

PENNINOVER

Bristol Bay - Alaska
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A REPORT OF THE

STATUS OF THE 1958 RED SALMON RUN INTO BRISTOL BAY

Background

Of all of the great salmon runs of Alaska, perhaps none is so famous as the Bristol Bay red salmon run originating in the great lake and river systems adjacent to the Bering Sea. The production from this run fluctuates widely from year to year, but during the period from 1920 to 1950 it has averaged about one million cases per year from a catch of about 12 million salmon per year. However, during the period from 1938 until 1956 there has been a gradual decline in the size of the runs. The Federal Government, beginning in about 1950, imposed more stringent conservation measures in Bristol Bay, and the runs of red salmon have recently responded to these measures. The catch in 1956 and 1957, including salmon taken by the Japanese on the high seas, was about equal to the previous 20-year average--or approximately 12 million fish each year. At the same time, the escapement of salmon to the spawning grounds improved during both of these years, although in 1957 the escapement of 5 million fish into the Bristol Bay streams was a minimum and certain of the important river systems were not adequately seeded.

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In 1951, the United States negotiated a treaty with Japan and Canada, under the provisions of which Japan agreed not to fish for salmon east of a line at approximately 175 degrees west longitude. This Provisional Abstention Line was drawn provisionally at 175 degrees west longitude because at the time of negotiation the evidence at hand indicated that such a line would best divide salmon of American and Asian origin. The negotiators realized, however, that the evidence was scant, and provided in a Protocol to the Treaty that the North Pacific Fishery Commission established under the Treaty would immediately study the distribution of salmon in the North Pacific to determine whether or not a different line would more equitably divide salmon of American and Asian origin.

In 1952, Japan began a high-seas fishery for salmon in the North Pacific south of the westernmost Aleutian Islands and eastward toward the area around Kiska and Amchitka Island. Their catch during 1952 was 2 million salmon. It has gradually increased, reaching a peak in 1955 of 64 million salmon. It stabilized during 1956 and 1957 at between 50 and 56 million salmon of all species, of which during 1957 about 20 million were red salmon. During this same period, the Japanese fleets have increased from three mother ships in 1952, with 57 catcher boats, to 16 mother ships in 1957, with 461 catcher boats. Also during the last 2 years, the fishery has moved eastward

and northward, and in 1957 a significant portion of the Japanese fleet fished north of the Aleutian Islands and as far east as the Provisional Line at 175 degrees west longitude. There is no indication that the Japanese have not strictly adhered to the terms of the Treaty.

Under the auspices of the North Pacific Fisheries Commission, established in 1954, Canada, Japan, and the United States have carried out intensive research to establish the area of intermingling on the high seas of salmon of Asian and North American origin. This research has been very successful and has established conclusively that there is a large area of intermixing of salmon of Asian and North American origin between 170 degrees east longitude and 170 degrees west longitude. Salmon of Asian origin are present even farther east than 170 degrees west longitude and some salmon of North American origin migrate farther west than 170 degrees east longitude. Nevertheless, the main area of intermixing lies between these two longitudes, and between latitudes 47 degrees north and 59 degrees north. Our scientists have ascertained that the degree of mixing of North American salmon with salmon of Asiatic origin varies tremendously, but that there is a high proportion of red salmon of North American origin east of 170 degrees east longitude, with the proportion of North American salmon increasing rapidly towards the American Continent. They have also ascertained that the majority of the red salmon of North American origin are those originating in Bristol Bay. Japanese scientists are not in complete agreement with our scientists regarding the extent of intermingling in all of these areas.

Japanese High-Seas Catch of American Salmon

In 1956, the Japanese high-seas fleet moved into the area north of the Aleutians and east of approximately 175 degrees east longitude. The evidence on intermixing of Asian and American salmon indicates that in all areas they took between 3 and 4 million red salmon of North American origin during 1956. In 1957, more of the Japanese fleet moved into this northern and eastern area, and their catch of red salmon of North American origin in all areas is estimated to have been about 6 million fish. Of the 6 million American salmon, about 5 million were mature salmon destined to enter North American streams and spawn during the fall of 1957. The additional million salmon were immatures which would have remained in the ocean another year and returned during the 1958 season. Table 2 includes a summary of the Japanese high-seas fishery.

Because of these large Japanese catches of salmon of American origin, and the threat they posed to the future of the Bristol Bay run

and the American fishery, the United States members of the North Pacific Fisheries Commission proposed to the Commission that it consider interim conservation measures to protect the American runs pending a decision by the Commission regarding relocation of the Provisional Line. However, for a variety of reasons the Commission took no action on this proposal.

Thereafter the United States Government approached the Government of Japan with a view to seeking a solution to the problem. Conversations took place in Washington in May between representatives of the Government of Japan and officials of the Departments of State and Interior.

At the conclusion of these conversations, the Japanese representatives informed us the Japanese Government would recommend to its industry that the catch of red salmon 1958 be limited to about 11 million fish, approximately one-half of the catch in 1957, and that it would recommend to its industry additional measures which would limit the catch of red salmon of American origin. We consider these measures inadequate, and, on the basis of expected Japanese fishing, it is estimated that the high-seas catch of adult North American red salmon of the 1958 run will be 3 million fish.

According to the best estimates of our biologists, the total Bristol Bay red salmon run for 1958 will be approximately 12 million fish. This is a considerable reduction from last year's run of 16 or 17 million salmon. In view of this, our conservation program for 1958 reflects a more stringent program of curtailment on our own fisheries than in the past year. Our estimate of the expected Japanese catch of about 3 million salmon from this run in 1958, plus the 1 million immatures taken in 1957, would leave only, at the most, about 8 million fish entering Bristol Bay proper. The spawning escapement in Bristol Bay should not fall below 5 million salmon; however, the optimum escapement is closer to 2 or 3 times this number. By achieving a minimum escapement of 5 million salmon for even a partially successful conservation program, we will leave only an estimated 3 million red salmon for the American industry and fishermen during 1958. The lowest catch of red salmon in Bristol Bay during the past 20 years occurred in 1955 when 4.5 million salmon were taken. This was an unprofitable year for fishermen and operators, so that the coming season, providing for a catch of 3 million red salmon, reduces the fishery to a drastically low level. Table 1 includes pertinent data on the Bristol Bay red salmon runs.

Recommendations of the Bureau in These Circumstances

- The Government of the United States now has two choices:
- (1) We may allow a normal fishery by American fishermen, which would

reduce the spawning escapement far below the minimum safe level. In this case we can expect a further decline in the red salmon runs of Bristol Bay, where, in the past 2 years, a substantial increase in the runs has been observed. (2) We may provide for a minimum of 5 million fish escapement which will maintain the run at at least its present level, and allow a catch of 3 million red salmon by American fishermen. The latter course is strongly recommended despite the serious consequences to our fishermen.

Discussions with Japan regarding relocation of the Provisional Line and separation of salmon of Asian and American origin will continue in the North Pacific Fishery Commission and in Government-to-Government talks, and we are confident that in the course of time a solution will be found. In the meantime, the conservation of the salmon runs of American origin must be of paramount concern. We have no alternative but to attempt to maintain these runs, even though to do so means temporary severe hardship for our fishermen and industry.

Proposed Modifications of the 1958 Salmon Runs

In view of the expected Japanese catch and our inability to effect a further reduction of the high-seas take of salmon of North American origin during the 1958 Japanese high-seas fishery, it is recommended that the gear-timetable, which is the basis for the regulations in Bristol Bay, be altered, based on these latest computations providing for a Bristol Bay red salmon catch of about 3 million and an escapement of 5 million. The gear-timetable now included in the regulations is shown on the attached table 3a. A new gear-timetable has been computed and is in the lower section of this table (Table 3b). The revised table provides for approximately one-half day less fishing per week with the expected amount of gear entering Bristol Bay on all river systems. It was expected that the amount of fishing effort in Bristol Bay this season would allow a 2-1/2 day fishing week. Without modification of the fishing effort, the revised regulations would provide for a 2-day fishing week. If the runs are stronger than predicted, then the table will be revised to allow more liberal weekly fishing periods. If the runs are smaller than anticipated, then the weekly fishing periods will be further curtailed.

Donald L. McKernan, Director
Bureau of Commercial Fisheries

Attachments 3

May 22, 1958

Table 1

BRISTOL BAY RED SALMON RUNS, 1953-1957

Year	Catch in Bristol Bay Number of Fish	Escapement	Run Entering Bristol Bay	Fishing Time ^{2/}	
				Minimum per Week	Average Per Week
1957	6,378,000 ^{1/}	4,771,000	11,149,000	1 day	2 $\frac{1}{4}$ days
1956	8,500,000 ^{1/}	12,568,000	21,068,000	1 $\frac{1}{2}$ days	2 $\frac{1}{2}$ days
1955	4,549,000	2,194,000	6,743,000	2 days	3 days
1954	4,653,000	648,000	5,301,000	2 days	3 days
1953	6,546,000	949,000	7,495,000	2 days	3 days

^{1/} Preliminary analysis of scientific data indicates that the Japanese High Seas Fishery took about 6 million North American red salmon during 1957 and somewhat less during 1956.

^{2/} In addition to the added restrictions in fishing time in Bristol Bay during 1957, there have been drastic curtailments in the amount of gear fished. There is a potential of approximately 1,500 fishing boats available to fish Bristol Bay. In 1956 there was a drastic curtailment through regulations to about 700 units of gear. In 1957 the number of units of gear was allowed to increase to approximately 1,000, still a reduction of one-third over the available units of gear. Thus, in the past 2 years of most stringent regulations there has been a reduction in the number of days fishing of approximately 25 percent in the amount of fishing time and approximately 40 percent in the amount of fishing gear. The total reduction in effective fishing effort during these 2 years has amounted to more than 50 percent of normal.

Table 2

CATCH OF SALMON BY THE JAPANESE HIGH SEAS FISHERY

1952-1957

<u>Year</u>	<u>Mother Ships</u>	<u>Catchers</u>	<u>Total Fish No. all Species</u>	<u>No. Red Salmon</u>
1957	16	461	56,400,000	20,000,000
1956	16	506	52,100,000	9,600,000
1955	14	406	64,000,000	12,200,000
1954	7	205	20,500,000	3,700,000
1953	3	105	7,800,000	1,600,000
1952	3	57	2,100,000	700,000

Table 3

BRISTOL BAY GEAR TIMETABLES

(a) Original Table - 1958 Regulations

Days of Fishing Per Week	Units of Gear by District			
	Naknek Kvichak	Nushagak	Egegik	Ugashik
1.0	534	534	227	113
1.5	382-533	382-533	162-226	83-112
2.0	267-381	267-381	114-161	60- 82
2.5	229-266	229-266	97-113	53- 59
3.0	191-228	191-228	81- 96	45- 52
3.5	153-190	153-190	65- 80	37- 44
4.0	133-152	133-152	57- 64	34- 36
5.0	132	132	56	33

(b) Proposed Revised Table - 1958 Regulations

Days of Fishing Per Week	Units of Gear by District			
	Naknek Kvichak	Nushagak	Egegik	Ugashik
1.0	454	454	193	96
1.5	325-453	325-453	138-192	71- 95
2.0	227-324	227-324	97-137	51- 70
2.5	195-226	195-226	83- 96	45- 50
3.0	162-194	162-194	69- 82	38- 44
3.5	130-161	130-161	55- 68	31- 37
4.0	113-129	113-129	49- 54	29- 30
5.0	112	112	48	28