UNITED STATES DEPARTMENT OF THE INTERIOR FISH AND WILDLIFE SERVICE, BUREAU OF COMMERCIAL FISHERIES WASHINGTON 25, D. C.

# PACIFIC SALMON



# FISHERY LEAFLET No. 14

Revised December 1958

# PACIFIC SALMON

Five species of salmon inhabit the waters of the Pacific coast of North America. These are the pink or humpback salmon; the king or chinook salmon; the red, sockeye, or blueback salmon; the silver or coho salmon; and the chum, keta, or dog salmon. These five species belong to the genus Oncorhyncus of the family Salmonidae (salmons and trouts).

These five salmon species occur also in the westerly Pacific, generally from Kamchatka to the Island of Hokkaido in northern Japan. A sixth species (<u>Oncorhyncus masu</u>), called masu in Japan, is found from southern Japan northward to the Island of Sakhalin; the masu is an important commercial fish in Japan but is less valuable than any of the five American species.

#### GENERAL LIFE HISTORY

All species of Pacific salmon are anadromous, that is, the adults migrate from the ocean into freshwater streams to spawn. Thev proceed up rivers until they arrive at the same spawning grounds where they themselves began life. The female salmon deposits her eggs in a nest, or redd, which she digs by threshing her tail in the gravel of the stream or shallow lake-shore waters. In the process of egg laying, the fertilized ova are covered with successive layers of gravel to a depth of several inches. The time required for the eggs to hatch depends upon the water temperature. Newly hatched fish live in the gravel of the redd and gradually absorb the food in the abdominal yolk sac. At the end of this period, they struggle up through the gravel and begin to seek food. How long the young fish stay in fresh water varies with the species, but eventually they migrate downstream to the sea, where they remain from 1 to 4 years, and grow rapidly. When they approach sexual maturity, they return to fresh water to spawn and thereby complete the cycle. All Pacific salmon die after spawning (in this they differ from the Atlantic salmon, which may spawn more than once).

#### Eggs

The number of eggs produced by Pacific salmon varies greatly with species and size. Pink salmon average about 2,000 eggs per female, chum salmon 3,000 eggs, red salmon 3,500 eggs, and chinook salmon 5,000 eggs.

#### Food

In their early stages, all species of Pacific salmon feed on plankton--small floating plants and animals. Pink, red, and chum salmon throughout their existence feed largely on plankton, including the larger copepods and shrimps. King and silver salmon during their early life in fresh water subsist largely on insects and occasional small fishes; during their ocean residence they feed on candlefish, herring, and other small species as well as some of the larger plankton organisms. With the exception of a few known instances of adult king salmon feeding in the lower part of a river, no species of Pacific salmon feeds while on its spawning migration in fresh water.

#### Migration

Most Pacific salmon return as adults to the same stream from which they migrated to the ocean as fingerlings. If young salmon are transplanted from one river to another, they return as adults to the stream in which they were planted and not to the one from which the eggs came. Eggs of Alaska salmon have been shipped to the Columbia River where they were hatched, reared, and released. At the age of about 18 months the young migrated to the ocean, where they remained 2 or 3 years and then return to the Columbia River. Marking experiments have shown that only slight straying occurs. Consequently, in regulating the salmon fishery the population in each river system must be considered a unit and given adequate protection to avoid depletion.

#### Importance

Salmon are important as commercial fish and as game fish. They are taken by trollers and purse seiners on the high seas, by fish traps, seines, and gill nets in coastal waters, and by drift and anchored gill nets in larger rivers. The flesh of the salmon is rich in proteins, fats, and vitamins, and is especially good for canning. Although large quantities are sold on the fresh-fish markets and considerable amounts are frozen, pickled, and smoked, the bulk of the catch is canned.

King and silver salmon are highly prized by sportsmen, who troll, spin, or cast for them in coastal bays and streams. Salmon fishing is carried on through the greater part of the year, resulting in the capture of immature fish, but the greatest catches are made during the period of abundance of the mature fish.

From Columbia River to Bering Sea; on Siberian coast from Bering Strait to northern Korea. Important producing areas include Puget Sound in British Columbia, southeastern and central Alaska, and central Siberia. Southeastern Alaska is center of abundance, producing a pack greater than all other areas combined.

#### Freshwater life

Eggs deposited in gravel during summer and fall; young hatch during following spring. Fry emerge from gravel when yolk sacs are absorbed, and immediately migrate to salt water. Does not appear to have a landlocked form.

# Ocean life

Invariably remain 1 year in salt water.

#### Age at maturity

Species is unique in that it matures uniformly at 2 years of age. Each stream that has an annual run, thus supports 2 independent populations of fish.

#### Length and weight

Average 18 inches in length and 4 pounds in weight.

#### Time of run

In western Alaska, from mid-June throughout July; in southeastern and central Alaska, during July and August; on Puget Sound and in British Columbia, from mid-August to mid-September.

#### Biennial runs

Pink salmon are unique among Pacific salmons in that they show marked and consistent differences in abundance in odd- and even-numbered years in parts of their range. For the most part this has been a condition existing since before the start of the commercial fishery. The cause is unknown, but its continuation is a natural accompaniment of the unvarying age at maturity and the relatively strong homing instinct of this species. In the Puget Sound area, millions of pink salmon appear in odd-numbered years, but the runs in even years number only a few thousand. In Alaska, no consistent variation appears in the runs from year to year. Throughout the greater part of Siberia, heavy runs appear in even-numbered years and very light ones in odd years, although in the southern part of the district (Tartar Strait) considerable numbers of pink salmon do appear in odd-numbered years.

### KING OR CHINOOK SALMON (O. tshawytscha)

#### Range

From Monterey Bay, California, to Yukon River; from Bering Strait to southern Siberian coast. Runs, by transportation of fertilized eggs, have been established on South Island, New Zealand. Columbia and Sacramento-Joaquin Rivers carry the largest runs, though Puget Sound, British Columbia, and Alaska are also important producing areas.

#### Freshwater life

Quite variable. Some groups or races remain in fresh water only a few days or possibly hours after emerging from the gravel; others do not migrate to the sea until 2 years old. It is possible that some do not enter the sea until the beginning of their third year, but this seems to be a rare occurrence. Does not appear to have a landlocked form, though fish transplanted to landlocked lakes have lived out their life spans.

#### Ocean life

Normally varies from 1 to 4 years.

#### Age at maturity

Age at maturity varies, ranging from 2 years, for precociously mature males, to 7 years. Individuals as old as 9 years have been reported, but the majority mature at 3 to 5 years.

#### Length and weight

Extremely wide range in both length and weight at maturity. Some precocious males mature when only about 16 inches long, and a few exceptional individuals have been known to reach a length of almost 60 inches. Average length about 36 inches. Weight may be as little as 2 1/2 pounds and as much as 100 pounds. Fish of 40 to 60 pounds are not extremely rare, but general average is about 23 pounds.

#### Time of run

Variable in time of entry into fresh water for spawning. In most streams, principal migrations occur between early spring and early fall. The late-summer and fall runs are usually the most numerous. In the Columbia River a few chinooks are present even during winter.

From Columbia River to Yukon River and from Bering Strait to Japan, in nearly all rivers that have accessible lakes. Bristol Bay in Alaska is the greatest production area; there are other important producing regions in Alaska and in British Columbia and Siberia.

#### Freshwater life

Eggs are deposited in gravels during summer and fall; young hatch out in spring of the following year and spend from a few months to 4 years in lakes. Period of freshwater residence is usually 1 year in southern part of range, 2 to 3 years in northern part.

Landlocked populations are frequent in the southern part of the range. These landlocked fish never go to the ocean, but in all other respects except size are identical with the sea-run populations. They are usually called silver trout, little red fish, or kokanee.

#### Ocean life

Migrate to the ocean in the spring and remain there from a few months to 4 years, usually 2 years in the southern part of the range and 2 or 3 years in the northern part.

#### Age at maturity

Including the period of incubation, varies from 3 to 8 years, usually 4 years in the southern part of the range and 5 or 6 years in the northern part.

#### Length and weight

Length from 15 to 30 inches, average about 25 inches; weight from 2 to 10 pounds, average about 6 pounds.

#### Time of run

First fish usually appear as early as May, and run may continue until October. Peak of the run to a given river generally occurs during a 3- or 4-week period, except in localities that have more than one distinct population. Main body of the Fraser River run usually appears during last 2 weeks of July and first 2 weeks of August. Main body of Copper River run appears during June. Karluk and Chignik Rivers have two runs, one in June and one in August and September. In Bristol Bay, main body of fish appears between last week of June and third week of July.

From Monterey Bay, California, northward to Kotzebue Sound in Bering Strait; in Asiatic waters as far south as Japan. Largest populations are found in streams of Oregon, Washington, British Columbia, and southeastern Alaska.

#### Freshwater life

Hatch about 3 months after eggs are deposited; follow the general life pattern of all Pacific salmon. Most of the young remain in streams throughout the following winter, when they are about 4 inches long. In northerly part of range, about half the young remain in fresh water a second year. Have been stocked in many landlocked lakes to increase sport fishing, but self-perpetuating populations have been reported from only one such area.

#### Ocean life

On reaching the sea, feed voraciously and grow rapidly; practically all of them remain 1 year.

#### Age of maturity

A few males mature precociously at 2 years of age. In Puget Sound district, almost entire run is made up of fish in their third year; in central and western Alaska, runs are composed of about equal numbers of fish in their third and fourth years.

#### Length and weight

During stay at sea, weight increases from a few ounces to as much as 30 pounds. At maturity, average about 9 1/2 pounds in weight and about 24 inches in length.

#### Time of run

Ascend nearly all coastal streams and rivers in the fall of each year on spawning migrations. Time of run and length of spawning season throughout range varies, but occurs chiefly from September to December.

From Oregon coast to Bering Strait; in eastern Arctic Sea to Lena River; along Siberian coast south to Tumen River, Korea, and northern Honshu Island, Japan.

#### Freshwater life

Eggs are usually deposited during summer and fall; young hatch the following spring. When yolk sacs are absorbed fry wriggle out from the gravel and migrate to the sea. Does not appear to have a landlocked form.

#### Ocean life

From 18 months to 4 years.

#### Age at maturity

A few mature at 2 years; most mature at 3 to 5 years.

#### Length and weight

Average at maturity, approximately 25 inches in length and 9 pounds in weight. Occasionally very large individuals, weighing as much as 45 pounds, have been reported.

#### Time of run

Runs extend from spring to late fall in various parts of range, but most occur during fall months. In Puget Sound, chums do not appear in significant numbers before late September, and main run occurs between October 1 and November 15. In Alaska, runs begin in midsummer and extend into fall months. In Siberia, a summer run appears in July and a fall run in September, October, and November.

#### COMMERCIAL CATCH OF PACIFIC SALMONS

Landings and wholesale-market values, 1948 through 1957, of the five species of Pacific salmon are shown in the following tables.

Commercial catch of salmon in Pacific Coast States and Alaska, 1948-57

(In thousands of pounds)

	Pink salmon		King salmon		Red salmon		Silver salmon		Chum salmon	
Year -	States	Alaska	States	Alaska	States	Alaska	States	Alaska	States	Alaska
1948 1949 1950 1951 1952 1953 1954 1955 1956	1 44,215 45 33,978 10 34,493 2 31,683 5	113,408 228,950 85,728 113,666 79,511 62,677 88,692 96,496 102,151	34,499 25,512 24,361 27,410 26,091 24,918 24,207 31,142 28,997	13,559 14,076 12,198 15,791 14,706 14,261 12,208 11,642 9,161	6,562 7,058 8,879 8,264 8,600 12,589 35,269 6,558 6,617	117,924 1,503 82,597 57,917 101,547 70,759 56,467 51,028 87,631	14,109 13,134 17,753 15,784 22,506 14,433 9,056 12,212 16,373	26,853 27,657 22,472 36,280 21,898 14,239 22,581 16,505 13,346	12,209 5,940 12,687 12,199 12,099 6,225 9,149 4,610 2,359	66,626 46,734 61,924 52,934 65,305 58,340 67,084 28,004 57,609

Value of commercial catch of salmon in Pacific Coast States and Alaska, 1948-57

(In thousands of dollars)

Year -	Pink salmon		King salmon		Red salmon		Silver salmon		Chum salmon	
	States	Alaska	States	Alaska	States	Alaska	States	Alaska	States	Alask
1948	1/	7,115	7.734	2.119	1.990	7.533	3,324	2.826	2.037	3.551
1949	4.421	19.533	5.286	2,219	70,929	5.607	2.109	2.819	715	2.484
1950	6	6.767	6,061	2,268	2,292	6.985	4.466	2.685	1.988	3.932
1951	5,097	13,137	7,452	3,037	2,535	6,712	3.423	5.104	1.633	4.378
1952	1	7,502	6,475	3,349	2,438	11,962	3,903	3,116	1,404	5,091
1953	3,999	5,196	5,919	2,719	3,359	8,311	2,417	1,538	614	3,734
1954	i/	7,908	6,658	2,325	9,986	7,061	1,755	2,552	952.	4,751
1955	4,599	8,568	9,284	2,308	1,925	6,592	2,615	2,260	666	1,887
1956	1	9,256	9,505	1,849	2,224	13,043	4,342	1,770	396	3,834
1957	2,479	5,881	6,340	2,202	2,788	9,505	2,672	2,112	326	5,336
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1/ Less than 500 dollars.

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# UNITED STATES DEPARTMENT OF THE INTERIOR FISH AND WILDLIFE SERVICE

Washington 25, D. C.

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#### PACIFIC SALMONS

Five species of salmon inhabit the waters of the Pacific coast of North America. These are the pink or humpback salmon, the king or chinook salmon, the red, sockeye, or blueback salmon, the silver or coho salmon, and the chum, keta, or dog salmon. These five species belong to the genus <u>Onchorhyncus</u> of the family Salmonidae (salmons and trouts).

These five salmon species occur also in the western Pacific, generally from Kamchatka to the island of Hokkaido in northern Japan. A sixth species (<u>Onchorhyncus masu</u>), called masu in Japan, is found from southern Japan northward to the Island of Sakhalin; the masu is an important commercial fish in Japan but is less valuable than any of the five American species.

#### GENERAL LIFE HISTORY

All species of Pacific salmon are anadromous, that is, the adults migrate from the ocean into freshwater streams to spawn. They proceed up rivers until they arrive at the same spawning grounds where they themselves began life. The female salmon deposits her eggs in a nest, or redd, which she digs by threshing her tail in the gravel of the stream or shallow lake-shore waters. In the process of egg laying, the fertilized ova are covered with successive layers of gravel to a depth of several inches. The time required for the eggs to hatch depends upon the water temperature. Newly hatched fish live in the gravel of the redd and gradually absorb the food in the abdominal yolk sac, At the end of this period, they struggle up through the gravel and begin to seek food. How long the young fish stay in fresh water varies with the species, but eventually they migrate downstream to the sea, where they remain from 1 to 4 years, and grow rapidly. When they approach sexual maturity, they return to fresh water to spawn and thereby complete the cycle. All Pacific salmon die after spawning (In this they differ from the Atlantic salmon, which may spawn more than once).

Eggs.--The number of eggs produced by Pacific salmon varies greatly with species and size. Pink salmon average about 2,000 eggs per female, chum salmon 3,000 eggs, red salmon 3,500 eggs, and chinook salmon 5,000 eggs.

Food.--In their early stages, all species of Pacific salmon feed on plankton--small floating plants and animals. Pink, red, and chum salmon throughout their existence feed largely on plankton, including the larger copepods and shrimps. King and silver salmon during their early life in fresh water subsist largely on insects and occasional small fishes; during their ocean residence they feed on candlefish, herring, and other small species as well as some of the larger plankton organisms. With the exception of a few known instances of adult king salmon feeding in the lower part of a river, no species of Pacific salmon feeds while on its spawning migration in fresh water.

<u>Migration</u>.--Most Pacific salmon return as adults to the same stream from which they migrated to the ocean as fingerlings. If young salmon are transplanted from one river to another, they return as adults to the stream in which they were planted and not to the one from which the eggs came. Eggs of Alaska salmon have been shipped to the Columbia River where they were hatched, reared, and liberated. At the age of about 18 months the young migrated to the ocean, where they remained 2 or 3 years and then returned to the Columbia River. Marking experiments have shown that only slight straying occurs. Consequently, in regulating the salmon fishery the population in each river system must be considered a unit and given adequate protection to avoid depletion.

Importance, ---Salmon are important as commercial fish and as game fish. They are taken by trollers and purse seiners on the high seas, by fish traps, seines, and gill nets in coastal waters, and by drift and anchored gill nets in larger rivers. The flesh of the salmon is rich in proteins, fats, and vitamins, and is especially good for canning. Although large quantities are sold on the fresh-fish markets and considerable amounts are frozen, pickled, and smoked, the bulk of the catch is canned.

King and silver salmon are highly prized by sportsmen, who troll, spin, or cast for them in coastal bays and streams. Salmon fishing is carried on through the greater part of the year, resulting in the capture of immature fish, but the greatest catches are made during the period of abundance of the mature fish.

# PINK SALMON (0. gorbuscha)

Range.--From Columbia River to Bering Sea; on Siberian coast from Bering Strait to northern Korea. Important producing areas include Puget Sound in British Columbia, southeastern and central Alaska, and central Siberia. Southeastern Alaska is center of abundance, producing a pack greater than all other areas combined.

Fresh-water life.--Eggs deposited in gravels during summer and fall; young hatch during following spring. Fry emerge from gravel when yolk sacs are absorbed, and immediately migrate to salt water. Does not appear to have a landlocked form.

Ocean life .-- Invariably remain 1 year in salt water .

Age at maturity.--Species is unique in that it matures uniformly at 2 years of age. Each stream that has an annual run, thus supports 2 independent populations of fish.

Length and weight.--Average 18 inches in length and 4 pounds in weight.

Time of run,--In western Alaska, from mid-June throughout July; in southeastern and central Alaska, during July and August; on Puget Sound and in British Columbia, from mid-August to mid-September.

<u>Biennial runs</u>.--Pink salmon are unique among Pacific salmons in that they show marked and consistent differences in abundance in odd- and even-numbered years in parts of their range. For the most part this has been a condition existing since before the start of the commercial fishery. The cause is unknown, but its continuation is a natural accompaniment of the unvarying age at maturity and the relatively strong homing instinct of this species. In the Puget Sound area, millions of pink salmon appear in odd-numbered years, but the runs in even years number only a few thousand. In Alaska, no consistent variation appears in the runs from year to year. Throughout the greater part of Siberia, heavy runs appear in even-numbered years and very light ones in odd years, although in the southern part of the district (Tartar Strait) considerable numbers of pink salmon do appear in oddnumbered years.

# KING OR CHINOOK SALMON (O. tshawytscha)

<u>Range</u>.--From Monterey Bay, Calif. to Yukon River; from Bering Strait to southern Siberian coast. Runs, by transportation of fertilized eggs, have been established on South Island, New Zealand. Columbia and Sacramento-Joaquin Rivers carry the largest runs, though Puget Sound, British Columbia, and Alaska are also important producing areas.

<u>Fresh-water life</u>.--Quite variable. Some groups or races remain in fresh water only a few days or possibly hours after emerging from the gravel; others do not migrate to the sea until 2 years old. It is possible that some do not enter the sea until the beginning of their third year, but this seems to be a rare occurrence. Does not appear to have a landlocked form, though fish transplanted to landlocked lakes have lived out their life spans.

Ocean life .-- Normally varies from 1 to 4 years.

Age at maturity.--Age at maturity varies, ranging from 2 years, for precociously mature males, to 7 years. Individuals as old as 9 years have been reported, but the majority mature at 3 to 5 years.

Length and weight. --Extremely wide range in both length and weight at maturity. Some precocious males mature when only about 16 inches long, and a few exceptional individuals have been known to reach a length of almost 60 inches. Average length about 36 inches. Weight may be as little as  $2\frac{1}{2}$  pounds and as much as 100 pounds. Fish of 40 to 60 pounds are not extremely rare, but general average is about 23 pounds.

<u>Time of run</u>.--Variable in time of entry into fresh water for spawning. In most streams, principal migrations occur between early spring and early fall. The late-summer and fall runs are usually the most numerous. In the Columbia River a few chinooks are present even during winter.

# RED SALMON (0. nerka)

<u>Range</u>.--From Columbia River to Yukon River and from Bering Strait to Japan, in nearly all rivers that have accessible lakes. Bristol Bay in Alaska is the greatest production area; there are other important producing regions in Alaska and in British Columbia and Siberia.

Fresh-water life.--Eggs are deposited in gravels during summer and fall; young hatch out in spring of the following year and spend from a few months to 4 years in lakes. Period of fresh-water residence is usually 1 year in southern part of range, 2 to 3 years in northern part. Landlocked populations are frequent in the southern part of the range: These landlocked fish never go to the ocean, but in all other respects except size are identical with the sea-run populations. They are usually called silver trout, little red fish, or kokanee.

Ocean life.--Migrate to the ocean in the spring and remain there from a few months to 4 years, usually 2 years in the southern part of the range and 2 or 3 years in the northern part.

Age at maturity.--Including the period of incubation, varies from 3 to 8 years, usually 4 years in the southern part of the range and 5 or 6 years in the northern part.

Length and weight.--Length from 15 to 30 inches, average about 25 inches; weight from 2 to 10 pounds, average about 6 pounds.

Time of run.--First fish usually appear as early as May, and run may continue until October. Peak of the run to a given river generally occurs during a 3- or 4-week period, except in localities that have more than one distinct population. Main body of the Fraser River run usually appears during last 2 weeks of July and first 2 weeks of August. Main body of Copper River run appears during June. Karluk and Chignik Rivers have two runs, one in June and one in August and September. In Bristol Bay, main body of fish appears between last week of June and third week of July.

# SILVER SALMON (O. kisutch)

<u>Range</u> -- From Monterey Bay northward to Kotzebue Sound in Bering Strait; in Asiatic waters as far south as Japan. Largest populations are found in streams of Oregon, Washington, British Columbia, and southeastern Alaska.

<u>Fresh-water life</u> --Hatch about 3 months after eggs are deposited; follow the general life pattern of all Pacific salmons. Most of the young remain in streams throughout the following winter, when they are about 4 inches long. In northerly part of range, about half the young remain in fresh water a second year. Have been stocked in many landlocked lakes to increase sport fishing, but self-perpetuating populations have been reported from only one such area.

Ocean life .-- On reaching the sea, feed voraciously and grow rapidly; practically all of them remain 1 year.

Age at maturity.--A few males mature precociously at 2 years of age. In Puget Sound district, almost entire run is made up of fish in their third year; in central and western Alaska, runs are composed of about equal numbers of fish in their third and fourth years.

Length and weight.--During stay at sea, weight increases from a few ounces to as much as 30 pounds. At maturity, average about  $9\frac{1}{2}$  pounds in weight and about 24 inches in length.

Time of run.--Ascend nearly all coastal streams and rivers in the fall of each year on spawning migrations. Time of run and length of spawning season throughout range varies, but occurs chiefly from September to December.

CHUM SALMON (O. keta)

Range.--From Oregon coast to Bering Strait; in eastern Arctic Sea to Lena River; along Siberian coast south to Tumen River, Korea, and northern Honshu Island, Japan.

Fresh-water life.--Eggs are usually deposited during summer and fall; young hatch the following spring. When yolk sacs are absorbed fry wriggle out from the gravel and migrate to the sea. Does not appear to have a landlocked form.

Ocean life.--From 18 months to 4 years.

Age at maturity.--A few mature at 2 years; most mature at 3 to 5 years.

Length and weight.--Average at maturity, approximately 25 inches in length and 9 pounds in weight. Occasionally very large individuals, weighing as much as 45 pounds, have been reported.

<u>Time of run</u>.--Runs extend from spring to late fall in various parts of range, but most occur during fall months. In Puget Sound, chums do not appear in significant numbers before late September, and main run occurs between October 1 and November 15. In Alaska, runs begin in midsummer and extend into fall months. In Siberia, a summer run appears in July and a fall run in September, October, and November.

#### COMMERCIAL CATCH OF PACIFIC SALMONS

Landings and wholesale-market values, 1947 through 1952, of the five species of Pacific salmons are shown in the following tables. Commercial catch of salmon in Pacific Coast States and Alaska, 1947-52

(In thousands of pounds)

YearStatesAlaskaStatesAlaskaStatesAlaskaStatesAlaskaStatesAlaskaStatesAlaskaStatesAlaska194751,846139,61038,88114,3561,883155,10216,17221,9777,4555019481113,40834,49913,5596,562117,92414,10926,85312,20966194914,215228,95025,51214,0767,0581,50313,13427,6575,9404619504585,72824,36112,1988,87982,59717,75322,47212,68761195133,978113,66627,41015,7918,26457,91715,78436,28012,19952	π.	Pink salmon		King salmon		Red salmon		Silver salmon		Chum salmon	
1947 $51,846$ $139,610$ $38,881$ $14,356$ $1,883$ $155,102$ $16,172$ $21,977$ $7,455$ $50$ $1948$ 1113,408 $34,499$ $13,559$ $6,562$ $117,924$ $14,109$ $26,853$ $12,209$ $66$ $1949$ $44,215$ $228,950$ $25,512$ $14,076$ $7,058$ $1,503$ $13,134$ $27,657$ $5,940$ $46$ $1950$ $45$ $85,728$ $24,361$ $12,198$ $8,879$ $82,597$ $17,753$ $22,472$ $12,687$ $61$ $1951$ $33,978$ $113,666$ $27,410$ $15,791$ $8,264$ $57,917$ $15,784$ $36,280$ $12,199$ $52$	Year -	States	Alaska	States	Alaska	States	Alaska	States	Alaska	States	Alaska
1952 IU 79,5II 20,091 II,700 8,600 101,547 22,506 21,898 12,099 65	1947 1948 1949 1950 1951 1952	51,846 1 44,215 45 33,978 10	139,610 113,408 228,950 85,728 113,666 79,511	38,881 34,499 25,512 24,361 27,410 26,091	14,356 13,559 14,076 12,198 15,791 14,706	1,883 6,562 7,058 8,879 8,264 8,600	155,102 117,924 1,503 82,597 57,917 101,547	16,172 14,109 13,134 17,753 15,784 22,506	21,977 26,853 27,657 22,472 36,280 21,898	7,455 12,209 5,940 12,687 12,199 12,099	50,763 66,626 46,734 61,924 52,934 65,305

Value of commercial catch of salmon in Pacific Coast States and Alaska, 1947-52

(In thousands of dollars)

Year	Pink salmon		King salmon		Red salmon		Silver salmon		Chum salmon	
	States	Alaska	States	Alaska	States	Alaska	States	Alaska	States	Alaska
1947 1948 1949 1950 1951 1952	7,207 (1) 4,421 6 5,097 1	5,998 7,115 19,533 6,767 13,137 7,502	7,879 7,734 5,286 6,061 7,452 6,475	1,793 2,119 2,219 2,268 3,037 3,349	468 1,990 70,929 2,292 2,535 2,438	8,039 7,533 5,607 6,985 6,712 11,962	3,022 3,324 2,109 4,466 3,423 3,903	2,198 2,826 2,819 2,685 5,104 3,116	1,115 2,037 715 1,988 1,633 1,404	1,542 3,551 2,484 3,932 4,378 5,091

1/ Less than 500 dollars.

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