

TROLL SALMON INVESTIGATIONS

December, 1947 and January, 1948

Parts of two weeks were spent on stream surveying tributaries of the upper Nehalem River for spawning salmon. Reports were prepared on this and turned over to the Coastal Salmon Investigations.

Mr. Hedeon spent his time working on the landing receipt books, extracting troll fish poundages for the past years. A few days more will see the completion of this job.

There were no troll fish landed in the month of December and perhaps a few hundred pounds in the month of January. Reportedly, chinooks have been brought in. The troll fish investigations were not fortunate enough to have seen any of the troll fish landed. During the good weather, the last of January, a few trollers ventured out to try their luck. Only a very few fish were caught, and these were purchased by fresh-fish markets at reportedly astounding prices. The majority of the troll boats expect to start fishing during the month of February.

Most of the time has been spent in the office working with the 1947 troll-fish data. An outline of the proposed 1948 troll-fish investigations was drawn up and sent in as a special report.

An interview with officials of the Union Fishermen's Co-op packing company was arranged. Through discussions with these men, who are all old-timers on the river, and delving into some of their records, which they generously offered, a brief discussion of the early history of the troll fishing out of the Columbia River was drawn up. This historical account accompanies this report. At a later date, it is planned to go into the old records of the company further to attempt to bring out some catch per unit of effort figures for the early fishery. It is reported that there are still a few fishermen trolling for this company who started out at the inception of the fishery.

An analysis of some of the possible effects of the troll-fish regulations which go into effect in 1948 was made. These regulations are: A 27-inch size limit on chinook salmon and a closed season on silver salmon from November 15th to June 30th.

The chinook limit will prevent the taking of fish six and one-half pounds or under, (troll-dressed weights). A graph of the average weights at various times during the summer failed to show any increase in weight through the season. This failure is undoubtedly due to the large fish masking the smaller to show a high average all through the season. At all stations the average weight of chinooks had fallen off by October 1st. Apparently, the mature fish were in the rivers by that date. There is a good possibility that a closure of the chinook season early in the fall would protect the remaining immature fish until the next year. Few accurate conclusions can be drawn from the chinook data until a study of the scales is undertaken.

A calculation of the savings of silvers under the new regulations was made by using 1947 landings. While the closure of the season until June 30th will have some effect on the escapement into the river, probably, and consequently a different number of fish would probably be taken by the troll, no attempt has been made to correct for this. In the same manner we completely disregard the fact that movement of the fish would probably change the actual numbers of fish available in an area or in the waters of the state, and the fact that natural mortality would probably be greater. This discussion concerns itself only with converting the poundages of fish caught before July 1, 1947 into numbers of fish. These fish are then presumed to have been caught after July 1. They are divided up between July, August, and September in the proportion that the catch for these months is divided.

The calculated weights of these fish had they been taken in July, August, and September, minus the weights they actually were, gives the gain in weight the fish would have made had the new regulations been in effect in 1947.

The value of the fish is based on twenty-five cents per pound to the fisherman.

All weights and numbers based on weights are for troll-dressed fish.

Since the high proportion of the fish is taken in the months of July and August, little opportunity is given the fish to make the considerable gain they would make

if allowed to complete their maturity. These fish when they come into the rivers will weight $7\frac{1}{2}$ to 8 pounds troll-dressed.

The new legal season is about the minimum protection we could give the fish and probably will not materially affect the landings of troll fish. It will provide for the early escapement of the silvers, and coupled with a good tuna year, where most of the trollers tuna fish shortly after the silver season opens, should enhance the chances of the silvers growing to maturity.

R. S. Borland,
Biologist.