BIOLOGICAL REPORT ON WHITE LAKE

IN

McNAB, BAGOT, DARLING, PAKENHAM TOWNSHIPS

RENFREW-LANARK COUNTIES

AUGUST 25 TO SEPTEMBER 6,1959

by PETER LITTKEMAN AND R.W. WHITFIELD

The lake survey on White Lake in Renfrew County consisted of:

1. Depth contours.
2. Test netting in order to determine the extent of pickerel population, the production of year classes since stocking has been discontinued in 1954.
3. Collection of scale samples and total length of pickerel and other game fish.
4. Record notes on the abundance of coarse fish.
5. Vertical temperature series.
6. P.H.
7. Vegetation, areas of emergent and submerged.
8. Other pertinent data on fishing in the past and at the present.

This work program was carried out from August 25th to September 6th, 1959.

LOCATION AND NAME:

White Lake is located in the north-eastern part of the Tweed District within the townships of Bagot and McNab in Renfrew County, and Darling and Pakenham in Lanark County,

with its northern shoreline approximately three miles south of the Madawaska River. The village of White Lake is situated on the very north end of the lake and is approximately nine miles south-west of Arnprior and Highway #17. It can be reached from Arnprior by a township road which was under construction and was expected to be completed by the late fall of 1959, or by a township road from Burnstown which is in good condition. White Lake was formerly known as Wa-ba-lac, possibly given it by Indians who inhabited the area before the first Scottish settlers arrived, later the name was changed to White Lake by persons unknown.

AREA AND ELEVATION

Though there are expanded bays on White Lake such as Three Mile Bay, Bennett or commonly known as Pickerel Bay and the canal with the adjacent Hayes and Banes Bays, the long axis of the lake runs roughly north-east and south-west in a crescent like shape and is approximately 8.2 miles long. The surface area is 4512 acres and the elevation 530 feet above sea level.

DRAINAGE AREA

The land surrounding White Lake is mostly patented; Crown land is found on the west shores and on the shores of Three Mile Bay, and the south shore of White Lake. The islands as well as the drainage area consist mainly of granitic rock except where low land and swamps border the lake. These swamps are found on the east side of the lake constituting most of the shores of the bays. However, some

areas of low land were also found on the west and south side where creeks enter the lake.

The land rises to 625 feet maximum, 95 feet above the lake level on the west and south shore and to a maximum of 600 feet above sea level on the east shore. Most of the surrounding land is approximately 95% timbered and a very little under agriculture, approximately 5%.

INLETS

Nine inlets lead into White Lake and constitute its tributaries.

Cranes Creek in the northern part on the west shore drains a little area of the McNab Township. Although runoff during the spring freshet with some springs, it is a permanent creek. Its entrance into White Lake is heavily silted. Fish Creek approximately 2½ miles south of Cranes Creek on the same shore drains the east part of Bagot Township with many beaver ponds and swamps. Springs contribute to its permanent flow, although very little current is noticeable at the end of August.

In the very south-west part of the main body of White Lake Paris Creek enters. It drains the south-eastern part of Bagot Township; there are swamps and beaver ponds in it. It is also spring fed and flows permanently with very little current during the dry summer months.

Broad Brook with Keles Creek as a tributary stream has its origin with two branches in White Mountain, in the

northern portion of Lavant Township, drains a number of little lakes and ponds in the southern part of Darling Township and empties into the south-western part of White Lake on the south shore.

Springs support the brook along its full course and make it a permanent stream. The flow during the summer months is very weak. The inlet area is muddy and silted.

Though Billa Lake is the origin of Raycroft or Long Lake Creek as it is called by the local residents, it flows through Raycroft and Darling Long Lake and empties into White Lake only about one-half mile east of Broad Brook. It has a permanent flow although there was very little current at the time of the survey.

Little was known about the three inlets at the east and south-east end of the Three Mile Bay. According to the staff of a Department of Lands and Forests land survey crew which was carrying out a summer resort project in this area, there was no permanent stream. A shortage of time did not allow a further investigation.

Hayes Creek located on the east shore of Hayes Bay is of no importance. It has a run off during the spring freshet and dries up shortly after.

With the exception of the latter and the three inlets at Three Mile Bay the creeks are all obstructed by beaver dams and none of the forementioned streams are trout waters. This information was received from local residents.

OUTLETS

Waba Creek, the only outlet, was formerly known as the Wabalak River, and this name is still found on old township plans. A dam in the outlet erected by Stewart Bros. at Waba is used for the purpose of logging timber downstream to the sawmill of the said company. These operations are carried out across the lake with permitting winds and weather, log floats which were anchored on the south shore are released and driven down to the north end of the lake where the outlet is located. Stop logs are then taken out and with the rushing outflow the directed logs go down the creek.

According to the information received in this area the dam does not affect the fluctuation of the water level as these operations are of short duration.

In 1956 another dam was erected two miles from the mouth of the Waba into the Madawaska River for the installation of a hydraulic turbine to provide power for a plant operated by Messrs. Hastie and Dupuis from Pakenham.

To eliminate the possibility of fish travelling downstream, especially during the flood and spawning time, a screen was put on top of the stop logs at the dam near the outlet to Waba Creek.

This stream was stocked with 3000 brown trout in 1953 for the first time and subsequent plantings of 3000 in 1954, 5000 in 1955, 2000 in 1958 and 1000 in 1959.

SHORELINE

Approximate length 55.2 miles. Since the shore coefficient is of great importance to the lake as to its productivity, considerable time was spent on these studies.

The shores of White Lake consist of approximately 40% of granitic rock, 57% mud and as little as about 3% sand. The elevation on the west shore rises to 625 feet above sea level in some places, but in general the whole shore is a series of low lying hills or ridges. The gradient under the water surface is regular. Little marshes were found at the entrances of creeks but not extensive. Some rocky shoals emerge in some of the bays on the east side of the lake.

The southern shoreline in its western and central part is much the same. In its eastern part a few acres are under agriculture (cattle pasture) with scattered timber growth. Low muddy land was found on the north-east shore of Three Mile Bay, extending about one mile westwards. The shoreline of the peninsula between Bennett (Pickerel) Bay and Three Mile Bay is again mainly rocky and there is very little change in elevation.A number of cottage sites are located on the tip of this peninsula opposite Hardwood Island. The gradient on the north point of the forementioned peninsula is quite steep and the maximum depth of 30 feet in White Lake was recorded approximately 350 feet north of this location.

Flat country with mixed timber growth surrounds Bennett (Pickerel) Bay. Some rocks appear on almost every shore

and the gradient is regular, for all these bays are shallow. The shore past Stanley, Waba and a number of un-named islands on the topographic map up to the tip of the peninsula south of Stewarts Island, which is also not named on the official sheet, is rocky, timbered and rise to an altitude of 550 feet above sea level.

Submerged and emergent rocky shoals were found in the vicinity of the Waba and Stanley Island group. The bays to the south and the north at the entrance to The Canal are marshy with extended growth of heavy emergent vegetation. The bottom throughout the whole canal including Hayes and Banes Bay is muddy with low lying shores and marshes of considerable sizes. The north side of the east entrance of The Canal has approximately 2000 feet of sand beach with crop yielding fields in the background. Clearings on the west shore opposite to Barbers Island indicate that this land also has been used for agricultural purposes formerly.

The shores from Styles Island at the west entrance of the Canal northwards through the narrows leading into the most northern portion of White Lake are rocky again and more irregular. Because of the shallow depth there is no gradient in this narrow part of White Lake over its entire area northwards on the east side passing Norway Point and the village of White Lake. Low land with swamps and marshes predominate here. The bottom is muddy. The north shore from the outlet westwards to the point where the powerline approaches the

shoreline rises towards the north-west. Timber growth on more rocky bottom in the west portion of this section was found. The area immediately bordering the outlet is occupied by a sawmill which was established five years ago by the Fraser Lumber Company and is in operation at the present.

A total of 65 cottage sites was counted and this number is still increasing, especially after the subdivision of Crown land into parcels. A key plan to these parcels is attached to the report.

DEPTH CONTOURS

With a maximum depth of 30 feet White Lake belongs to the group of shallow productive lakes in the Tweed District. Generally speaking the bottom is regular over the entire area. The big bays except Bennett (Pickerel) Bay west of the islands therein are very shallow. The entire area east of Styles Island at the west entrance of The Canal has only one limited location with depths exceeding 6 feet as it is indicated on the depth contour map, and the lake gets shallower in its southern extension up into Bane Bay. The main body of the lake with a depth of 15 feet west of Stewarts Island gradually ascends to a depth of 24 feet at the entrance into Bennett (Pickerel) Bay, about ½ mile south of Stanley Island. Here it forms a basin extending as far east as the islands in that said bay and south past the peninsula on the south side of the bay close to shore in a narrow channel to the north point of Birch Island. The maximum depth of 30 feet was recorded

approximately 350 feet north off the forementioned peninsula on the south shore of Bennett (Pickerel) Bay. This depth also covers only a small area of probably not exceeding 20 acres. In the same proportion as the lake ascends to its maximum depth at this point coming from the north it gets shallower to the south following the main body past Hardwood Island to the south-west as well as turning to the east at Hardwood Island and entering Three Mile Bay.

The narrows north of Stewarts Island and also the most northern part of the lake is shallow with an average depth of approximately 5 feet. There are a few emergent and submerged shoals in White Lake close to shore or in the vicinity of the islands. As they were detected they were marked on the contour map. The average depth of White Lake as a whole is approximately 10 feet.

VEGETATION

Because of its shallow nature White Lake has an unusual growth of rooted emergent and submerged vegetation, for at a visibility of approximately 11 feet (secchi disc reading) the light penetrates the water of large areas to the bottom, thus permitting plant growth. A collection of aquatic plants was made and the distribution as to type (emergent-submerged or floating) are marked on an attached map. Coloured pictures taken of emergent aquatic plants at different locations in the lake are also submitted with this report.

Five subspecies of the Potamogeton family (Pondweed) were identified, but there are as many as 56 listed by "Gray" and by all means it is possible that more than five specimens can be found in White Lake.

One species of the Bladderoot family was found. The Utricularia vulgaria was discovered in a heavy growth at the inlet of Fish Lake.

A few colonies of Pontederia cordata the Pickerel Plant were noticed on the shores of Fish Creek. Here and also in different other places on the lake, samples of the Anacharis canadensis (Elodea) were taken. From the marshy bottom of the bays Sparganium the Burr Reed was collected. Najas flexilis or as it is commonly called the Northern Naiad was taken from an area in Hayes Bay. In sheltered bays samples of Lemna trisulca, star duckweed, were collected. Large areas of Scirpus, the Bullrush or also called Club Rush were found in the bays west of the canal extending as far west as Stewarts Island and expanded parts of the most northerly portion of White Lake south of the village as far as the narrows below the bay.

The Ceratophyllum demersum or coontail is abundant in areas with soft bottom. A sample was taken in front of Fish Creek.

Chara a submerged plant of a rich smell and when dry easy to powderize is also quite common in the bays and shallower parts of White Lake. Muskgrass is another name for the same species.

The Myrica gale or Sweetgale is a shrubby plant which can be found on moist ground adjacent to the water margins.

From the same bottom where the Sweetgale was located one specimen of the Typha family or Cattail was collected. This marsh plant is native in many bays and especially at the inlets of creeks with soft, muddy bottom in White Lake.

Phragmites a type of cane and known as Reedgrass was found in the bays adjacent to The Canal. This marsh plant is not very common in the Tweed District. It appears in dense growths along the water edges and also extends its growth into the water with rhyzomes to a distance of 5 - 10 yards.

The foregoing list of submerged, emergent and floating plants of White Lake is by no means complete. There are probably many more, especially there may be more specimens of the different families. However, these are the species which appear to be the most abundant.

The contribution of certain aquatic plants (especially submerged) to the fertility and productivity of White Lake is considerable for they supply the elementary forage for the lower invertebrates and thus indirectly to the fish. In shallow lakes plant life is also very important in the household of oxygen, due to a photosynthetic activity the green leaves of submerged plants release dissolved oxygen during the daytime with the process reversed during the night. There is no evidence to indicate previous winter kill in the shallow weedy bays of White Lake, which may be due to the ability of fish to move out of these bays into the deeper water of the main

body of White Lake during the winter months or when and if an oxygen depletion does occur.

BOTTOM MATERIALS

The bottom materials of the large bays in White Lake consist mainly of mud, silt and rotted vegetation in some shallower parts of Hayes Bay and Bane Bay forming an unproductive soil. However, it was found that the bottom of White Lake as a whole consists to approximately 30% of rock and only 3% constitutes sand and gravel. The remainder especially the deeper parts including the basin about Bennett (Pickerel) Bay is muddy. The vicinities of the islands are mostly rocky and as it was mentioned before a few rocky shoals emergent and submerged, were recorded nearby.

Rocks were especially found on the entire west side of the main body of the lake and some shoals of the same material confronting the east shore at the height of Ross and Birch Island.

The appearance of various aquatic plants and a multifarious bottom fauna indicate a certain grade of fertility. Undoubtedly, the shallower parts of White Lake constitute a very good feeding grounds in spring and probably in fall when the temperature in the lake is moderate, for the different species of fish are tolerant to certain temperatures and desert the location and move into deeper, cooler water in summer and approach the surface in fall with the dropping temperature.

SPAWNING GROUNDS

Pickerel (Stizostedion Vitreum)

Eschmeyer says in "The Life History of the Walleye in Michigan" walleyes spawn in either streams or lakes, apparently depending upon local conditions in the waters concerned. He continues in the paragraph "Spawning Grounds" that mouths of rivers and creeks, sandy bars, gravelly bottom near shores, sticks and stones in running water, broken rocks at the point where waves break are found to be suitable by different workers on this subject.

White Lake with its numerous stony-rocky shores and shoals in different dimensions provides very good spawning grounds for the pickerel. Local residents stated on request that the pickerel can be found spawning along rocky shores and around the islands. Because of the relative shallow depth of White Lake the highly productive littoral and sub-littoral zones has an abundance of submerged vegetation which constitutes the most desirable environment for the young fry and is extensive in size due to the shallow gradient of the lake as a whole. With the rising temperature in the spring the steady increase of plankton, the vital forage for the young fish, is enormous in these fertile areas. Thus the natural reproduction of this species in White Lake should be excellent.

Small-mouth Bass (Micropterus dolomieu)

In depths usually ranging from two to five feet the

small-mouth bass male constructs the nest and after the eggs are deposited by the female and fertilized are guarded by the male until the eggs hatch and the fry is approximately one to two weeks old.

This species finds its natural spawning grounds in White Lake along most of the shores and on rocky areas surrounding the islands. Shoals in the proper depths are chosen as well by the small-mouth bass. As the spawning takes place at temperatures varying from 60 - 70 F., this is probably during the month of June in White Lake. At the time the fish are hatched (approximately ten days after the fertilization) and the yolk sac is 2/3 absorbed in 10 - 11 days later and the fry begin to feed, the development and growth of the plankton is assumed to be sufficient to allow good growth of the young bass that feed upon it.

Large-Mouth Bass (Micropterus salmoides)

Preferring weedy areas the large-mouth bass occupy marley or muddy bottom types for a nesting site. Similar to the small-mouth bass the eggs and the fry are guarded.

Since this species is introduced into White Lake just lately and only one specimen was taken during the survey, little can be said which parts of the lake are utilized for spawning purposes. However, large portions are suitable to large-mouth bass and once there is a fair population established by adding hatchery reared fish to the present number, they find weedy areas with mud bottom in most of the bays along

the east shore including the northern portion of the main body of White Lake. The number of good characteristics as to spawning grounds in White Lake allow to predict that this species will increase its population annually many times and so establish good fishing.

Northern Pike (Esox lucius)

Assumed to be a native fish in White Lake the pike finds its required environment over the whole lake. Inhabiting weedy areas during the summer, this species moves into the deeper water with the dropping temperature in fall. The pike is one of the first spawners in spring. Once the ice is gone the spawning takes place on shallow quite often flooded grounds such as marshes, wooded areas and pasture fields.

Anywhere on the shores of the most northern portion, southwards along the east shores including the large bays and even on the south shores the pike will find ideal spawning grounds in White Lake. Although there is no individual case known from White Lake the rapid recession of the water from the flooded grounds in the spring may expose the eggs or even the young trapped fish and finally destroy them.

Muskellunge (Esox Masquinongy)

Waters of medium size and depth are believed to be suitable to the muskellunge. In opposition to the northern pike the muskellunge inhabits the deeper parts of the lake during the summer months and is often found in shallow waters

and near shore in fall. The spawning activities begin one to two weeks after the northern pike have spawned out in areas quite similar to those of the latter.

No muskellunge were caught during the two weeks survey and according to the local residents never have appeared in sports fishermen catches.

The physical structure of White Lake with its shallow bays, adjacent marshes and the abundance of aquatic vegetation constituting the environment for the young should help to create a fair population of this wonderful game fish.

THERMAL STRATIFICATION

A thermal stratification is found in most of the deeper lakes during the warm weather period. Due to its shallow nature a thermocline, the layer of water between the epiliminion (the lower layer of cold water), was not found in White Lake. Thus there is no distribution of fish as to temperatures in the lake during the summer months.

TEST FISHING

Four - eight foot trap nets were employed for the test fishing in White Lake. Although these nets are designed for shallow water fishing - an eight foot trap net for a maximum depth of approximately 10 feet - an experimental set was made in a depth of 30 feet in Mississagagon Lake and proved to be successful in obtaining samples of pickerel during the month of July, August and part of September. The

fishing gear in White Lake was located in depths ranging from 8 to 21 feet. The bottom material consisted of rocks on the shore and mud and silt farther off shore. One trap net was placed in an area of heavy aquatic vegetational growth. The two nets in Bennett (Pickerel) Bay which were put into depths of 15 and 21 feet produced a good number of pickerel as well as large specimens of small-mouth bass. Over a period of nine days a total of 6955 fish were taken, of which 432 or 6.2% were game fish. A total of 104 northern pike (equal to 24%), 237 pickerel (equal to 54.8%), 90 small-mouth bass (equal to 20.8%) and 1 large-mouth bass (equal to 0.2%) were the result of this operation. With 5688 specimens out of the total of 6523 non-game fish, the pumpkin seed are predominant.

This species makes up 87.0% of the non-game fish. Only 0.1% of the non-game fish were rock bass. According to the local residents this species has been known to be abundant a few years ago. As many as 363 brown bullheads were caught and this is about 5.5% of the total number of non-game fish. It was noticed that the weight of the average bullhead was approximately 1.5 pounds which is far above the Ontario average. Scott says in Freshwater Fishes of Eastern Canada "an average size would be approximately ½ pound". Forty-three or 0.6% white suckers were taken during the survey.

The yellow perch were found in a sound proportion to the total population of non-game fish. The number of 417 corresponds with 6.3%.

One channel catfish weighing about 2.5 pounds was captured.

As the records show there is undoubtedly an excess of unutilized pumpkin seeds. The introduction of muskellunge into White Lake may help to convert this forage into game fish by this predatory species, for the mature pumpkin seed is too large in size to be eaten by most of the present predatory game-fish, but the average size muskellunge would be capable of consuming these fish.

STATUS OF PICKEREL

Out of 237 pickerel which were caught during the survey 32 (13.5%)were kept out and examined for stomach contents, maturity, sex and general condition. The average length of 237 fish was 19.1 inches.

FEEDING HABITS

Twenty-five (78.1%) out of a sample of 32 pickerel which were examined were found with an empty stomach. Five (15.6%) pickerel were feeding on fish, one (3.1%) stomach contained insect larvae and one (3.1%) bugs.

The information gathered from the stomach analysis may solve the ever recurring question why there are not more pickerel caught during the summer and the common belief among some anglers that perhaps pickerel are scarce or even lacking in our district lakes. It is further evident that the physical

condition of the pickerel corresponds with the amount of food taken by them. Previous studies on the pickerel feeding habits in different other lakes of the Tweed District carried out by District Biologist R.E. Whitfield show that at a certain time of the year when the larvae of the mayfly and stonefly nymphs emerge from the lake bottom to the surface, the pickerel feed largely on these aquatic insects and often attain an excellent physical condition. Layers of fat can be found along the sides of the body cavity as well as the intestines. This layer of fat appears to be a reserve for energy, and species in this state are rarely found with food in stomachs during July and August in many lakes. As it was observed during the entire season this condition is obtained with the approach of the summer and has its peak in July and August. A difference between the individual lakes and years may be found with regard to the larvae hatch and thus food available. However, further work on this subject is necessary to determine the extent of non-feeding among pickerel during the summer and its significance.

SEX AND MATURITY OF ORGANS

Total Examined	♂	♀	♂ Range Inches	♀ Range Inches	♂ Range Ounces	♀ Range Ounces
32	14	18	16.25-21.75	17.0-25.5	24-48	24-92
32	43.7%	56.3%				

The table above shows the number of pickerel examined in relation to males and females, their total length ranges and the percentage of mature fish.

For comparison only the following table is set up. The information was taken from: Handbook of Freshwater Fishery Biology with the First Supplement by Carlander.

Name of Water	Sex	Mature at	Age	Smallest Mature At	Age
Lake Erie	♂	10.7 inch. S.L.	IV	9.5 inches S.L.	III
- -	♀	11.1 inch S.L.	IV	10.7 inches S.L.	IV
Gogebic Lake Michigan	♂	12.2 inch. T.L.	IV	---	
- -	♀	15.4 inch. T.L.	V	---	

PHYSICAL CONDITION

The pickerel examined were found in very good condition. As it was said under paragraph "Feeding Habits" the condition of the pickerel appears to be in keeping with the productivity of the lake. Three pickerel with growths on the heads were found. Samples were preserved and an examination revealed that this wart-like or tumor-like growth is analysed as the Lymphocystis disease. Pickerel as a fresh water species is especially susceptible to the infection. Davis says in Culture and Diseases of Game Fishes "although the disease is of common occurence, very little is known about it".

STATUS ON SMALL-MOUTH BASS

The small-mouth bass were introduced into White Lake approximately 35 years ago according to information received from Department of Lands and Forests records. This species is well established now and a total of 90 small-mouth bass were captured during the survey. Scale samples and measurements were taken in order to determine the annual growth rate.

The average length of 90 small-mouth bass was 15.24 inches, which is rather high compared with other lakes in the district which were surveyed. Most likely this is due to the fertility of the Lake.

Since the survey was carried out with an emphasis on the pickerel and no complaints regarding the small-mouth bass were received from anglers, a further study of this species as to feeding habits and maturity of sexual organs was thought to be not necessary.

The following is a summary of the age analysis report:

Age Group	No. Fish	Average Total ins.	Range	Average Weight Oz.	Range
I	1	12.5	-	-	-
II	3	14.8	14.5-15.2	-	-
III	2	15.9	15.7-16.2	-	-
IV	2	17.0	-	24.0 (1)	-
V	7	17.1	16.7-17.5	26.0 (2)	24.0-28.0
VI	9	18.7	17.7-20.0	38.0 (2)	36.0-40.0
VII	8	20.5	19.2-21.5	41.6 (5)	36.0-50.0
VIII	3	21.5	20.7-22.2	50 (2)	48.0-52.0
IX	1	22.5	-	-	-
X	1	24.5	-	-	-
XI	2	25.7	25.5-26.0	92 (1)	

The table below shows the age - total length relationship of pickerel from Gogebic Lake, Mich. in inches at each annulus (by Carlander) for comparison only.

♂	4.4	9.3	11.8	13.9	15.2	16.3	16.9	17.3	17.7	18.0	Inches
♀	4.9	9.4	12.4	14.5	16.3	17.9	18.9	19.8	20.4	21.0	Inches
Age	I	II	III	IV	V	VI	VII	VIII	IX	X	Years

The age analysis report of White Lake indicates that the pickerel at an age of one year and approximately four months reach a total length of 12.5 inches, and at the end of the second summer attain a maximum total length of at least 15.2 inches and consequently are to a high percentage a keeper size in the first two years. The fact that the average fish was found with a total length of 19.1 inches being about 6 years of age and pickerel up to age eleven were taken during the survey reveals that the lake is under-exploited and could stand a considerably higher fishing pressure on the pickerel for it is more economical to harvest the younger, stronger and faster growing year classes.

STATUS OF THE NORTHERN PIKE

According to the local residents the pike is a native fish in White Lake. Before pickerel and small-mouth bass were introduced they were reported to be plentiful. However, 104 were taken during the nine day period of fishing and this indicates that it is still the second strongest species in number after the pickerel. The average length of 104 fish was 22.04 inches, a fair length compared with other lakes in the Tweed District where a survey has been made.

It is a fact that where an increment of the pickerel population is evident, a visible decrease of the number of pike can be expected and on the other hand the rise of the pike population may coincide with a decrease of the number of pickerel.

STATUS ON LARGE-MOUTH BASS

The most recent introduction of game fish in White Lake was made in 1957, when 5,000 large-mouth bass were introduced for the first time. Since there was only one specimen caught little can be said about the establishment of this species. However, the nature of White Lake is most suitable to this species and additional plantings of young fish may help to build up a sound population.

Hatchery reared fish planted in White Lake 1921 to 1959:

PICKEREL

1921	100,000	Introduction
1922	100,000	
1924	200,000	
1931	100,000	
1932	200,000	
1935	500,000	
1938	550,000	
1939	500,000	
1940	950,000	
1941	1,200,000	
1942	500,000	
1943	500,000	
1944	1,000,000	
1945	500,000	
1946	200,000	
1947	475,000	
1948	275,000	
1949	350,000	
1950	100,000	
1951	5,000,000	
1952	2,000,000	
1953	4,200,000	
1954	3,000,000	

SMALL-MOUTH BASS

1924	10,000 Fry
1929	5,000 Yearlings
1931	6,000 "
1932	100 Adults
1941	1,000 Fingerlings
1947	300 "
1949	1,000
1950	1,000
1951	4,400
1952	500
1953	2,000
1954	1,000
1955	2,558 Adult
1956	140

LARGE-MOUTH BASS

1957	5,000 Introduction

SUMMARY OF PLANTINGS

During the twenty-eight years 1921-1959 the total of 28,800,000 pickerel, 34,858 small-mouth bass and 5,000 large-mouth bass has been made.

TOURIST INDUSTRY

Seven commercial tourist camps are in operation at White Lake with 4 at the Village of White Lake, one at The Canal, one at Bennett (Pickerel) Bay and the seventh at Three Mile Bay. With approximately 65 cottages at the present, which number is on the continuous increase, the lake is an excellent summer vacation land with fine boating, swimming, and angling. The autumn is colourful and duck shooting and sight seeing is a popular autumn attraction. Winter angling for pike and pickerel is also of importance.

CONCLUSION

Because of the shallow productive nature of White Lake and its great potential for carrying a large fast growing population of pickerel, it offers an excellent opportunity for anglers to have a longer season in which to take them. Their excessive growth and large population remains in the lake at the expense of other fish species.

Even pike cannot favourably compete with large pickerel populations, thus heavier fishing would tend to keep the pickerel in control and bring about a better balance among the various existing species.

Stocking from provincial hatcheries is unnecessary for all species except the large-mouth bass. Additional plantings of large-mouth should be carried on until they become well established.

The introduction of maskinonge may be feasible in White Lake as there are extensive weed beds and plenty of forage fish.

Report compiled by P. Littkemann

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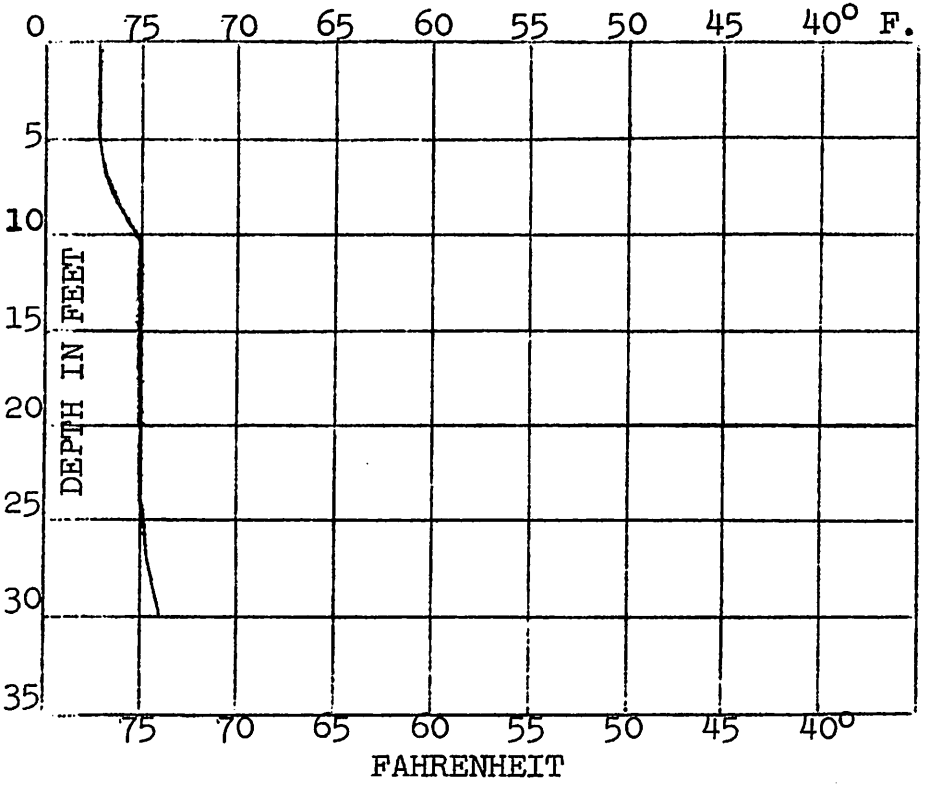
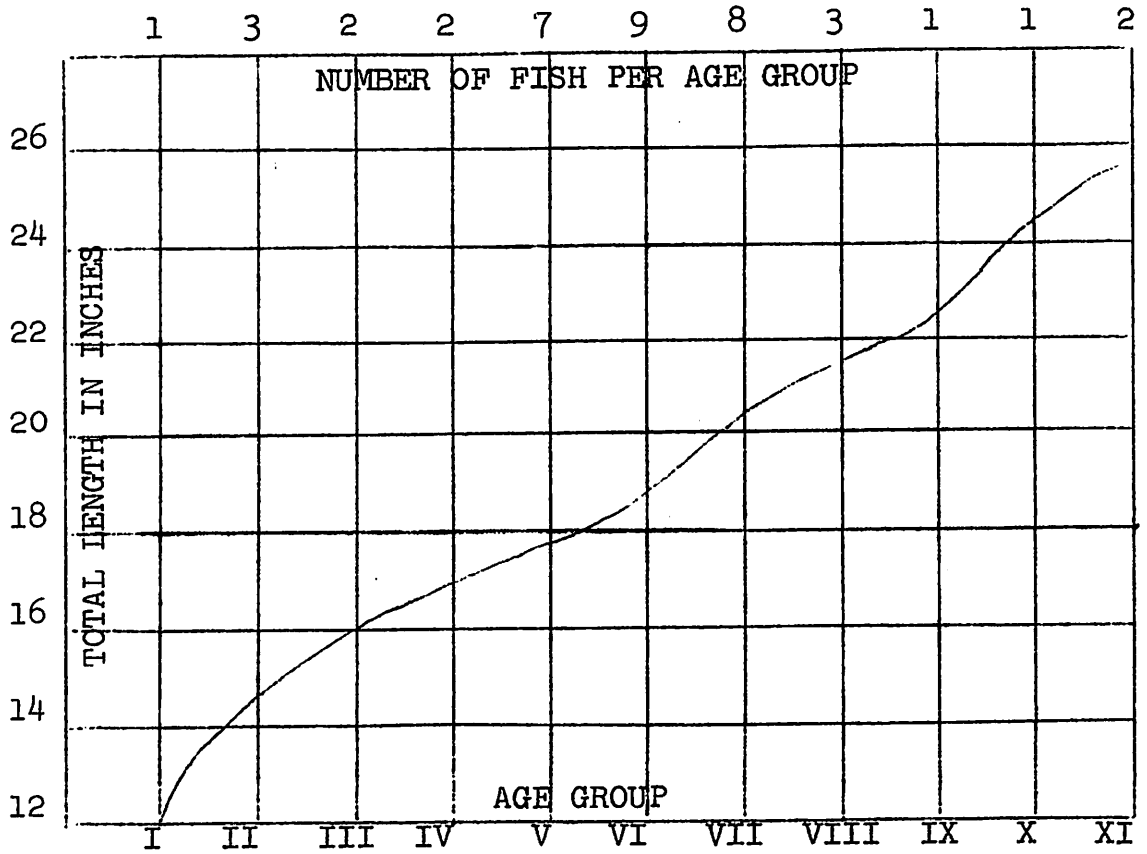
WHITE LAKE - RENFREW AND LANARK COUNTIES - AUGUST 31ST, 1959

THERMAL STRATIFICATION



WHITE LAKE - RENFREW AND LANARK COUNTIES
GROWTH CURVE OF PICKEREL - AUG.-SEPT. 1959



DAILY CATCH REPORT
WHITE LAKE, RENFREW AND LANARK COUNTIES
AUGUST 27 to SEPTEMBER 4, 1959

GEAR EMPLOYED: 8 FT. TRAP NET - 200 FT. LEADER										
SPECIES	AUG. 27	28	29	30	31	SEPT. 1	2	3	4	TOT. SPECIES
NORTHERN PIKE		32		18	9	14		20	11	104
YELLOW PICKEREL	11	60		35	38	11		62	20	237
S. M. BASS		29		13	6	5		25	12	90
L. M. BASS								1		1
BROWN BULLHEAD		127		98	31	40		55	12	363
WHITE SUCKER		11		14		1		13	4	43
YELLOW PERCH		142		65	35	107		44	24	417
PUMPKINSEED		167		423	227	1830		2671	370	5688
ROCK BASS		5		2	1	1		2		11
CHANNEL CATFISH									1	1
NO. FISH @ DAY	11	573	0	668	347	2009	0	2893	454	6955
GEAR @ DAY	1	4	0	4	2	2	0	4	2	