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Bureau of Fish Conservation

July 20, 1949

Cove poisoning, East Park Reservoir,
Colusa County. (LMB of the year population)

A cove on subject reservoir was subjected to chemical treatment on June 29, 1949. R. W. Eschmeyer, Leo Shapovalov, Alex Calhoun, Garth Murphy, Chester Woodhull, C. K. Fisher, Ray Knight, Richard Beland, and Robert Hoffman participated. Rotenone was distributed at 6 A.M. Affected fish began to "show" a few minutes after treatment.

This letter covers one facet of the general problem of East Park Reservoir. This and other material will be embodied in a complete report.

Area of cove—2,800 square feet.
Length of shoreline—170 yards.
LMB of the year recovered—1003
Length of shoreline of reservoir—60,000 yards.
Area of reservoir—2,100 acres.
Estimate of LMB of the year population:

$$\frac{60,000}{170} \times 1003 = 354,000 \text{ LMB.}$$

LMB per acre of reservoir = 169
LMB per foot shoreline = 2

Factors affecting estimate:

1. Recovery was not complete.
2. Cove probably represented better habitat than other shoreline areas.

It should be noted that this number of young could theoretically be produced by about 70 female bass. It is obvious that tremendous mortality has taken place before the bass reach this size (1-1.5 inches).

The population of young of the year represents 169 fish per surface acre, certainly enough to adequately stock the lake. (Compare with farm pond stocking rates.)

If fishing had been allowed during the spawning season, it is doubtful if more than 25 per cent of the potential egg crop would ^{have} been destroyed during that period. (Counting females and guarding males taken.) If mortality of fry is a linear function despite population level (doubtful), this would have reduced the population of young of the year to 128 per acre, still more than enough to populate the lake. (Or viewed in terms of ~~yards~~ ^{feet} of shoreline, 1.5 per foot).

ASSISTANT FISHERIES BIOLOGIST

GIM:mb

cc: Eschmeyer, Calhoun, Woodhull,
Fisher, Evans