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SUMMARY OF ACTIVITIES, DISTRICT FISHERIES BIOLOGIST

DISTRICT NO. 4, 1947

by

Stanley J. Lievense

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FISH DIVISION*

I. Sea lamprey investigation

Investigated streams in Districts 4 and 7 for the presence of spawning sea lampreys during the months of April, May and June. Nearly full time was spent on this assignment during April and May, and five days during June. All conservation officers in these districts were contacted and their cooperation was requested in reporting runs. Much information was gathered on the physical characteristics and water temperatures of streams in the assigned area. The following streams were observed to have, or reliably reported to have, sea lamprey spawning runs:

- Stony Creek, Oceana County
- Pine Creek, Manistee County
- Baldwin Creek, Lake County
- Pere Marquette River, Lake County
- South Branch Pere Marquette River, Lake County

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North Branch Lincoln River, Mason County

Bear Creek, Manistee County

Betsie River, Benzie County

Platte River, Benzie County

Acme Creek, Grand Traverse County

Mitchell Creek, Grand Traverse County

Boardman River, Grand Traverse County

II. Success of plantings

1. Benzie County

A. Big Platte Lake and Crystal Lake were on the program for netting to determine the success of lake trout plantings. This netting was not accomplished. Local residents were questioned, however, as to the fishing success for this species. In each lake the report was that fishing for lake trout has been very poor.

Crystal Lake residents reported fishing for lake trout during the winter of 1944-1945 as excellent.

2. Grand Traverse County

A. Boardman Lake - On August 27, assisted by William Mason, three gill nets were set and considerable seining was done in an attempt to locate bluegills. (Bluegills were introduced in 1939). No bluegills were taken. A report was received from the Grand Traverse Region Sportsmen's Club, however, stating that bluegills have become established and are being caught. The lake will be seined again during 1948.

B. Wab-Ba-Ka-Netta (Green Lake) - On September 25, 26 and 27, a partial survey of this lake was undertaken. (Detailed report below). No evidence was found of pikeperch which were planted

in 1937, 1938, 1939, 1940 and 1942 as fry (1,035,000 total).

3. Kalkaska County

- A. Bear Lake - On May 5, an underwater light was used to observe the fish population. Large numbers of rainbow trout were observed. Most trout observed were undoubtedly of the 1946 planting and about 10 and 12 inches, though several large trout were seen ranging in size from 16 inches to about 24 inches. On November 6, accompanied by Dr. Allison, three gill nets were set on the south shore of the lake for trout. Ten trout of the fall, 1946 planted fish and 75 of the fall, 1947 planted fish and one lake trout were taken. The size range of the 1946 plants was 11.6 to 17.6 inches, whereas the 1947 plants averaged 7.0 inches. The 1946 rainbow trout were planted in the fall and averaged 8.8 inches in length. The lake trout was 24-1/2 inches long.
- B. Starvation Lake - On November 6, accompanied by Dr. Allison, three gill nets were set for trout. Fifty-four dorsal fin-clipped rainbow trout averaging 12 inches were taken. These trout were planted in the fall of 1946 at an average size of 4.5 inches. Recommendation was made to include this lake on the list of lakes open to fall rainbow fishing.
- C. Cub Lake - This lake was on the schedule to determine the success of the bluegill plantings in past years. Dr. Leonard Allison reported that he caught his limit of bluegills on this lake early in the season, which made any further investigation unnecessary.

4. Leelanau County

A. Glen Lake - Local residents were questioned as to the success of the lake trout plantings. Lake trout fishing was reported excellent. No netting was believed necessary.

B. Lake Leelanau - Local residents were questioned as to the success of the lake trout plantings. Lake trout fishing was reported as fair. No netting was undertaken.

III. Partial survey to determine suitability for trout

1. Kalkaska County

A water analysis was conducted in August on the following lakes.

The result of each analysis is indicated:

Big Twin Lake - tolerable for trout

Little Twin Lake - tolerable for trout

Ox-bow Lake - tolerable for trout

Rainbow Lake - tolerable for trout

Round Lake - tolerable for trout

Smith's Lake - tolerable for trout

Log Lake - tolerable for trout

Kettle Lake - marginal

Bass Lake - tolerable for trout

Big Twin, Log and Little Twin lakes were netted, seined, and observations were made at night and recommendations were submitted for an introduction of rainbow trout.

Big Twin Lake was planted on October 9, 1947, with 5,000 (3-inch) and 2,500 (7.4-inch) rainbow trout and Log Lake was planted October 9 with 5,000 (3-inch) and 800 (7.4-inch).

2. Manistee County

A. Lemon Lake - A water analysis was conducted and the lake was found unsuitable for trout.

3. Grand Traverse County

A. Spider Lake - A water analysis was made in three major depressions in August. The lake was found unsuitable for trout. On the night of July 10, the lake was observed with the aid of an underwater light. Bluegill, largemouth bass, yellow perch, sunfish, rock bass and bullheads were observed. Large and small fish of each of these species was observed.

B. Wab-Ba-Ka-Netta (Green) Lake - On August 6, a water analysis was made and the water was found to be tolerable for trout. On September 25 and 26, gill nets were set and observations were made at night. On September 27, some shore seining was conducted. From the various methods of study the following species of fish were found to be present and their abundance as indicated:

Yellow perch - abundant	Longnose gar - few
Common sucker - abundant	Cisco - few
Northern pike - few	Smallmouth bass - common
Largemouth bass - few	Dogfish - few
Rock bass - common	Smelt - reliably reported
Bluegill - few	Rainbow trout - reported

Recommended a trial introduction of rainbow trout. No pike-perch were found although spawning facilities and suitable habitat are available.

It was suggested the planted walleye possibly did not survive predation. A recommendation was made that the other lakes in the chain should be investigated before further plantings of yellow pikeperch are attempted.

4. Leelanau County

A. Lime Lake - A water analysis was made on August 7. The lake was found to have suitable trout water. No recommendation was submitted pending investigation of the fish population.

IV. General investigations

1. Benzie County

A. Crystal Lake - A brief observation was made of the outlet of the lake. Several local residents were questioned regarding the fishing history, prior to planned gill netting and observing. Perch were reported as being caught in greater numbers than for several years. Cold weather set in before the planned investigation was started.

2. Grand Traverse County

A. Boardman Lake - Boardman Lake has tolerable water for trout. On May 6, studied the upper stream section of Boardman Lake in an attempt to locate suitable trout spawning areas. Suitable spawning areas are present and two large rainbow trout were observed. No recommendation will be submitted for the stocking of trout until it is known whether or not bluegills have become established.

B. Wab-Ba-Ka-Netta (Green) Lake - See III, 3, B.

3. Kalkaska County

- A. Abbot Lake - this lake was found to be private.
- B. Southwell Lake - this lake was found to be private.

4. Manistee County

A. Bear Lake - Netting, seining, angling and day and night observations were made in an attempt to learn possible reasons for the poor walleye fishing. An experiment was conducted with an underwater light at night. An attempt was made to estimate the size in inches of each species identified as well as to show local residents a good number of the fish found in the lake. Several local residents joined the night observation party and participated in estimating the sizes of fish seen. The experiment, it is believed, was worthwhile in that it provided some valuable information on the size frequencies of the fish and showed the local residents that there are a large number of catchable fish present. It is believed this method of observation combined with gill netting and the reports of the local residents on fishing history presents a fairly good picture of the fish population. From the various methods of study the following conclusions were made:

Walleyes are generally of large size though some small fish were taken. It is believed that their numbers are low, considering the large size of those caught, the poor fishing records and the few which were observed and netted. Largemouth and smallmouth bass appeared to be present in good numbers. Yellow perch appeared to be very abundant. Rock bass are believed to be abundant. Bluegills, northern pike, suckers and bullheads were found to be common and of large sizes. Scale samples were submitted to check growth rates. The

physical characteristics of the lake, particularly its shallowness, lack of vegetation and roundness in shape, excepting for two bays, suggested that the harvesting of the fish is handicapped by the lack of areas of concentration of the fish.

It was recommended that local residents be encouraged to spear suckers at the outlet during the spawning run, that brush shelters be installed to aid in concentrating fish, and that buoys be placed at three shallow water areas which are surrounded by deep water, which are seldom found by the non-resident fishermen and which are known to be concentration areas.

- B. Big Beaver Creek - A pollution check was made on July 14 on this stream. The Kaleva Creamery empties its washings into the creek at Kaleva and it was reported this may be harmful to trout. Several water analyses were conducted and plant and animal life were collected in the immediate vicinity. It was concluded that the pollution is harmless to fish life.
- C. Bar Lake - This lake was reported as becoming choked with vegetation, which has made fishing difficult. On October 1, an investigation was made and Messrs. George Walters, Ernest Meier and Manistee County Conservation Officer Ray Wolters were contacted. The lake was badly choked with vegetation. It was suggested that thinning the vegetation would be beneficial and that the vegetation could best be thinned by a raking device.

5. Missaukee County

- A. Lake Missaukee - Local residents were contacted and asked about the presence of walleyes. Walleyes were reported rarely caught. Other fishing was reported as very good. No netting was believed necessary.

On June 28, County Officer Richard Price reported a heavy fish mortality. An investigation was made. The kill was quite severe; fish of all sizes and of various species were found dead. It was believed due to physical reasons such as sudden change of temperatures and not pathological in nature. Fishing was reported to be good, however, during the remainder of the season.

6. Wexford County

- A. Lake Cadillac - Only miscellaneous investigations were conducted on this lake. Night observations were made with an underwater light during the spawning season and during the year at intervals. Some information was learned on the areas of concentration of fish and spawning areas of several fish species.
- B. Lake Mitchell - Three gill nets were set in September. A small series of walleyes were taken for growth study purposes.
- C. Lake Meauwataka - On June 16 and 23 the lake was observed at night. Visibility was good. Yellow perch were observed around the entire lake in large numbers and small size. Several large and smallmouth bass of large size, a few large walleyes and many suckers of large size were observed. The lake was seined on June 23. Large numbers of yellow perch, one fingerling smallmouth, several bluntnose minnows, several golden shiners

and one banded killifish were taken. A few sunfish were observed. The lake should be gill netted and seined to get more information on the abundance of walleyes and bluegills before any fish are planted. If the walleyes are not plentiful and bluegills absent the lake should be considered for an introduction of northern pike and a stocking of bluegills.

- D. Frog Lake - On June 25 a small series of bluegills were collected by angling for growth study purposes. This lake was planted with 775 northern pike in 1945 as a result of the 1942 survey party recommendation, to reduce the number of bluegills which were found overabundant.
- E. Hodenpyle backwater - Walleye fishing was reported by the Mesick Chamber of Commerce as getting very poor. Gill nets were set on July 22, September 9, and October 9 and 10, to get a series of fish for growth study. Some seining was done on July 22. Only six walleyes, two bass, three perch, two northern pike, four suckers, and two redhorse were taken by the gill nets. Due to the poor fishing results with the gill nets, it was decided to postpone further netting until the spring of 1948 during the walleye spawning season.
- F. Slagle Creek - An experiment was conducted in an attempt to determine the relative value to the angler of the spot and boat type of plantings. Each month (May, June, July and August) 100 legal brook trout were tagged and planted. Fifty were spot planted at an accessible bridge, and fifty were distributed; 25 upstream for $\frac{3}{4}$ of a mile and 25 downstream for $\frac{3}{4}$ of a mile. A creel census was taken almost every weekend and tags

collected. A total of 112 fishermen trips were censused. Seventy-four tag returns were reported though specific information was taken on only 46. Of the 46 tag returns it was learned 36 were from spot planted trout and were caught by three different anglers; 10 were from distribution planted trout and caught by eight anglers. Of the total 74 tag returns, 50 or 68 percent were spot returns and 24 or 32 percent were distribution returns. From these results the evidence is that in Slagle Creek more anglers benefitted from distributed plantings of brook trout, but fewer fish were caught than in the case of spot plants.

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