

# RECORD OF LAKE REHABILITATION

## I. Lake Background

- A. Lake name Lower Dewey Location Skagway - mainland
- B. Surface acreage 38.5
- C. Volume (acre feet) 569
- D. Inlets (number, size, and description) Three inlets - about equal in size - total in-flow estimated at 8-10 C.F.S.
- E. Outlets (number, size, and description) One major outlet with second overflow - dependant on domestic water manipulation and lake level (approx. 5 C.F.S.)
- F. Estimated time in days to effect a complete water change. Undetermined
- G. Description of shoreline, swamps, bogs, shallow areas, underwater springs, submerged or emergent vegetation, or any other feature which might interfere with the application or distribution of toxicant. Generally an ideal shoreline - very little bog, aquatic vegetation, or extensive shoals to interfere with the rehabilitation. No known underwater inflow.

## II. Pretreatment Data

- A. Volumetric map showing depth contours, number of depth readings (if applicable), and description of method used to determine volume. Surface acreage determined by a "plane table" survey. Soundings made with both a fathometer and hand-line. A polar planimeter was used to compute the volume from the volumetric map.
- B. Trash species to be removed. Dolly Varden & Eastern brook

## III. Treatment Data

- A. Date 6/30/66
- B. Toxicant used Rotenone
1. Total gallons of liquid used approx. 15 gal. in inlets
  2. Concentration of liquid (percent) 5% (applied to inflow)
  3. Total pounds of powder used 1103# (including 10% overage)
  4. Concentration of powder (percent) 7.67 %
- C. Level of concentration in lake (ppm) 1 P.P.M. ± 10%
- D. Method of application Burlap bags trailed behind motor powered skiff.
- E. Temperature profile (graph on reverse side) \_\_\_\_\_
- F. Water chemistry: pH \_\_\_\_\_ Methyl orange alkalinity \_\_\_\_\_ Total alkalinity \_\_\_\_\_ Total dissolved solids \_\_\_\_\_

IV. Post Treatment Data

- A. Duration of toxicity or date lake is determined to be non-toxic Exact date of detoxification undetermined.
- B. Method of determination live-boxed salmonids, gill net sampling, and visual observations made approximately two months after treatment indicated detoxification
- C. Success of kill and a complete kill.
- D. Method of determination - see above -

- E. Comments Due to the distance from Sitka the lake was not monitored continually during the detoxification period.

Upper Dewey Lake, a direct tributary, has an excellent population of Eastern brook. This lake was not treated and re-infestation was expected in the future.

The lake was test-netted in 1968 with a resultant catch of 83 rainbow and two Dolly Varden - Eastern brook hybrids.

Rainbow fishing has been excellent since the restocking and the treatment appears to have been a complete success from the management and recreational standpoint.

It should be noted that a complete kill of undesirable species was neither sought after or expected in Lower Dewey Lake.