

FOR THE MONTH OF APRIL 1947.

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During the month of April, the efforts of the entire Applied Fisheries Staff were devoted almost exclusively to the task of gathering the material and assembling the data on various experimental phases of the project. The analysis of data and the preparation of summary reports have, of necessity, been postponed until a more favorable time.

I. The basic program of the Applied Fisheries Laboratory at the University of Washington, that of measuring the effect of exposure to aquatic organism in various stages of development to X-rays, was continued on schedule.

*Sections I and II.

A summary of the data assembled from the results of this group of experiments has been completed. As soon as the final draft can be prepared, copies will be forwarded to the Commission.

The second generation of young fish produced from the "controls" and the 100 r exposures are being reared and the results tabulated. The numbers of young fish produced from the "controls" were reduced to 1400 in each case, to reduce the number more nearly to the numbers of fish that have survived in the 100 r lots.

In the 100 r lots, the more seriously malformed individuals have died, leaving only those fish that appear normal, or nearly normal.

It is planned to study the growth and mortality of these

*Section numbers refer to the Project Chronology Chart, revised January 9, 1947.

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fish for a few more weeks before liberating them. It is not felt that sufficient numbers of these fish are available to attempt a second marking, liberation to migrate to sea, and subsequent recovery program. Such a program may be possible and feasible to attempt after the main returns expected in the fall of 1947 have been evaluated.

Sections III and IV.

The sockeye salmon data have not been written up as yet.

Section V.

The analysis of the preliminary steelhead trout experiment has not been completed.

Sections VI, VII and VIII.

Final reports have been submitted on the basic experiment. A supplemental report is in progress, measuring the effect of X-rays on the gonads of larval chinook salmon irradiated during the eyed stage. Counts are being made of the primordial germ cells and measurements of the diameters of the gonads are recorded. Some attempt is being made to determine the volume of the gonads. The gonads appear to be the most sensitive to X-rays of the organs in this group.

Section IX.

These data have not been summarized.

Section X.

Completed and a final report submitted.

Section XI and XIa.

This portion of the project is being summarized and is nearing completion.

Section XIb.

The active experimental work in this section has occupied

the major attention of the Staff during the month. The adult fish, the progeny of irradiated or "control" parents, continue to spawn. We have 270 egg lots to date, with a few remaining to spawn. This group now contains about a quarter of a million eggs and young fish.

The eggs have been removed from the females, fertilized, and each egg lot produced by a female kept intact during incubation and absorption of the yolk sac. It has been necessary to group lots of similar irradiation ancestry after the yolk sac stage has been completed and the fish reach the feeding stage.

The great numbers of young fish produced by this project makes it impossible to retain them all in the laboratory, so only portions of each lot will be retained as a sample of each group.

Section XIc.

The data in this section, pertaining to the second spawning after irradiation, will be summarized as soon as these data from Sections XI and XIa are analyzed.

Sections XIII, XIII and XIV.

Work on the final report is nearing completion.

Sections XV - XVII.

The adult fish that were expected from the sea this spring in this portion of the project, may not have been able to ascend the Wenatchee River because of low water and the diversion of much of the river for power development.

Section XVIII.

The goldfish studies have not been completed.

II. The studies on absorption and retention of radioactive materials have been continued. Counters and material have not

arrived to activate this program. Basic studies have been in progress on the culture of the organisms and on developing techniques in determining population numbers.

III. Revised programs were submitted for the follow-up studies of the Bikini Lagoon proposed for the summer of 1947.

IV. The Applied Fisheries Laboratory was visited by Mr. Gormertsfelder and Mr. Turner, Health Instrument Section, Richland.

Contact with the progress of experiments at the 146 Building has been interrupted by the phone strike and the extreme press of duties has not allowed sufficient time for personal visits.

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No. W-28-094-eng-33

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