dist.

Smallions Lake: In Quebec.

Smith Falls Creek: Flows W. into Cultus L., New Westminster Dist.

Snow Creek (local name): Flows into Sproat L. about 2 mi. from head, Clayoquot Dist.

Sockeye Creek (also known as Eliza Creek): Flows S. into Williams Cr., N. of Lakelse L., Rge. 5, Coast Dist.

Soper Branch: According to Parsons (1973), a stream in Durham County, Ontario, flowing into Lake Ontario. Possibly the same as Soper Brook.

Soper Brook: Darlington Township, Durham County, Ontario. Possibly the same as Souche Creek and Soper Branch.

Souche Creek (local name): At Bowmanville in Durham County on Lake Ontario, Ontario. Parsons (1973) refers to Souche Creek as Soper Branch (Soper Brook?).

South Thompson River: Flows SW. and W. into Thompson R., E. of Kamloops L., Kamloops Dist.

South Westminster Creek (local name): Flows N. into Fraser R. near New Westminster, New Westminster Dist.

Sowchea Creek: Flows E. into S. end of Stuart L., Rge. 5, Coast Dist.

Sproat Lake: S. of Great Central L., Clayoquot Dist.

Sproat River: Flows NE. into Somass R. from Sproat L., Alberni Dist.

Squamish River: Flows S. into head of Howe Sd., New Westminster Dist.

Squilax: P.O. on C.P.R., S. side of South Thompson R., E. of N. end of Little Shuswap L., Kamloops Dist.

Starret Creek (local name): Flows into Nancut Cr. near Stuart Lake hatchery site, Rge. 5, Coast Dist.

Stave River: Flows S. into Fraser R., W. of Harrison L., New Westminster Dist.

Stellako River: Between Francois and Fraser Ls., Rge. 5, Coast Dist.

Stillaguamish River: Flows into Puget Sd., Washington State.

Stone Creek (local name): Near New Westminster hatchery site.

Stuart Lake: N. of Fraser L., Rge. 5, Coast Dist.

Sturgeon Slough: E. of Addington Pt., Pitt R., New Westminster Dist.

Sumas Lake: S. side of Fraser R. about 7 1/2 mi. SW. of Chilliwack, New Westminster Dist. This lake, covering an area of 10,000 acres, was reclaimed by the Government of B.C. and subdivided into 40-acre blocks.

Sumas Rapids: Probably on Sumas R.

Sumas River: Flows NE. into Fraser R., New Westminster Dist.

Surrey: Dist. Mun., S. of Fraser R. between Delta and Langley Dist. Muns., New Westminster Dist.

Sutherland River: Flows NW. into SE. end of Babine L., Rge. 5, Coast Dist.

Sweltzer River: Flows NE. from Cultus L. to Chilliwack R., New Westminster Dist

Tachie River: Between Stuart and Trembleur Ls., Rge. 5, Coast Dist.

Taft: Station on C.P.R., N. side of Eagle R., Kamloops Dist.

Tahlo Creek: Flows S. into head of Morrison L., Cassiar Dist.

Tappen Creek (also known as Granite Creek): Flows NE. and SE. into W. end of Salmon Arm, Shuswap L., Kamloops Dist.

Taseko Lake: Expansion of Taseko R., E. of Chilko L., Lillooet Dist.

Taylor River: Flows E. into Taylor Arm, W. end of Sproat L., Clayoquot Dist.

Ten Mile Creek (local name): Flows into Harrison L.

Ten Mile Creek (local name): Flows into Pitt L., New Westminster Dist.

Ternan Creek (local name): Flows into head of Henderson L. at Anderson L. hatchery site, Clayoquot Dist.

Ternan Lake (local name): In vicinity of Anderson Lake hatchery.

Tezzeron Lake: N. of Stuart L., Rge. 5, Coast Dist.

Thompson River: Flows W., S., and W. from Kamloops into Fraser R. at Lytton, Kamloops Dist.

Thurlow Hatchery: Belleville, Ontario.

Tinkey Lakes (local name): SE. corner of Don Pen., drain into Spiller Chan., Rge. 3, Coast Dist.

Tlakwa Creek: Flows E. into Nimpkish L., N. of Hustan L., Rupert Dist.

Tlell River: Flows NE. into Hecate Str., S. of Cape Ball, Q.C. Dist.

Tom Browne Creek (also known as Glendale River): Flows N. into Glendale Cove, Rge. 1, Coast Dist.

Tranquil Creek: Flows S. into head of Tranquil Inlet, Clayoquot Dist.

Triggs Creek (local name): Probably in lower Fraser Valley.

Trout Lake Creek: Flows W. into SE. end of Harrison L., Yale Dist.

Tsolum River: Flows SE. into Courtenay R., in Courtenay, Comox Dist.

Tuno Lake (local name): Possibly the same as upper Little Tuno Lake or possibly a lake on the stream which flows into the head of Blair Inlet, Don Pen., Rge. 3, Coast Dist. Fishery Officers' reports give two Tuno Creeks (East and West) both of which flow into Blair Inlet.

Twelve Mile Creek: Welland County, Ontario

Tyee Creek (local name): Possibly near Tyee flag station on C.P.R. near Duncan.

Tynehead Creek (local name): Near Tynehead, New Westminster Dist. Possibly a trib. of the Serpentine R.

Uganik Lake: Kodiak Island, Alaska.

Upper Adams River (local name): Adams R. above Adams L., Kamloops Dist.

Upper Kennedy River (local name): Kennedy R. above Kennedy L., Clayoquot Dist.

Upper Pitt River (local name): Pitt R. above Pitt L., New Westminster Dist.

Van Decar Creek: Flows NE. into Middle R., SW. of Natazulto L., Rge. 5, Coast Dist.

Vedder River: Flows W. and NW. from Vedder Crossing into Sumas R., New Westminster Dist.

View Lake Creek (local name): Probably the stream flowing from View L. which is E. of W. end of Great Central L., Clayoquot Dist.

Wahleach Creek (also known as Jones Creek): Flows N. into Fraser R., N. of Wahleach L., Yale Dist.

Waitaki River: Flows into southern end of Canterbury Bight, New Zealand.

Walkus Lake: Head of Genesee Cr., E. of Owikeno L., Rge. 2, Coast Dist.

Wanetta Lake: W. of Kennedy L., S. of Kennedy R., Clayoquot Dist.

Wannock River: Flows W. into head of Rivers Inlet, Rge. 2, Coast Dist.

Waterlilly Lake (local name): Near Stuart Lake hatchery site, trib. to Stuart L., Rge. 5, Coast Dist.

Waterloo Creek: Flows E. into Baynes Sd., N. of Mud Bay, Newcastle Dist.

Weaver Creek: Flows S. into Morris L., W. of S. end of Harrison L., New Westminster Dist.

Weaver Lake: Head of Weaver Cr., W. of Harrison L., New Westminster Dist.

White Pine Creek (local name): Flows into Great Central L. about 15 mi. from outlet.

Widgeon Creek and Slough: W. of Siwash I., Pitt R., New Westminster Dist.

Williams Creek: Flows SW. into N. end of Lakelse L., Rge. 5, Coast Dist.

Wilmot Creek: Clarke Township, Durham County, Ontario.

Wolf Lake (local name): W. side of Coldwell Pen., drains into Spiller Chan., Rge. 3, Coast Dist.

Creek "X" (IPSFC name): Flows into Nadina L.

Yes Bay Hatchery: N. end of Lake McDonald, Cleveland Pen., southeastern Alaska.

Table 1. Transfers of sockeye eggs and fry to Lower Fraser Valley streams downstream from Nicomen Slough.[a]

Brood year	Collecting and eyeing hatchery	Source of eggs	No. of eggs collected by or transferred to distributing hatchery	Distributing hatchery	Distribution		
					Eggs	Fry	Location
1884	Fraser River	Harrison River	250,000	Fraser River		200,000[b]	Coquitlam River
						200,000[b]	Fraser River
						400,000[b]	Stave River
1885	Fraser River	Harrison system	4,462,000[b]	Fraser River		350,000[b]	Coquitlam River
						400,000[b]	Stave River
1886	Fraser River	Harrison River	4,780,000	Fraser River		375,000	Coquitlam River
1887	Fraser River	Harrison River	9,325,000	Fraser River		125,000	Coquitlam River
						1,170,000	Stave River
1888	Fraser River	Harrison River	4,921,000	Fraser River		161,000	Coquitlam River
						60,000	Nicomekl River
1889	Fraser River	Weaver Creek	9,233,000	Fraser River		320,000	Coquitlam River
						60,000	Nicomekl River
						640,000	Stave River
1890	Fraser River	Harrison River Rapids and Weaver Creek	3,861,000	Fraser River		260,000	Coquitlam River
						50,000	Nicomekl River
1891	Fraser River	Weaver Creek	6,485,500	Fraser River		50,000	Coquitlam River
						700,000	Stave River
1892	Fraser River	Weaver Creek	6,237,000	Fraser River		650,000	Stave River
						50,000	Nicomekl River
1893	Fraser River	Weaver Creek	6,880,000	Fraser River		500,000	Stave River
1894	Fraser River	Weaver Creek	6,752,000	Fraser River		800,000	Stave River
1899	Fraser River	Weaver Creek	7,496,000	Fraser River		200,000	Creek at hatchery
1900	Fraser River	Weaver Creek	310,000	Fraser River	300,000		Unknown, probably creek at hatchery
1901	Fraser River	Weaver Creek	10,106,000	Fraser River		18,000	Creek at hatchery
						600,000	Kanaka Creek
1903	Fraser River	Trout Lake and Weaver creeks and Harrison River Rapids	12,970,000	Fraser River		150,000	Creek at hatchery

Table 1 (cont'd)

Brood year	Collecting and eyeing hatchery	Source of eggs	No. of eggs collected by or transferred to distributing hatchery	Distributing hatchery	Distribution		
					Eggs	Fry	Location
1904	Fraser River	Big Silver, Douglas, Trout Lake, and Weaver creeks and Pitt River	8,683,000	Fraser River		100,000 Some 70,000	Coquitlam River Creek at hatchery Serpentine River
1905	Fraser River Pemberton Granite Creek	Upper Pitt River Birkenhead River Scotch and Tappen creeks and Adams River	100,000 4,500,000 3,000,000	Fraser River		750,000	Coquitlam River
1909	Fraser River Granite Creek	Cultus Lake Scotch and Tappen creeks	500,000 10,000,000	Fraser River		1,124,000	Creek at hatchery
1913	Unknown	Unknown (from Exhibition Building)	150,000	Fraser River		50,000 Some	Gilley Creek Creek at hatchery
1915	New Westminster	Unknown, probably Pitt River	240,000	New Westminster		72,000	Salmon River
1916	New Westminster Pitt Lake	Hatchery ponds Upper Pitt River	2,000 250,000	New Westminster		177,000	Salmon River
1917	New Westminster Pitt Lake	Hatchery ponds Unknown, probably Pitt River	5,000 120,000	New Westminster		45,000[c]	Creek at hatchery
1919	Pitt Lake	Charles Peters, Fish Hatchery, and Ten Mile creeks, Haagson's and Mountain sloughs, and Pitt River	608,500[d]	New Westminster			
1920	Rivers Inlet	Amback, Genesee, and Medowse creeks	130,000	New Westminster	6,000 1,000 1,000	 60,000 60,740	Booth Creek Creek at hatchery Danson Creek Glen Creek Kanaka Creek
	Pitt Lake	Corbold, Fish Hatchery, and Ten Mile creeks and Mountain Slough	230,000	New Westminster		39,000 25,000	Back Creek McKay Creek
1921	Pitt Lake	Corbold and Fish Hatchery creeks	230,000	New Westminster	2,500 145,950		Booth Creek Creek at hatchery

[a] Excluding the Pitt River system.
[b] The Fraser River hatchery reports do not indicate whether these are sockeye and/or chinook as both species are reported together.
[c] Fingerlings.
[d] Disposition of these eggs is not available.

Table 2. Transfers of sockeye eggs and fry to the Pitt River system.[a]

Broad year	Collecting and eyeing hatchery	Source of eggs	No. of eggs collected by or transferred to distributing hatchery	Distributing hatchery	Distribution			
					Eggs	Fry	Fingerlings	Location
1884	Fraser River	Harrison River	250,000	Fraser River		250,000[b]		Pitt Lake
1885	Fraser River	Harrison system	4,462,000[b]	Fraser River		200,000[b]		Alouette River
						600,000[b]		Pitt Lake
1886	Fraser River	Harrison River	4,780,000	Fraser River		702,000		Pitt Lake
						161,000		Mountain Creek[c]
1887	Fraser River	Harrison River	9,325,000	Fraser River	500,000	1,275,000		Pitt Lake
1888	Fraser River	Harrison River	4,921,000	Fraser River		1,225,950		Pitt Lake
1889	Fraser River	Weaver Creek	9,233,000	Fraser River		1,370,000		Pitt Lake
						480,000		Upper Pitt River
1890	Fraser River	Harrison River Rapids and Weaver Creek	3,861,000	Fraser River		500,000		Pitt Lake
1891	Fraser River	Weaver Creek	6,485,500	Fraser River	400,000	800,000		Pitt Lake
						700,000		Widgeon Creek
1892	Fraser River	Weaver Creek	6,237,000	Fraser River		1,340,000		Pitt Lake
1893	Fraser River	Weaver Creek	6,880,000	Fraser River		1,800,000		Pitt Lake
1894	Fraser River	Weaver Creek	6,752,000	Fraser River		950,000		Pitt Lake
						950,000		Widgeon Creek
1895	Fraser River	Weaver Creek	6,830,000	Fraser River		1,108,120		Pitt Lake
1896	Fraser River	Weaver Creek	6,770,000	Fraser River		568,533		Pitt Lake
1897	Fraser River	Weaver Creek	6,472,000	Fraser River		1,850,000		Pitt Lake
1898	Fraser River	Weaver Creek	5,502,000	Fraser River		480,000		Pitt Lake
1901	Fraser River	Weaver Creek	10,106,000	Fraser River		500,000		Alouette River
1903	Fraser River	Trout Lake and Weaver creeks and Harrison River Rapids	12,970,000			700,000		Alouette River
						700,000		Upper Pitt River
						700,000		Widgeon Creek
1904	Fraser River	Big Silver, Douglas, Trout Lake, and Weaver creeks and Pitt River	8,683,000	Fraser River		650,000		Alouette River
						1,300,000		Upper Pitt River
1905	Fraser River	Upper Pitt River	100,000	Fraser River		1,500,000		Alouette River
	Pemberton	Birkenhead River	4,500,000			3,560,000		Upper Pitt River
	Granite Creek	Scotch and Tappen creeks and Adams River	3,000,000			1,000,000		Widgeon Creek
1906	Fraser River	Pitt River	24,000	Fraser River		2,000,000		Upper Pitt River
	Pemberton	Birkenhead River	4,500,000			1,000,000		Widgeon Creek

Table 2 (cont'd)

Broad year	Collecting and eyeing hatchery	Source of eggs	No. of eggs collected by or transferred to distributing hatchery	Distributing hatchery	Distribution			
					Eggs	Fry	Fingerlings	Location
1907	Pemberton	Birkenhead River	4,000,000[d]	Fraser River				
	Skeena River	Schulbuckhand Creek	100,000[d]					
1908	Fraser River	Cultus Lake	3,372,000[d]	Fraser River				
1909	Fraser River	Cultus Lake	500,000	Fraser River		1,709,000		Alouette River
	Granite Creek	Scotch and Tappen creeks	10,000,000			1,682,000		Dawson Bay
						841,000		Pitt Lake
						1,682,000		Sturgeon Slough
						2,332,000		Widgeon Creek
1911	Fraser River	Cultus Lake	3,700,000	Fraser River		1,500,000		Widgeon Creek
1915	New Westminster	Unknown, probably Pitt River	240,000	New Westminster		50,000		Pitt Lake
						20,600		Widgeon Creek
1916	New Westminster	Hatchery ponds	2,000	New Westminster		10,000		Dawson Creek
	Pitt Lake	Upper Pitt River	250,000			23,000		Widgeon Creek
1917	New Westminster	Hatchery ponds	5,000	New Westminster		30,000		Widgeon Creek
	Pitt Lake	Unknown, probably Pitt River	120,000					
1919	Pitt Lake	Charles Peters, Fish Hatchery, and Ten Mile creeks, Haagson's and Mountain sloughs, and Pitt River	608,500[d]	New Westminster				
1920	Pitt Lake	Corbold, Fish Hatchery, and Ten Mile creeks and Mountain Slough	230,000[e]	New Westminster		117,000		Alouette River
						25,000		Widgeon Creek
1931	Cultus Lake	Sweltzer River	4,643,100	Pitt Lake	909,494			Boise Creek
					797,550			Charles Peters Creek
					845,000	500,000		Corbold Creek
					292,500	1,245,935	24,980	Fish Hatchery Creek
1934	Cultus Lake	Sweltzer River	4,255,862	Pitt Lake	1,350,000			Corbold and Fish Hatchery creeks
						2,897,000		Charles Peters, Corbold, and Fish Hatchery creeks, and Coxe's and Mountain sloughs
							59,944	Fish Hatchery Creek

[a]Including fry reared at the Fraser River and New Westminster hatcheries from eggs collected in the Pitt River system.
[b]The Fraser River hatchery reports do not indicate whether these were sockeye and/or chinooks. Both species were reported together.
[c]Mountain Creek may be Mountain Slough on the Pitt River or Mountain Slough near Agassiz.
[d]The distribution of these eggs or fry resulting from them is not available. It is quite likely that some were distributed in the Pitt River system. The eggs from the Skeena River hatchery were sent for the New Westminster Exhibition. They were probably kept at the Fraser River hatchery until required at the Exhibition and may have been returned to the Fraser River hatchery after the Exhibition ended.
[e]These eggs which were collected in the Pitt River system were incubated at the New Westminster hatchery at the same time as a shipment from the Rivers Inlet hatchery of 130,000 eggs which had been collected from Amback, Genesee, and Medowse creeks. None of the latter eggs or resulting fry were distributed in the Pitt River system.

Table 3. Transfers of sockeye eggs and fry to Lower Fraser Valley streams between Nicomen Slough and Kawkawa Lake.[a, b]

Broad year	Collecting and eyeing hatchery	Source of eggs	No. of eggs collected by or transferred to distributing hatchery	Distributing hatchery	Distribution										
					Eggs		Fry								
					Cultus Lake	Silverhope Creek	Nicomen Slough	Cultus Lake	Chilliwack River	Sumas Lake	Sumas River	Sumas L. Vedder R.	Ruby Creek	Silver Lake	Kawkawa Lake
1884	Fraser River	Harrison River	250,000	Fraser River			200,000[c]								
1886	Fraser River	Harrison River	4,780,000	Fraser River							309,000				
1887	Fraser River	Harrison River	9,325,000	Fraser River							805,000				
1888	Fraser River	Harrison River	4,921,000	Fraser River					600,000	400,000					
1889	Fraser River	Weaver Creek	9,233,000	Fraser River							510,000				
1890	Fraser River	Harrison River Rapids and Weaver Creek	3,861,000	Fraser River			557,000		782,000						
1901	Fraser River	Weaver Creek	10,106,000	Fraser River					1,600,000						
1911	Fraser River	Cultus Lake	3,700,000	Fraser River				200,000		1,600,000					
	Harrison Lake	Big Silver Creek, Harrison River Rapids, Harrison sloughs, Trout Lake Creek, Weaver Creek, Cultus Lake, and unknown streams	13,862,000	Harrison Lake				200,000				1,600,000			
1915	New Westminster	Unknown, probably Pitt River	240,000	New Westminster									20,000		25,000
1916	New Westminster	Hatchery ponds	2,000	New Westminster									15,000		25,000
	Pitt Lake	Upper Pitt River	250,000												
1917	New Westminster	Hatchery ponds	5,000	New Westminster			40,000								
	Pitt Lake	Unknown, probably Pitt River	120,000												
1919	Harrison Lake	Harrison Lake hatchery pond ditch and Weaver Creek	7,549,000	Harrison Lake		60,000									
1921	Pemberton	Birkenhead River	1,995,000	Cultus Lake				3,781,300							
	Cultus Lake	Probably Sweltzer River	4,306,200												
1922	Pemberton	Birkenhead River	4,000,000	Cultus Lake	2,500			5,508,120[f]						15,000[f]	
	Cultus Lake	Sweltzer River	3,222,750												
1926	Anderson Lake	Clemens Creek and Henderson Lake beaches	1,000[d]	Cultus Lake											
	Pemberton	Birkenhead River	1,000[d]	Cultus Lake											
	Rivers Inlet	Amback and Genesee creeks	1,000[d]	Cultus Lake											
1927	Cultus Lake	Trout Lake Creek	3,860,000[e]	Cultus Lake											
1929	Cultus Lake	Trout Lake Creek	191,000[e]	Cultus Lake											

[a] Excluding the Harrison system.
[b] Including fry reared at the Fraser River and Harrison Lake hatcheries from eggs collected at Cultus Lake in 1911 and indicating numbers of eggs collected at Harrison Lake in 1927 and 1929 which were reared to eyed and fingerling stages prior to planting at Harrison Lake (see Table 4).
[c] These fry may have been partly or entirely chinook.
[d] Sent to the Pacific Salmon Research Station at Cultus Lake. The ultimate disposition of these eggs is not known.
[e] Collected by the Harrison Lake hatchery but eyed and reared at the Cultus Lake hatchery prior to planting at Harrison Lake as eyed eggs and fingerlings.
[f] Includes fingerlings.

Table 4. Transfers of sockeye eggs and young to the Harrison system.

Broad year	Collecting and eyeing hatchery	Source of eggs	No. of eggs collected by or transferred to distributing hatchery	Distributing hatchery	Distribution			
					Eggs	Fry	Fingerlings	Location
1884	Fraser River	Harrison River	250,000	Fraser River		550,000[a]		Harrison River
1885	Fraser River	Harrison system	4,462,000[b]	Fraser River		750,000[a]		Harrison River
1886	Fraser River	Harrison River	4,780,000	Fraser River		858,000		Harrison Lake
1888	Fraser River	Harrison River	4,921,000	Fraser River		1,750,000		Harrison River
1889	Fraser River	Weaver Creek	9,233,000	Fraser River		2,160,000		Harrison River
1890	Fraser River	Harrison River Rapids and Weaver Creek	2,861,000	Fraser River		738,500		Harrison River
1891	Fraser River	Weaver Creek	6,485,500	Fraser River		3,350,000		Harrison River
1892	Fraser River	Weaver Creek	6,237,000	Fraser River		3,674,000		Harrison River
1893	Fraser River	Weaver Creek	6,880,000	Fraser River		4,000,000		Harrison River
1894	Fraser River	Weaver Creek	6,752,000	Fraser River		3,690,000		Harrison River
1895	Fraser River	Weaver Creek	6,830,000	Fraser River		5,284,880		Harrison River
1896	Fraser River	Weaver Creek	6,770,000	Fraser River		5,359,467		Harrison River
1897	Fraser River	Weaver Creek	6,472,000	Fraser River		4,000,000		Harrison River
1898	Fraser River	Weaver Creek	5,502,000	Fraser River		4,262,000		Harrison River
1899	Fraser River	Weaver Creek	7,496,000	Fraser River		6,000,000		Harrison River
1901	Fraser River	Weaver Creek	10,106,000	Fraser River		6,300,000		Harrison River
1902	Fraser River	Big Silver and Weaver creeks	13,642,000	Fraser River		9,031,900		Harrison River
1903	Fraser River	Trout Lake and Weaver creeks and Harrison River Rapids	12,970,000	Fraser River		6,500,000		Harrison River
1904	Harrison Lake	Big Silver, Douglas, and Trout Lake creeks	1,399,000	Harrison Lake		2,600,000		Trout Lake Creek
	Fraser River	Big Silver, Douglas, Trout Lake, and Weaver creeks and Pitt River	2,000,000					
1905	Harrison Lake	Big Silver, Douglas, Trout Lake, and Weaver creeks and Harrison River	21,360,000			2,500,000[c]		Big Silver Creek
	Granite Creek	Scotch and Tappen creeks and Adams River	1,500,000	Harrison Lake		10,272,000[c]		Trout Lake Creek and Bay
	Pemberton	Birkenhead River	4,000,000			16,000,000[c]		Weaver Creek
1906	Harrison Lake	Harrison system	9,767,000	Harrison Lake		13,347,000[d]		Unknown
	Pemberton	Birkenhead River	4,000,000					
1909	Harrison Lake	Harrison system	6,000,000	Harrison Lake		7,500,000		Weaver Creek
		Cultus Lake	2,000,000					
1911	Harrison Lake	Harrison system	11,652,000	Harrison Lake		11,981,000		Weaver Creek
		Cultus Lake	2,210,000					
1913	Harrison Lake	Harrison system	12,739,000	Harrison Lake		750,000		Bear Creek
		Cultus Lake	2,600,000			750,000		Big Silver Creek
		Fraser River at China Bar	17,256,000			604,000		Cascade Creek
						750,000		Chelsales Slough
						15,182,000		Harrison Lake
						3,610,000		Harrison River
						3,210,000		Hatchery ponds
						1,500,000		Seymour Slough
						822,000		Trout Lake Creek
						2,745,000		Weaver Creek
1914	Harrison Lake	Points at Harrison Lake and adjacent waters including Cultus Lake	7,264,000	Harrison Lake		7,000,000		At Harrison Lake
1915	Harrison Lake	Harrison system	8,466,000	Harrison Lake		38,040,000[e]		At Harrison and Cultus lakes
		Cultus Lake	30,350,000					
		Pitt Lake	4,190,000					

Table 4 (cont'd)

Broad year	Collecting and eyeing hatchery	Source of eggs	No. of eggs collected by or transferred to distributing hatchery	Distribution hatchery	Distribution			
					Eggs	Fry	Fingerlings	Location
1916	Harrison Lake	Big Silver, Trout Lake, and Weaver creeks	758,000	Harrison Lake		5,514,000		Harrison Lake
	Cultus Lake	Sweltzer River	5,295,000					
1917	Harrison Lake	Harrison system	439,000	Harrison Lake		400,000		Small creek near hatchery
	Cultus Lake	Probably Sweltzer River	650,000			612,000		Trout Lake Creek
	Afognak	Probably Litnik Lake, Afognak Island, and Uganik Lake, Kodiak Island	10,000,000	Harrison Lake		4,000,000		Ponds excavated on hatchery beach
1918	Harrison Lake	Harrison system	1,873,000	Harrison Lake		1,000,000		Cogburn Creek
	Afognak	Probably Litnik Lake, Afognak Island, and Uganik Lake, Kodiak Island	20,700,000			3,000,000		Harrison Lake
						1,000,000		Harrison River
						3,592,000		Hatchery ponds
						1,000,000		Leoni Creek
						2,000,000		Miami Creek
					590,000[f]	4,400,000		Weaver Creek
						300,000		Weaver Lake
1921	Harrison Lake	Trout Lake and Weaver creeks, and Harrison River	727,000	Harrison Lake			210,000	Harrison Lake at hatchery
	Pemberton	Birkenhead River	1,800,000				1,632,000	Trout Lake Creek and nearby lakeshore
					470,000			Hicks Lake
1922	Harrison Lake	Weaver Creek, hatchery ditch, and Harrison River	2,057,800	Harrison Lake		150,000		Harrison Lake at hatchery
	Pemberton	Birkenhead River	2,000,000		150,000	2,050,000		Trout Lake Creek
					75,000			At hatchery
					75,000			Hatchery overflow
					1,413,000			Weaver Creek
1925	Pemberton	Birkenhead River	2,040,000	Harrison Lake	2,040,000			Weaver Creek
1926	Pemberton	Birkenhead River		Pemberton	3,000,000			Weaver Creek
1927	Cultus Lake	Trout Lake Creek	3,860,000	Cultus Lake	893,965			Planted at Harrison Lake hatchery
					2,650,000			Weaver Creek
1928	Harrison Lake	Sweltzer River	17,988,050	Harrison Lake		625,000		Big Silver Creek
	Cultus Lake	Sweltzer River	7,602,400		516,000			Cascade Creek
						500,000		Cogburn Creek
						800,000		Cottonwood Creek
						1,000,000		Harrison Lake
					40,000			Trout Lake Creek
					3,192,000	1,889,000		Weaver Creek
1929	Cultus Lake	Trout Lake Creek	191,000	Cultus Lake			31,201	Harrison Lake
					144,000			Trout Lake Creek
1930	Pemberton	Birkenhead River	12,005,000	Harrison Lake		10,723,000		Harrison Lake
						900,000		Weaver Creek
1931	Harrison Lake	Sweltzer River	20,005,924	Harrison Lake	1,379,377	500,000		Big Silver Creek
	Cultus Lake	Sweltzer River	3,120,000		737,667			Cogburn Creek
					73,774			Eagle Creek
						10,569,000		Harrison Lake
					263,500	400,000		Trout Lake Creek
					5,206,997			Weaver Creek
1934	Harrison Lake	Sweltzer River	29,978,430	Harrison Lake	3,633,505	1,250,000		Big Silver Creek
					1,517,440	300,000		Cogburn Creek
					250,000			Eagle Creek
						10,462,612		Harrison Lake
					315,505			Ten Mile Creek
					390,000	368,000		Trout Lake Creek
					5,512,595	1,450,000		Weaver Creek

[a] Partly or entirely chinook fry.
[b] Includes chinook eggs.
[c] Includes fry hatched from 3,070,000 coho and chinook eggs.
[d] Includes fry hatched from 660,000 coho eggs.
[e] Includes fry hatched from 7,000,000 sockeye eggs at the Cultus Lake sub-hatchery.
[f] From the Harrison Lake egg collection.

Table 5. Transfers of Sweltzer River sockeye eggs to the Pemberton hatchery from the Cultus Lake hatchery.

Brood year	Number of eggs transferred	Distribution
1928	1,001,000 eyed eggs 200,000 green eggs	300,000 eyed eggs planted in the Gates River and 691,000 fry released in Gates Lake
1929	20,740 green eggs	Fry released in the Birkenhead River

Table 6. Transfers of sockeye fry to Adie and Horseshoe lakes by the Pemberton hatchery.

Brood year	Source of eggs	Number of fry	
		Adie Lake	Horseshoe Lake
1920	Birkenhead River		250,000
1922	Birkenhead River	120,000	
1924	Birkenhead River	180,000	
1925	Birkenhead River	660,000	
1926	Birkenhead River	500,000	
1927	Birkenhead River	500,000	
1928	Birkenhead River	510,000	
1930	Birkenhead River	252,000	
1931	Birkenhead River	250,000	

Table 7. Transfer of sockeye eggs to the Nicola River from the Granite Creek hatchery.

Brood year	Source of eggs	No. of eggs
1909	Scotch and Tappen creeks	2,000,000

Table 8. Transfers of sockeye eggs to North Thompson River tributaries from the Granite Creek hatchery.

Brood year	Source of eggs	No. of eggs	
		Barrière River	Louis Creek
1909	Scotch and Tappen creeks	1,000,000	1,000,000

Table 9. Transfers of sockeye eggs to Barrière River by the International Pacific Salmon Fisheries Commission, 1956 to 1960.

Brood year	Eyeing station	Source of eggs	No. of eggs planted
1956	Barrière River	Raft River	316,000
1957	Barrière River	Raft River	550,000
1958	Barrière River	Raft River	582,000
1959	Barrière River	Raft River	490,000[a]
1960	Barrière River	Raft River	1,083,000

[a]Planted in Fennell Creek.

Table 10. Transfers of sockeye to and at Shuswap Lake, 1902 to 1931.[a]

Brood year	Collecting and eyeing hatchery or station	Source of eggs	No. of eggs collected by or transferred to distributing hatchery or station	Distributing hatchery or station	Distribution of eggs and fry							
					Eggs					Fry		
					Eagle River	Salmon River	Scotch Creek	Silver Lake	Tappen Creek	Eagle River	Silk-atkwa Bay	Tappen Creek
1902	Granite Creek	Anstey and Seymour rivers and Scotch Creek	796,000	Granite Creek								3,250,000
	Fraser River	Weaver Creek	2,660,000									
1903	Granite Creek	Scotch Creek	770,000	Granite Creek								2,948 000
	Fraser River	Weaver Creek	2,500,000									
1904	Granite Creek	Scotch Creek	189,000	Granite Creek								4,000,000
	Fraser River	Big Silver, Douglas, Trout Lake, and Weaver creeks and Pitt River	4,000,000									
1907	Granite Creek	Scotch and Tappen creeks	828,000	Granite Creek								6 740.000[b]
	Pemberton	Birkenhead River	4,000,000									
1908	Granite Creek	Scotch and Tappen creeks	635,000	Granite Creek							✓[c]	
	Harrison Lake	Big Silver, Douglas, Trout Lake, and Weaver creeks	100,000									
1913	Granite Creek	Scotch Creek, Adams River, and other Shuswap Lake streams	4,034,000	Granite Creek							8,662,000	
	Granite Creek	Fraser River at China Bar	5,000,000									
1921	Cultus Lake	Sweltzer River	4,306,200	Cultus Lake	2,320,000							
1922	Cultus Lake	Sweltzer River	3,222,750	Cultus Lake	1,176,000							
1923	Cultus Lake	Sweltzer River	5,190,000	Cultus Lake	2,000,000							
1924	Cultus Lake	Sweltzer River	5,075,000	Cultus Lake	3,000,000			200,000				
1925	Pemberton	Birkenhead River	40,418,000	Pemberton	2,002,500							
1926	Pemberton	Birkenhead River	45,350,000	Pemberton	2,700,000							
1928	Cultus Lake	Sweltzer River	14,468,574	Taft						123,550		
	Harrison Lake	Sweltzer River	25,590,450[d]	Harrison Lake	15,036,000	602,000						
1929	Squilax	Adams River	505,000[e]	Taft						271,632		
1930	Squilax	Adams River	1,257,100[e]	Squilax	769,500[e]	222,500[e]	170,100[e]		95,000[e]			
1931	Harrison Lake	Sweltzer River	23,125,924	Harrison Lake	503,700							

[a]Not including all transfers of Shuswap sockeye within the Shuswap system by the Granite Creek hatchery.
[b]Includes fry incubated from 2,665,000 chinook, coho, and pink eggs.
[c]Number of fry released is not available.
[d]Some of these eggs may have been eyed at the Cultus Lake hatchery prior to transfer to the Harrison Lake hatchery.
[e]Green eggs.

Table 11. Transfers of sockeye to and within the Shuswap system by the International Pacific Salmon Fisheries Commission, 1949 to 1975.

Brood year	Eyeing or rearing station	Source of eggs	No. of eggs taken	Distribution								
				Eyed eggs					Fingerlings			
				Upper Adams River	Eagle River	Salmon River	Scotch Creek	Middle Shuswap River	Upper Adams River	Anstey Arm	Mabel Lake	Salmon Arm
1949	Quesnel field station	Seymour River	158,000						84,000			
1950	Seymour River	Seymour River	> 667,000	667,000								
1951	Quesnel field station	Adams River	625,000								269,000	
		Seymour River	325,000							23,000		28,000
1952	Quesnel field station	Seymour River	356,000						187,000			
1954	Adams Lake	Adams River	> 1,396,000					1,396,000				
	Seymour River	Seymour River	> 753,000	495,000		258,000						
1955	Seymour River	Seymour River	> 780,000	780,000								
1956	Seymour River	Seymour River	> 253,000	253,000								
1957	Seymour River	Seymour River	> 520,000	520,000								
1958	Seymour River	Seymour River	> 1,039,000	483,000	273,000	283,000						
	Taseko Lake	Taseko Lake	> 850,000	850,000								
1959	Seymour River	Seymour River	> 900,000	900,000								
	Taseko Lake	Taseko Lake	> 600,000	600,000								
	Adams River	Adams River	> 622,000					622,000				
1960	Taseko Lake	Taseko Lake	> 702,000	702,000								
1962	Seymour River	Seymour River	> 3,780,000		2,757,000		1,023,000					
1974	Upper Adams River	Seymour River	1,551,000	1,374,000								
1975	Upper Adams River	Seymour River	2,187,313	2,140,000								

Table 12. Transfers of sockeye eggs and fry to the Seton-Anderson system, 1915 to 1930.

Brood year	Collecting and eyeing hatchery	Source of eggs	No. of eggs transferred to distributing hatchery	Distributing hatchery	Distribution						
					Eggs		Fry				
					Gates River	Portage Creek	Anderson Lake	Gates Lake	Gates River	Portage Creek	Seton Lake
1915	Pemberton	Birkenhead River	1,000,000	Seton Lake							✓[a]
1916	Pemberton	Birkenhead River	2,000,000	Seton Lake			✓[a]				✓[a]
1919	Pemberton	Birkenhead River	-	Pemberton					2,000,000	200,000	
1921	Pemberton	Birkenhead River	-	Pemberton				120,000	780,000		
1922	Pemberton	Birkenhead River	-	Pemberton				580,000	500,000		
1923	Pemberton	Birkenhead River	-	Pemberton	900,000	600,000			500,000		
1924	Pemberton	Birkenhead River	-	Pemberton			680,000		1,360,000		
1925	Pemberton	Birkenhead River	-	Pemberton	1,000,000			1,020,000			
1926	Pemberton	Birkenhead River	-	Pemberton	1,000,000			720,000	1,295,000		
1927	Pemberton	Birkenhead River	-	Pemberton			816,000	1,360,000			
1928	Cultus Lake	Sweltzer River	1,001,000	Pemberton	300,000			691,000			
	Pemberton	Sweltzer River	200,000[b]	Pemberton							
	Pemberton	Birkenhead River	-	Pemberton			1,020,000	669,000			
1930	Pemberton	Birkenhead River	-	Pemberton	280,000			1,080,000	720,000		

[a]The numbers of fry distributed are not available.
[b]Green eggs received from the Cultus Lake hatchery and eyed at the Pemberton hatchery.

Table 13. Transfers of sockeye to the Seton-Anderson system by the International Pacific Salmon Fisheries Commission, 1950.

Brood year	Eyeing and rearing station	Source of eggs	No. of eggs taken	Distribution	
				Eyed eggs	Fingerlings
				Portage Creek	Anderson Lake
1950	Adams River	Adams River	> 300,000	300,000	
	Quesnel field station	Adams River	400,000		193,000

Table 14. Transfers of sockeye eggs to the Quesnel River system, 1922 to 1928.

Brood year	Hatchery	Source of eggs	Distribution			
			Horsefly River	Lower Horsefly River	Upper Horsefly River	Mitchell River
1922	Pemberton	Birkenhead River	2,000,000			
1923	Pemberton	Birkenhead River	3,000,000			
1924	Skeena River	Hot Springs, Schulbuckhand, and Williams creeks		1,750,000	1,500,000	750,000
1925	Skeena River	Hot Springs, Salmon, Schulbuckhand, and Williams creeks			1,500,000	2,000,000
1926	Skeena River	Schulbuckhand and Williams creeks		1,750,000	1,500,000	750,000
1927	Pemberton	Birkenhead River	2,502,000			
1928	Pemberton	Birkenhead River	3,003,000			

Table 15. Transfers of sockeye eggs and adult sockeye to the Quesnel River system by the International Pacific Salmon Fisheries Commission, 1947 to 1972.

Brood year	Eyeing station	Source of eggs	No. of eggs	No. of adults	Rearing station	Distribution					
						Eggs		Fry	Fingerlings		
						Little Horsefly River	Lower Horsefly River	Horsefly Lake	Horsefly Lake	Horsefly River	Little Horsefly River
1947	Bowron River	Bowron River	678,000	-	Samish hatchery and University of Washington					39,358[a]	
					Samish and Skagit hatcheries					162,549	
1950	Quesnel field station	Stellako River	Not known	-	Quesnel field station				72,000		
1951	Quesnel field station	Adams River	625,000	-	Quesnel field station						131,000
1952	Quesnel field station	Seymour River	356,000	-	Quesnel field station			131,000			
1954	Adams Lake	Adams River	> 390,000	-	-	390,000					
1955	Quesnel field station	Stellako River	400,000	100	Quesnel incubation channel			317,000			
1956	Quesnel field station	Stellako River	Not known	Not known	Quesnel incubation channel			387,000			
1958	Quesnel field station	Stellako River	807,000	-	Quesnel incubation channel			531,272			
			2,622,000	-	Quesnel field station hatchery			2,471,628			
1972	Quesnel field station	Stellako ♀ × Horsefly jack ♂	1,020,000	-	-		1,020,000				

[a]These fingerlings were shipped from the University of Washington to the Horsefly via the Leavenworth hatchery.

Table 16. Transfers of sockeye eggs to Bowron Lake from the Skeena River hatchery.

Brood year	Source of eggs	Distribution	
		Bowron River	Kibbee Creek
1924	Hot Springs, Schulbuckhand, and Williams creeks	850,000	150,000
1925	Hot Springs, Salmon, Schulbuckhand, and Williams creeks	1,400,000	100,000
1926	Schulbuckhand and Williams creeks	1,000,000	

Table 17. Transfer of sockeye fingerlings to Lac la Hache by the International Pacific Salmon Fisheries Commission.

Brood year	Eyeing station	Source of eggs	No. of fingerlings
1950	Quesnel field station	Adams River	15,000

Table 18. Transfers of sockeye eggs to the Nadina River.

Brood year	Hatchery	Source of eggs	No. of eggs
1926	Skeena River	Schulbuckhand and Williams creeks	5,014,500
1927	Pemberton	Birkenhead River	5,004,000
1928	Pemberton	Birkenhead River	5,005,000

Table 19. Transfer of sockeye eggs to Creek "X" at Nadina Lake by the International Pacific Salmon Fisheries Commission.

Brood year	Source of eggs	No. of eggs planted
1956	Forfar Creek	318,000

Table 20. Transfers of sockeye eggs to the Stuart Lake system.[a]

Brood year	Collecting and eyeing hatchery	Source of eggs	No. of eggs collected by or transferred to Stuart Lake hatchery	Distribution		
				Eggs	Fry and fingerlings	Location
1907	Stuart Lake	Four Mile and Pinkut creeks	5,100,000	2,500,000	2,442,000	Nancut Creek
1908	Stuart Lake	Sutherland River	10,478,000	2,478,000	7,200,000	Nancut Creek
1909	Stuart Lake	Pinchi Creek Sutherland River	4,325,000 2,000,000		6,025,000	Nancut Creek
1910	Stuart Lake	Pinkut Creek and Sutherland River	7,880,000		6,935,000	Stuart Lake
1911	Stuart Lake	Pinkut Creek and Sutherland River	7,220,000		6,326,000	Nancut Creek
1912	Stuart Lake	Pinkut Creek and Sutherland River	6,000,000		5,380,000	Nancut Creek
1913	Stuart Lake	Pinkut Creek and Sutherland River	6,000,000		5,560,000	Nancut Creek
1914	Stuart Lake	Pierre and Pinkut creeks	6,000,000		3,360,000	Nancut Creek
1915	Stuart Lake	Pinkut Creek	3,120,000		2,840,000	Nancut Creek
1919	Stuart Lake	Pierre and Pinkut creeks	7,400,000		129,000	Hatchery Creek
					6,458,000	Nancut Creek
1920	Stuart Lake	Pierre and Pinkut creeks	4,370,000		200,000	Crawford Lake
					174,200	Cunningham Lake
					800,500	Hatchery Creek
					20,000	Pinchi Creek
					65,000	Starret Creek
					2,711,520	Stuart Lake
					20,000	Tachie River
1921	Stuart Lake	Pierre and Pinkut creeks	5,530,000		520,000	Crawford Lake
					706,600	Hatchery Creek
				500,000		Pinchi Creek
				500,000		Sowchea Creek
				2,500	1,428,550	Starret Creek
				150,000		Tachie River
					9,240	Waterlilly Lake
1922	Pemberton	Birkenhead River	4,000,000		650,000	Crawford Lake
					200,000	Cunningham Lake
					10,000	Grass Lake
					412,000	Hatchery Creek
				500,000		Pinchi Creek
					9,560	Rainbow Lake
				500,000		Sowchea Creek
					176,640	Starret Creek
					300,000	Stuart Lake
				1,000,000		Tachie River
					120,000	Waterlilly Lake
1923	Pemberton	Birkenhead River	5,000,000		570,000	Crawford Lake
					250,000	Cunningham Lake
					460,000	Grass Lake
					18,110	Hatchery Creek
				500,000		Pinchi Creek
					704,850	Rainbow Lake
				500,000		Sowchea Creek
					140,120	Starret Creek
					300,000	Stuart Lake
				800,000		Tachie River
					240,000	Waterlilly Lake
				100,000		Middle River
				100,000		Gluske Creek

Table 20 (cont'd)

Brood year	Collecting and eyeing hatchery	Source of eggs	No. of eggs collected by or transferred to Stuart Lake hatchery	Distribution		
				Eggs	Fry and fingerlings	Location
1924	Pemberton	Birkenhead River	5,000,000		750,000	Crawford Lake
					925,645	Grass Lake
				500,000		Pinchi Creek
					865,000	Rainbow Lake
				500,000		Sowchea Creek
					340,000	Waterlilly Lake
				150,000		Felix Creek
				350,000		Ferrier Creek
				300,000		Kazchek River
				200,000		O'Ne-ell Creek
1925	Skeena River	Hotsprings, Salmon, Schulbuckhand, and Williams creeks	5,000,000		405,000	Alexander Lake
					400,000	Crawford Lake
					160,000	Cunningham Lake
					600,000	Grass Lake
				550,000		Pinchi Creek
					520,000	Rainbow Lake
				500,000		Sowchea Creek
					400,000	Waterlilly Lake
				500,000		Ferrier Creek
				470,000		Kazchek River
				210,000		O'Ne-ell Creek
				70,000		Van Decar Creek
1926	Skeena River	Schulbuckhand and Williams creeks	5,000,000		510,000	Alexander Lake
					400,000	Crawford Lake
					800,000	Cunningham Lake
				370,000		Pinchi Creek
					507,000	Rainbow Lake
				270,000		Sowchea Lake
					500,000	Waterlilly Lake
				735,000		Ferrier Creek
				735,000		Kazchek Creek
1927	Stuart Lake	Pinkut Creek	5,000,000		400,000	Alexander Lake
					85,000	Antoine Lake
					947,075	Grass Lake
				400,000		Pinchi Creek
					480,000	Rainbow Lake
					510,000	Waterlilly Lake
				880,000		Ferrier Creek
				960,000		Kazchek River
1928	Pemberton	Birkenhead River	5,005,000		1,635,000	Cunningham Lake
					260,000	Grass Lake
					1,305,000	Stuart Lake
				1,582,000		Kazchek Creek

[a]All fry and fingerlings were reared at the Stuart Lake hatchery. It is not known if the eggs which were planted from the Pemberton and Skeena River hatchery collections were planted directly on arrival or were held at the Stuart Lake hatchery for a short period.

Table 21. Transfer of sockeye eggs to Hatdudatehl Creek at Tezzeron Lake by the International Pacific Salmon Fisheries Commission.

Brood year	Source of eggs	No. of eggs taken	No. of eggs planted
1961	Gluske Creek	1,370,000	534,000

Table 22. Transfers of sockeye fry to Sakinaw Lake and the Squamish River.

Brood year	Collecting and eyeing hatchery	Source of eggs	No. of eggs transferred to distributing hatchery	Distributing hatchery	Distribution	
					Sakinaw Lake	Squamish River
1892	Fraser River	Weaver Creek	6,237,000	Fraser River		50,000
1902	Fraser River	Big Silver and Weaver creeks	13,642,000	Fraser River	140,000	60,000
1903	Fraser River	Trout Lake and Weaver creeks and Harrison River Rapids	12,970,000	Fraser River	60,000	50,000
1904	Fraser River	Big Silver, Douglas, Trout Lake, and Weaver creeks and Pitt River	8,683,000	Fraser River	60,000	60,000
1905	Fraser River Pemberton Granite Creek	Upper Pitt River Birkenhead River Scotch and Tappen creeks and Adams River	100,000 4,500,000 3,000,000	Fraser River	60,000	60,000
1906	Fraser River Pemberton	Pitt River Birkenhead River	24,000 4,500,000	Fraser River	60,000	
1911	Fraser River	Cultus Lake	3,700,000	Fraser River		100,000

Table 23. Transfers of sockeye eggs and fry to streams along the east coast of Vancouver Island.

Brood year	Collecting and eyeing hatchery	Source of eggs	No. of eggs collected by or transferred to distributing hatchery	Distributing hatchery	Distribution of eggs and fry							
					Eggs				Fry			
					Cruikshank River	Cowichan River	Nanaimo River	Nanaimo Lakes	Cowichan River	Cowichan Lake	Nanaimo River	Nanaimo Lakes
1885	Fraser River	Harrison system	4,462,000[a]	Fraser River					150,000[a]		150,000[a]	
1886	Fraser River	Harrison River	4,780,000	Fraser River		500,000	500,000					
1887	Fraser River	Harrison River	9,325,000	Fraser River		800,000	700,000					
1889	Fraser River	Weaver Creek	9,233,000	Fraser River		500,000	500,000					
1901	Fraser River	Weaver Creek	10,106,000	Fraser River							30,000[b]	
1902	Fraser River	Big Silver and Weaver creeks	13,642,000	Fraser River								40,000
1903	Fraser River	Trout Lake and Weaver creeks and Harrison River Rapids	12,970,000	Fraser River					120,000		100,000	
1904	Fraser River	Big Silver, Douglas, Trout Lake, and Weaver creeks and Pitt River	8,683,000	Fraser River					60,000			
1905	Fraser River Pemberton Granite Creek	Upper Pitt River Birkenhead River Scotch and Tappen creeks and Adams River	100,000 4,500,000 3,000,000	Fraser River						80,000		
1922	Rivers Inlet	Amback, Genesee, and Medowse creeks	14,790,100	Rivers Inlet	300,000							
1923	Rivers Inlet	Amback, Genesee, and Medowse creeks	15,379,000	Rivers Inlet	500,000							
1924	Anderson Lake	Henderson Lake beaches	8,543,000	Anderson Lake	504,000							
1925	Anderson Lake	Clemens Creek and Henderson Lake beaches	8,505,000	Anderson Lake	750,000							
1926	Anderson Lake	Clemens Creek and Henderson Lake beaches	8,505,000	Anderson Lake	1,000,000							
1927	Anderson Lake	Henderson Lake beaches	8,550,170	Anderson Lake	1,000,000							
1928	Anderson Lake	Henderson Lake beaches	8,799,000	Anderson Lake	1,001,000							
1929	Anderson Lake	Henderson Lake beaches	8,505,000	Anderson Lake	1,001,000							
1932	Rivers Inlet Rivers Inlet	Amback Creek Genesee Creek	10,940,268 5,678,600	Anderson Lake Anderson Lake				876,275[c] 130,350[c]				

[a]The number of eggs collected includes both sockeye and chinook. The species composition of the fry which were distributed is not given.
[b]Released "in two suitable streams within half a mile of the Lake."
[c]Planted in the Nanaimo River between First and Second lakes.

Table 24. Transfers of sockeye fry to Henderson and Kennedy lakes.

Brood year	Collecting and eyeing hatchery	Source of eggs	No. of eggs collected or transferred	Distributing hatchery	Number of fry released	
					Henderson Lake	Henderson and Kennedy lakes
1905	Fraser River	Upper Pitt River	100,000	Fraser River		250,000[a]
	Granite Creek	Scotch and Tappen creeks and Adams River	3,000,000			
	Pemberton	Birkenhead River	4,500,000			
1906	Fraser River	Pitt River	24,000	Fraser River		175,000
	Pemberton	Birkenhead River	4,500,000			
1915	Yes Bay[b]	Probably from McDonald Lake, southeastern Alaska	ca. 50,000	Anderson Lake	50,000	

[a]Includes fry released at Sproat Lake.
[b]Via Seattle.

Table 25. Transfers of sockeye eggs and fry to the Somass River system.

Brood year	Collecting and eyeing hatchery	Source of eggs	No. of eggs collected by or transferred to distributing hatchery	Distributing hatchery	Distribution of eggs and fry												
					Eggs												Fry
					McCoy Lake	Great Central Lake							Sproat Lake				
					Heath Creek	Clark Point	Drinkwater Creek	Lindsay Bay Creek	Pine Point Creek	Polar Creek	View Lake Creek	White Pine Creek	Antler Creek	Gracie Creek	Snow Creek	Taylor River	Sproat Lake
1905	Fraser River	Upper Pitt River	100,000	Fraser River													< 250,000[a]
	Granite Creek	Scotch and Tappen creeks and Adams River	3,000,000														
	Pemberton	Birkenhead River	4,500,000														
1906	Fraser River	Pitt River	24,000	Fraser River													75,000
	Pemberton	Birkenhead River	4,500,000														
1921	Anderson Lake	Clemens Creek and Henderson Lake beaches	10,033,000	Anderson Lake			1,344,000	112,000	448,000	336,000	448,000		80,000		112,000	1,120,000	
1922	Anderson Lake	Clemens and Ternan creeks and Henderson Lake beaches	8,505,000	Anderson Lake	250,000	182,000	912,000	119,000			343,000	440,000			112,000	1,344,000	
1923	Anderson Lake	Henderson Lake beaches	8,505,000	Anderson Lake	252,000		1,008,000			434,000	140,000	420,000		574,000		1,428,000	
1924	Anderson Lake	Henderson Lake beaches	8,543,000	Anderson Lake	252,000		1,008,000			336,000		658,000		455,000		1,547,000	
1925	Anderson Lake	Clemens Creek and Henderson Lake beaches	8,505,000	Anderson Lake	252,000		1,008,000			441,000		553,000				2,002,000	
1926	Anderson Lake	Clemens Creek and Henderson Lake beaches	8,505,000	Anderson Lake			1,386,000			336,000		280,000				2,002,000	
1927	Anderson Lake	Henderson Lake beaches	8,550,170	Anderson Lake			2,002,000									2,002,000	
1928	Anderson Lake	Henderson Lake beaches	8,799,000	Anderson Lake			1,442,000			560,000						2,002,000	
1929	Anderson Lake	Henderson Lake beaches	8,505,000	Anderson Lake			1,505,000									2,002,000	
1932	Anderson Lake	Henderson Lake beaches	7,532,000	Anderson Lake			2,002,000									1,505,000	

[a] 250,000 fry were released in Henderson, Kennedy, and Sproat lakes.

Table 26. Transfers of sockeye eggs and fry to McAllister Lake from the Anderson Lake hatchery.

Brood year	Source of eggs	Number
1920	Clemens and Ternan creeks and Henderson Lake beaches	15,000 fry
1921	Clemens Creek and Henderson Lake beaches	7,000 eggs

Table 27. Transfers of sockeye eggs to Maggie Lake.

Brood year	Hatchery	Source of eggs	No. of eggs planted
1929	Anderson Lake	Henderson Lake beaches	1,001,000
1930	Anderson Lake	Henderson Lake beaches	1,001,000
1931	Anderson Lake	Henderson Lake beaches	1,001,000
1932	Anderson Lake	Henderson Lake beaches	1,001,000
1936	Cultus Lake	Sweltzer River	1,500,000
1938	Anderson Lake	Henderson Lake beaches	1,033,359
1939	Anderson Lake	Henderson Lake beaches	1,030,830
1941	Anderson Lake	Henderson Lake beaches	1,030,296

Table 28. Transfers of sockeye eggs and young from the Kennedy Lake hatchery to barren lakes in the Kennedy River drainage.

Brood year	Source of eggs	Distribution							
		Eggs			Fry and fingerlings				
		Elbow Lake	Muriel Lake	Wanetta Lake	Ilthpaya Lake	Martin Lake	Muriel Lake	Small lake at narrows	Wanetta Lake
1914	Clayoquot Arm beaches					50,000			
1918	Probably from Clayoquot Arm beaches					20,000			
1920	Clayoquot Arm beaches					20,000	85,000		
1922	Clayoquot Arm beaches		155,000			25,000	105,000		
1923	Clayoquot River and Clayoquot Arm beaches		98,000			15,000	155,000		100,000
1924	Upper Kennedy River and Clayoquot Arm beaches		88,000					21,915	
1925	Clayoquot Arm beaches and off Clayoquot River		120,000						
1926	Clayoquot Arm beaches and off Clayoquot River		104,000						
1927	Clayoquot Arm beaches			10,000					
1928	Clayoquot Arm beaches			30,000					
1929	Clayoquot River, Cold Creek, and Clayoquot Arm beaches			36,634					
1930	Clayoquot Arm beaches		150,000		9,000				
1931	Clayoquot Arm beaches		501,540						
1932	Clayoquot Arm beaches		1,038,795						
1933	Clayoquot River						49,965		
1934	Clayoquot Arm beaches		686,420						
1935	Clayoquot Arm beaches	44,730	969,145						

Table 29. Transfers of sockeye eggs to Quatsino Sound, Tranquil Creek, Megin River, and Cecilia Lake.

Brood year	Hatchery	Source of eggs	Distribution			
			Quatsino Sound	Tranquil Creek	Megin River	Cecilia Lake
1904	Fraser River	Big Silver, Douglas, Trout Lake, and Weaver creeks and Pitt River	60,000			
1923	Kennedy Lake	Clayoquot River and Clayoquot Arm beaches		112,000		
1925	Kennedy Lake	Clayoquot Arm beaches and off mouth of Clayoquot River			332,000	
1926	Kennedy Lake	Clayoquot Arm beaches and off mouth of Clayoquot River				140,000

Table 30. Transfers of sockeye eggs to northern British Columbia coastal points from the Rivers Inlet hatchery.

Brood year	Source of eggs	Holmes[a] Lake	No-End Lake	Kainet Creek	Little Tuno Lakes	Tuno Lakes	Tinkey Lakes	Wolf Lake	McLaughlin Lake	Namu hatchery	Walkus Lake
1915	Amback, Genesee, and Medowse creeks			100,000						500,000[b]	
1916	Amback, Genesee, and Medowse creeks			100,000						500,000[b]	
1917	Amback, Genesee, and Medowse creeks			100,000						500,000[b]	
1919	Amback, Genesee, and Medowse creeks									500,000[b]	
1920	Amback, Genesee, and Medowse creeks	100,000			140,000		60,000	160,000	160,000	1,000,000[b]	
1921	Amback, Ashlulm, and Genesee creeks	150,000	100,000		200,000		200,000	150,000	200,000	500,000[b]	80,000
1922	Amback, Genesee, and Medowse creeks	200,000	200,000		200,000		200,000		350,000		
1923	Amback, Genesee, and Medowse creeks	250,000	200,000			250,000	200,000	100,000	350,000	500,000[b]	
1924	Amback, Genesee, and Medowse creeks									500,000[c]	
1925	Amback and Genesee creeks									750,000[c]	
1926	Amback and Genesee creeks									500,000[c]	
1927	Amback and Genesee creeks									500,000[c]	

[a]Probably Scoular Lake rather than Holmes Lake.
[b]Transferred to Namu hatchery. Ultimate distribution not known but eggs and/or young fish believed to have been distributed at Namu Lake.
[c]Planted in streams tributary to Namu Lake.

Table 31. Transfers of sockeye eggs to Lakelse Lake from the Pemberton hatchery.

Brood year	No. of eggs transferred[a]	Distribution[b]			
		Eggs	Fry	Fingerlings	Location
1924	4,991,000		640,000	130,000	Beaver Dam
		14,000	320,190	161,000	Hatchery Creek
			4,318,000	179,848	Lakelse Lake
			450,000		Salmon Creek
			200,000		Slough Creek
1925	10,080,000		265,000		Andalas Creek
			1,008,000	292,530	Beaver Dam
			292,000		Clearwater Creek
			54,800		Hatchery Creek
			5,893,000		Lakelse Lake
		1,207,500			Schulbuckhand Creek
		900,000			Sockeye Creek
1926	15,001,000		240,000		Andalas Creek
			2,320,000	175,000	Beaver Dam
		192,000	169,600	105,000	Hatchery Creek
			8,940,000	422,400	Lakelse Lake
		456,000			Salmon Creek
		768,000			Schulbuckhand Creek
		973,000			Sockeye Creek
1927	6,000,000		162,000		Andalas Creek
			1,096,000	250,000	Beaver Dam
			4,935,000	772,500	Lakelse Lake
		284,000	150,000		Salmon Creek
		588,000			Schulbuckhand Creek

[a]Eggs were collected from the Birkenhead River and eyed by the Pemberton hatchery.

[b]The eggs, fry, and fingerlings were reared and distributed by the Skeena River hatchery. Distribution of fry and fingerlings from 1924 and 1927 and eggs from 1927 included some eggs, fry, and fingerlings from about 2,124,000 and 3,526,000 eggs collected at Lakelse Lake in 1924 and 1927, respectively.

Table 32. Transfers of sockeye eggs and young from the Stuart Lake hatchery to Babine Lake.

Brood year	Collecting and eyeing hatchery	No. of eggs collected	Source of eggs	No. of eggs transferred to distributing hatchery	Distributing hatchery	Distribution of eggs and young							
						Eggs			Fry				Fingerlings
						Pierre Creek	Pinkut Creek	Tahlo Creek	Babine Lake	Gullwing Creek	Morrison Creek	Morrison Lake	Morrison Creek
1914	Stuart Lake	6,000,000	Pierre and Pinkut creeks	-	Stuart Lake				1,923,000				
1920	Stuart Lake	4,370,000	Pierre and Pinkut creeks	-	Stuart Lake					27,000			
1921	Stuart Lake	5,530,000	Pierre and Pinkut creeks	-	Stuart Lake	200,000[a]	300,000[a]						
1928	Stuart Lake	6,500,000	Pierre and Pinkut creeks	6,104,000	Babine Lake			1,500,000[b]			3,200,000[b]	2,462,000[b]	1,192,521[b]

[a] These eggs may have been eyed at a temporary eyeing station at Babine Lake.
[b] Include plantings from 3,040,000 eggs collected at Morrison Creek by the Babine Lake hatchery.

Table 33. Transfers of sockeye eggs to the Nanika River from Pinkut Creek.

Brood year	No. of eggs collected	Distribution
1960	315,000	74,000 fry released into Nanika River.
1961	5,200,000	3,800,000 fry released into Nanika River.
1962	11,400,000	7,600,000 fry released into Nanika River.
1963	12,800,000	6,600,000 fry released into Nanika River.
1964	13,600,000	1,500,000 eyed eggs planted in incubation channel. About 7,865,000 fry released into Nanika River from remaining eggs.
1965	> 3,400,000	3,400,000 eyed eggs planted in incubation channel.

Table 34. Transfers of pink eggs and fry to and within the lower Fraser Valley.

Brood year	Hatchery or eyeing station	Source	Distribution	
			Number	Location
1903	Fraser River	Probably the Harrison River	80,000 eggs	Not known
1915	New Westminster	"Collected locally"	140,000 fry 145,000 fry	Gilley Creek Widgeon Slough
1918	New Westminster	Oyster River	40,000 fry	Widgeon Slough
1919	New Westminster	Courtenay River	400,000 fry	Not known
1923	Harrison Lake	Harrison River Rapids and hatchery ditch	65,000 eggs	Otter Lake
1954	Lakelse Lake	Lakelse River	2,606,000 eggs	Wahleach Creek
1956	Cultus Lake (IPSFC)	Lakelse River	1,000,000 eggs	Wahleach Creek
1962	Cultus Lake (IPSFC)	Tom Browne Creek	80,000 eggs	Not known

Table 35. Transfers of pink eggs to the Seton River system.

Brood year	Source of eggs	No. of eggs	Distribution
1914	Rivers Inlet hatchery (probably from the Wannock River)	135,000	Not known
1915	Mamquam River	6,000,000	Unknown number of fry released in Seton Lake
1918	Oyster River	15,363,000	9,304,500 eggs planted in creeks near the Seton Lake hatchery, 40,000 fry released at unknown locations

Table 36. Transfer of pink eggs to the Cowichan River.

Brood year	Collecting and eyeing hatchery	Source of eggs	No. of eggs transferred	Distributing hatchery	Distribution
1925	Cultus Lake	Not known	3,600	Cowichan Lake	3,439 fry placed in ponds, 26 fingerlings released

Table 37. Transfers of pink eggs to Nile Creek from the Tsolum River.

Brood year	No. of eggs
1949	102,000
1950	68,000
1951	255,000

Table 38. Transfers of pink eggs to Robertson Creek.

Brood year	Eyeing station	Source of eggs	No. of eggs planted
1959	Puntledge hatchery	Indian River	1,265,126
		Tsolum River	376,530
1960	Puntledge hatchery	Tsolum River	800,000
	Kleanza Creek hatchery	Kleanza Creek	< 200,000
1961	Puntledge hatchery	Indian River	4,800,000
1962	Robertson Creek	Atnarko River	5,400,000
1963	Robertson Creek and Qualicum River	Indian River	9,700,000[a]
1964	Robertson Creek and Qualicum River	Atnarko River	6,500,000
		Amor de Cosmos Creek	3,600,000

[a]The eggs which were eyed at Qualicum River were in the eyeing station at the same time as eggs from the Cheakamus River which were planted subsequently in the Qualicum River.

Table 39. Transfers of pink eggs to the Qualicum River.

Brood year	Eyeing station	Source of eggs	No. of eggs planted
1963	Qualicum River	Cheakamus River	5,300,000[a]
1964	Qualicum River	Amor de Cosmos Creek	6,300,000[b]

[a]These eggs from the Cheakamus River were eyed at the Qualicum River at the same time as some eggs from the Indian River which were planted subsequently in Robertson Creek.

[b]These eggs from Amor de Cosmos Creek were eyed at the Qualicum River at the same time as some eggs from the Atnarko River which were planted subsequently in Robertson Creek.

Table 40. Transfer of pink eggs to Headquarters Creek.

Brood year	Eyeing station	Source of eggs	No. of eggs transferred	Distribution
1971	Headquarters Creek	Kakweiken River	660,000	110,000 fry (Kakweiken ♀ × Kakweiken ♂) 265,000 fry (Kakweiken ♀ × Tsolum ♂)

Table 41. Transfer of pink eggs to Amor de Cosmos Creek.

Brood Year	Hatchery	Source of eggs	No. of green eggs transferred	Fertilization by	No. of fry released
1975	Amor de Cosmos Creek (Bear River)	Tom Browne Creek	601,000	Frozen sperm from 1974 Amor de Cosmos Creek males	136,000
			367,600	Sperm from precocious males reared from 1974 egg collection at Amor de Cosmos Creek	136,000
			1,763,100	Sperm from 1975 Tom Browne Creek males	1,369,000

Table 42. Transfers of pink eggs from the Harrison Lake hatchery to the Namu hatchery.

Brood year	Source of eggs	No. of eggs transferred
1919	Probably the Chehalis River	400,000
1921	Weaver and Trout Lake creeks and Harrison River Rapids	250,000

Table 43. Transfers of pink eggs to McClinton Creek.

Brood year	Source of eggs	No. of eggs collected	Distribution
1931	Tlell River	1,131,700	877,648 fry
1933	Tlell River	695,200	540,295 eggs
1935	Tlell River	712,200	505,857 fry

Table 44. Transfers of pink salmon to Kleanza Creek.

Brood year	Source of eggs	No. of eggs transferred	Distribution
1957	Lakelse River	1,360,000	325,000 fry
1958	Lakelse River	1,320,000	1,100,000 fry
1959	Kitwanga River	8,400,000	5,700,000 fry

Table 45. Transfers of chum eggs and fry within the Fraser River system.

Brood year	Collecting and eyeing hatchery	Source of eggs	No. of eggs transferred or collected	Distributing hatchery	Distribution
1902	Fraser River	Weaver Creek	79,700	Granite Creek	75,000 fry released at the hatchery
1908	Harrison Lake	Probably Weaver Creek	224,000	Granite Creek	Unknown number of fry released at mouth of Tappen Creek
1916	Cultus Lake	Sweltzer River	485,000	Harrison Lake	Unknown number of fry released in the Harrison system
1920	Harrison Lake	Weaver and Trout Lake creeks	3,619,000	Harrison Lake	144,000 eggs planted at Deer Lake

Table 46. Transfers of chum eggs to Nile Creek.

Brood year	Source of eggs	No. of eggs[a] planted
1946	Little Qualicum River and Waterloo Creek	760,000
1947	Cougar Smith, Rosewall, and Waterloo creeks and the Little Qualicum and Qualicum rivers	911,000
1948	Chef, Cook, and Waterloo creeks and the Qualicum River	855,000
1949	Qualicum River	848,000
1951	Cook and Waterloo creeks and the Qualicum River	165,800
1952	Cook Creek	406,848
1953	Cook Creek	5,000

[a]Include eggs collected at Nile Creek.

Table 47. Distribution of coho fry to Fraser Valley locations from the Fraser River and New Westminster hatcheries.

Brood year	Source of eggs	No. of eggs collected	Distribution of fry: Number	Distribution of fry: Location
1901	Weaver Creek	38,000	90,000	Stream at Fraser River hatchery
	Unknown	58,000		
1902	Stream at Fraser River hatchery	250,000	230,000	Fraser River at hatchery
1903	Unknown	120,000	Unknown	Unknown
1904	Nicomekl and Serpentine rivers	1,803,500	Unknown	Alouette River
	Trout Lake Creek	355,000	Unknown	Coquitlam River
	Unknown	248,500	Unknown	Stream at Fraser River hatchery
			Unknown	Pitt Lake and River
1905	Nicomekl and Serpentine rivers	2,000,000	1,250,000	Coquitlam River
	Stream at Fraser River hatchery	100,000	60,000	Serpentine River
			500,000	Widgeon Creek
1906	Nicomekl and Serpentine rivers	1,500,000	Unknown	Coquitlam River
			Unknown	Stream at Fraser River hatchery
1907	Fraser River tributaries including Langley and Tynehead creeks	6,253,000[a]	4,590,000	Unknown
1908	Tynehead Creek	2,048,000	260,000	Alouette River
	Triggs Creek	1,500,000	1,950,000	Coquitlam River
	Cultus Lake	500,000	498,000	Stream at Fraser River hatchery
			910,000	Widgeon Creek
1909	Unknown	Unknown	2,704,000	Unknown
1910	Unknown	Unknown	3,626,000	Unknown
1911	Tynehead Creek	1,350,000[b]	125,000	Alouette River
	Langley Creek	800,000	325,000	Coquitlam River
			25,000	Hatzic Creek
			125,000	Kanaka Creek
			125,000	Stave River
			125,000	Sturgeon Slough
			350,000	Widgeon Creek
			500	Mixed lot
1913	Tynehead Creek	700,000	1,000	Stream at Fraser River hatchery
	Unknown	695,000	1,500[c]	Widgeon Creek
			Unknown	Unknown
1914	Brunette River	300,000	450,000	Brunette River
	Pitt Lake	20,000	250,000	Gilley Creek
	Salmon River	230,000		
	Tynehead	150,000		
	Unknown	20,000		
1915	"Collected locally"	632,000[d]	28,000	Kanaka Creek
			15,000	McKay Creek
			175,000	Pitt River system
			270,000	Salmon River
1916	Salmon River	940,000[e]	60,000	Gilley Creek
			548,000	Pitt River system
			279,000	Salmon River
1917	Salmon River	912,000[f]	80,000	Bear Creek
			200,000	Gilley Creek
			217,000	North Arm Creek
			30,000	Frenchman's Creek
			150,000	Salmon River
			140,000	South Westminster Creek
1918	Salmon River	700,000	100,000	Bear Creek
			130,000	Booth Creek
			35,000	Coquitlam River
			50,000	Gilley Creek
			8,000	Kawkawa Lake
			50,000	North Arm Creek
			85,000	Pitt River system
			2,000	Silver Lake
			75,000	South Westminster Creek
			35,000	Surrey
			15[g]	Unknown
1919	Salmon River	230,000	41[g]	Brunette River
			215,500	Unknown
1920	Brunette River and Stone Creek	205,000	200,667	Stone Creek

[a] 1,000,000 to 1,440,000 eggs transferred to the Granite Creek hatchery.
[b] 1,000,000 eggs transferred to the Harrison Lake hatchery.
[c] Two year old fish.
[d] 40,000 eggs shipped to Vancouver.
[e] 30,000 eggs transferred to the Hastings Park Aquarium.
[f] 20,000 eggs transferred to the Hastings Park Aquarium.
[g] Yearling fish.

Table 48. Transfers of coho eggs to the Harrison system.

Brood year	Collecting and eyeing hatchery	Origin of eggs	No. of eggs transferred	Distributing hatchery	Distribution
1911	Fraser River	Tynehead and Langley creeks	1,000,000	Harrison Lake	Unknown, probably Harrison system
1912	Fraser River	Tynehead Creek	928,000	Harrison Lake	Unknown number of fry released in the Harrison River, hatchery ponds, and Weaver Creek
1918	Cultus Lake	Probably Sweltzer River	42,000	Harrison Lake	39,000 fry placed in hatchery ponds

Green eggs.

Table 49. Transfer of coho eggs to Shuswap Lake from Fraser River hatchery.

Brood year	Origin of eggs	Collecting and eyeing hatchery	No. of eggs transferred	Distributing hatchery	No. of fry released	Release location
1907	"Fraser River tributaries" including Tynehead and Langley creeks	Fraser River	1,000,000 to 1,440,000	Granite Creek	Not given	Not given, probably Tappen Creek at the hatchery

Table 50. Transfers of coho eggs and fry on Vancouver Island by the Anderson Lake, Kennedy Lake, and Cowichan Lake hatcheries.

Brood year	Hatchery	Source of eggs	No. of eggs collected	Distribution		
				Eggs	Fry	Location
1910	Anderson Lake	Probably Henderson Lake	280,000		200,000	Ternan Lake
1915	Cowichan Lake	Cowichan River system	1,700,000		246,000	Bonsall Creek
					128,000	Chemainus River
					120,000	Farlton Creek[a]
					140,000	Kelvin Creek
					233,100	Powell Creek[a]
					120,000	Senora Creek[a]
					120,000	Shawnigan Creek
					385,000	Tyee Creek[a]
1931	Kennedy Lake	Kennedy Lake	99,505	17,500	4,000	Martin Lake
				25,370		Wanetta Lake
1933	Cowichan Lake	Cowichan River system	1,044,000	100,000		Goldstream River
1934	Cowichan Lake	Cowichan River system	732,000	150,000		Goldstream River

[a]Locations of these streams is not known.

Table 51. Transfers of chinook fry within the Fraser Valley.[a]

Brood year	Collecting and eyeing hatchery	Source of eggs	No. of eggs collected by or transferred to distributing hatchery	Distributing hatchery	Distribution	
					Number	Location
1884[b]	Fraser River	Harrison River	3,060,000	Fraser River	200,000	Coquitlam River
					400,000	Fraser River
					550,000	Harrison River
					250,000	Pitt Lake
					400,000	Stave River
1885[b]	Fraser River	Harrison River Rapids	4,462,000[c]	Fraser River	200,000	Alouette River
					350,000	Coquitlam River
					750,000	Harrison River
					600,000	Pitt Lake
					400,000	Stave River
1886	Fraser River	Harrison River	2,536,000	Fraser River	150,000	Harrison Lake
					40,000	Mountain Creek
					209,000	Pitt Lake
					450,000	Stave River
					160,000	Sumas River
1887	Fraser River	Harrison River	845,000	Fraser River	74,000	Coquitlam River
					167,000	Pitt Lake
					28,000	Stave River
					168,000	Sumas Rapids
1888	Fraser River	Harrison River	497,000	Fraser River	373,000	Fraser and Harrison rivers
1902	Fraser River	Unknown, probably Harrison River	24,000	Fraser River	22,000	Fraser River
1907	Harrison Lake	Unknown, probably Harrison River	2,380,000	Fraser River	2,095,000	Unknown
1915	Harrison Lake	Harrison River Rapids	2,540,000	Harrison Lake	1,270,000	Cultus Lake
1916	Harrison Lake	Harrison River Rapids and Big Silver Creek	3,286,000	Harrison Lake	130,000	Vedder River
1919	Pitt Lake	Unknown	20,250	New Westminster	85[d]	Unknown
1920	Harrison Lake	Harrison River Rapids	100,000	New Westminster	48,240	Gilley Creek
					50,000	McLean Creek

[a]Not including eggs, fry, and fingerlings distributed in the Harrison system from eggs collected in the Harrison system by the Harrison Lake hatchery.
[b]The fry distributed may have been partly sockeye.
[c]Egg collection includes unknown proportions of sockeye and chinook eggs.
[d]Fingerlings and yearlings.

Table 52. Transfers of chinook eggs from Harrison Lake to Granite Creek hatchery.

Brood year	Source of eggs	No. of eggs transferred	Distribution
1907	Harrison River Rapids	640,000[a]	Number of fry distributed and release location not known. Fry probably released in Tappen Creek.
1908	Harrison River Rapids and Big Silver Creek	2,300,000[b]	Unknown number of fry released in Shuswap Lake at mouth of Tappen Creek.

[a]The published records do not indicate whether these eggs were eyed at the Harrison Lake hatchery or whether they were shipped green to Granite Creek.

[b]Eyed at Harrison Lake hatchery.

Table 53. Transfers of chinook fry to the Cowichan and Nanaimo rivers from the Fraser River hatchery.

Brood year	Source of eggs	Distribution	
		Cowichan River	Nanaimo River
1885	Harrison River Rapids	150,000[a]	150,000[a]
1904	Big Silver and Douglas creeks	30,000	

[a]May have been partly or entirely sockeye.

Table 54. Transfers of Cowichan River chinook eggs, fry, and fingerlings from the Cowichan Lake hatchery to Vancouver Island streams.

Brood year	Goldstream River		Campbell River	Quinsam River		
	Eggs	Fry	Eggs	Eggs	Fry	Fingerlings
1928		20,000				
1929		20,000				
1930	20,000					
1931	20,000		100,000			
1932	20,000			75,000		5,000
1933				75,000		5,000
1934				75,000	35,000	

Table 55. Transfers of Sproat River chinook eggs from the Sproat River eyeing station to the Anderson Lake hatchery.

Brood year	No. of eggs transferred	Distribution[a]	
		Anderson River	Clemens Creek
1931	ca. 50,000	43,930 fingerlings	2,777 fingerlings
1932	100,000	178,451 fingerlings	1,997 fingerlings
1934	100,000	92,903 fry 23,915 fingerlings	

[a]Includes fry and fingerlings hatched from eggs taken below the outlet of Henderson Lake.

Table 56. Transfer of chinook from the Babine River to Morrison Creek by the Babine Lake hatchery.

Brood year	Source of eggs	No. of eggs taken	No. of fry released
1930	Babine River below Nilkitkwa Lake	49,500	42,700

Table 57. Transfers of sockeye eggs from British Columbia to points outside the province.

Brood year	Hatchery	Source of eggs	Distribution
1889	Fraser River hatchery	Weaver Creek	100,000 to 150,000 eggs shipped to the Ottawa hatchery. A total of 112,000 salmon fry (possibly including some Atlantic salmon fry) were released in Meache's, Knowlton, and Smallions lakes, all in Quebec. A shipment of "Fraser River salmon fry" to Brome Lake died.
1896	Fraser River hatchery	Weaver Creek	84,000 eggs shipped to Honolulu, Hawaii. The eggs arrived in fairly good condition but perished before being placed in the hatchery troughs.
1899	Fraser River hatchery	Weaver Creek	500,000 eggs shipped to New Zealand, probably via the Fraser River hatchery and Vancouver or Victoria. These eggs "turned bad in transit...."
1901	Granite Creek hatchery	Canoe, Scotch and Tappen creeks, and Salmon River	1,000,000 eggs shipped to Tasmania. About 50% arrived in good condition. Some of these eggs which were transferred to Sydney perished after being hatched out. 400,000 to 528,000 eggs were shipped to New Zealand via the Fraser River hatchery, Victoria and San Francisco. 116,200 fry hatched, of which 5,000 were liberated in tributaries of the Waitaki River, 91,200 in Lake Ohau, and 20,000 retained in hatchery ponds. The latter were released in the Hakataramea River. Some sea run sockeye were reported in 1907. Land-locked fish have been reported from Lake Ohau.
1922	Harrison Lake hatchery	Harrison River Rapids, the hatchery ditch, Weaver Creek, and the Birkenhead River	5,413 eggs shipped to the Banff hatchery. 4,053 fingerlings were distributed by the Banff hatchery in unspecified locations.
1924	Harrison Lake hatchery	Harrison River Rapids, the hatchery ditch, and Weaver Creek	1,000 eggs shipped to the University of Toronto.

Table 58. Transfers of pink eggs from British Columbia to points outside the province.

Brood year	Eyeing station in British Columbia	Source of eggs	Distribution
1948	-	Lakelse River	700,000 eggs shipped to Washington State. 302,297 fingerlings released in the Samish River estuary.
1950	-	Lakelse River	727,000 eggs shipped to Washington State. The number of fry released and release locations not available.
1952	-	Lakelse River	600,000 eggs shipped to Washington State. 249,000 fingerlings released in the Samish and Stillaquamish River estuaries. 159,000 fingerlings released in Hood Canal streams.
1954	-	Lakelse River	511,404 eggs shipped to Washington State. 145,426 fingerlings released from Hoodsport.
1955	Quesnel field station	Lakelse River	787,000 eyed eggs shipped to Port Arthur hatchery. 513,000 eyed eggs and 224,000 fingerlings planted in Goose Creek, Hudson Bay. About 21,450 fingerlings released in Lake Superior, 21,000 in the Current River, 350 at Pie Island, and 100 in the lake when the aircraft for Goose Creek was loaded.
1956	-	Lakelse River	About 1,200,000 eggs shipped to Washington State. 673,786 fingerlings released in Finch Creek.
1958	Puntledge hatchery	Tsolum River	6,000 eyed eggs planted in the North Harbour River, Newfoundland.
1959	Puntledge hatchery	Indian River	251,000 eyed eggs planted in the North Harbour River, Newfoundland.
1962	Puntledge hatchery	Tom Browne Creek	2,575,000 eggs collected. 2,418,000 eyed eggs planted in the North Harbour River, Newfoundland.
1964	Scully Creek	Lakelse River	4,800,000 eggs collected. 3,432,000 eyed eggs planted in the North Harbour River, Newfoundland.
1965	Scully Creek	Lakelse River	4,600,000 eggs collected. 3,300,000 eyed eggs planted in the North Harbour River, Newfoundland.
1966	Scully Creek	Lakelse River	5,800,000 eyed eggs planted in the North Harbour River, Newfoundland.

Table 59. Transfers of chum eggs from British Columbia to points outside the province.

Brood year	Hatchery	Source of eggs	
1922	Harrison Lake	Harrison River Rapids	4,412 eyed eggs shipped to the Banff hatchery. 1,953 fingerlings distributed at unspecified locations.
1924	Harrison Lake	Weaver Creek	1,000 eyed eggs shipped to the University of Toronto.

Table 60. Transfers of coho eggs from British Columbia to points outside the province.

Brood year	Hatchery	Source of eggs	Distribution
1922	Cultus Lake	Cultus Creek	25,000 eyed eggs shipped to the Banff hatchery. 21,080 fingerlings distributed at unspecified locations.
1924	Harrison Lake	Weaver Creek and at the hatchery	1,000 eyed eggs shipped to the University of Toronto.

Table 61. Transfers of chinook eggs from British Columbia to points outside the province.

Brood year	Hatchery	Source of eggs	Transfers		Distribution of fry and fingerlings[a]										
			No. of eggs	Hatchery	Clark's or Clark Creek	Credit River	Lynes[b] Creek	Lynn[b] River	Napenee River	Wilmot Creek	Twelve Mile Creek	Colonial[c] Creek	Souche[d] Creek	St. John River, N.B. (?)	Unknown
1918	Harrison Lake	Harrison River Rapids	390,300	Thurlow		100,000	99,500	100,000		75,000					
1919	Harrison Lake	Harrison River Rapids	441,000	Thurlow		211,200		135,000		87,000					
1920	Harrison Lake	Harrison River Rapids	126,000 324,000[e]	Thurlow Grand Falls	125,350									287,022[f]	
1921	Harrison Lake	Harrison River Rapids	201,600	Thurlow	99,570	47,450				47,450					
1922	Harrison Lake	Harrison River Rapids	200,000 5,096	Thurlow Banff	95,480	80,000									2,346
1923	Harrison Lake	Harrison River Rapids	100,000	Thurlow	30,780	20,000			20,000		20,000				
1924	Harrison Lake	Harrison River Rapids	170,000 1,000	Thurlow University of Toronto	31,762	30,000			15,000		30,000	30,000	30,000		✓
1972	-	Wannock River	15,000[g]	Washington hatcheries											

[a]Distribution of fry and fingerlings from the Thurlow hatchery as reported by Dymond et al. (1929) and MacKay (1956).
[b]Parsons (1973) combined releases in Lynes Creek and Lynn River under Lynde Creek.
[c]Parsons (1973) refers to Colonial Creek as Graham Creek.
[d]Parsons (1973) refers to Souche Creek as Soper Branch (Soper Brook?).
[e]Via the Thurlow hatchery.
[f]Includes 197 yearlings.
[g]The purpose of this egg transfer was to raise a brood stock of Wannock River chinooks from which milt could be obtained to fertilize Washington chinook eggs. Besides the milt, a quantity of milt was taken from male Wannock River chinooks to fertilize Washington chinook eggs.

Fig. 1. Locations of salmon hatcheries operated in British Columbia during the period 1884 to 1937.

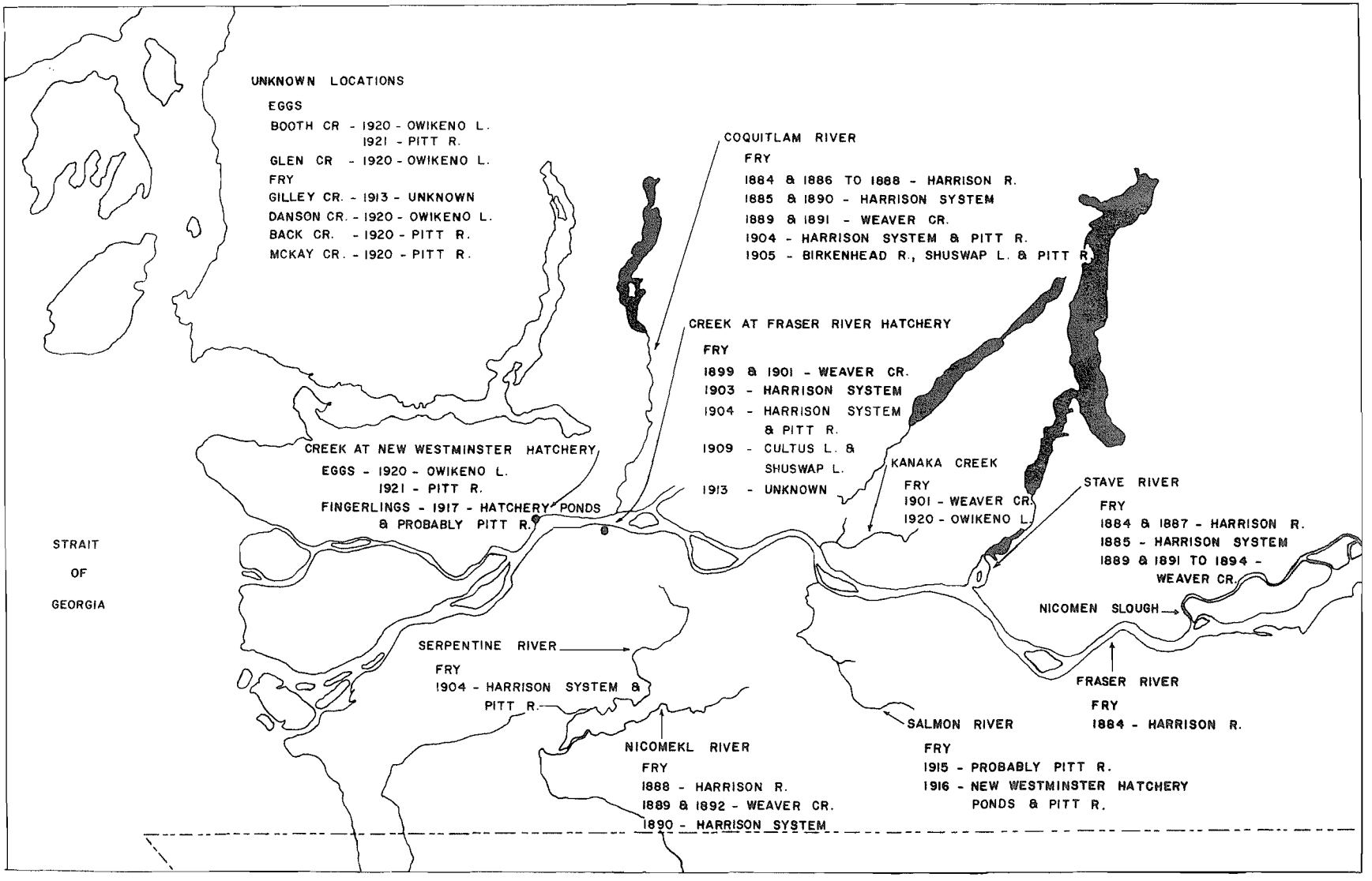

Fig. 2. Transfers of sockeye eggs and fry to lower Fraser Valley streams downstream from Nicomen Slough, excluded the Pitt River system.

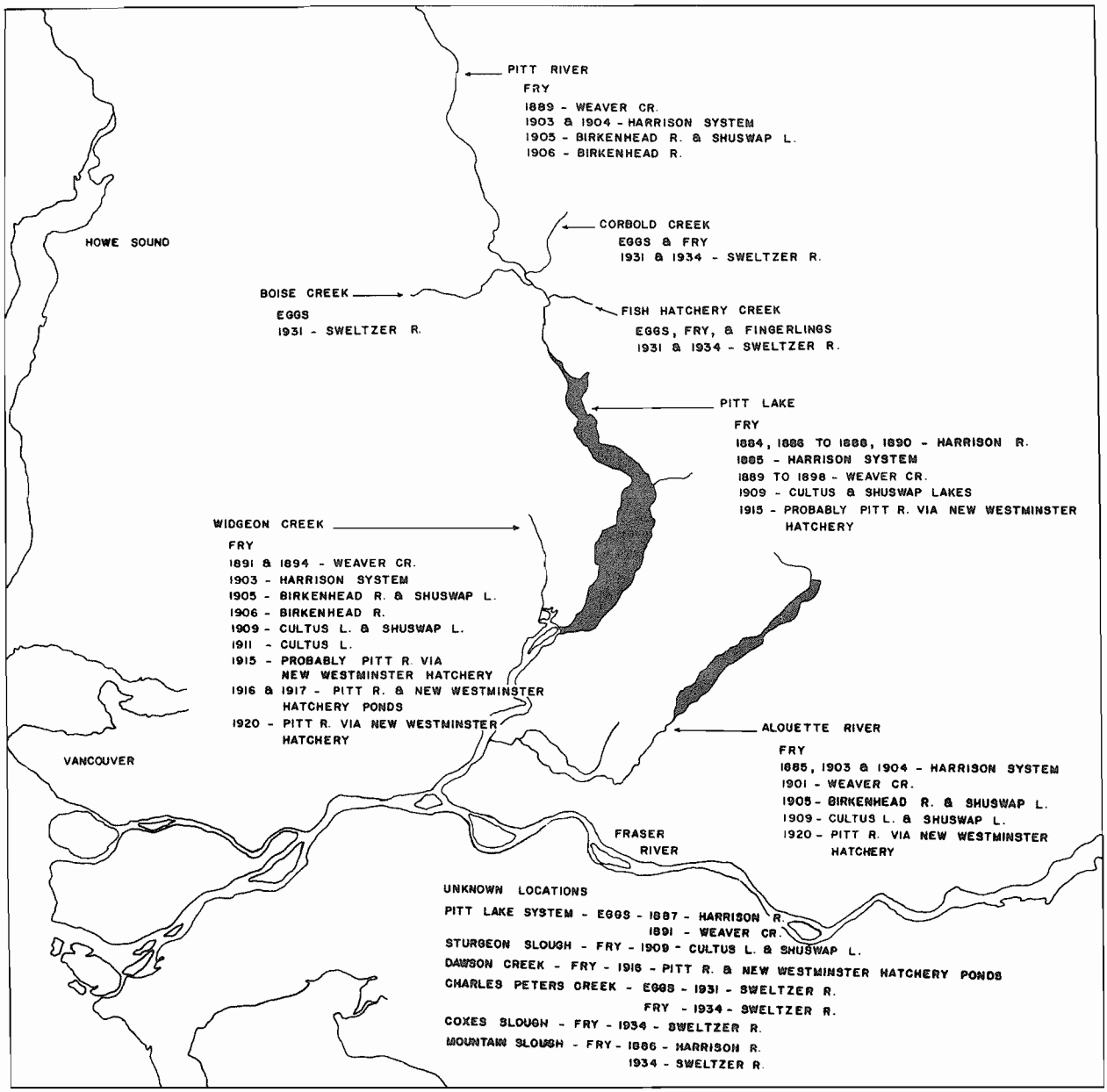

Fig. 3. Transfers of sockeye eggs and young to the Pitt River system.

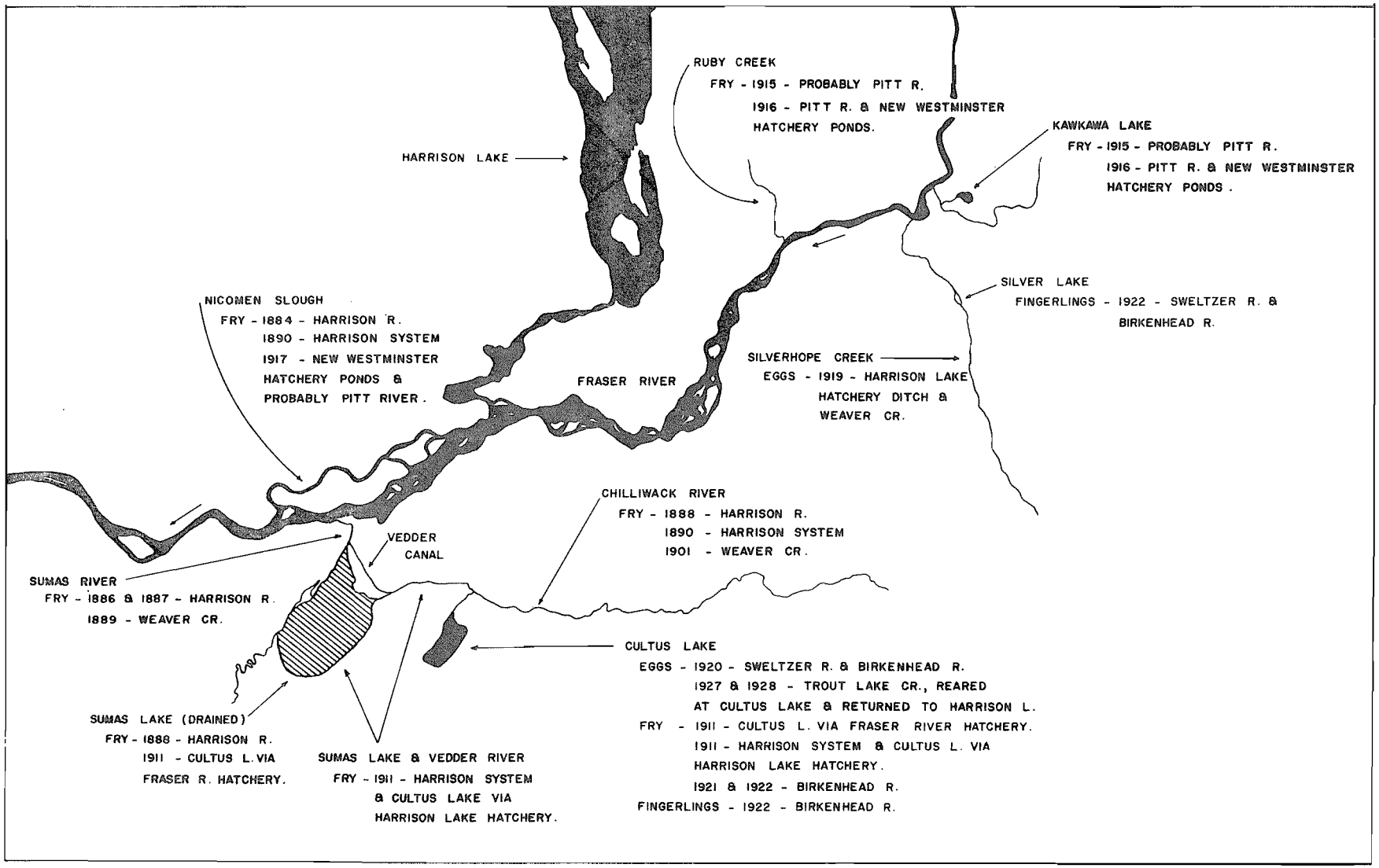

Fig. 4. Transfers of sockeye eggs and young to lower Fraser Valley streams between Nicomen Slough and Kawkawa Lake, excluding the Harrison system.

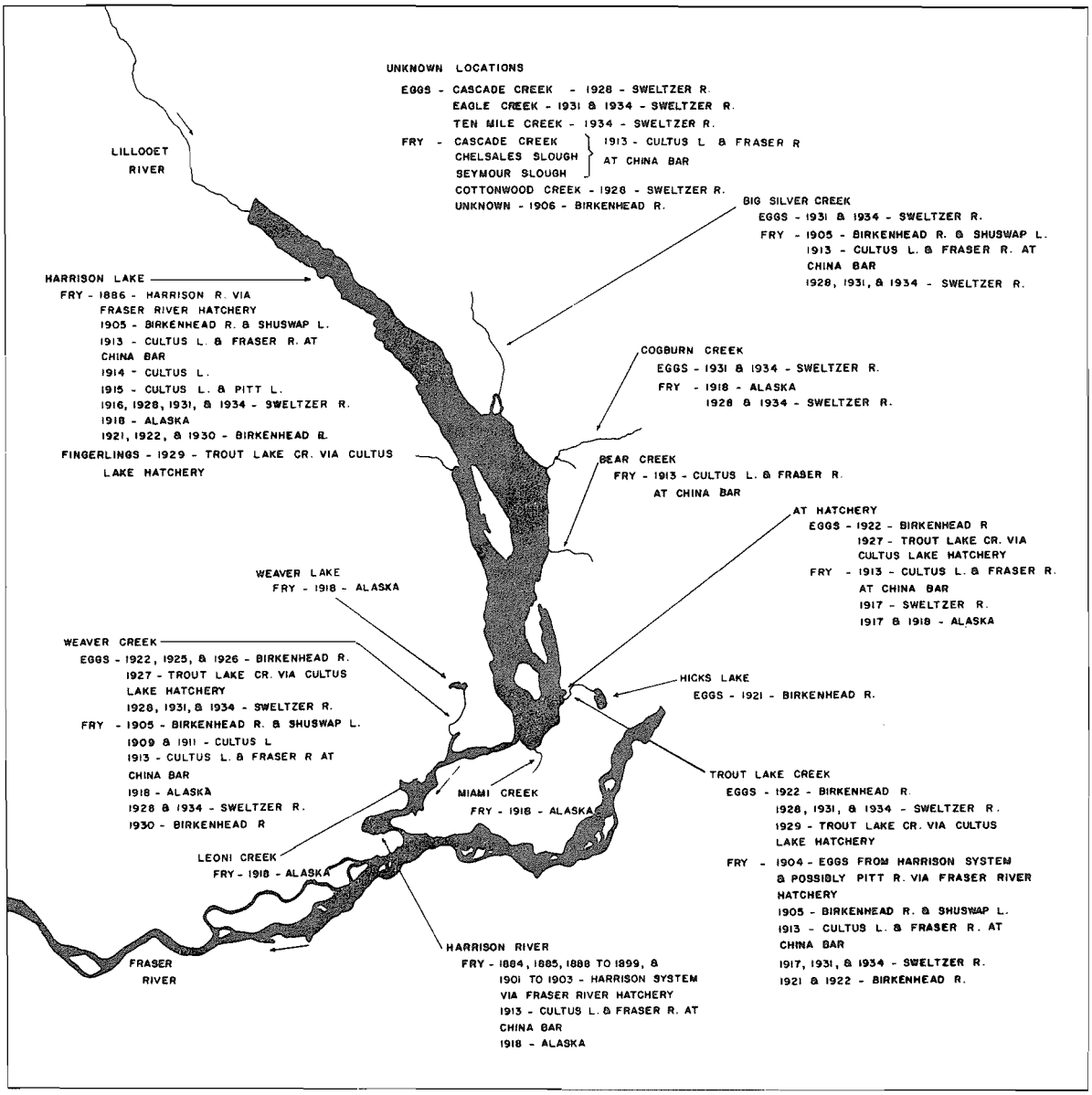

Fig. 5. Transfers of sockeye eggs and young to the Harrison system.

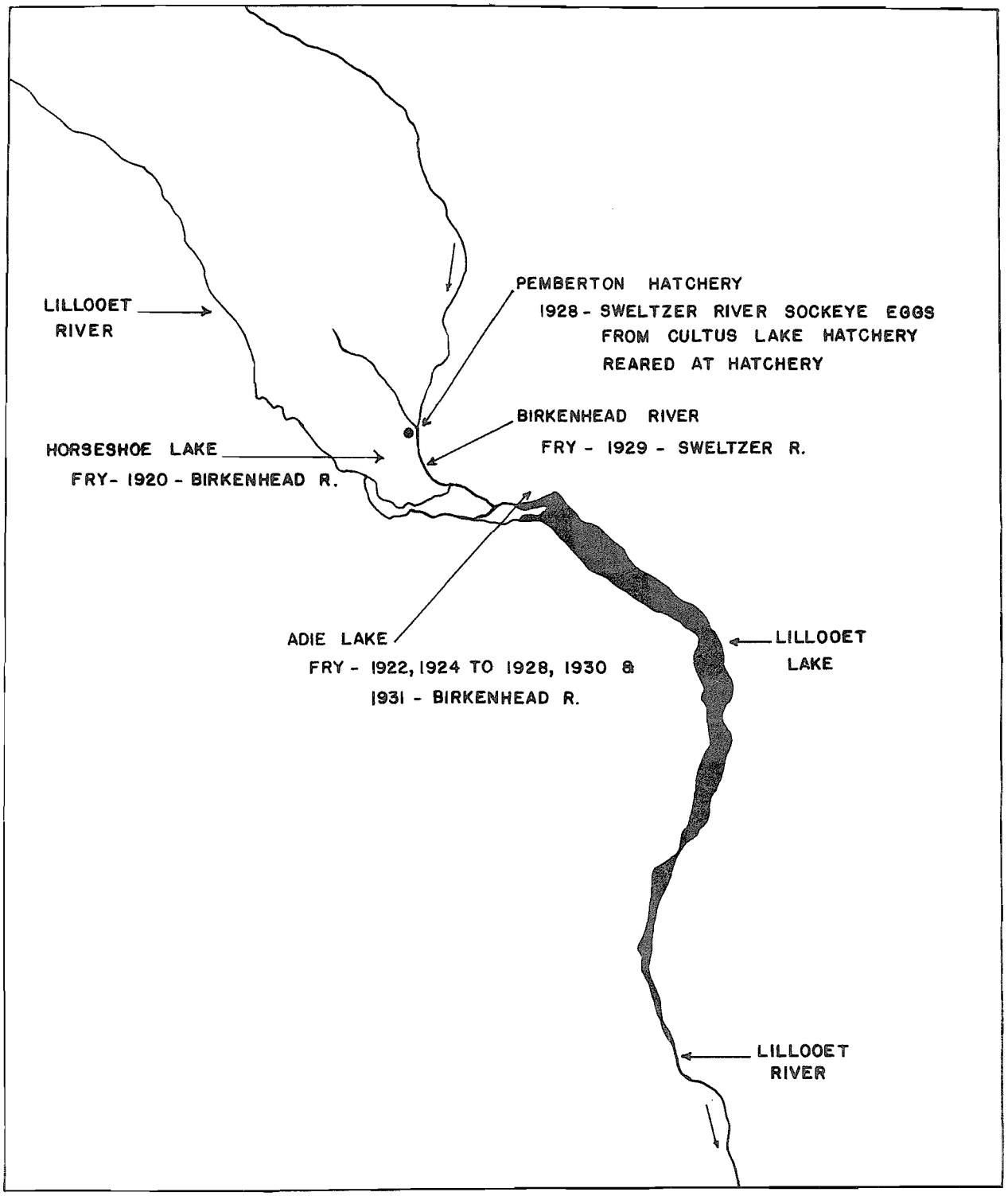

Fig. 6. Transfers of sockeye eggs and fry to and within the Lillooet River system.

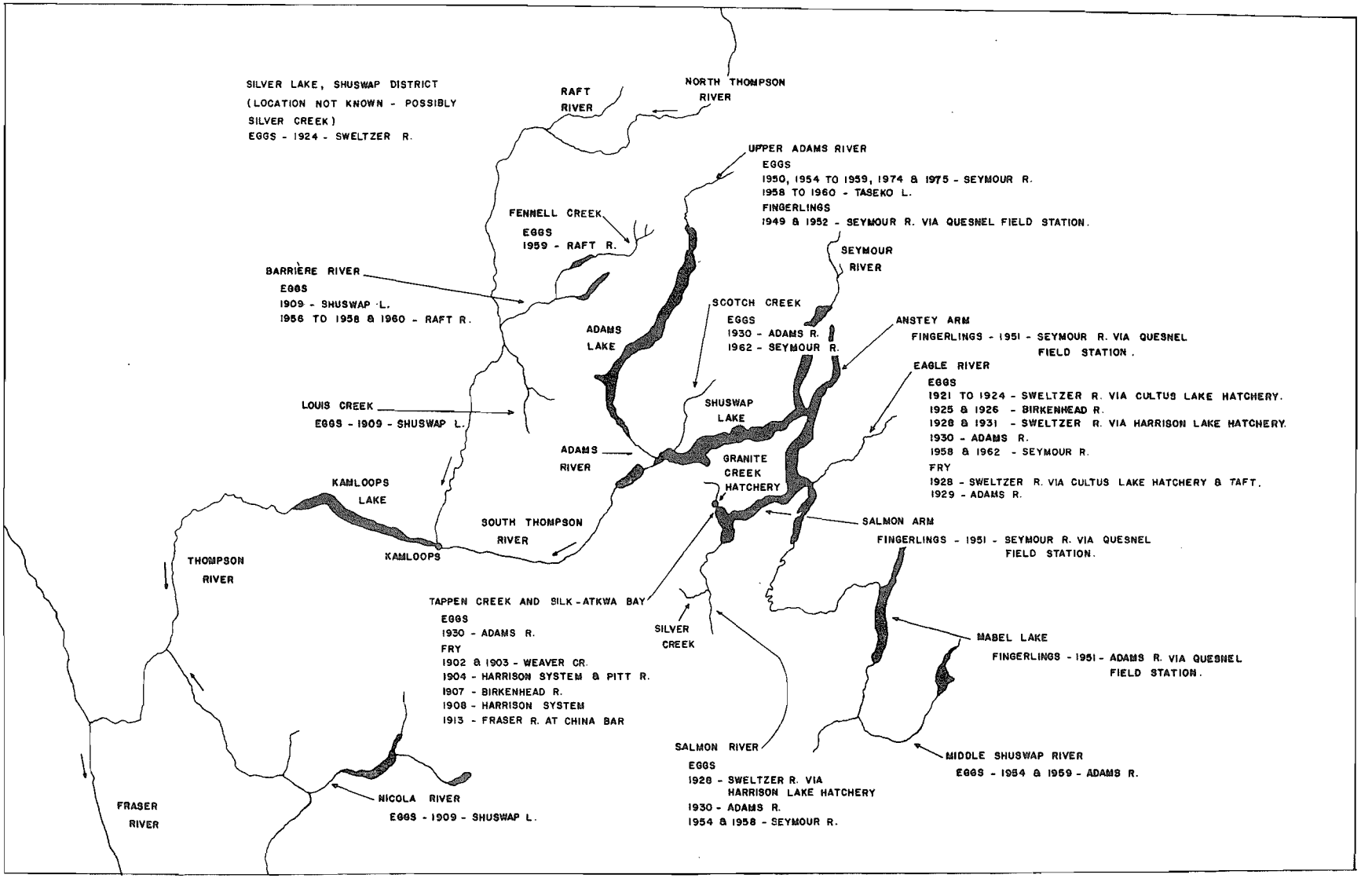

Fig. 7. Transfers of sockeye eggs and young to the Thompson River system. Included are sockeye eggs and young reared at distant field stations from eggs collected locally.

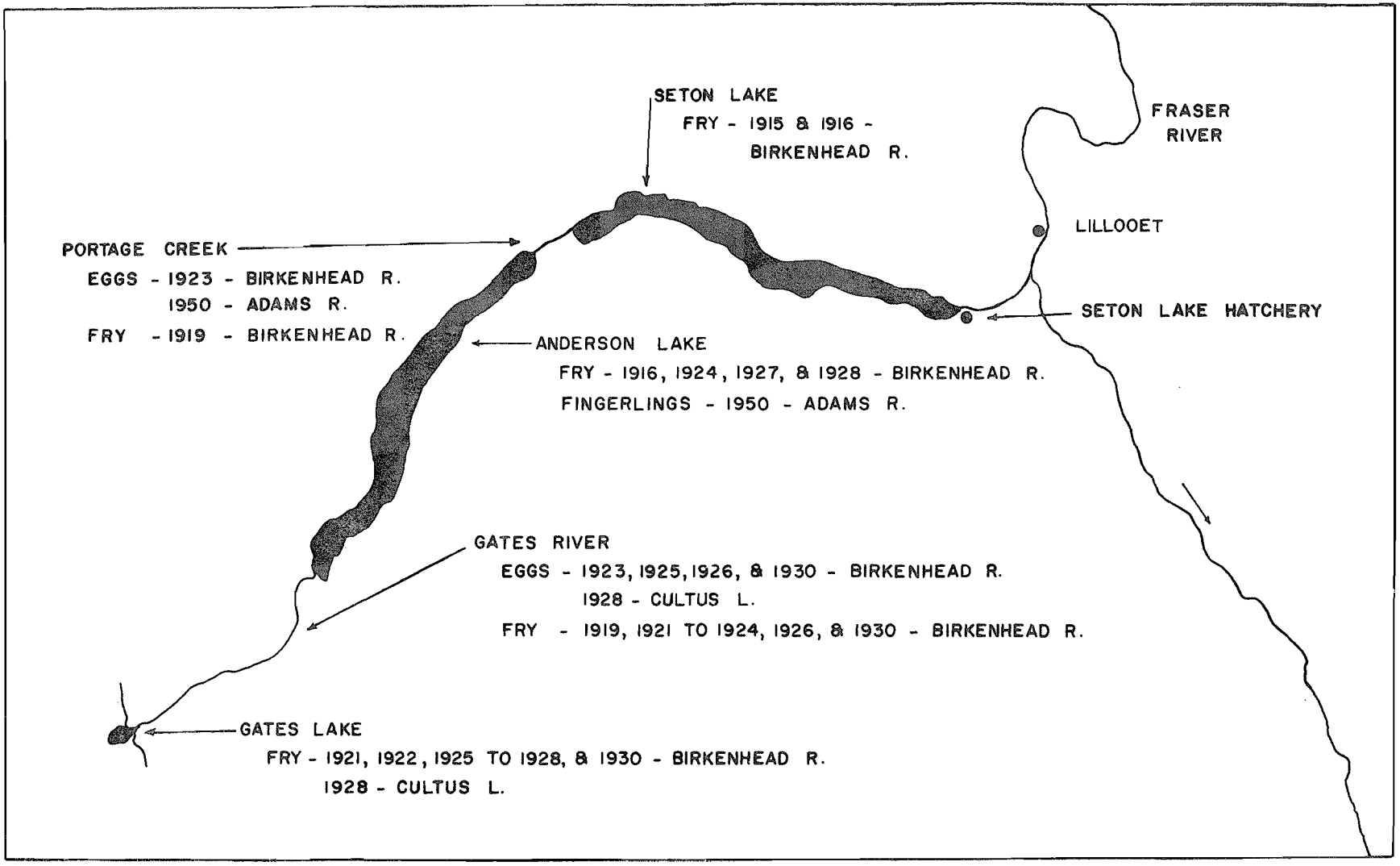

Fig. 8. Transfers of sockeye eggs and fry to the Seton-Anderson system.

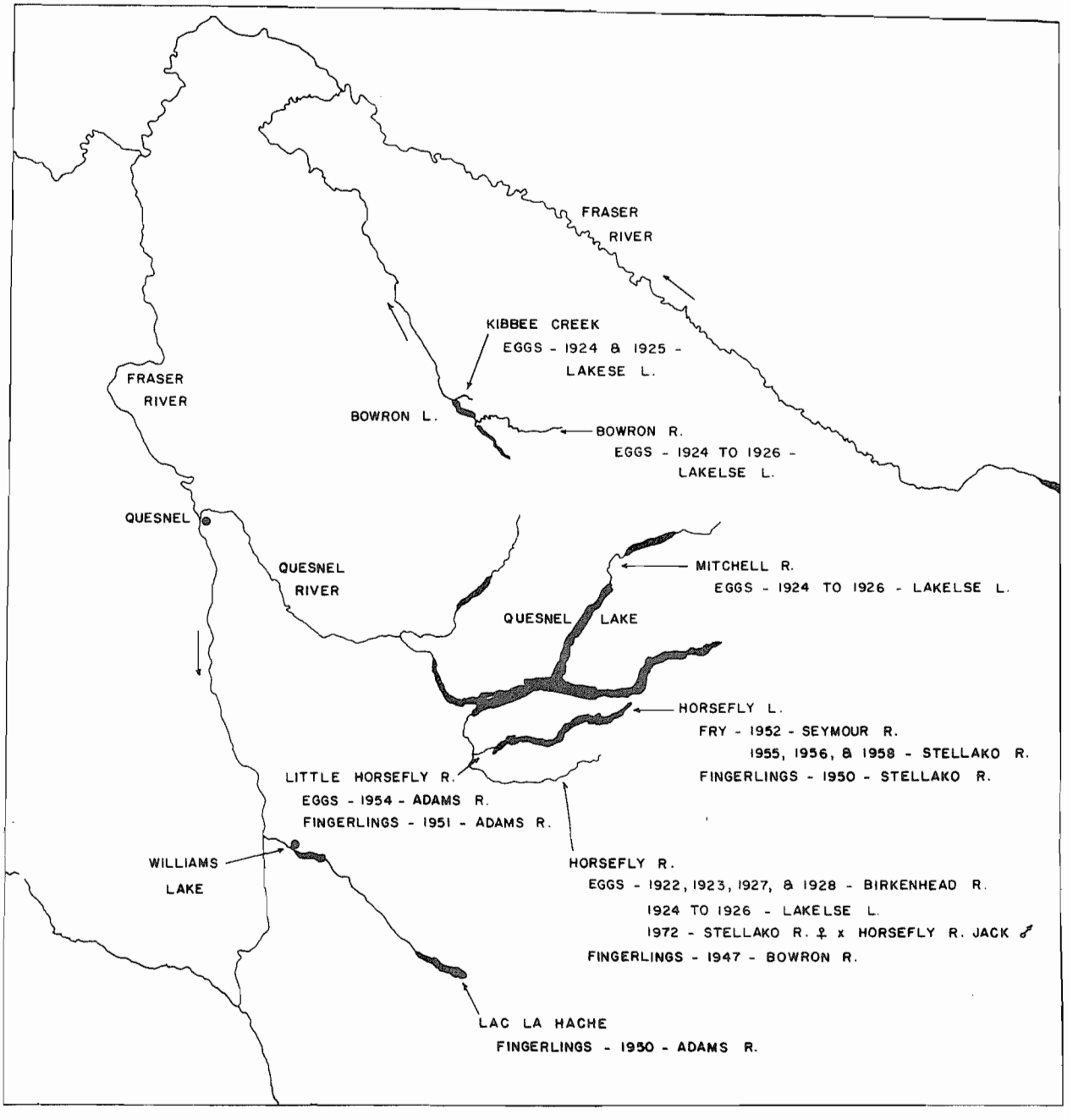

Fig. 9. Transfers of sockeye to the Quesnel and Bowron systems and to Lac la Hache.

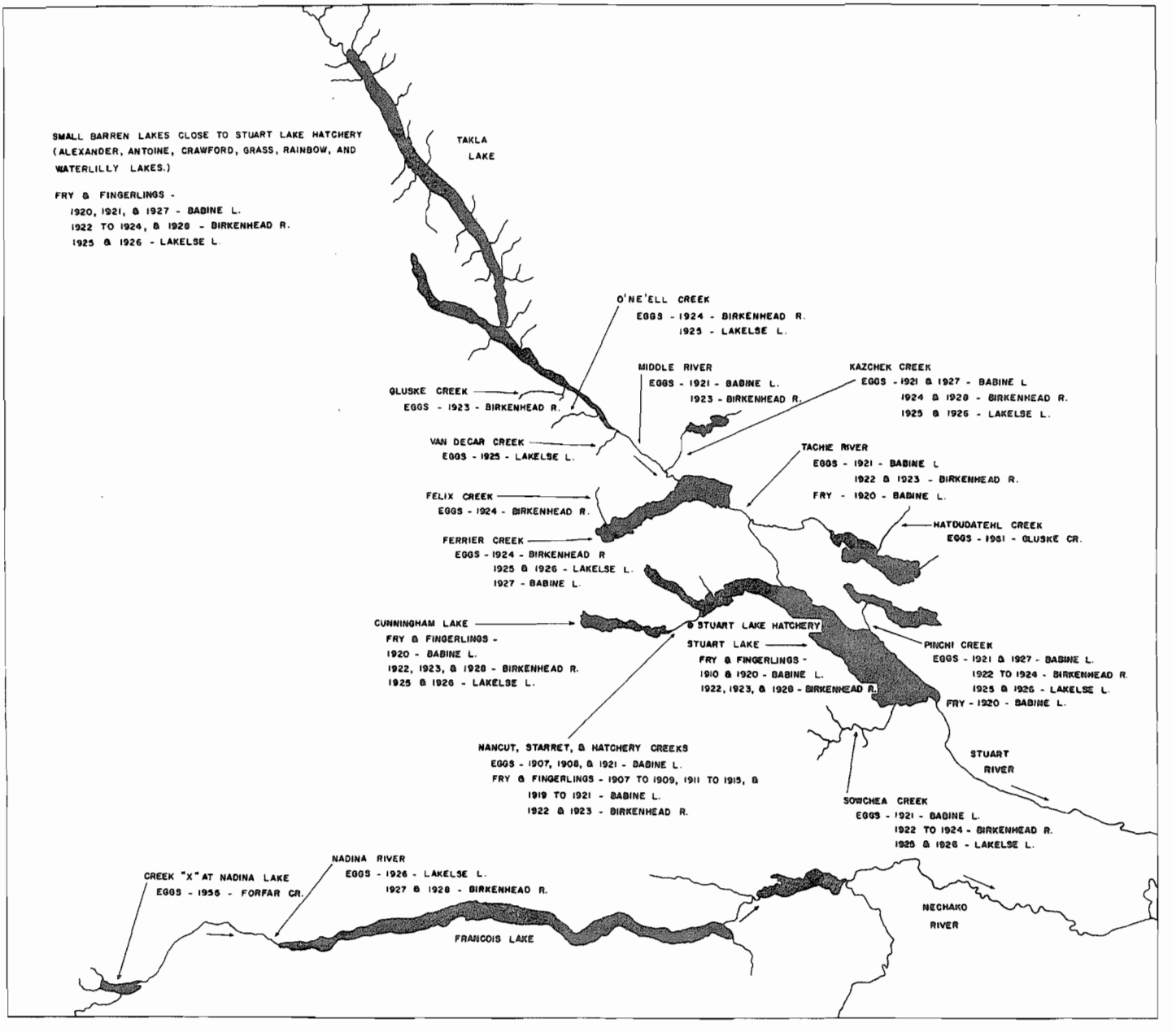

Fig. 10. Transfers of sockeye eggs and young to the Stuart Lake and Nadina River systems.

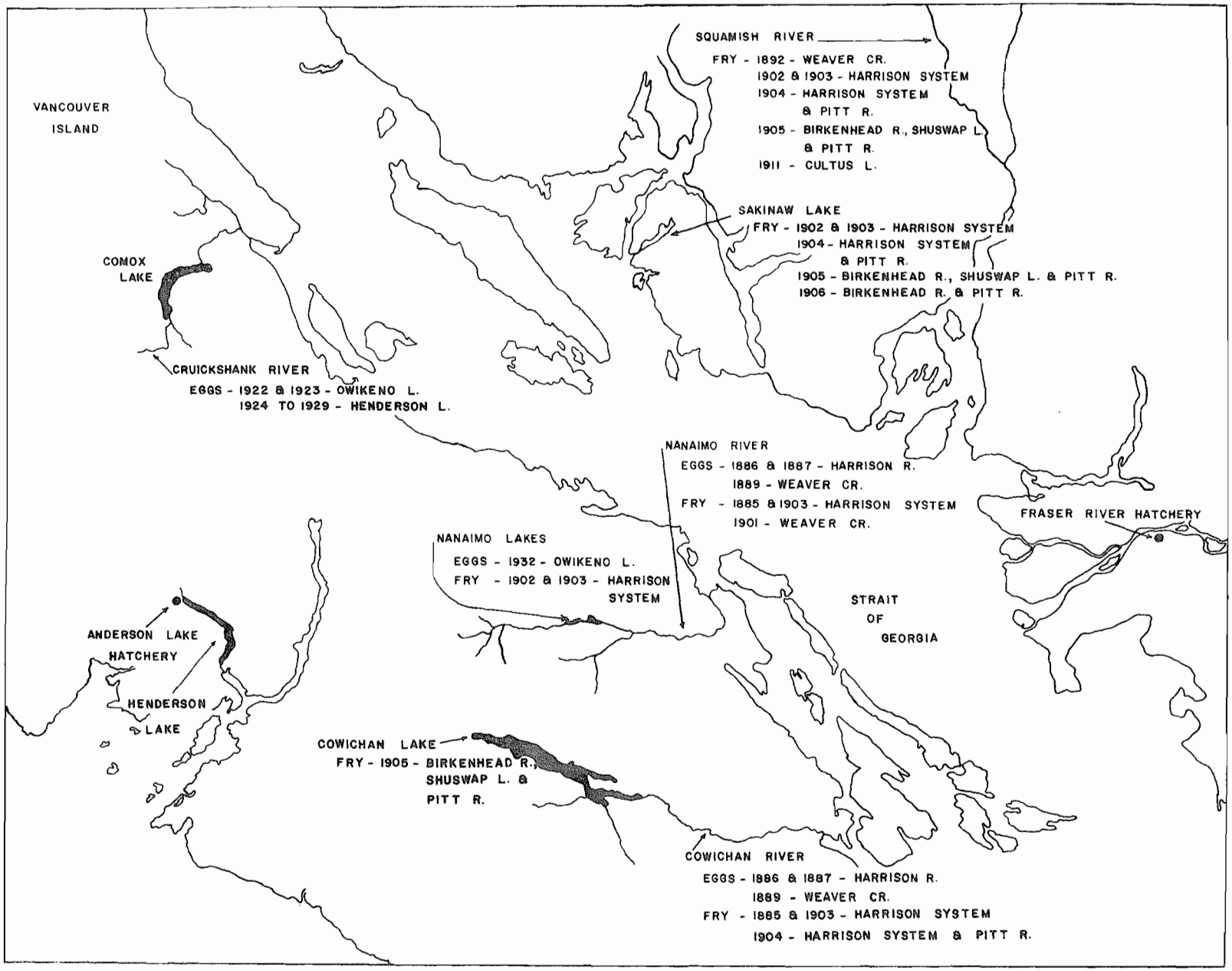

Fig. 11. Transfers of sockeye eggs and fry to streams and lakes located on the southern mainland coast of British Columbia and on the east coast of Vancouver Island.

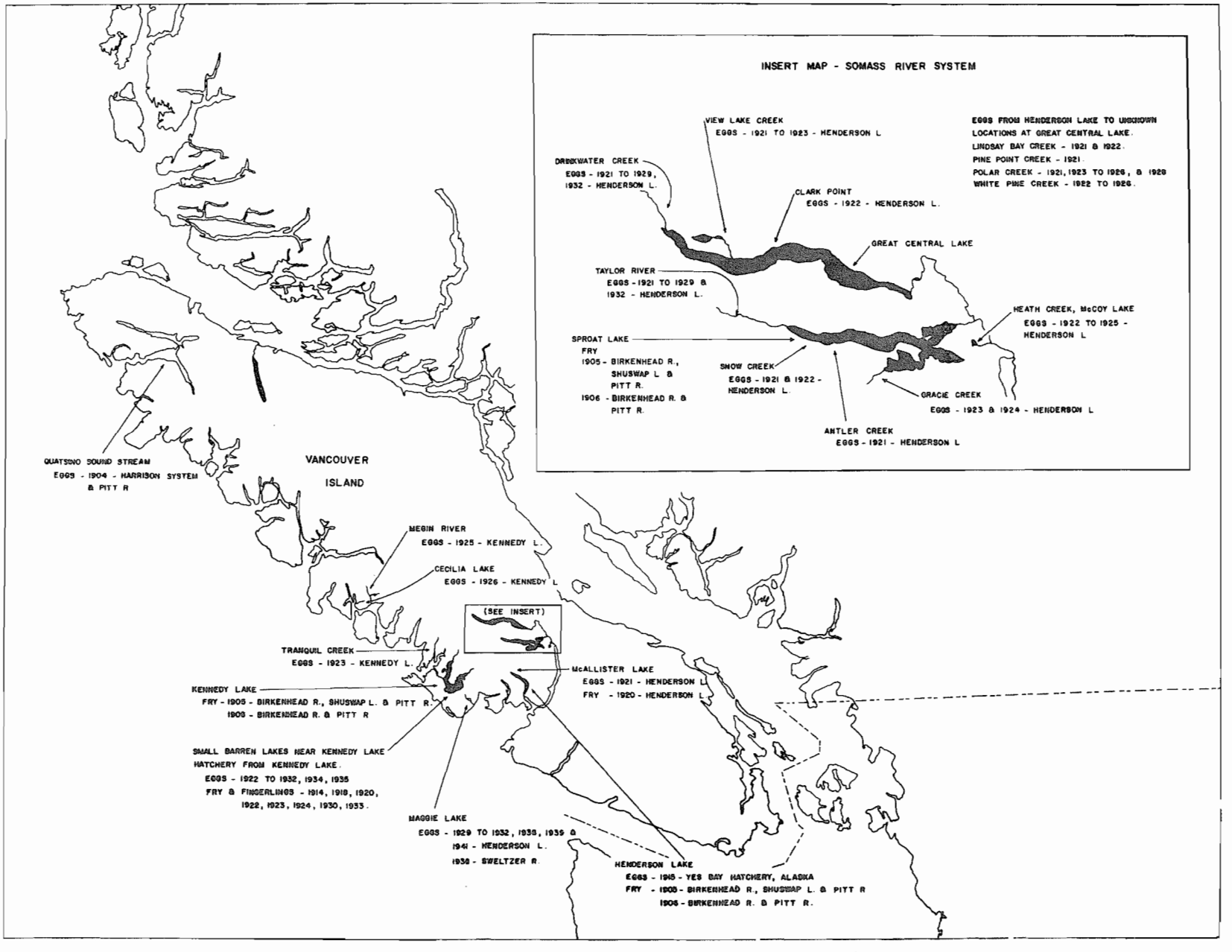

Fig. 12. Transfers of sockeye eggs and young to the west coast of Vancouver Island.

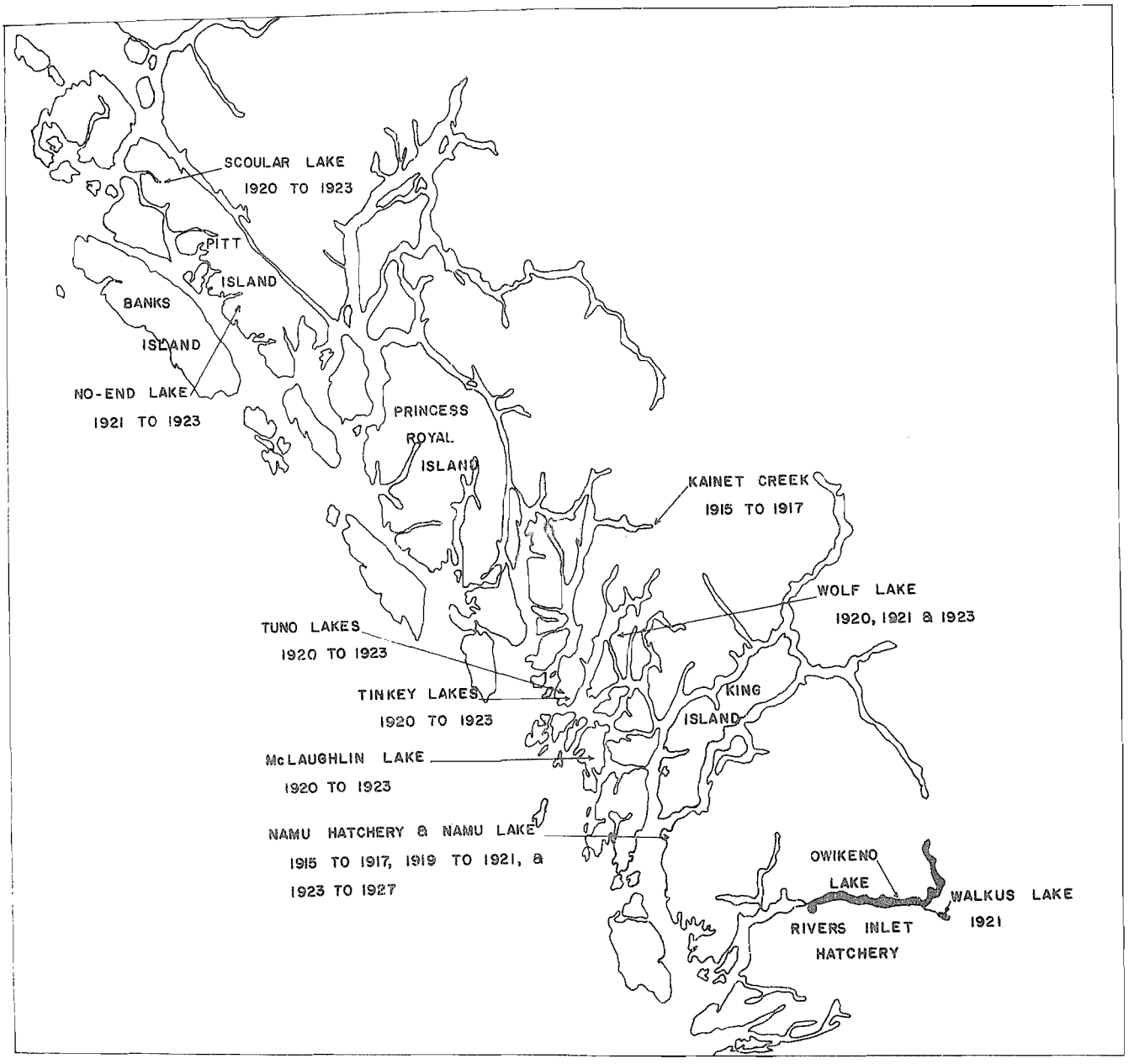

Fig. 13. Transfers of sockeye eggs from Owikeno Lake to points along the northern British Columbia coast by the Rivers Inlet hatchery.

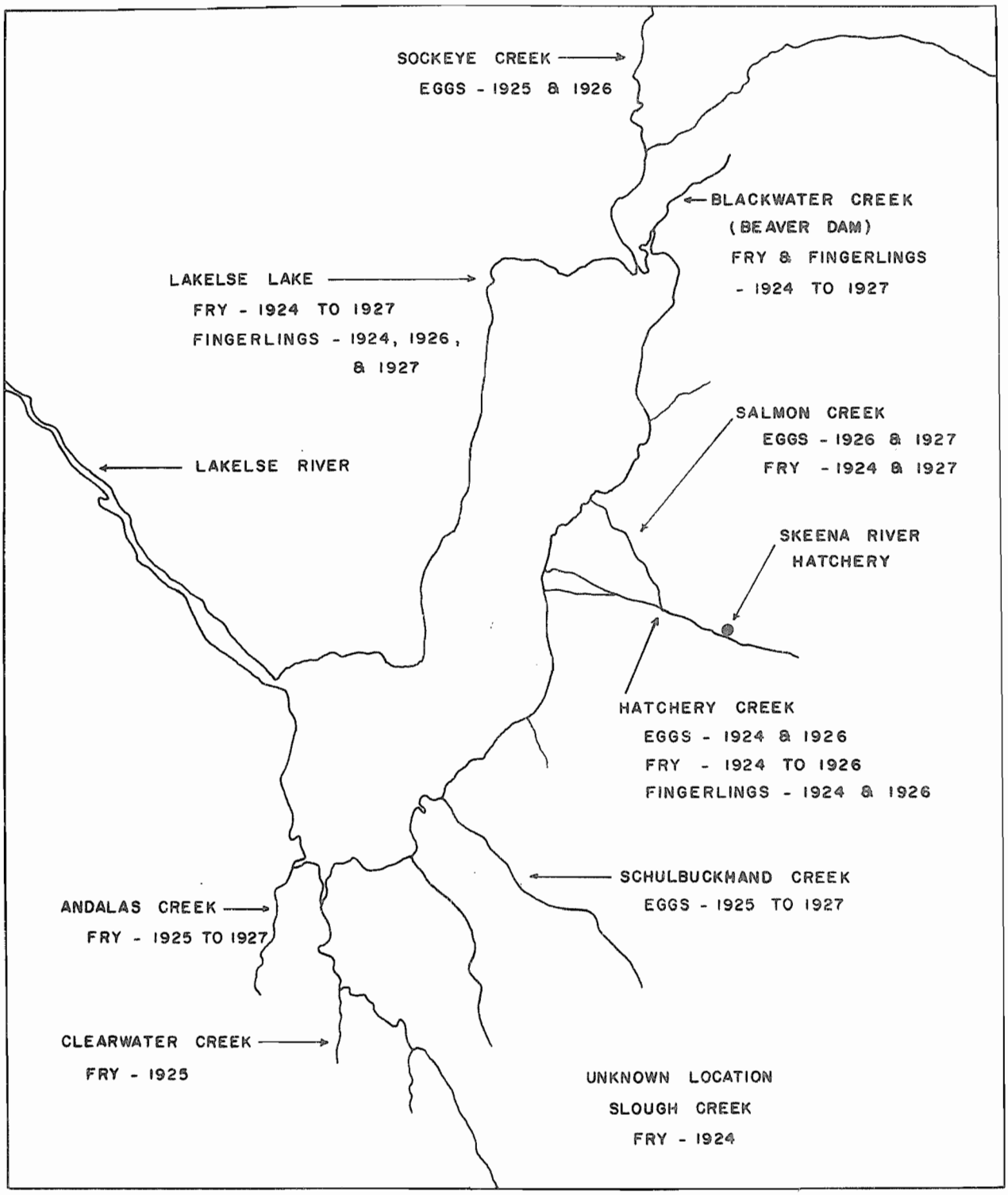

Fig. 14. Plantings of sockeye eggs and young at Lakelse Lake from sockeye collected from the Birkenhead River and eyed by the Pemberton hatchery.

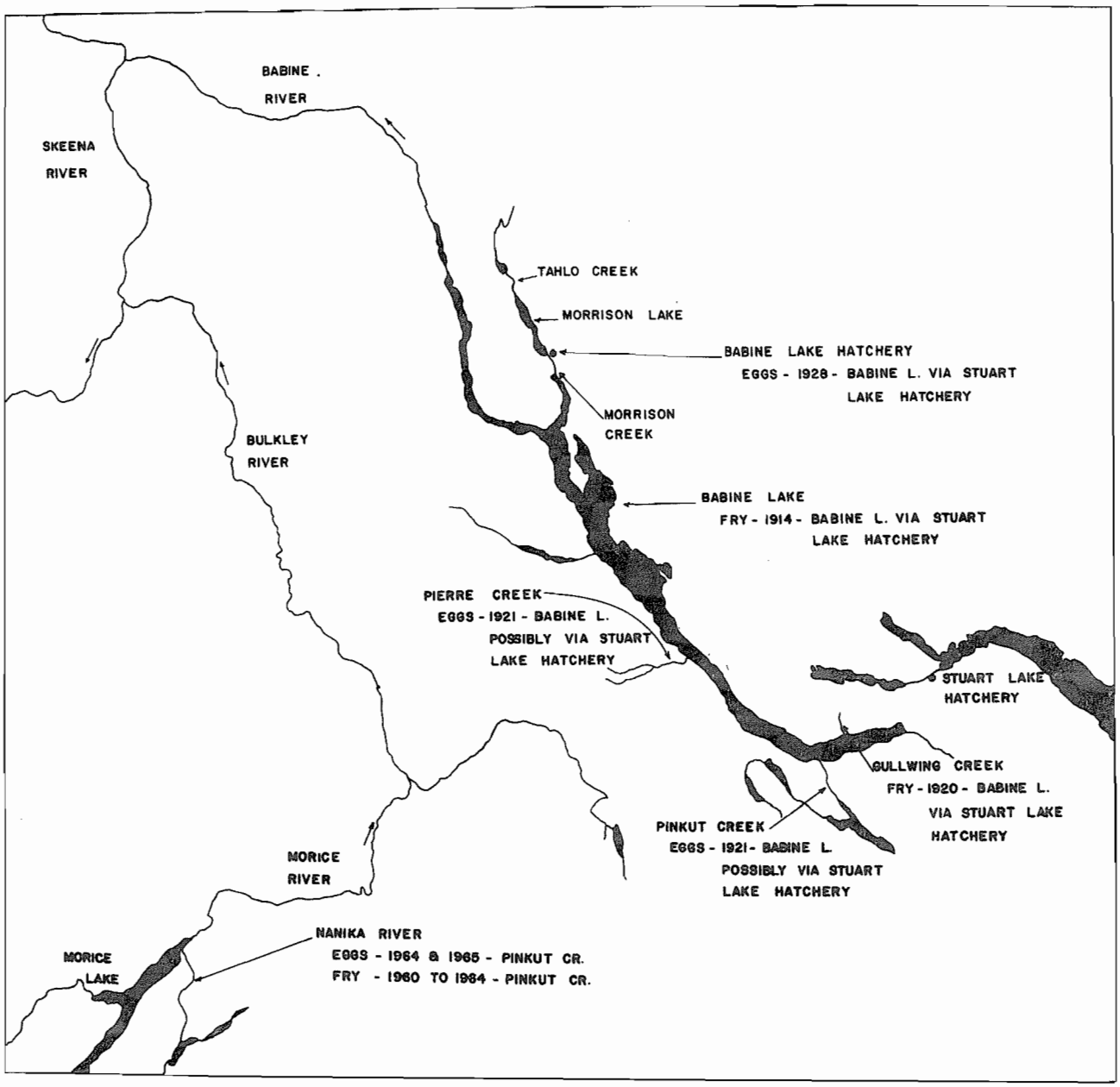

Fig. 15. Transfers of sockeye eggs and fry of Babine Lake origin to Babine Lake by the Stuart Lake hatchery, 1914 to 1928, and to the Nanika River by the Fish Culture Branch, 1960 to 1965.

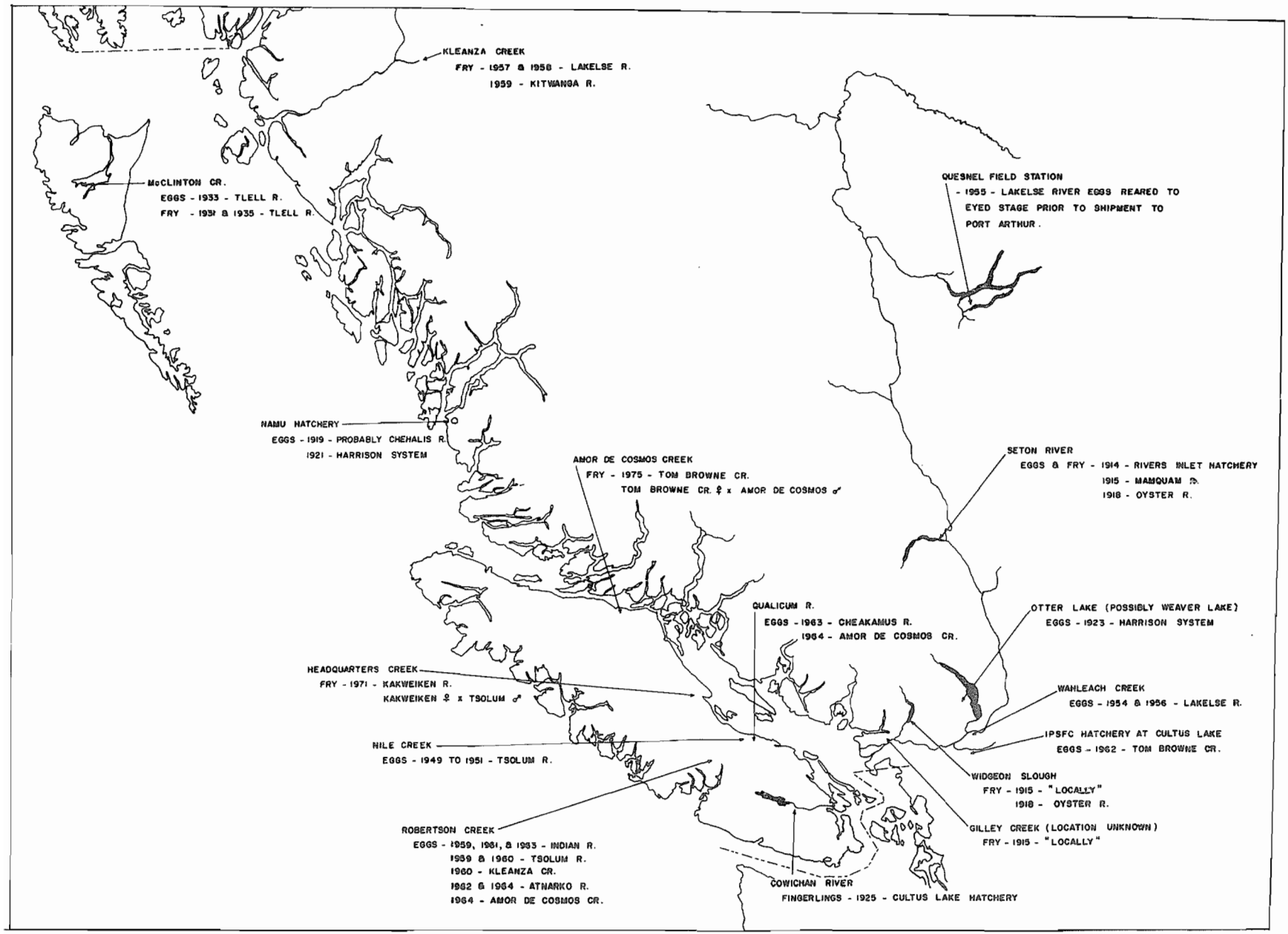

Fig. 16. Transfers of pink eggs and fry within British Columbia.

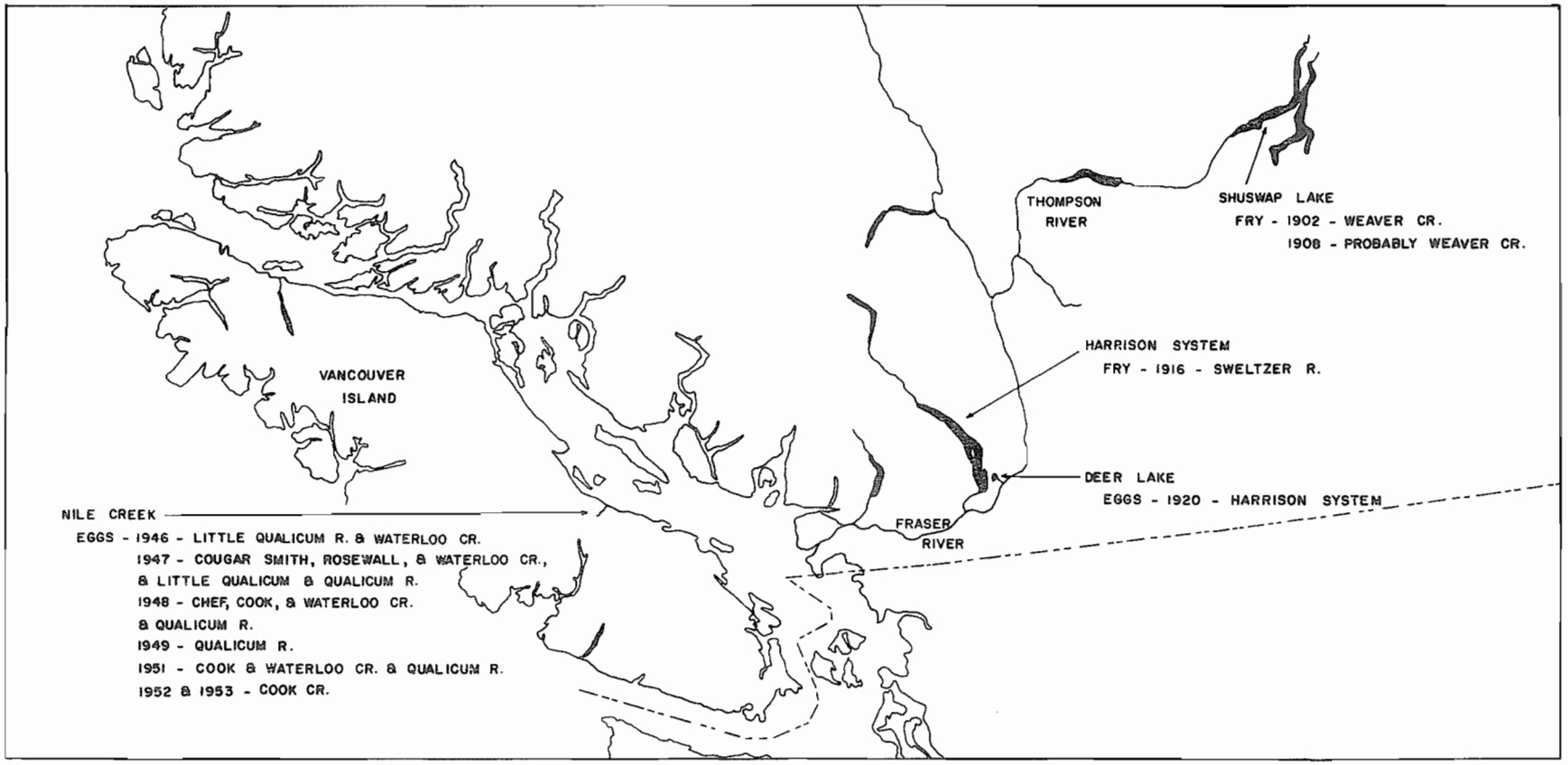

Fig. 17. Transfers of chum eggs and fry within British Columbia.

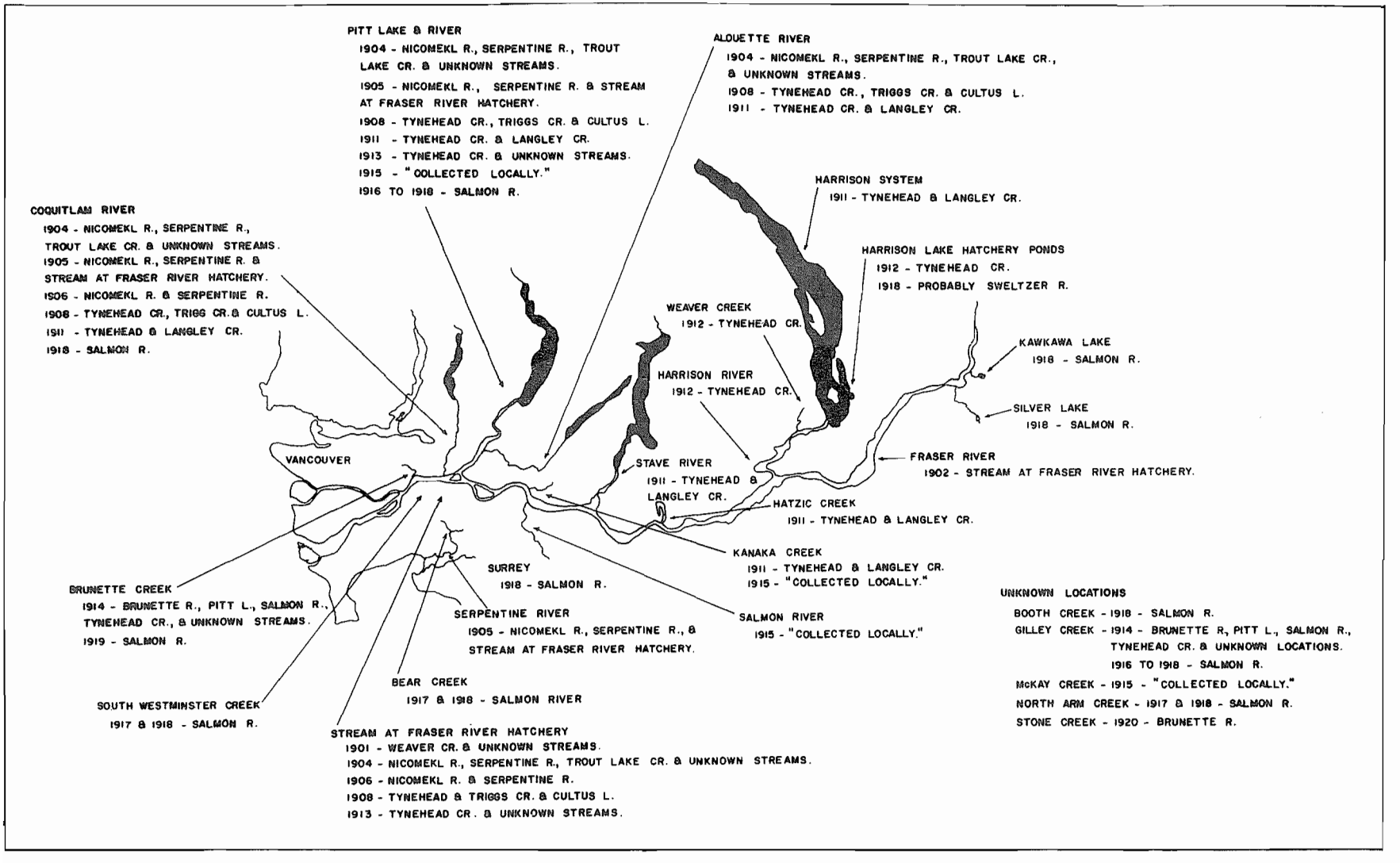

Fig. 18. Transfers of coho fry to locations in the Fraser Valley.

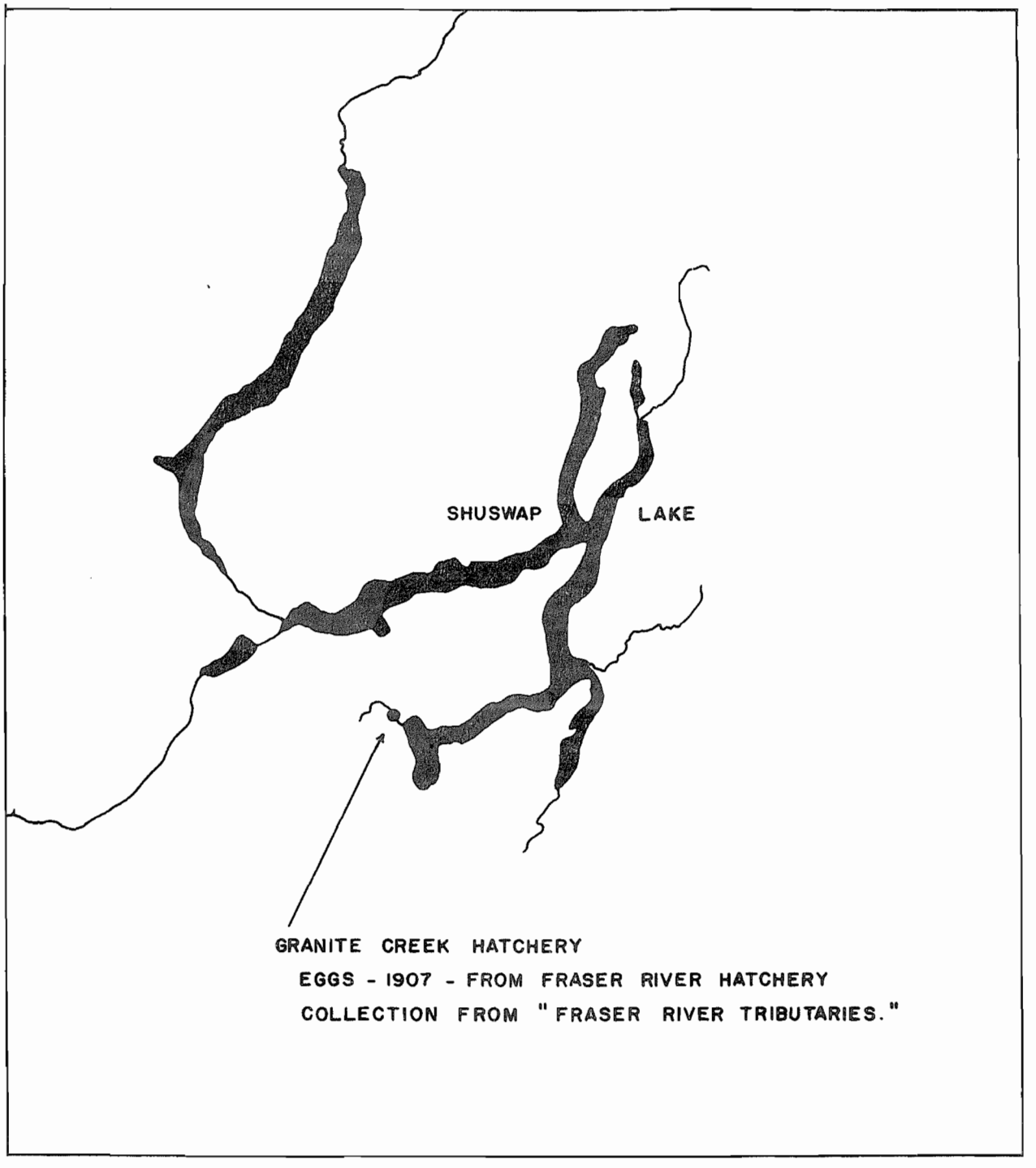

Fig. 19. Transfer of coho eggs to the Granite Creek hatchery.

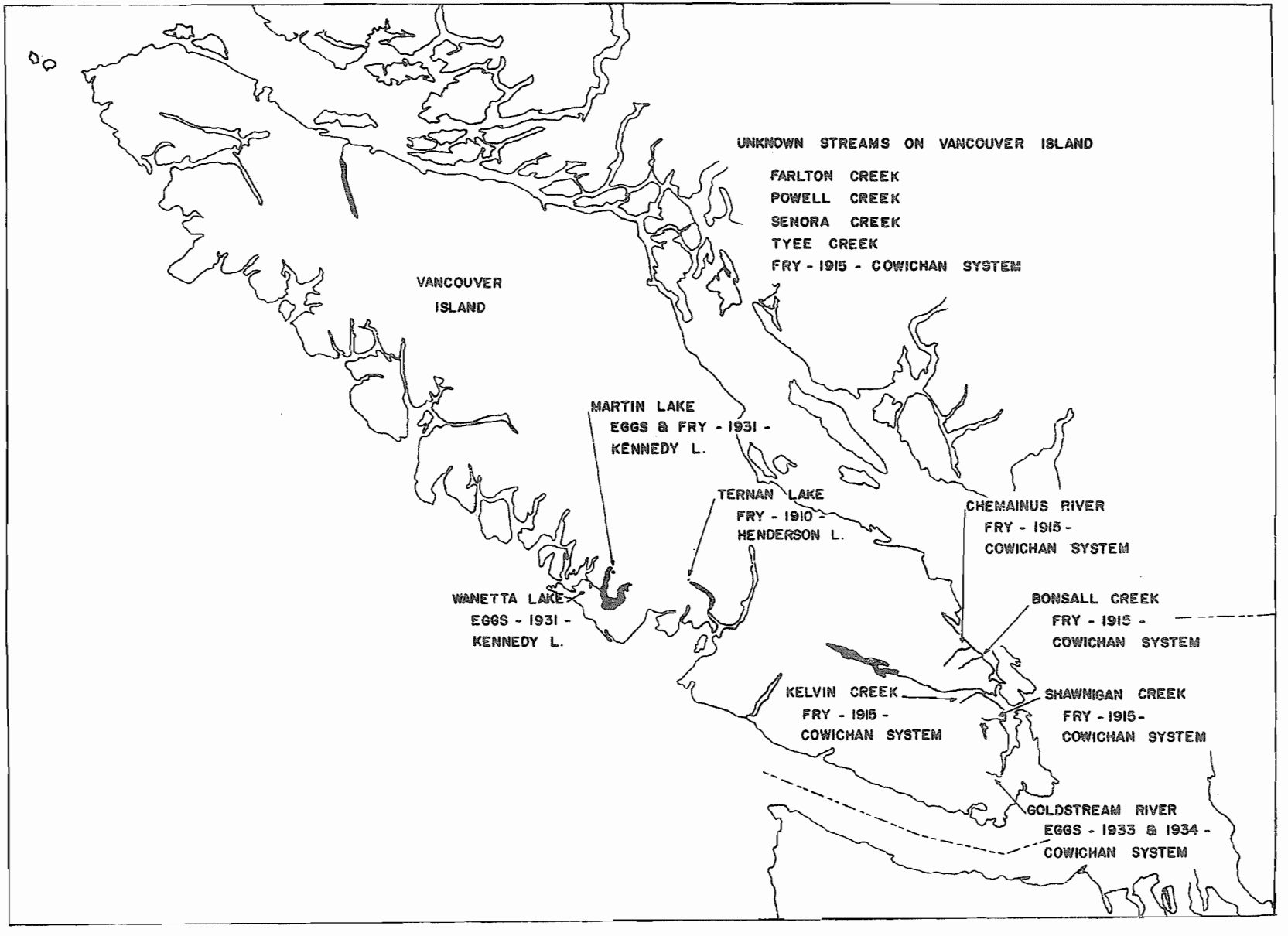

Fig. 20. Transfers of coho eggs and fry to Vancouver Island streams.

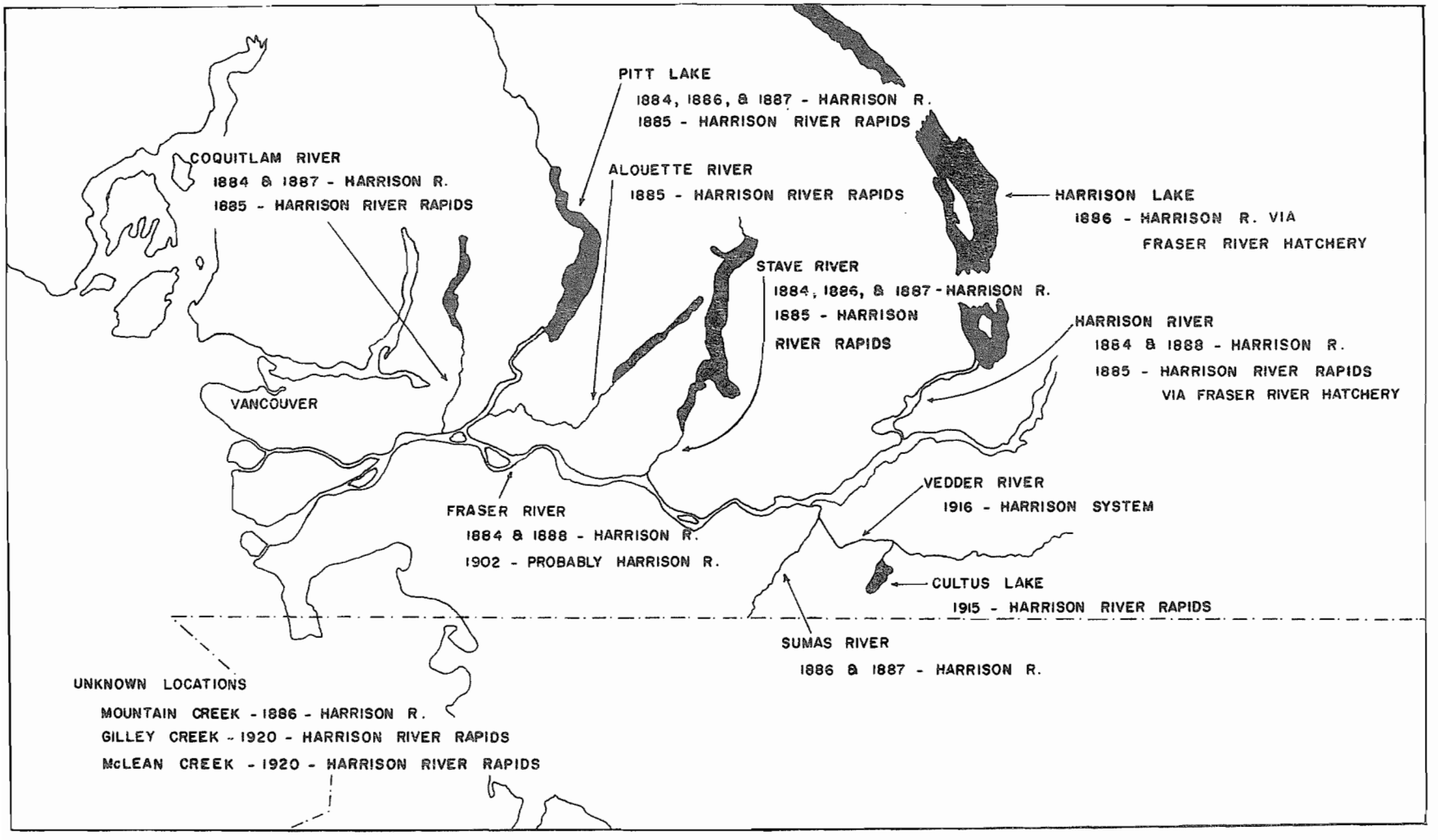

Fig. 21. Transfers of chinook fry within the Fraser Valley.

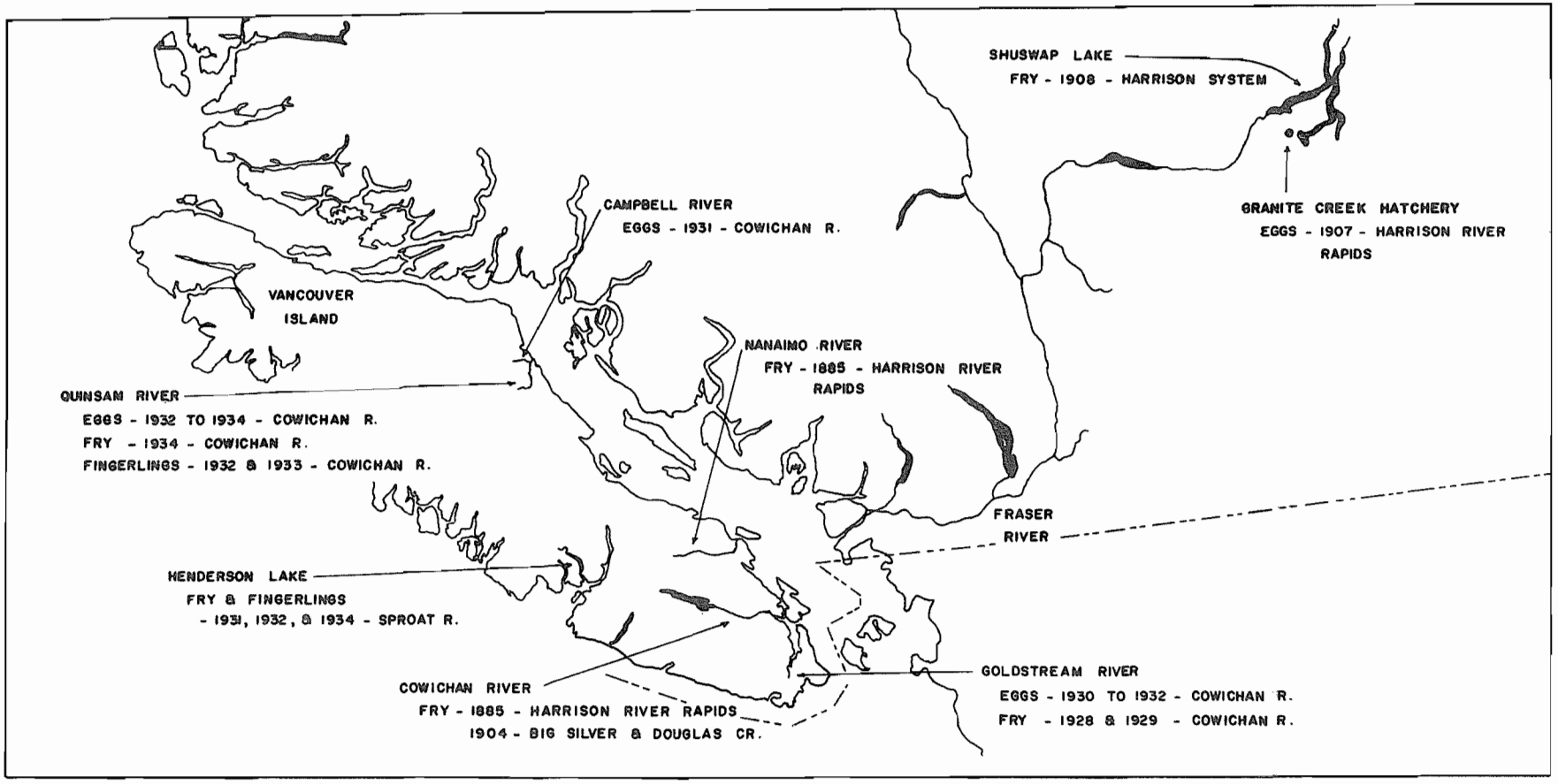

Fig. 22. Transfers of chinook eggs and young to Shuswap Lake and to Vancouver Island stream.