

MONTHLY REPORT
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Much time was spent during the period on preparation of a joint report on the Willamette Valley Project with the staff members of the Fish Commission. This has involved a large amount of detailed analysis of the Corps of Engineers' Review Report. Recommendations for amelioration of harm to wildlife resources as well as fishery resources is being made a regular part of the report and is being prepared by Mr. Phil Schneider and Mr. Bill Morse. The report is practically completed and will run, when finally duplicated, to around 140 pages. From the game fish end, the tentative recommendations prepared propose three new game fish hatcheries at a total capital cost of \$949,800. It is recommended that one each be constructed on the McKenzie, Middle Fork, and North Santiam rivers. Annual operating costs of each hatchery are estimated at \$58,695 or a total of \$176,085 per year. It is further tentatively recommended that 1,543,160 legal-sized fish be reared annually in these hatcheries for planting in the streams and reservoirs in connection with each dam. It is also tentatively recommended that the sum of \$25,000 be made available annually for a long-term study of the basic effects of the Willamette Project on game fish resources. Other recommendations have to do with minimum flows, borrow areas, overflow channel closures and operating schedule on the dams. It is hoped the report can be completed and made ready for transmittal to the Supervisor and members of the Game Commission prior to the March meeting of the Commission. Several meetings have been held with Fish Commission representatives and U.S. Fish and Wildlife Service representatives in connection with the report referred to above.

Fish food supplies continue to be scarce. Mr. Mangold reports that poor fishing for salmon has prevented us from obtaining any salmon offal whatsoever lately and this food will not be available until spring fishing begins again after April 1. He was able to obtain some 50,000 pounds of meat products from the State of Georgia, which indicates just how far we are having to go after fish food nowadays. This lot was the only amount obtainable south or west of Chicago that was within our price range. Negotiations continue to secure additional supplies from all sources.

Dr. H. J. Rayner has written all leading meal producing companies on the West Coast in an effort to line up salmon, meat, vegetable, and other meals that might be purchased and utilized for feeding to trout in our hatcheries to meet the critical shortage of fresh meat products. From correspondence to date, it may be possible to secure an adequate meal already mixed in the right proportions of each ingredient that can be sent to us in 100 pound sacks for delivery to each hatchery. It has been estimated that we might be able to feed as high as 450,000 pounds of meals annually, assuming that our production of legal fish continues at around 2,000,000 per year. Since the Commission has never adopted a definite policy with respect to the rearing of legal-sized fish, it might be desirable to talk this problem over prior to setting definite standards in relation to fish food supplies. The problem is a critical one and one which needs considerable thought in advance of placing into effect any definite program.

A spawning crew has gone into Crane Prairie and eggs will be taken again there this year as in past years. A crew to go in to Diamond Lake on April 1 is being organized by Mr. Frank Strahan, and should be all ready well in advance of April 1. They will go in by sno-cat as usual.

Mr. Gene Goff has detailed Dick Evans to the egg take at Spencer Creek on the Klamath River. Egg taking operations will be continued on steelhead on the Smith River as was done last year and construction on the ripening and holding pond has gone ahead in accordance with previous plans.

Liberations. Fish liberations have been made from several hatcheries in the past month. Hold-over rainbows have been planted from the Butte Falls and Rock Creek stations. All of the hold-over cutthroat have been planted from Bandon. Most of these fish were planted in coastal lakes where a higher survival can be expected. Silver and chinook salmon swimmer-ups are being planted from the Butte Falls station by Mr. Rivers. These are all taken below Savage Rapids dam. Chum and silver salmon swimmer-ups are being planted from the Cedar Creek station by the hatcheryman and field agent. Allocations for all of the winter hold-over fish have been prepared tentatively. It is evident that the need is much greater than the supply. Preliminary plans for fish packing have been prepared. Some marking and tagging has been accomplished to determine survivals and movements.

Weed Control. Plans have gone ahead to continue the experimental work on weed control as directed by the Commission at its last meeting. Two half-acre test plots using sodium arsenite were recently treated on Siltcoos Lake and experimental work with this substance will be expanded and continued. Additional copper sulfate has been ordered. Much larger plots will be treated experimentally using this material. Ten 55-gallon drums were purchased and cut in half to use as experimental tanks for poisoning work at the Siltcoos Lake work camp where Mr. Pitney has his headquarters. The Forest Service there has supplied several buildings and it has proved most convenient and useful in the poisoning work in that area. Letters

have been written to various agencies and individuals who might be able to contribute information pertaining to aquatic plant control methods and chemicals. Plans are being made to obtain information relative to the abundance of aquatic plants where they are nuisances in other than coastal areas over the state.

McKenzie River Study. The total mortality to date of 48,723 yearling fish marked at the McKenzie Hatchery in December is 4.6 per cent. This represents an over-all increase of 0.9 per cent over the previous months and the losses incurred can be considered only normal. A special fish planting boat has been constructed to aid in the liberation of the marked fish in the McKenzie. This is built with an inner well which will hold the fish and permit water to enter from the bottom. In use, it will be drifted down ahead of a regular McKenzie boat and fish planted out a few at a time at convenient spots. Use of such a boat will obviate the necessity of dumping large numbers of fish in one spot and should obtain a much better spread of them over the available waters. Mr. Ray Kuper who has been helping Mr. Chris Jensen of the McKenzie Study, is going back in to Diamond Lake with the Diamond Lake spawning crews and he will be replaced by another man.

Lower Umpqua River Study. Few anglers fished the Lower Umpqua River for steelhead during February. From November 1, 1947 through February 24, 1948, an accumulated total of 590 anglers with 111 steelhead have been contacted on the Lower Umpqua River. It was determined that 273 fishermen landing 65 fish had completed their day's angling with an average catch of 0.24 fish per angler day. On February 17 and 18, Fred Locke, John and Mary Dimick, and Len Mathisen tagged 599 cutthroat trout at the Bandon Hatchery. No. 1005, size 1 monel metal strap tags were affixed to the

right operculum of each fish. The tag number and the fork length of the fish to the nearest $\frac{1}{4}$ -inch were recorded. Four hundred and ninety-nine outthroats ranging in length from 5 to $8\frac{1}{2}$ inches and averaging 6.9 inches were eventually placed in Mercer Lake. The other 100 fish, ranging from $5\frac{1}{2}$ to $8\frac{1}{2}$ inches, averaged 6.4 inches and were liberated in Sutton Lake. No loss of fish occurred from the time of tagging to the liberation of those fish. This period varied from 20 to 42 hours for the several groups of fish tagged. Three days were spent by Mr. Mathisen assisting in the Smith River pond construction.

Upper Umpqua Study. Mr. Ross Newcomb reports that from October 15, 1947 to February 18, 1948, 3,512 winter steelhead were counted over the Winchester Dam. This number was 2,060 lower than last year's count for the same period. He assisted in release of some 75,000 fall rainbow from the Rock Creek Hatchery. Time permitted tagging of only 277 of these fish to determine their movements following planting. Both circular and strap tags were used. Mr. Newcomb has a complete creel census of winter steelhead caught by anglers in the North River in preparation and this will be presented later.

Rogue River Study. Mr. Cole Rivers reports that migration activities at the counting station have been slow. Water temperatures have been below 40° F. since December 24, and the number of steelhead and silvers passing have been almost negligible. A very limited number of fish were "forced" to move through in temperatures of 38 and 39° F. because of pressing sexual development. This is the first time any upstream passage has been observed in water below 40° F. since the count was started, but again this is the first time such a lingering cold spell has held the water temperature down for such a long time.

The counts as of February 19, 1948 are as follows: silver salmon (since 10/12/47) 5,317, incl. 3.1 per cent jacks; steelhead (since 4/15/47) 4,172.

A little more evidence was gathered this month on cutthroats passing through the counting station. As mentioned in previous reports, we have assumed part of the steelhead count was made up of cutthroats. Cutthroat scales collected from the upper river were found to be from sea-run specimens, proving that sea-run cutthroats were going through the station at Gold Ray and were probably being tallied as a steelhead. This past week several days were noted for the large per cent of small 14 to 17-inch "steelhead" counted over the board. On February 17, several of these small fish were found to have jumped out of the ladder and were identified as cutthroats. The counters then took particular care in trying to observe the differences between the large steelhead and these small "steelhead" which were probably cutthroats. This adds to our knowledge that these cutthroats are passing in some numbers during the month of February. Studies of the fishery in the Lower Rogue by Mr. Rivers indicated the following total of chinooks and silvers caught in 1947 as compared to 1945:

	1945	1947
Gold Beach (angler-caught)	17,605	11,300
Galice to Gold Ray (angler-caught)	2,000	2,000
Gold Ray Count		
(escapement of chinooks and silvers)	<u>35,625</u>	<u>40,740</u>
	55,230	54,040

For purposes of comparison, the escapement of chinooks and silvers over Gold Ray is included in the comparison.

During February Mr. Rivers shot six American Mergansers, one Anthony Green Heron, one Great Blue Heron and three Kingfishers for stomach analyses of fish eaten. The stomachs of these birds have been preserved in

formalin solution to be held until shipped for analysis to the U.S. Fish and Wildlife Service's Food Habit Laboratories in Denver, Colorado.

The examinations and recommendations for guides on Rogue River is finally under way. Mr. Rivers made up a form letter and sent one to each of the guides in the Rogue district. The guides of the lower river will be needing their licenses in about three weeks, so much of the concentration has been placed in their area. With the form letters, the guide examinations are now coming along nicely. The guide examination duty is working out well for the Rogue Study since it is helping Mr. Rivers to become personally acquainted with all the guides on Rogue River. Information on boat identifications, fish primarily pursued, and areas of the river most heavily concentrated by guides are being compiled along with the examinations.

Staff Conference. The Fisheries Staff Conference was held February 4, 5, and 6. Copies of the program were sent to each Commissioner. Many of the staff indicated that they thought it was the best conference ever held because it was more condensed, required less time, and covered fewer topics for discussion. We feel a great deal of good came out of the conference from discussions of problems of mutual interest. It does the field force a world of good to come in and be able to take up problems, directly with the Portland staff, that they are constantly meeting in the field.

Work continued on a satisfactory basis on all other projects not mentioned here now. The Annual Report of the Fisheries Division for 1947 was completed and mailed to each Commissioner in February. This gave, in condensed form, the findings from each project in 1947. Only the bare facts were presented, recommendations from the work having already been presented earlier for Commission consideration.