

SUMMARY OF OPERATIONS ON CONTRACT NO. W-28-094-eng-33

10173

FOR THE MONTH OF OCTOBER 1947.

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I. The basic program of the Applied Fisheries Laboratory, of measuring the effect of X-rays upon aquatic organisms, has again become the major effort of the staff. Most of the Bikini material has been put away or funneled into channels where the material and information will be most useful.

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\*Sections I and II

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The second expected spawning migration of marked chinook salmon from the 1944 liberation at Samish River occurred during the month of October 1947. Thirty-six adults lacking adipose fin and either the right or left pelvic fin were recaptured in the trap across the Samish River. Of the 36 fish, 21 were from parent fish treated with 100 r of X-ray prior to spawning, and included 14 females and 7 males. Of the 15 "controls" 9 were female and 6 male.

Fifteen egg lots (8, control and 7, 100r -100 r) were obtained. Three 100r-100r females died through accidents before spawning and their eggs could not be used.

This second year's recoveries represent an increase of approximately four fold over the number of females recaptured the first year (1946) when only 4 females which produced 4 egg lots were spawned. In addition to the 4 females recaptured in 1946, a total of 19 males was recovered. It is expected that further recaptures, although not so many, will be made in 1948.

No significant differences in numbers, size, number of eggs, or initial mortality, between controls and irradiated stock exist as yet. Hatching will

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

DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW	
SPECIAL REVIEW AUTHORIZED BY: <i>A. A. ... 11-2-94</i> REVIEWER (ADO): <i>R. B. ...</i> DATE: <i>11-14-94</i>	DETERMINATION [ORIGIN NUMBER(S)] 1. CLASSIFICATION MAINTAINED 2. CLASSIFICATION CHANGED TO: <i>CC</i> 3. CONTAINS NO DOE CLASSIFIED INFO 4. COORDINATE WITH: 5. CLASSIFICATION CANCELED 6. CLASSIFIED INFO BRACKETED 7. OTHER (SPECIFY):

[REDACTED]

probably be the most critical period (about January 1948). Statistical tests will again be run at this time. Dead eggs are being preserved for a study of deformities.

#### Sections III and IV

The entire run of sockeye salmon returning to Cultus Lake B. C. is being examined for the presence of marked fish. In the fall of 1943 sockeye salmon adults were treated with 100 r doses of x-rays. Some fish were used as "controls". The offspring of these fish were returned to Cultus Lake at the normal time for them to migrate to the sea. This fall it is expected that the survivors will return from the sea. Any fish obtained will be spawned and their progeny carefully studied for changes.

The International Pacific Salmon Fisheries Commission are aiding us with this portion of the project.

II. The experimental work on the effects of radiation on microplankton is in the resting phase. Press of other duties and the poor growing season have reduced the output in this field.

III. The material collected at Bikini during 1947 has been summarized into reports for submission to the agencies involved in the resurvey.

IV. During the month Mr. Allyn H. Seymour and Lauren R. Donaldson visited the Hanford Engineering Works for conferences with personnel of the 146 Building. The progress of experiments was discussed and plans for future operations studied. An airplane inspection trip was made of the Columbia River in the "area" to look for spawning salmon. A boat trip covering much the same area provided a closer view of the River and the problems.

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Captain O. Schneider, MC, U.S.N., Special Weapons Project, visited the Applied Fisheries Laboratory on business.

*Lauren R. Donaldson*

Lauren R. Donaldson  
Director of Contract  
No. W-28-094-eng-33

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