



Northwest Regional Information Office, Portland, Oregon

## DEPARTMENT OF THE INTERIOR

P.O. Box 3537, 1002 N.E. Holladay Street, BElmont 4-3361

FISH AND WILDLIFE SERVICE

May 23, 1963

For Immediate Release

### NORTHWEST STATES, ALASKA RECEIVE EARLY ALLOTMENTS OF FEDERAL FUNDS TO AID FISH AND WILDLIFE PROJECTS

Preliminary distribution of \$1,813,488.35 in Federal-aid funds will be made available to the Pacific Northwest States and Alaska on July 1, for fish and wildlife restoration projects, Secretary of the Interior Stewart L. Udall has announced.

The funds in the preliminary distribution for these States are divided between fish and wildlife projects as follows:

	<u>Fish</u>	<u>Wildlife</u>	<u>Total</u>
Alaska	\$118,500.00	\$508,500.00	\$627,000.00
Idaho	38,863.00	196,474.12	235,337.12
Montana	56,218.31	312,203.96	368,422.27
Oregon	55,791.63	266,649.28	322,440.91
Washington	44,449.03	215,839.02	260,288.05

The funds are included in a total of \$12,600,000 which will be made as a preliminary distribution to all 50 States on July 1.

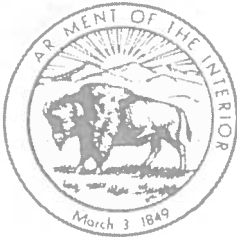
The balance of the Federal-aid funds will be apportioned during the fall of 1963, but the Department did not indicate the possible total.

Secretary Udall said that early distribution is being made again this year to help the States better program their Federal-aid activities.

Under the Federal-aid programs for restoring fish and wildlife, States spend their own funds on approved projects and are then reimbursed up to 75 percent of the cost. Many States have exhausted or soon will exhaust their Federal-aid funds for programming their projects for the next fiscal year, which begins July 1.

Federal-aid funds come from an excise tax on sporting arms and ammunition and on fishing rods, reels, creels, and artificial lures. Distribution of the two funds is made on formulas based upon the number of paid license holders in a State and on the State area, as spelled out by law.

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Northwest Regional Information Office, Portland, Oregon

## DEPARTMENT OF THE INTERIOR

P. O. Box 3621, 1002 N. E. Holladay Street, 97208--234-3361

FISH AND WILDLIFE SERVICE

October 9, 1964

For Immediate Release

### RECORD RETURN OF SILVER SALMON, HEAVY RUN OF FALL CHINOOK MARK 1964 AS BANNER YEAR FOR COLUMBIA RIVER FISHERMEN

Officials of the Fish and Wildlife Service, Department of the Interior, today announced that 1964 is one of the best years in recent history for returns of fall chinook and silver salmon in the lower Columbia River and its tributaries.

Samuel J. Hutchinson, regional director of the Bureau of Commercial Fisheries, Seattle, and Paul T. Quick, regional director of the Bureau of Sport Fisheries and Wildlife, Portland, said the run of silver salmon in the Columbia is the largest since 1938 when record keeping started.

"And the fall chinook run also is one of the finest we've had in a number of years," they said.

They said the tremendous increase in silver salmon returns is apparently due to the improved fish hatchery program in the Columbia River and its tributaries. The hatcheries produced larger and more vigorous fingerling silver salmon which were released as yearlings for their migration to the ocean.

The conclusion that quality of the silvers is improving is supported by the commercial landings, which show that the average silver salmon being caught weighs about 10 pounds--two pounds more than normal. Sport fishermen at the mouth of the Columbia are landing many silvers of approximately 15 pounds.

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Since most of the natural spawning grounds for silver salmon are located below Bonneville, the large return of this fish to hatcheries above the dam indicates that the Federal and State hatcheries are doing a very effective job of producing fish both for the sportsmen and the commercial fishermen, said Quick and Hutchinson.

They reported that 51,062 silver salmon have passed through the counting ladders at Bonneville Dam since the silvers began moving upstream about September 1.

"That's more than four times as many as passed through Bonneville last year," they said, "and it's nearly three times as many as the previous record year of 1941 when 17,911 silvers returned."

Hutchinson said commercial fishermen in the Columbia are having a good season, with commercial landings of fall chinook expected to exceed three million pounds and silvers more than one million pounds. Quick said that although final figures are not yet available, sport fishermen also are having a "banner year."

The escapement of fall chinooks through Bonneville Dam totaled 169,292 as of October 5. That is 30,222 more than last year's total of 139,070 and is the greatest number of fall chinooks at Bonneville since 1959, when the tally was 189,115.

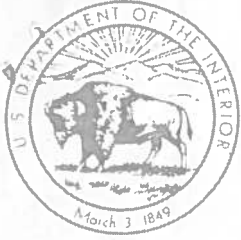
The fall chinook run started August 1 and is just about ended, but the silvers, which began running September 1, are expected to continue until mid-October. A "bumper crop" of silvers already is present at the hatcheries.

An extra dividend accruing from the heavy runs is the tremendous take of fall chinook eggs at the various fish hatcheries.

The 14 lower Columbia River hatcheries--both State and Federal--had a much better than average year with a total of about 111,000,000 fall chinook eggs taken. Spring Creek National Fish Hatchery located above Bonneville Dam near Underwood, Washington, led all the hatcheries with 45,000,000 eggs collected from the spawning run to the hatchery and 3,000,000 from the run to the Big White Salmon River. Bonneville Hatchery of the Fish Commission of Oregon was next with about 15,000,000.

After hatching, the fish from these eggs will be raised at the hatcheries and released into the main river or tributary streams to start their migration to the ocean.

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FISH AND WILDLIFE SERVICE  
Bureau of Sport Fisheries and Wildlife  
Bureau of Commercial Fisheries

January 7, 1968<sup>1</sup>

For Immediate Release

UMATILLA INDIANS, ASSISTED BY STATE AND FEDERAL AGENCIES, SEEK  
ESTABLISHMENT OF COHO SALMON RUN ON EASTERN OREGON RESERVATION.

A campaign to restore coho (silver) salmon in the Umatilla River of North-eastern Oregon has been launched by State and Federal agencies in cooperation with the Umatilla Confederated Indian Tribes.

A major step in the coordinated program was taken recently with the planting of 500,000 coho eggs on the Umatilla Indian Reservation about 12 miles east of Pendleton, Oregon.

Officials of the Fish and Wildlife Service, Department of the Interior, are hopeful that a large portion of the half-million eggs will hatch into baby salmon in about a month, then, after living in the river for about a year, will make the long journey to the Pacific Ocean via the Columbia River. Those which survive the rigorous trip and the perils of life at sea will return to the Umatilla River two or three years later to spawn, thus reestablishing the coho runs which flourished in this stream years ago before the encroachments of civilization wiped them out.

The planting of the 500,000 eggs was the result of a coordinated effort by the Umatilla Confederated Tribes, the Fish Commission of Oregon, the Oregon Game Commission, the Department of the Interior's Bureau of Commercial Fisheries, Bureau of Sport Fisheries and Wildlife, and Bureau of Indian Affairs.

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The eggs were planted in wooden incubation boxes designed by the Bureau of Commercial Fisheries and installed in special facilities constructed by the Umatilla Indians earlier this fall. These facilities, which simulate natural spawning conditions, and in addition, provide protection to the eggs and fry from flooding, silting, and predation, include a small concrete dam built by the Indians in spring water adjacent to the main channel of the river. Ten wooden boxes--each about 16 feet long, 16 inches wide, and 16 inches deep--were set in the water downstream from the dam. A pipe from the dam carries the spring water to perforated pipes in the bottom of each box. On top of the pipes a layer of gravel was placed, then a layer of eggs, then another layer of gravel, a second layer of eggs, and a third layer of gravel on top. The water percolates through the gravel to the eggs in much the same manner as at a natural spawning site. A glass viewing window was placed in one of the boxes so that the eggs and young fish could be observed.

When the eggs hatch in about a month, the baby fish will emerge and swim out of the boxes and into the stream where they will remain for about a year until they are 5 or 5 1/2 inches long--big enough to make their way downstream into the Columbia and on to the Pacific.

The coho eggs used in the project were taken in the fall of 1966 by the Fish Commission of Oregon at its Cascade Hatchery above Bonneville Dam on the Columbia. Since they were surplus to that hatchery's rearing program, they were transported to the Spring Creek National Fish Hatchery, operated by the Bureau of Sport Fisheries and Wildlife near Underwood, Washington, under the direction of Manager H. B. Cox. When the eggs were "eyed", they were wrapped in wet burlap placed in wire baskets, trucked to the Umatilla Reservation, and placed last week in the incubation boxes.

During the month or so that the eggs will be in the boxes, and during the period the baby fish are emerging from the gravel, Fisheries Service personnel of the Bureau of Sport Fisheries and Wildlife will be taking oxygen and temperature readings of the water.

How many of the salmon produced by this project will eventually return to the Umatilla River in two or three years is not known, but facilities to make an accurate count are being prepared. An electronic counting station has been installed at Three-Mile Dam on the river and will be operated by the Oregon Game Commission under the direction of Dave Heckeroth, District Biologist at Pendleton.

A screening facility and fishway at Three-Mile Dam recently was constructed by BCF as part of the program designed to provide full utilization of fish rearing and spawning areas of the Umatilla River basin.

Paul Zimmer, Fishery Research Biologist in the Portland Office of BCF, said the success of the coho restoration program in the Umatilla depends to a great extent upon protection for the returning adults until the run has been established, and a recognition that fish also need water. The Bureau of Indian Affairs has called on irrigation districts which use water from the river to cooperate by seeing that their diversion intakes are properly screened to prevent young fish from straying into irrigation ditches on their way to the Columbia and by permitting all water not needed for irrigation, especially in the fall months, to flow downriver, thus assuring adequate supply for the returning adult fish.

Zimmer hailed the coho restoration project as "a great step forward in the overall conservation program of this region."

"Not only will it ultimately provide a significant source of fish for the Indians on the Umatilla Reservation, it also will be of great benefit to the commercial and sport fishermen all along the Columbia River and out in the ocean," he said. "We are particularly pleased at the excellent spirit of cooperation between the Umatilla Indians and the various agencies, which has marked this project since its inception; and are really hopeful that it will be successful."

Fish and Wildlife Service officials praised particularly the work of Steve Hall, chairman of the board of trustees and executive secretary, and other members of the Confederated Tribes who planted the 500,000 eggs in the boxes in a record time of 2 1/2 hours.

Zimmer said that if steelhead eggs are available this winter, they will be placed in the same incubation boxes, after the coho salmon leave, in an effort to augment the existing steelhead run.

The Umatilla project is similar to one begun on the Warm Springs Indian Reservation of North Central Oregon two years ago.

Observing the Umatilla egg planting were Sisters and pupils from St. Andrews Catholic School, which is located on the Umatilla Reservation. Fish and Wildlife Service officials said the pupils indicated a keen interest in the project and in conservation of natural resources in general.

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## DEPARTMENT OF THE INTERIOR

P. O. Box 3621, 1002 N. E. Holladay Street, 97208--234-3361

FISH AND WILDLIFE SERVICE  
Bureau of Commercial Fisheries

March 21, 1968

For Immediate Release

### STEELHEAD EGGS FERTILIZED WITH FROZEN SPERM; IMPORTANT ADVANCE SEEN IN FISH CULTURE

A significant breakthrough in the preservation of fish sperm in a viable state was reported today by the Bureau of Commercial Fisheries, Fish and Wildlife Service, Department of the Interior.

The Bureau's Regional Director in Seattle, Donald Johnson, said that a team of Oregon State University scientists, working under a contract with the Bureau and in cooperation with the BCF Columbia Fisheries Program Office in Portland, has made the first successful attempt to fertilize salmonid eggs with cryo-preserved (refrigerated) spermatozoa.

They fertilized the eggs of steelhead trout with spermatozoa that had been frozen and refrigerated in liquid nitrogen for 14 and 28 days. These eggs developed into alevins (newly hatched fish still attached to the yolk mass) which appeared to be normal.

Dr. Fred C. Cleaver, director of the BCF Columbia Fisheries Program Office, said the development gives promise of facilitating more efficient fish cultural practices and enhancing research into fishery genetics and disease control.

"We're at the point of improving fish stock that animal husbandry was 40 years ago," said Dr. Cleaver, "and this new development moves us another notch ahead in our attempts to breed better, stronger fish." He said that preservation of fish sperm for long periods would make it possible to retain

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the sperm for fertilization of eggs that ripen at a later time and also to transport sperm from one fish hatchery to another for more effective use.

For the past century, fishery scientists have attempted to preserve spermatozoa of fishes in a viable condition for extended periods of time. Except for some 1953 work with herring, these attempts have either failed or yielded inconclusive results.

In 1966, the Bureau of Commercial Fisheries contracted with OSU to develop methodology for the cryo-preservation (refrigeration) of viable salmonid sperm. Three scientists from the university's Department of Fisheries and Wildlife, Howard F. Horton, James R. Graybill and Arthur S. H. Wu, went to work on the project. Dr. Raymond C. Simon, professor of fisheries at Oregon State, conducted chromosome analysis and gave other assistance in the investigation.

They developed a "Solution 48," made up of seven components, and discovered that the best survival of viable sperm was obtained in samples that were frozen in this solution in combination with dimethyl sulfoxide (DMSO).

Alevins (newly hatched salmon still attached to the yolk mass), were produced from eggs fertilized with this frozen sperm.

"These alevins," the scientists noted, "appeared to be as normal as young fish produced from unfrozen spermatozoa. The fertility rate was low (0 to 18 percent), but to our knowledge this is the first successful attempt to fertilize salmonid eggs with cryo-preserved spermatozoa."

The OSU team said these findings "warrant further investigation."

"We believe that the percent fertilization can be increased by placing the sperm with the eggs immediately after the semen is thawed," they said. This hypothesis is expected to be tested under an extension of this study.

Among the additional conclusions reached by the study team were these:

--Undiluted semen can be transported in a styrofoam cooler for three hours without any detectable loss of viability.

--No differences were detected in the gross morphology (form and structure) of spermatozoa of coho salmon, chinook salmon, rainbow trout and steelhead trout.



--Spermatozoa in undiluted semen will remain viable for at least several days when refrigerated at four degrees centigrade.

--The concentration of sperm in semen of coho salmon and rainbow trout is 2.3 to 230 times greater than for most farm animals.

--An extender should be developed which will maintain viable sperm in greatly diluted semen.

--There is a direct relationship between the concentration of additive in the extender and the optimum rate of freezing samples of semen.

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