

CATCH OF APPARATUS. --- LAKE HURON.

(From notes of J. T. Scovell, 1894, Abstracted

by R. R. Gurley).

CATCH OF POUNDS --- LAKE HURON.

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Craig & Lang's, Port Huron.

Principally sturgeon, pickerel, herring.
Sturgeon exceeding the other two in weight.
Also a few sheepshead, suckers, perch, sauger,
menominee, lake minnows. Sheepshead and
suckers usually thrown out.--(8).

Tabor's, Port Huron.

Was taking only pickerel and herring and
not many of these; no sturgeon to date.--(9).

Lassen's, Port Huron.

Yearly catch is estimated at herring $1/2$,
sturgeon $1/6$, pickerel $1/6$, whitefish $1/6$.
Mr. Lassen says not more than $3/4$ the catch of
the gill nets is fit for market.--(13).

Tabor's, Port Huron.

Spring months mostly sturgeon and pickerel. In fall the herring is more abundant. All kinds of fish fewer than formerly.--(15).

Lassen's, Port Huron.

Set out late in April or early in May, fishing continuing till freezing with sometimes a short intermission for cleaning nets, July or August.

Spring sturgeon and Wall-eyed pike; June the best month. Fall mainly herring and whitefish. Main catch about herring 1/2, sturgeon, pike, whitefish, each 1/6.--(21).

Brace's, North of Port Huron.

Spring and fall mainly herring; summer suckers and mullet. Catch of all kinds falling off.--(28).

Bates & Ferriss', Lakeport.

Mostly herring.--(29).

Wood's, Near North line of

Birchville township.

Mainly herring. A few trout, whitefish, pike, sturgeon.--(31).

Rice & White's, Near Lexington.

Mostly herring, some trout, whitefish, pike, sturgeon, menominee, sucker, mullet and perch. Not much change in abundance in last 5 years.--(32).

Allen's, Port Sanilac.

Mainly herring, sometimes, sturgeon, trout, pike, whitefish, perch. Saw pound raised. Only occasionally were small fish taken. If alive they were thrown into lake; if dead into waste barrel.--(35).

H. Allen's, at Forester.

Mainly herring; especially abundant last year. A few trout, whitefish and sturgeon; also perch and sheepshead.--(38).

Mastin's, Forester.

Mainly herring, a few whitefish and trout, usually sold fresh.-(39).

McCash's, Near Sand Beach.

Mainly herring; some whitefish, an occasional trout.-(58).

Marsac & Willett's, Caseville.

Mainly pickerel, herring, whitefish, sturgeon, some trout, very few bass, about 130 lbs. this season.-(72).

Trudell's, Near Caseville.

Pickerel (1/2 lb. and under thrown back); also catfish, sturgeon, sauger, perch, mullet, sucker, sheepshead. Saw above taken. Sometimes whitefish and trout; an occasional black bass.

September catch herring, pickerel, whitefish, lake perch, mullet and suckers.-(74).

Reeve's, Near Caseville.

Mainly herring, pickerel, whitefish, sturgeon, perch, suckers, mullet, trout, catfish, sheepshead, etc. Only a few black bass, not more than 200 lbs. this season.-(76-77).

Trudell's, Near Little Charities

Island.

Spring pickerel $1/2$, whitefish $1/2$. Also perch, herring, sturgeon, trout, no black bass.

Fall $2/3$ whitefish, $1/3$ pickerel; herring, some trout. Spawning whitefish in November.-(78).

Gillingham's, Bay Port.

Spring, pickerel, herring, perch, some whitefish, sturgeon, also some suckers, mullet sheepshead, etc. Fall, herring, whitefish, pickerel, perch, suckers.-(85-87).

Gillingham's, Bay Port.

Only a few black bass are caught in the pound nets. They have to be taken out soon or they may escape. They do so more readily and in greater numbers than whitefish and herring.--(86)

Gillingham's, Sand Point.

Spring: pickerel, herring, perch, whitefish, trout, catfish, sturgeon. Also suckers, mullet, sheepshead.

Fall: herring, whitefish, pickerel, perch, suckers, mullet, sheepshead, etc.--(81).

Dubey's, Bay Port.

Much of catch herring; only a few small pickerel. Also trout, whitefish, sturgeon, grass pike, muskallonge, rock bass, black bass, perch, suckers, mullet, &c., &c.--(90-91).

Vandemark's, Near Bay Port.

Mainly perch, suckers, pickerel, grass pike. A few black bass.-(93).

Row & Wyman's, Near Bay Port.

Perch, catfish, mullet, suckers, pickerel, rock bass, some black bass and others.-(95).

Quick's, Sec. 21 9 E., R. 16 N.

Black bass, pike, perch, mullet, bill fish, pickerel, herring, sturgeon and catfish. Muskallonge formerly abundant in the Shebean River, are now seldom seen.-(99).

Pitcher's, Near Sebawaing.

Pickerel and herring, only, this spring on this ground.-(100).

Cotie's, Fish Point, Sebawaing.

Pickerel, perch, suckers, grass pike,

herring, mullet, bull heads, catfish, rock bass, sunfish. Some whitefish and trout; an occasional black bass.--(102).

Beutel's, 3 miles North of
Quannakissee River.

Fall, commencing in September, pickerel, perch, suckers, mullet, catfish, herring, etc. In spring, more pickerel; in fall, more herring. All fish for pickerel but make more from other fishes. Spring catch about 400. Storms do not damage nets very much, but they drive away the fish. Fish are all sold fresh. The nets of the Beutel Bros. seem to be on good feeding grounds for pickerel. The pickerel go out as the water gets warmer and come in as it gets cooler. Nets should not be too near each other. The more nets to an area the less fish to the net. A long string of nets injures the catch of others near. Mr. Albert Beutel and his brothers have been fishing in the river and bay for about 20 years. About 3 miles below Quannakissee River.--(105 - 106).

Barney's, Quannakissee River.

Perch, suckers, sunfish, catfish, pike, bullheads and some pickerel in the spring.- (107).

Trudell's, Kaukaulin River.

Spring; pickerel, perch, suckers, mullet, etc. Formerly good pickerel fishing in fall, few caught now and catch along shore and in bay is falling off every year.--(110).

Principal catch in rivers, suckers, mullet, perch. Sold fresh in New York largely to Jews. Suckers often sold for whitefish; more frequently for mullet or red horse.--(113).

Pelkey and Country's, Near
Towas Light.

Spring catch is about 1/4 trout, 3/4 whitefish. Formerly there were more trout, but 3 years ago whitefish began increasing, at first small, then larger, till now there are more good whitefish than trout. Thinks increase due to planting. Coast and bottom

north of Towas Point good whitefish feeding grounds, around little Charities Island good spawning grounds. Food of whitefish largely shrimps and worms. Ground around Point Look-out seems to be good feeding grounds for whitefish, especially in fall; but not for spawning grounds.--(121-122).

Pelkey and Country's, Towas Bay.

Towas Bay good for perch, herring, suckers and sometimes pickerel are caught. Saw pot lifted; catch was whitefish, herring, perch, pickerel, suckers and mullet. Menominee, catfish and an occasional trout are caught and a few sturgeon. Fall catch mainly herring. Fish sell fresh in Bay city. The herring are salted.--(122).

Twombly's, Fish Point.

In spring fishing, pickerel, &c.--(102).

Germain's pound (?), Big
Charities Island.

Spring, whitefish and pickerel. Fall, mainly herring. Makes his money off herring. Good grounds for pickerel; not so good for whitefish or trout. Herring are salted; rest sell fresh at Bay City. Not whitefish spawning grounds.--(124).

Herrick's, 3 miles South of
Au Sable Point.

Spring, $2/3$ whitefish, $1/3$ trout. Herring, suckers and mullet are very abundant. First season on these grounds so can't tell fall catch.--(126).

Lixey & Sons', Near Au Sable Point.

Sees benefits of whitefish plants. Spring catch whitefish, some herring, sturgeon, catfish and suckers.--(128).

Lixey & Sons', Millers Point.

May 1 to July 15 catch herring, sturgeon, suckers, pilot fish, mullet; no whitefish or trout.

September 10 to November 20, catch whitefish, herring, many spawning fish. Whitefish and sturgeon sold fresh, herring salted.--(129).

Henderson's, Sturgeon Point.

The catch is mainly herring and whitefish, some trout and sturgeon. The sturgeon come in about June 20 for 3 or 4 days, then go away. A storm speared, they are driven away sooner. Their number have been growing less during the 8 years that I have been acquainted with this locality. (144).

Rouleau's, Alpena.

Saw first pot in first string lifted. Contents, whitefish, trout, pickerel, herring, menominee, perch, mullet, suckers, etc. Many herring gilled and dead; these were shaken out

into the water.

Spring season, May 15 to July 15, catch, trout, whitefish, herring, sturgeon, pickerel, suckers, etc.

August 10-12 catch herring, trout, whitefish, pickerel, menominee and sturgeon.-(147-148).

Parrant's, Near Middle Island.

Catch at present mainly herring. Fall, trout and whitefish, the latter often abundant. (154).

Alpern's, Near Scare Crow Island.

Main catch whitefish, some sturgeon. Best in October. Trout and sturgeon in fall. A little N. E. wind following calm weather and small catch, brings in many whitefish.-(162)

Corlett's, Near Roger's City.

9/10 whitefish, 1/10 trout; last year same number of tons but proportion reversed.-(172).

Ryan's, Hammond's Bay.

Catch $7/8$ whitefish, balance trout.

Average for each pound net per season, 5 to 6 tons.-(168).

Corlett's, Bois Blanc Island.

Formerly whitefish, now about $7/8$ whitefish, $1/8$ trout.-171).

Corlett's, Bois Blanc Island.

Saw 2 pounds lifted. Catch, whitefish, trout, pickerel, menominee, herring, suckers, and mullet; sometimes muskallonge and sturgeon. In 1893 the fishing was good during the whole season. July 3, 4 nets yielded 6600 pounds. This season fishing not very good.-175).

Paquette's, Mouth Cheboygan River.

About May 15 begins to catch herring; about June 15 whitefish for about 3 weeks. Also a few trout and pickerel. More pickerel in fall. Does not catch spawning whitefish.

Fall season begins about September 1.--(180).

Trumpour's.

Gets the whitefish in gill nets first in February and March, but before that from pounds near Detour; then from Cheboygan, South shore of Bois Blanc, then near Mackinaw City and westward coming from Detour. April 20 - 25. The fish stay 3 to 4 weeks in a locality. In March the fish seem to be going east in the deep channels north of Waugoshauer Island through the strait and between Bois Blanc and mainland south.--(185 - 186).

Pound's Near St. Ignace.

Put out nets last of May and caught at first trout and herring, but about June 10 commence to catch whitefish. the good catch lasting about 10 days or two weeks, some being caught all through the summer. Whitefish not as abundant as formerly. In fall, herring and trout. Caught pickerel in one lift in August and not any at any other time. Very few sturgeon.

Bottom clayey and muddy. Not a good catch this year (190).

Grondrin's, Near St. Ignace.

Nets are put out about May 15. Catching herring at first, but about June 10 begin catching whitefish. This catch continues through June and July. In the fall catch herring again, and all the season catch trout and suckers, but more in June and September. The inside net is most profitable. Not much loss from storms and no other nets near enough to interfere.--(191).

Andrew's, Near Mouth of Carp River.

Bottom muddy and sandy. Catch whitefish in spring. Com. about May 1st. as soon as the ice breaks up, and up to July 1st. Suckers are very abundant in spring, as they go up to spawn in Carp and Pine rivers, and are caught during the whole season. Pike or pickerel also spawn up these rivers and along the shore, and are caught in the nets; in the fall com. in August. I saw fine pickerel taken from Mr. Andrew's net August 4, 1894. They are taken during August and September, but are too early for the nets in spring. Catches a few trout, but not enough to count in estimat-

ing the season's catch. The catch of whitefish is very irregular. In general they seem to be moving towards the south. Storms do not interfere with twine very much.--(197-198).

Standre's, Near Rabbit Buck Point.

Mainly whitefish beginning about May 20 and to July. In July more trout than whitefish.--(194).

Blongie's, Near Grosse Point.

This season mainly suckers. Generally 1/2 suckers, 1/2 whitefish. Inside nets best, catching a few trout in outside nets and in fall a few pickerel. Occasionally menominee, perch and a few sturgeon.--(195).

Paquain & Johnson's, Near Carp River.

Mainly whitefish, common about May 1. No suckers or pickerel; sometimes a few sturgeon.--(196).

Paquain's, Big St. Martin's Island.

Nets put out about May 1. Up to 15 catch

mainly trout. Then whitefish begin. Also catch during season suckers, pickerel, perch, menominee and lawyers. Other nets on eastern shore take $2/3$ trout, $1/3$ whitefish. Saw lift of inside net. All fine fish, some pickerel August 4, 1894, about the first of fall run. Some very fine perch, also whitefish and trout.--(199-200).

Chambers', Little St. Martin's Island.

Nearly all trout.--(201).

Lejuie's, Near St. Martin's Point.

Main catch this year, trout, some whitefish. More trout than before, less whitefish. Begins to catch them about June 1. Suckers abundant all the time; a few sturgeon and a few perch; and about August 1 begin to catch pickerel. June is the best month for fish generall, and herring in particular, but only a few caught this year. Fish salted when necessary.

In fall fishes menominee gill nets in 2 to 20 fathoms.

Too small mesh and too many gill nets are used and too many spawners are taken.--(202-204).

Strongle's, Off Fugard's Point.

The nets are set about the last of May.

Catch trout at first, later a very few whitefish. Formerly more whitefish were caught.

Season lasts all summer, but the nets are taken out and cleaned in August and put back again early in September. Along with the trout in the fall catches a few extra large whitefish.

The outside nets are the best. Catches a few herring in the spring and fall, also catches suckers, perch and an occasional sturgeon. No pickerel, no b. bass.

Generally sells fish fresh to Trumpour at Mackinaw City.

Salts some and sells to Trumpour.--(208).

Hamel's, Strong's Island and Scammon's Harbor.

Catch mostly trout, a few whitefish in the shallower pounds, a few grass pike, perch and a few sturgeon. No suckers, no pickerel. (Bottom sand in shallow water, mud in deep

water). Hamel thinks he catches some planted whitefish.

Storms do not do much damage. Deep nets most profitable. Nets are set about May 1st. Very little fall fishing.

The best fishing in June, July and August.

This year com. fishing June 10, have caught about 8 tons of fish and hope to catch about as much more. (7 nets, 16 tons). Last year 9 nets, 11 tons. Two tons to a net a fair catch.

1881, 1882, 1883, very poor years.

1884 very good catch of poor whitefish.

Whitefish good in 1890, poor in 1892 and 1893. - (210-211).

Manson's, Search Bay.

Mainly suckers, some whitefish, trout, perch and occasional sturgeon.-(205).

McKinnon's, Off Beaver Tail Point.

A few whitefish and trout in Spring; trout in fall; some sturgeon; no suckers, perch, pickerel or black bass. Generally begin to catch whitefish about June 10. Many

large spawning trout in fall, 60-500 lbs.
Also a few very large whitefish, 12 to 15 lbs.
(211-213).

Olmstead's, Albany Island.

Nets set last of May, fishing began June 1. All season whitefish and trout about 1/2 and 1/2. Inside net best last season; outside one this.--(214).

Various pounds near Detour.

Mr. Thomas Sims of his sons get the fish from the above mentioned pounds. Sell most of them fresh to Chicago market, some to Detroit, and in the fall send quantities of trout to Erie, Pennsylvania .

The catch is mainly whitefish. Com. about May 1st. Very few trout, some pickerel. Wall-eyed pike in August.

Nets usually taken out in August and cleaned and put out again September 1st. Suckers caught during the season. Perch, grass pike, sturgeon and b. bass caught occasionally. Not much loss from storms, as the nets are usually out before the fall storms

come on.--(220-221).

Abear's, Near Duffield Island.

Catch mainly whitefish. Nets put out about May 1st and com. catching whitefish at once. Get trout for a few days in ~~May~~, then no more till fall.

Nets taken out latter part of June. Fall season com. October 1st. Catch pickerel, grass pike, sturgeon, muskallonge, perch and others. No spawning fish.

Fish seem to have been in rough water, fins frayed and broken, and they are caught up river first and in nets further south at later dates, &c., indicating movement down stream. Pounds nets fish from Detour are called inside nets by the fishermen. Gill nets outside and some pounds. Storms stir up the water and clog the nets with moss, bark, etc., and distributes sawdust over feeding grounds, so that fish are driven away. Throwing fish offal in the lake is also harmful to the fishing industry. Not much winter fishing. No seine fishing. No trolling to catch fish for market.--(228-229).

Dernsha's, Cedar Island.

Mostly whitefish and trout in Spring.
Also suckers, sturgeon, pickerel, perch,
herring, etc.--(227).

Brooks', Bois Blanc Island.

Whitefish 1/2, trout 1/2. Season commences about July 1, last about 3 weeks, but few are being caught now.--(233).

Catch of Morgan's pounds(?),

Drummond Island.

Trout, whitefish, sturgeon, wall-eyed pike, grass pike, perch, rock bass, black bass, muskallonge, herring, menominee, suckers, mullet, lawyer, sunfish, dogfish, occasionally brook trout. Has caught 13 kinds at one lift.
(233-234).

Morgan's, Drummond Island.

May 1st begin to catch whitefish in pound nets up to July 1st, scattering fish in summer. In the fall trout with a few whitefish. With herring if small mesh nets are used.- (235-236).

CATCH OF GILL NETS --- LAKE HURON.

(From notes of J. T. Scovell, 1894,
abstracted by R. R. Gurley).

Allen's, Port Sanilac.

Saw raised. Mainly menominee, sheeps-
head, perch, trout. No bass.--(36).

Allen's, at Forester.

Saw raised. Only menominee, perch,
lawyer, all of good size and condition. He
had taken trout, whitefish, herring, muskallonge,
and eels.--(38).

S. H. Davis Fish Co's, region

Near Sand Beach.

Reefs 30 miles N. E. of Port Hope; mainly
trout. 5 miles off Port Austin; whitefish
some trout.

Catch June 22, about 1/2 whitefish, 1/2
trout. On Port Hope and Reef grounds during
the season, mainly trout. Black bass are not

found in the nets at any time. Spawning fish are taken on all grounds in large numbers. Saw lift at Port Austin. Only fish of large size and good condition were taken. Those not in good condition went into waste barrel. Gill net fish not in such good condition as pound net fish. Fish shipped in ice.

Last year catch for 20 miles of nets from April to January was about 90 tons.-(42 45).

Brown's, Sand Beach.

Mainly trout. 1 1/2 to 2 lbs. the smallest caught in the regulation nets. Bloats or mooneyes are often caught in the mouth and other small fish sometimes tangle, but these form practically no part of the catch.-(49-50).

Some pickerel (pike) are caught. Bass are very seldom caught. The bloats found in the nets are generally caught by the teeth. The nets would not hold them otherwise.-(51-52).

Smith's, Sand Beach.

Mainly trout, sometimes whitefish and pickerel.- (53).

Eglin's, Sand Beach.

Pickerel, perch, suckers, lake minnows, occasionally trout, much lighter than for years.

Inside fishing best spring and summer; not much in fall. Herring catch failing. Traps the main cause. Trout and sturgeon caught with hooks, but bait is scarce and ice hinders work.- (54-55).

Larson's, Sand Beach.

Mainly perch and suckers, a few pickerel No. 2, and occasionally trout. No herring, very seldom bass; a small one in net June 24. Most of fish were seen alive and in good condition.- (55-56).

Leese's, Port Hope.

Trout and whitefish, usually more trout.

Think it would now be more profitable to catch herring and perch in the Harbor; they are more profitable now than at any other time. Herring can be caught almost any time. Few fish are caught and there is no sale for those caught.

Saw catch June 25. All in good condition; 1 a 30 lb. trout.--(58-59).

Catch of Osborne's Gill nets.

From opening of navigation to June in deep water, the catch is mainly trout, very few other fish. June 1 to September 1 the catch is about $2/3$ whitefish, the balance trout. September 1 to close of navigation mainly trout, only occasional whitefish.

Fish caught in gill nets are usually larger, whitefish averaging perhaps 3 pounds, some weighing 15. Trout average 6 pounds, an occasional individual weighing 30 or more. The smallest in each case is about 2 pounds. Smaller fish sometimes tangle in the net, but no considerable number of fish too small for market are caught.--(65-66).

Lounsberry's, Port Hope harbor.

Mainly herring, some perch. Best catch in stormy weather as water is too clear.--(60).

Several gill nets at Port Austin.

Mainly whitefish and trout.--(68).

Le Bahn's, Au Sable.

Spring, mainly trout, summer, 1/2 trout, 1/2 whitefish, fall, about all trout; very few whitefish; a few pickerel; no black bass; no sturgeon; some times spawners. Trout just beyond reef.--(130).

Masso's, Au Sable.

Spring, trout; summer, trout and whitefish. Good feeding ground for trout and whitefish. In fall catch trout. Trout and whitefish are less abundant than formerly. Thinks mill refuse and rafts drive fish away, covering up feeding and spawning grounds.--(131).

Ferguson's, Au Sable.

Spring, trout. Summer, 1/2 trout, 1/2 whitefish. Fall, mostly trout. Take no bass, sometimes pickerel. Sells fresh to Buffalo Fish Co. About as many caught now with our better appliances as ever.--(133-136).

McCoy's, Towas Point.

Whitefish and trout, principally whitefish. Thinks improved nets ought to increase catch 1/2 at least. Whitefish as a good catch have been gone about 17 years. Now more trout on. Trout principally. The change coming about gradually as the lake bottom more foul as to water and bottom. He feels sure of the cause.--(138).

McCoy's, Near Towas Point.

(Outside edge of reef, 30-38 fathoms, clayey, muddy bottom, some sand on reef).

Spring, trout; summer, mainly whitefish (12-17 fathoms off Towas Point, sandy bottom). Fall, mainly trout (8-20 fathoms off Port

Austin). Shoal water in dark of moon;
deeper water, light of moon.

Zeirn & Bocke's, Same grounds as
Ferguson.

Mainly trout, some whitefish.--(140).

Porter's, Au Sable.

Spring, trout. Summer, trout and whitefish. Fall, trout. Fish sent fresh to Detroit. Thinks the hatchery planting has increased the whitefish for the trap nets, but that they do not show up to any great extent in the gill nets. Fish caught and fish bought sent fresh to Detroit. Whitefish used to be abundant; but about 16 or 17 years ago they began somewhat suddenly to decrease in numbers; since that time they have not been a good catch; the trout gradually replacing them. He thinks the grounds between Harrisville and Towas Point does not produce or yield to gill net fishermen more than 3 tons of whitefish per year. The planted

whitefish

do not seem to affect the gill net catch as yet, but are caught in trap nets. Refuse of saw mills and from rafts of logs that are towed across the lake spoils the whitefish feeding grounds and drives them away. Think the trout and pickerel do not object to a little dirt occasionally. Sturgeon are getting very scarce as compared with a few years past. Thinks much of their spawn is lost by being washed up on the beach, as they spawn in very shallow water. The ground near Joseph Lixey's trap nets on Miller's Point is very good spawning ground for whitefish. Whitefish go down the Canadian shore and up the Michigan shore, formerly coming much closer to our shore. Now the catch seem more from scattered individuals not from schools or runs. In spring and fall trout are in shallow water as scattered individuals. Fish seem to keep in water of an even temperature.

Bonneville's, Near Alcona.

Perch, sturgeon, pilot fish, some trout, pickerel, mullet, sheepshead, etc. Most abundant, herring. 3 other gill nets;

catch largely pilotfish and herring. Fall catch; herring, whitefish, pilotfish, perch, some trout. Pilotfish and perch abundant during the year; none at point 5 miles below. Bottom; clay, some gravel.-(145).

Mottley's, North Point.

Spring, mainly trout, 10 to 12 miles from shore. Summer, farther south, 8 to 20 fathoms, 1/2 trout, 1/2 whitefish. Fall (September 30 to freezing) mainly trout, on same grounds in 10 to 15 fathoms. Thence to North Ground catching mainly whitefish in 6 to 8 fathoms.-(152-153).

Lincoln's, Alpena.

Spring, trout, in 30 to 40 or even 50 fathoms of water. Fishing near Big Reef, 12 to 40 miles off shore and any place between Presque Isle and Towas Point.

Summer, trout, shallow water, 16 to 25 fathoms along edge of reef, shore trout, some whitefish, a few sturgeon, no black bass.

Fall, shoal trout spawning, 12 to 16 fathoms.-(149).

Cleary's, Alpena.

At present, trout. Spring and summer catch always trout in the main. Fall catch formerly whitefish, but this has gradually fallen off until trout has become most important fall catch, the catch of the year. Whitefish catch perhaps improved for last 4 or 5 years, perhaps from planting.

Spring catch. Trout in 30 to 35 fathoms of water, some 18 to 25 miles off shore, usually on a mud bottom, and some claim that those trout spawn in that mud in deep water.

Summer catch. Shore trout in from 18 to 25 fathoms of water along the edge of the reefs. These spawn along the shore in shoal water.

Fall catch. Trout in 12 to 20 fathoms of water on the reefs where they go to spawn. Trout come up to spawn in the dark of the moon. Trout eat bloats. Fish are indifferent to ordinary temperatures.-(156-159).

Smith's, 9 mile Point.

Mainly trout and whitefish.-(154).

Corlett's, Bois Blanc Island.

Formerly used extensively from this port and in this locality along the deep water channels leading to the Lake, even into 10 fathom water. Formerly caught mainly whitefish, now mainly trout, and few whitefish in the spring.-(171^a).

Paquette's gill nets, Near Point
Au Sable.

About 3 1/2 inch mesh, catches whitefish spring and fall and some trout in about 100 feet of water, and menominee in from 20 to 80 feet of water in the channel off Point Sable.-(181).

Paquette's, Mouth of Cheboygan River.

Whitefish, pike, pickerel, muskallonge, sucker, mullet, catfish, perch, eels, rock bass,

black bass, menominee, lawyer, sheepshead, bloat, etc. Whitefish and trout sold fresh, herring salted.--(181).

Paquain's, St. Ignace region.

Fishes for menominee in fall. Catches no spawning fish, no black bass or small fish. Generally sells fish fresh. This season salted some for Chicago.--(201-202).

Olmstead's, Albany Island.

During fall in 6 to 20 fathoms of water as trout come in to spawn. Lift as often as possible. Fish remain good 5 or 6 days in fall.--(215).

Sims', Off Drummond Island.

Trout in 10 to 15 fathoms. Later on the shoal, spawning trout, and a few spawning whitefish.--(221).

Grondrin's, Near St. Ignace.

The Grondrin's fish gill nets sometimes in from 15 to 20 fathoms of water. Nets of 4-inch mesh. They have 10 30-lead nets. Both kinds of nets get good fish of about the same kind and quantity. Good catch last year. This year not nearly as good.

The bottom is sandy and clayey, starting the string just outside a rocky reef. Inside the ~~reef~~ reef the bottom is muddy.

The gill nets take whitefish and trout in about equal quantities.-(191-192).

Morgan's, Drummond Island.

Nets are put out about May 1st., cleaned up in August and put out again September 1st. The season closes about October 15. The Morgans and others fish under the ice with gill nets, catching whitefish during winter up to last of February, then trout till middle of March.-(235-236).

Hamel's, Strongs Island.

Fall fishes a few nets; catch trout; depth 6 to 20 feet. Not a whitefish spawning ground. Apparently a good feeding ground. Trout spawn on reefs just outside Hamel Fishery in the fall.--(212).

McKinnon's, Off Beavertail Point.

, Spring in 45 to 50 fathoms. Fall 6 to 16 feet taking spawners. October 1893, 1 30 ft. net too \$250. worth of large trout, in two weeks, sells most fish fresh, salts when necessary.

Olmstead's, Spectacle Reef.

Mainly trout.--(240).

Swartz & Damson's, Around Detour.

Spring and summer in 20 to 60 fathoms, catch mainly trout, some whitefish, and bloats or long jaws. Herring -- the bloat or moon-eye -- and other fish are sometimes caught in

the net. Catch is generally sold fresh.
Fish planting seems to be increasing the catch
of the pounds.--(237-238).

Jones', Near Spectacle Reef.

Mainly trout; deep water or buckskin
trout, which is not gutted and pale in color.
These are taken in spring in 50 or 60 fathoms.

In fall in 10 or 15 fathoms or less
catching shoal trout larger and darker and
more symmetrical.--(239).

GILL NETS --- LAKE HURON.

TIME OUT; CONDITION OF FISH.

(From notes of J. T. Scovell, 1894.

Abstracted by R. R. Gurley).

If caught by the mouth or the body a fish may live several days; if by gills, but a short time. If water be cool may remain marketable 4 or 5 days. Many are marketed after 5 or 6 days in nets.--(Capt. William Hurkett, Sand Beach, 44).

Fish caught by neck or gills may drown quickly, but in cold water remain marketable 3 or 4 days. If caught by teeth may live for days.--(Hunter & Sons, Sand Beach, 52).

Leaves nets out 2 or 3 nights. Fish marketable after 4 days in cold water, but in warm water only 1 or 2 days.--(August Leese, Port Hope, 59).

Fish caught by the gills die within a few hours; those caught by body may live for days. Death is hastened by disturbance of nets by storms. After death, in cold water, fish will remain marketable 4 or 5 days, in

warmer water as long as 3 days. Some fish are wasted on account of prevention of visiting of nets, by storms, say perhaps 10 per boat per season. Gill net fish are not in as good condition as pound net fish, but yield the same price, being of more uniform and desirable size and better species mainly white- and trout.- (I. S. Osborn, Port Austin, 67-68).

CATCH OF FYKES --- LAKE HURON.

(From notes of J. T. Scovell, 1894,

(Abstracted by R. R. Gurley).

Smith's, Sand Beach.

Sometimes a good catch of suckers and perch.--(54).

Laveno's, Near Bay Port.

Mainly black bass, only occasionally suckers, perch, &c.--(96).

Row and Seip's, Bay Port.

Mainly catfish, perch, black bass, rock bass, suckers.--(94).

Britt & Lobdale's, Near Bay Port.

Mainly perch, pickerel, pike, rock bass, suckers, catfish and an occasional black bass.
(96).

Miller's, Heistermann's Island.

Perch, grass pike, suckers, rock bass,
some black bass, some catfish, mullet, &c.-
(98).

Evan's, Near Mouth Shebeon Creek.

Perch, suckers, bullheads, catfish, rock
bass, pickerel, pike and others.-(93).

Fittenger's fykes, N. W. 4,

Sec. 16, T. 9 E., E. 16 N.

Catfish, perch, suckers, a few bass.-(99).

Girard's, Sec. 28 - 9 - E.

Perch, pike, dogfish, bullheads, black
bass, etc. Perch yield best just after
spawning season.-(100).

CATCH OF CRAIG AND LANG'S SEINES,

LAKE HURON.

(Scoville and Ridgely's Notes, 1894).

Seining begins about May 1, and continues through May and June, sometimes through July and August, although there is little profit in latter months, June being the best. During these months catch is sturgeon and wall-eyed pike, called pickerel, about half and half. Also a few herring, suckers, sheepshead, rock bass, lake minnows, mullet, &c., but not in quantities to affect catch. Watched seine several hauls. Sheepshead, suckers, rock bass thrown back or given to poor. Saw no fish meshed not large enough to sell as 2d's. Fishing claim they never see spawning or nesting bass on the gravel seining bottom; cause assigned, too swift current (7 miles per hour). About once an hour haul for sturgeon and pickerel at night; during the day for herring in the fall. Nine-tenths of catch marketable. Remainder turned back alive, few, if any, fish large or small killed in seine.

September begin to seine for herring.

Catch none but marketable fish. East winds increase, westerly decrease catch. In muddy water pickerel and sturgeon can be caught in daytime. During July and August fish thought to migrate to deeper and cooler water.--(4-6).

NOTES ON FISHES. --- LAKE HURON.

(From notes of J. T. Scovell, 1894, Abstracted

by R. R. Gurley).

WHITEFISH --- LAKE HURON.

NUMBERS & SIZES.

(From notes of J. T. Scovell, 1894.

Abstracted by R. R. Gurley).

Whitefish form $1/6$ of entire catch.--(Peter Lassen, Port Huron, 22).

Perhaps a little more scanty.--(Rice & White, Lexington, 32).

Numbers greatly reduced; thought due to overfishing, especially in spawning time. The menominee is a spawn eater like the sturgeon, sucker and mullet.--(James Perkinson, Forestville, 40).

Nearly all gone. Formerly as many whitefish as trout were taken; now only a few.--(Albert Brown, Sand beach, 48).

Some whitefish are caught.--(Hunter & Sons, Sand Beach, 51-52).

Whitefish are more abundant in fall season which begins about September 15. Fish under 1 lb. if in good condition are thrown back.--(James Reeves, Near Caseville, 76).

Whitefish form $1/2$ of the spring catch

and 2/3 of the fall catch. Last fall was a good season.--(Louis Trudell, Bay City, 78, 111-112).

Whitefish seem to be increasing in numbers late years by the growth of planted fish. Very few perch or pilot fish are caught. Pilot or frost fish or lake minnow sturgeon blood in water seems to drive other sturgeon away.--(James B. Henderson, Sturgeon Point, 144).

Whitefish was formerly the great catch; commenced falling off some 20 years ago, but has been improving last 5 years. Planting doubtless effect this result somewhat. Does know food. Mill refuse, bark, etc., may have had some effect, but main cause of decrease overfishing, they having been caught off, destroyed, not driven away. Stop fishing and in 5 years whitefish, trout etc., will be as plentiful as ever.--(David Lincoln, Alpena, 149-150).

Whitefish are caught in traps along shore and in gill nets. Those from traps are usually larger. They lead but seem not to gill. Whether they differ merely in age, size and habits, or whether there is a more pronounced difference cannot tell.--(James Clear, Alpena, 156-157).

Caspar Alpern, Alpena.

Up to 1881 or 1882 whitefish were plenty, then scanty till about November 1, 1889, when for a few days they were as plenty as ever, but a big storm drove them away and they have never been back in such numbers at any time since. Thinks that the main cause of their leaving the North Ground was the fact that in the fall of 1882 several miles of nets well filled with fish were lost in a storm on the grounds, and that the decaying fish and twine and associated rubbish drove the fish away, and that in 1889 the grounds had so far cleared up that the fish came back, but that since then storms have prevented their coming into those waters at the spawning season.

Trap nets as a rule catch larger whitefish than gill nets and catch them later in the season.

Mr. Alpern thinks there has been but little diminution of whitefish -- only driven away from this locality by fouling the bottom and water of the lake by saw mill refuse, sewage of towns, &c. He thinks the bark from rafts in Georgian Bay is driving out

the whitefish from that bay, and they are coming back to this locality as the ground clears up. .

In Alpena Bay whitefish are usually small ; at Sturgeon Point, 25 miles south, generally large. One season (1887) there were large whitefish at North Point.--(Caspar Alpern, Alpena, 157-162).

The catch began to diminish some 10 or 12 years ago. The main cause fishing with small mesh net so that young fish are destroyed, a secondary cause, fouling the bottom covering up their feeding grounds with sawdust and other refuse of logs and saw mills, and in this locality perhaps the foul water from the tannery may have an effect.--(C. E. Corlett, Bois Blanc Island, pp. 171-171a).

Whitefish began to gradually decrease about 10 years ago, improved for last 4 years till this year. Failure due to overfishing with small mesh, throwing offal into lake, saw mill refuse fouling bottom, etc.--(Maynard Corlett, Rogers City, 173).

Thinks whitefish catch is growing smaller because the young are caught in small meshed

nets, because spawning fish are caught, and spawn destroyed, because bark and sawdust cover many feeding grounds.-(J. C. Chambers, St. Ignace, 187).

At Port Crescent caught 63 whitefish that weighed 800 pounds. Oft the average whitefish would go 11 fish to the hundred pounds. Large fish spawn early. Whitefish called bobocks.-(Abear & Son, Duffield Island, 229-230).

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WHITEFISH --- LAKE HURON.

FOOD; FEEDING HABITS, &C.

(From notes of J. T. Scovell, 1894.

Abstracted by R. R. Gurley).

Feed on worms. Off Port Austin mainly mud bottom, good feeding ground for whitefish, but not as good spawning ground as gravel.-

(Capt. William Hurkett, Sand Beach, 46).

Feed on

Sandy Bottom in 8 to 16 fathoms. They eat worms, a kind having a sucking disk at each extremity, which are found in great numbers on the fish and nets.-(I. S. Osborn, Port Osborn, 70).

Mollusks, water bugs, flies, perhaps perch spawn and some algae. Food, sometimes perch spawn, worms, shell fish, etc. Whitefish used to come into the mouth of the Kaukaulin River, but it is now so foul they shun the neighborhood.-(Louis Trudell, Bay City, 78-79, 111-112).

Flies, snails and worms, but knows little of their feeding habits.-(G. H. Penniman, 113).

The grounds seem good whitefish and trout feeding grounds. Whitefish eat shrimps, worms, etc.-(John Herrick, Au Sable Point, 126).

Whitefish seem to want clean water and bottom. Eat worms and shrimps. Suckers, sturgeon, etc., eat the spawn.-(Capt. J. W. Ferguson, 134).

Doesn't know food. Not very many whitefish where there are many worms or worm-like suckers(David Lincoln, Alpena, 149-150).

Principally on worms. Feed on clay or mud bottom.-(Maynard Corlett, Rogers City, 173).

Has found worms in whitefish without a doubt.-(Anthony Hamel, Henrel's Point, 211).

Around Albany Island is a good feeding ground for whitefish. The best feeding ground for them is a muddy bottom.-(A. R. Olmstead, Albany Island, 215).

Feed on mud bottom.-(Albrecht, Detour, 241).

Thinks whitefish eat small snail, fish, worms and other things found on muddy or clayey bottoms.-(Abe Gondreau, West Moran Bay, 246).

Thinks main food of whitefish is the worms so abundant on the bottoms where the whitefish seem to feed. Has seen them in a nearly vertical position apparently gathering food from the bottom.-(Calvin Adams, West Moran's Bay, 246-247),

WHITEFISH --- LAKE HURON.

SPAWNING; TIME, BOTTOM, &C.

(From notes of J. T. Scovell, 1894.

Abstracted by R. R. Gurley).

Spawn when the snow first flies. Then caught in abundance.--(Geo. A. Allen, Port Sanilac, 35).

Spawn in 5 to 10 fathoms usually on rocky bottom.--(I. S. Osborn, Port Austin, 69).

Spawn when first snow flies. Season should be closed from September 1 to January 1.

Taken spawning the last of November.--(Louis Trudell, Bay City, 78).

Have seen a few spawning whitefish, but usually pull them out before they begin to spawn.--(Gillingham Bros., Bay Port, 86).

Never take spawning whitefish as before they spawn have to take nets out.--(Louis Dubey, Bay Port, 91-92).

Little Charities Island is surrounded by whitefish spawning grounds, and they are caught there in great numbers during the latter part of November when ripe with spawn.--(Louis Trudell, Kaukaulin River, 111-112).

Miller's Point beds are good spawning grounds for whitefish.--(Lixey & Sons, Miller's Point, 129).

(Whitefish) spawning grounds have rocky bottom and shallow water.--(Maynard Corlett, 173).

Spawn on hard bottom.--(Albrecht, Detour, 241).

WHITEFISH --- LAKE HURON.

RESULTS OF PLANTING.

(From notes of J. T. Scovell, 1894.

Abstracted by R. R. Gurley).

This spring, while raising pots, saw great numbers of small whitefish escaping. Thinks they are those planted. Think whitefish planted by State and U. S. Commission now being caught along west shore of Saginaw Bay.- (R. L. Gillingham, Bay City, 81).

Whitefish appear to be coming back as the water rests; but not from planting.- (Louis Dubey, Bay Port, 91-92).

Thinks he catches planted whitefish. Showed us several small fish he thought were such.- (Alex. Hepburn, North Point).

Not such good results from planting whitefish as far as gill nets are concerned. If well planted and traps used larger mesh, there would soon be good fishing again if Lake was clean.- (James McCoy, Towas Point).

Sees good effects of planting whitefish. They are more plentiful and are getting larger.- (John Herrick near Au Sable, 126).

Thinks whitefish planting a good thing and valuable to fishermen.--(F. D. Mosso, Au Sable, 132).

Thinks the hatchery planting has increased the whitefish for the trap nets, but that they do not show up to any great extent in the gill nets. Whitefish used to be abundant but about 16 or 17 years ago they began somewhat suddenly to decrease in numbers; since that time they have not been a good catch; the trout gradually replacing them. He thinks the grounds between Harrisville and Towas Point does not produce or yield to gill net fishermen more than 3 tons of whitefish per year. The planted whitefish do not seem to affect the gill net catch as yet, but are caught in trap nets. Refuse of saw mills and from rafts of logs that are towed across the lake spoils the whitefish feeding grounds and drives them away.--(Chas. Porter, Au Sable, 141-142).

Fish planting would yield good results if the young fish could be saved from the herring barrel. In herring season herring nets do not take small whitefish. It is not necessary

to take them.--Maynard Corlett, near Rogers City, 173-174).

Thinks planting has been a great benefit to this region, as the catch was nearly gone when planting commenced and has gradually increased.--(Thomas Sims, Detour, 222).

The whitefish catch has improved for last 5 years till this year. Planting fry has helped this region. The good run following breaking up of ice last about 6 weeks. Fall catch not very good.--(Perry Olmstead, Trout Island, 225).

WHITEFISH -- LAKE HURON.

HABITS, MOVEMENTS, BOTTOM FREQUENTED, &C.

(From notes of J. T. Scovell, 1894.

Abstracted by R. R. Gurley).

Whitefish in fall seem to be scattered or wandering individuals, not the main school or run of fish. But in the spring the (Pelkey & Country, near Towas Light; 123).

Whitefish go down the Canadian shore and up the Michigan shore, formerly coming much closer to our shore. Now the catch seem more scattered individuals, not from schools or runs.--(Chas. Porter, near Au Sable; 143).

Whitefish and trout seldom together, one coming in as others go out. If a man wants to take herring require him to have a special herring net. He is not likely to catch small whitefish during the herring season and large meshed nets should be used at other seasons.--(Frank Frank Brannock, Bois Blanc Island; 177).

Fish generally move with wind or current Whitefish feed on mud bottom. Spawn on sand bottom.--(Albrecht, Detour; 241).

Around Middle Island and extending south-easterly there is a reef of porous or honey-comb rock which forms what is called the North Grounds. To these grounds whitefish come in the fall in great numbers to spawn, and scattered individuals may be found there at almost any season of the year. There has been no big fishing on these grounds for the last 12 years, except in the fall of 1889, when they appeared on these grounds in great numbers for a few days, two small rigs taking great quantities. The water is quite shallow and a storm soon drives the fish away.

Whitefish are perhaps 10% of the catch for the year, and the proportion is increasing.-(159-161).

Charles E. Corlett, Bois Blanc Island.

The bottom in this region is largely muddy or clayey, and the shell fish or mollusks of such grounds seem to be a food relished by the whitefish, and they come up from Lakes Huron and Michigan to feed on these grounds and are caught while feeding. Thinks the fish come up from the lakes as the nets below on either side get the fish a little earlier than he does.

When whitefish are in this region they are over muddy or clayey bottoms in deep water channels. They may move near the surface of the water within 6 to 10 feet of it, but with deep not shoal water under them, but in spawning time they go on to shallow rocky bottoms. Whitefish come in great numbers, stay 5 or 6 weeks and go away. It is only 2 or 3 days from the time the first ones are caught till the whole school seems to be on the ground and they leave just as promptly.- (C. E. Corlett, Bois Blanc Island, pp. 171-171^a).

Sandy, gravelly or stony.--(78-79).

Whitefish are timid. Usually outside, Sometimes in any still water the inside, nets are the best. A good wind to stir them up makes catch better. Some whitefish are caught in February, March and during most of winter, but about April 1, they begin to fall off, and later in June and July the pounds begin to catch whitefish.--(D. A. Trumppour, Mackinaw City; 186).

Whitefish feed on mud bottom.--(John McKinnon, Beavertail Point, 213).

Whitefish are abundant for 3 or 4 weeks early in the season; then seem to go away, to, he thinks, Georgian Bay. Catch diminishes during season, few being caught in fall. The early caught whitefish have frayed and broken fins as though they had been in rapids or rough water, perhaps may have come down river.--(Thomas Sims, Detour, 221).

Is very sure that whitefish move only or mainly from deep, to shallow water and back again. If pounds were 4 inch mesh whitefish would soon be as abundant as ever.--(G. E. Thompson, Mackinaw City; 243).

Abear & Son, Duffield Island.

The whitefish go with the wind and current so that it is hard to locate them. Fish move up the river in the deep channel in winter and along the shoals southward, &c., in early spring. No spawners caught here. Whitefish caught in early spring did not spawn the fall before.

Morgan & Son, Drummond Island.

Trout are speared in shallow water in winter. Think the whitefish move mainly from shallow to deep water and back again, with little or no movement up or down shore. They are in deep water in winter, coming into shallow water in March and April.--(235-236).

Charles Bowdim, Mackinaw City.

The whitefish season in the region of Cheboygan commences about June 10, while about Waugoshanee it commences about July 1st.

The good season only lasts about three weeks, after which only a few whitefish are caught. They go into deep water to feed, then into shallow water to spawn, then into deep water for winter.

The fish seem to be moving westward.--(242-243).

Whitefish are most abundant at Grosse Cap from June 1 to July 15, and Point E'Poufette June 1 to August 1. Before that time trout are caught After July 15 and August 1 small quantities of trout and whitefish. About October 1 trout in abundance for another 5 weeks, then whitefish come in and trout become less abundant. Fishermen along coasts think whitefish move west in shallow water early in season (June 1 to August 1); then into deep water and eastward. Also think they move through the straits into Lake Michigan.--(Louis Gondreau, -258-259).

Whitefish do not now come in any numbers within 8 miles of the river mouth.--(113).

Think fish move westward along the shallower water in the spring, moving eastward in the deeper water during the summer. Others think movement mainly from deep to shallow water, different dates of appearance being due not to movement along shore but to a difference in time of ability to find food in different localities or different times of breaking of ice.--(246-247).

MENOMINEES -- LAKE HURON.

(From notes of J. T. Scovell, 1894.

Abstracted by R. R. Gurley).

Menominee, stomach contained an abundance of spawn.--(G. A. Allen, Port Sanilac, 36).

The menominee are spawn eaters. They spoil much more quickly than trout or whitefish, which remain in good condition for several days after death.--(I. S. Osborn, Port Austin, 70).

In the straits menominees are taken in special nets, in 30 to 100 feet of water, over almost any kind of bottom. Spawning on rocky bottom in shallow water. Average about 1 lb. Can be caught at all times, but not very desirable and not fished for when other fish can be gotten.--(Maynard Corlett, near Bois Blanc Island, 174).

HERRING --- LAKE HURON.

(From notes of J. T. Scovell, 1894.

Abstracted by R. R. Gurley).

About $1/8$ of the herring taken in certain pots near Port Huron were meshed, mostly during lifting, few being dead. An occasional herring meshed in leader, doubtless floated against net, dead. Dead meshed herring were thrown back. Herring and pickerel forming catch of pounds near Port Huron. Herring are taken around Port Huron Spring and fall. They are sold fresh or frozen, or (many) to the smokers.--(Scovell & Ridgley, 8, 9, 12).

But few herring have been caught during the last few years. Forms one-half of whole catch.--(F. J. Gore, Port Huron, 20-21).

Around Port Huron herring have decreased for last 5 or 6 years, but seem to be increasing this year. No cause except overfishing. The herring catch has decreased for 5 or 6 years but has improved somewhat this year.--(Peter Lassen, Port Huron, 13, 22).

The Lake Huron is smaller than the Lake Erie herring. $1/2$ lb. herring is the smallest.

(Bates & Ferris, Lakeport, 29).

Thinks the herring more abundant than two years ago. The young are used for bait.- (Nathan Woods, Birchville Township, 31).

Varying a little, but remaining about the same. Spawn in November. Spawn in November, then taken in abundance. Many are salted.--(G. A. Allen, Port Sanilac, 35).

Many are salted, others sold fresh to peddlers or at Port Huron.--(Harmon Allen, Forester, 38).

As abundant as ever, but smaller. Usually sold fresh or sent to Port Huron.--(Mastin Bros., Forestville, 39).

Herring are more abundant in the fall season which begins about September 15. Fish under 1 lb. are thrown back if in good condition.--(James Reeves, Caseville, 76).

In their diet herring are much like whitefish (q. v.)--(Louis Trudell, Bay City, 79).

Have seen a few spawning herring but usually have pulled them out before they have begun to spawn. Herring gill extensively in the pots when they are lifted.--(Gillingham Bros., Bay Port, 86).

Never take spawning herring as before they spawn have to take nets out. Herring forms the bulk of the fall catch. They seem to be holding their own. Some are taken in the spring. Herring are salted.-(Louis Dubey, Bay Port, 91-92).

Herring a good catch last fall. Outside nets take more herring. Inside take more sturgeon.-(Lixey & Sons, Miller's Point, 129).

LAKE TROUT --- LAKE HURON.

(From notes of J. T. Scovell, 1894.

Abstracted by R. R. Gurley).

Numbers and size.-- Reach two or three lbs. in about 4 years.--(Capt. Hurkett, Sand Beach, 47).

Are gaining rapidly.--(Albert Brown, Sand Beach, 48).

Gradually falling off from over fishing. Would do well to stop fall fishing for a few years.--(Hunter & Sons, Sand Beach, 51).

Trout, pickerel, bass, and similar fish escape more readily and in greater numbers than whitefish and herring.--(Gillingham Bros., Bay Port, 86).

Even trout used to come into the mouth of the Kaukaulin River, but it is now so foul that they shun the neighborhood.--(Louis Trudell, Kaukaulin River, 111).

Very few small fish are caught and then by accident. Only large fish (very seldom under 18 inches) are regularly caught. Trout go out somewhat suddenly and whitefish come in

and vice versa

Do not seem to mingle.

In raising nets they are seldom found mingled each being liable to be found by itself. The trout that spawn on these grounds go away and do not come back till next year. Doesn't know where they go, and yet during the whole season or year over these grounds, but they seem to be scattered individuals, not a school or run.--(Capt. Joe. Ferguson, Au Sable, 133, 136).

Sometimes weigh 40 to 90 lbs.--(James McCoy, Au Sable, 138).

Trout abundant, but decreasing from over-fishing during last 10 or 12 years. Were very abundant when whitefish was the catch, but they were not the fashion.--(David Lincoln, Alpena, 149, 150).

Spring of 1892 fishing was light, but in June good trout were found in the shallow water off Port Austin, such fish as are usually found in shallow water in October. They continued through June, July and August, and spawned there in the fall, and fishing usually good on the reef was very light during the fall of 1892.--(Caspar Alpern, Alpena, 163).

in 1880, 1881, 1882, there was good trap net fishing in the bay, not very good since. Too much sawdust perhaps the cause. Trout have always been plenty. Shoal trout average 4 to 5 pounds, reef trout 8 to 10 pounds; buckskin trout average 3 pounds. The buckskin or deep water trout are smaller, shorter in proportion and more pot-bellied. The trout have local peculiarities so that one can learn to tell from what locality a given quantity of fish came.--(158).

Larhe shoal trout from the Chneaux in spring; in summer, a smaller variety. From September 1, larger ones are caught again.--(D. A. Trumpour, near Mackinaw City, 185).

Trout do not need protection they can take care of themselves. They eat small whitefish.--(Anthony Hamel, Henrel's Point, 211).

LAKE TROUT --- LAKE HURON.

(From notes of J. T. Scovell, 1894.

Abstracted by R. R. Gurley).

Food, feeding habits, etc.- Want rocky bottom for feeding. Stomach contents, bloats, herring, lawyers, whitefish, lake minnows, trout spawn, June fly, oats and small stones. Spawn might have been from fish eaten.-(Capt. William Hurkett, Sand Beach, 46-47).

Stomach contents, remains of small fish, young herring, moon-eye, etc. Almost anything in way of kitchen offal or young fish, etc. Eat each other, lawyers, etc. Deep water trout are often filled with menominees.-(Capt. Joe Ferguson, Au Sable, 133).

Eat almost anything.-(James McCoy, Au Sable, 138).

Trout eat small fish of all kinds. Eat whitefish, but not so greedily as they do herring.-(Caspar Alpern, Alpena, 160).

Eat small whitefish.-(Anthony Hamel, Henrel's Point, 212).

Feed on mud bottom.-(Albrecht, Detour, 241).

LAKE TROUT --- LAKE HURON.

MISCELLANEOUS.

(From notes of J. T. Scovell, 1894.

Abstracted by R. R. Gurley).

Considered about as good as whitefish and are hardier, keeping longer and better. Don't die so quickly in net; good for market for several days after death so that in spring in deep water one may have 5 gangs out and find fish good. But in warmer summer not more than 3 gangs should be out. Late in fall not more than 2, as storms hinder lifting so that fish are often lost.-(David Lincoln, Alpena, 149-51).

LAKE TROUT --- LAKE HURON.

HABITS, MOVEMENTS, &C.

(From notes of J. T. Scovell, 1894.

Abstracted by R. R. Gurley).

Bottom is getting foul in various ways, but this seems not to drive the fish away. The catch is mainly trout. The larger trout are well out in deep water during summer, but nearer shore in fall.--(Hunter & Sons, Sand Beach, 51).

In spring and fall trout are in shallow water as scattered individuals. Fish seem to keep in water of an even temperature. Think the trout and pickerel do not object to a little dirt occasionally.--(Chas. Porter, Au Sable, 143).

LAKE TROUT --- LAKE HURON.

SPAWNING TIME, HABITS, &C.

(From notes of J. T. Scovell, 1894.

Abstracted by R. R. Gurley).

Spawn on rock about September 30. Suckers eat the spawn.--(Capt. William Hurkett, Sand Beach, 46-47).

Spawn from September 15 on; season should be closed from September 1 to January 1.--(Albert Brown, Sand Beach, 48).

November on rock, the cavities in which seem to protect spawn. Do not catch spawners.--(Hunter & Sons, Sand Beach, 51).

Spawning trout are caught from September 25 to October 30. Earlier in cold weather or water. They want a rough, rocky bottom in 5 to 10 fathoms.--(I. S. Osborn, Port Austin, 69-70).

Trout spawn on honey-comb reefs especially when associated with white gravel or off Port Austin. No spawning fish are caught on these grounds. The trout, pickerel and whitefish in the fall seem to be wandering individuals,

not the main run or school of fish.--(Pelkey & Country, Towas Bay, 122-123).

Trout spawn on rocky ground or on porous rock. Do not catch many fish ripe. In shoal water larger trout are found called shoal trout -- probably individuals early at spawning grounds.--(F. D. Mosso, Au Sable, 131).

Trout spawn off Port Austin and east of Big Charity on black honey-comb rock. The best place to catch fish is where the bottom tears nets worst. Sometimes catch spawning trout and whitefish.--(Capt. Joe Ferguson, Au Sable, 133).

Thinks many deep water trout spawn in the mud. Spawn is eaten by sturgeon, suckers, etc.

Trout spawn in shoal water, even in water only 6 inches deep, seldom in greater depths than 3 to 5 feet. The spawners don't come back until next year. Other trout are found over these grounds the whole year. Deep water trout he thinks usually spawn on the reefs about 14 miles out, and some shoal trout go out to the big Reef some 35 miles out, to spawn. Big trout first reach spawning grounds.--(James McCoy, Near Towas Point, 138).

Around Albany Island is a good spawning ground.-(A. R. Olmstead, Albany Island, 215).

Spawn on rocks in shallow water.-(Thomas Sims, Detour, 221).

In September trout come in to spawn. Shoal trout seems to differ from the deep water trout or buckskin trout. Trout spawn on the shoals over honey-combed rock.-(R. J. Damson, Detour, 238).

STURGEON --- LAKE HURON.

(From notes of J. T. Scovell, 1894.

Abstracted by R. R. Gurley).

In June at Port Huron wall-eyed pike ("pickerel") and sturgeon are taken in about equal quantities.--(4).

Sturgeon principal catch in certain pots near Port Huron. (8). Up to June 15 certain pounds near Port Huron had taken no sturgeon. (9). Sturgeon are taken around Port Huron in the spring. They are beheaded, disembowelled, quartered and sold fresh, frozen or to the smokers. The eggs are cleaned and salted to caviar.--(Scovell & Ridgley; 4, 8, 9, 12).

Around Port Huron sturgeon and pickerel may be seined in the day time in muddy water; in clear water, however, at night. During July and August the fish are thought to migrate to deeper and cooler water. The air bladders of sturgeon are exported for use in wine making. Sturgeon are decreasing, No known reason except heavy fishing. Sold fresh and some are smoked. Mr. Lassen controls the caviar

trade of this region, has been making it for 22 years. He furnished a special brand of salt to the fish dealers who make up the caviar according to receipt furnished by Mr. Lassen, and he takes their product, stores it in cold storage house at Sandusky, Ohio, and during the winter ships it mostly to Hamburg. Shipping about 2,000 16-gallon kegs last year at \$40 per keg. The demand for sturgeon meat and for caviar has greatly increased within the last few years, and it is now the most profitable fish caught in the waters of the Great Lakes. Sturgeon destroy great quantities of sturgeon and other spawn. Catch mostly sturgeon and pickerel in spring.- (Peter Lassen, Port Huron, 12 - 14).

Sturgeon thought not to be so abundant as formerly though catch remains same, owing to more men and better apparatus. At Port Huron sturgeon and pike are taken at night; the sturgeon by day in muddy water. Taken in about equal numbers. The smallest sizes are 10 to 12 inches. No fish are taken smaller than a marketable size. Very few spawners are taken. Sturgeon are sold fresh,

frozen or to smokers. The air bladder is prepared and sold and the eggs are made into caviar. Sturgeon are not so abundant as formerly but catch remains same owing to more men and better apparatus. Grown in favor for five years; now the most profitable fish. Sturgeon eat sturgeon and other spawn; also crayfish, shell fish and shrimp.--(F. J. Gore, Port Huron, 16-21).

Sturgeon taken in the spring, but June is the best month, forms about $1/6$ of whole catch.--(Peter Lassen, Port Huron, 20-21).

Decreasing. No casue except excessive fishing, more profitable in proportion to the amount caught than any other fish. Sold fresh or smoked. The eggs about $1/4$ of the weight of the female fish are cleaned and salted and sell as caviar for 30 to 40 cents per lb.--(22-23)

Destroy great quantities of fish spawn.

Decreasing.--(G. A. Allen, Port Sanilac, 35).

Sturgeon were formerly very, very abundant, but now only a few are caught each year and the catch is gradually decreasing.--(Gillingham

Bros., Bay Port, §6).

Sturgeon are getting very scarce as compared with a few years past. Thinks much of their spawn is lost by being washed up on the beach as they spawn in very shallow water.-- (Chas. Porter, Au Sable, 142).

Sturgeon formerly sold as Albany beef, sturgeon steaks, etc. Rapidly increased in value from 10 to 120 cents. Are getting very scarce on the American shore.--(A. R. Olmstead, Albany Island).

WALL-EYED PIKE**-- LAKE HURON.

(From notes of J. T. Scovell, 1894.

Abstracted by R. R. Gurley).

Pike are caught in seines in spring, but June is the best month. Sell fresh or frozen. In June the catch is about 1/2 pike, 1/2 sturgeon. About 90% of the catch is marketable.

Pickerel and herring form the catch of the pounds around Port Huron.

Many fish, usually pickerel, are caught by night trolling near Port Huron; 2 men often taking 200 lbs. per night, averaging perhaps 75 to 100 lbs. per boat. Last year the 3 dealers bought 35 tons thus taken. Many fish of course don't reach markets. Pickerel (Wall-eyed pike) are sold fresh or frozen.- (Scovell & Ridgley, 4, 5, 9, 11, 12).

Pickerel live on young fish.- (Peter Lassen, Port Huron, 15).

**Impossible to say whether all "pickerel" are wall-eyed pike. Some are stated to be others inferentially are, and many indeterminate.

R. R. Gurley.

Think pickerel catch lighter than formerly; no reason except overfishing.--(F. J. Gore, Port Huron, 16).

Pickerel forms $1/2$ of catch in spring. They are caught going out of the bay from their spawning grounds, which are in streams and shoal water. Spawning pickerel are never caught.

Pickerel forms $1/3$ of the fall catch.--(Louis Trudell, Bay City, 78-79).

Pickerel escape from nets more readily and in greater numbers than whitefish and herring. Have never seen spawning pickerel on the grounds where their nets are set. Thinks they have spawned before reaching them. Sometimes pickerel gill in the pounds and points of the hearts.--(Gillingham Bros., Bay Port, 86-87).

Pickerel go up the bay to spawn; catch them going out so never take spawners. Pickerel forms the bulk of the spring catch. Pickerel are perhaps falling off. Sends pickerel to Bay City without dressing.--(Louis Dubey, Bay Port, 91-92).

Used to be good pickerel fishing on the grounds in Kaukaulin River in the fall; but

few are caught now and the catch in the bay and along the shore is falling off every year. Mainly on account of small mesh, and perhaps foulness of river and coast waters interferes with spawning. Pickerel ascend streams, large and small, to spawn, if the ice in them breaks up before it does in the bay. Contrariwise they mostly likely spawn in shallow water in the bay. Spawn in very shallow water. Process is completed and fish run out again in 10 to 12 days, and they are 30 to 40 days in getting out of the bay.-(H. A. Benson, of Saginaw Bay Fish Co.-110-11)

Endorses Trudell's statement as to pickerel spawning in the river. They spawn there now as freely as ever. If during the winter there is a thaw or rain, that sends warm water into the bay from the river, the pickerel immediately begin to ascend the stream so that they are often caught in the river in January or February. Suckers and mullet follow them when they come in to spawn and eat great quantities of eggs.-(G. H. Penniman, Kaukaulin River, 112).

Fall of 1886-87-88 there was a good run of Saginaw Pickerel in Alpena Bay and about

Middle Island; commencing about August 11 or
12.- (Caspar Alpern, Alpena, 163).

SUCKERS --- LAKE HURON.

(From notes of J. T. Scovell, 1894.

Abstracted by R. R. Gurley).

Suckers and mullets destroy spawn.-(Peter Lassen, Port Huron, 23).

Suckers and mullet destroy or feed on spawn.-(F. J. Gore, Port Huron, 20).

Suckers and mullets are abundant at all times, but are seldom worth enough to pay for cleaning and marketing, consequently thrown away.-(Brannack, Bois Blanc Island, 178).

Suckers eat spawn.-(Albrecht, Detour, 241).

MISCELLANEOUS FISHES -- LAKE HURON.

(From notes of J. T. Scovell, 1894.

Abstracted by R. R. Gurley).

Sheepshead sell in great quantities to New York Jews. Caught in great numbers at beginning and close of both spring and fall seasons. Only Indians and Jews eat sheepshead. It lives on small fish and worms.- (Louis Trudell, Kaukaulin River, 113).

Perch spawn in May or early June.

The lawyer is sometimes eaten and called good.- (Augustus Leese, Port Hope, 59).

Black bass are very seldom caught in the nets.- (I. S. Osborn, Port Austin, 68).

Spawning times should be close times.- (Joseph Perkinson, Forestville, 40).

POLLUTION OF LAKE HURON.

REMEDIES FOR DECREASE IN FISHERIES.

(From notes of J. T. Scovell, 1894, Abstracted
by R. R. Gurley).

POLLUTION ETC. -- LAKE HURON.

From Notes of J. T. Scovell, 1894,
(Abstracted by R. R. Gurley).

Geo. A. & H. Allen.

Cinders and ashes from steamers, offal of all kinds from the shore, sawdust, bark from rafts of pine logs, all tend to make the bottom foul and dirty and to drive away fish of all valuable kinds.--(35, 38).

Capt. Hurkett, Port Austin.

Cinders and ashes from the steamers, leaves, plants and brush blow and drift into the lake, and all kinds of offal from the shore tend to foul the bottom and drive away the fish and injure the nets. Bark broken from rafts of timber and sawdust also bad.--(46).

Albert Brown, Sand Beach.

In the course of steamers not as good

fishing as formerly. Cinders, ashes and other rubbish, seem to drive fish away, as there is some better fishing outside. Fish seem to take to a clean bottom.--(48)

George H. Smith, Sand Beach.

The bottom is being fouled by cinders from steamers, bark from rafts, leaves, plants from shore, etc. Cinders and ashes are the worst, fouling nets and driving away fish.--(53).

Louis Larson, Sand Beach.

Clean bottom best for fish. The bottom is getting fouled by cinders, ashes and other matter.--(56)

August Leese, Port Hope.

Cinders and ashes bad.--(59)

I. S. Osborn, Port Austin.

Spring or deep water fishing grounds are generally clean, but the summer and fall or shallow water grounds are fouled by cinders and ashes from passing steamers, slabs, sawdust and other refuse from sawmills, also other refuse which is stirred up by storms, foul the nets and grounds to an extent greatly detrimental to fish and fishermen. Fish offal is usually brought ashore and sold to the farmers for fertilizer.

Louis Trudell, Bay City.

The foul water of the river hurts river fishing, and fishing in the head of the Bay.--
(79) Bark from towing logs and other refuse may cover up feeding grounds.--(111).

Gillingham Bros., Bay Port.

Fish offal is generally buried. Sometimes thrown into the Bay. Offal hurts the grounds for trout and whitefish, but not for pickerel and perch. Logs floating about the

bay bother fishermen. Mills along the river and bay furnish material that fouls the water of the bay. Water unusually bad this spring and some lay it to pumping of mine water into the bay at Sebewaing.-(88).

Louis Dubey, Bay Port.

The water of the bay is getting too foul for good fishing. Shallow water gets foul under the ice and fish are driven away.

Geo. H. Penniman, Bay City.

Offal from logs, mill, etc., may foul the waters and cover up the feeding grounds, but does not think there is much trouble from this cause.-(112-113).

John Herrick, Near Au Sable Point.

Bottom fairly clean and point getting cleaner.-(127).

Capt. Joe. Ferguson of Tug Fisherman.

Bottom becoming more and more foul from log rafts towed from Canada. In many places 2 to 5 feet of bark cover the lake bottom and this harms the fish more than all the fishermen.--(135).

Caspár Alpern, Alpena.

Most fishermen consider saw mill refuse and Bark from rafts as spoiling the reef for fishing, detrimental to fish growth, and as the main cause of the falling off in whitefish. Perhaps overfishing has had something to do with lessening the number of fish -- (157-158, 162).

Maynard Corlett, Rogers City.

Bark from rafts so foul the bottoms as to make fishing with gill nets difficult, as the least wind stirs it up and fouls the nets; and the same may cover feeding grounds.

Frank Brannock, Bois Blanc Island.

Bark, sawdust, etc., cover up feeding grounds and foul bottom, tending to drive away fish.--(176).

G. E. Thompson, Mackinaw City.

The offal of fish, when thrown into the water, makes it unpleasant for the fish and they leave the locality. Cinders from steamers bad. Sawdust not so bad.

Fish go out in summer from water getting warm; in winter on account of its getting foul under the ice.

M. Lachappelle, Near Gross Cap.

Thinks habit of throwing back entrails and dead fish injures the fisheries.--(186-187).

Cyril Pound, Near St. Ignace.

Foul water and bottom with bark, sawdust. Throwing offal in lake and overfishing all tend to lessen the catch. Storms seldom injure nets.

Not a dainty fish. Foul lake does not seem to disturb them, but does drive out white-fish.--(190).

Grondin & Son, St. Ignace.

Grondin & Son, St. Ignace.

Many gill netters throw offal into the Lake which tends to drive away whitefish.- (192-193).

A. R. Olmstead, Albany Island.

The practice of throwing back offal is very bad.- (215).

The fish offal which many tug fishermen throw into the lakes is bad for the fishing industry, tending to drive away fish.- (Chas. Bowdim, Mackinaw City, 242-243).

REMEDIES PROPOSED --- LAKE HURON.

(From notes of J. T. Scovell, 1894,
abstracted by R. R. Gurley).

Peter Lassen, Port Huron.

Was especially emphatic in condemnation of gill net fishing, as the fish are so often dead when taken out, or if alive, not bearing handling, not remaining good as long as fish from pounds or seines.--(15).

George Allen, Port Sanilac.

Large mesh of pounds is often made much smaller by stretching the net.--(36).

Louis Trudell, Bay City.

Fishing would soon be as good as ever if the small and young fish were not caught in small meshed nets. Small mesh fishing in the rivers is bad. 12 years ago, 3 pounds were as profitable as 9 are now.--(79).

Caspar Alpern, Alpena.

Thinks law should be: Shall not catch whitefish, pickerel or trout that weigh, when dressed, less than 1 lb. and that eggs should be fertilized for the hatcheries, any surplus returned to the Lake in good condition.--(163).

L. H. Fittenger.

Thinks it would be better to use larger mesh.--(99).

Grondin & Son, St. Ignace.

The gill net mesh is all right but there are too many nets in use. Many pounds use a small mesh which soon destroys the fish. The pounds have done most toward spoiling the fishing and lessening the catch, for whatever mesh be used many small fish are destroyed. It would be a benefit if all of the pounds should be taken out entirely.--(192).

John McKennon, Beavertail
Point.

John McKennon, Beavertail Point.

Fall fishing ought to be stopped. It would be better for the fish and the fishermen. (213).

Abe Gondreau, West Morans Bay.

Thinks small mesh nets are spoiling whitefish industry. Thinks in his immediate region more than a quarter of a million fingerling whitefish were destroyed last year.-(245).

Small mesh pound nets must be abandoned or there will soon be no whitefish. Pound nets bad for the fishing industry.-(Chas. Bowdim, Mackinaw City, 242-243).

John McLeod and Peter Gondreau.

Have fished within two miles of each other for twenty years.

McLeod has always used large mesh nets.

Gondreau has used small mesh nets.

McLeod's catch has been uniformly good,

the fish of large size. The catch about as good now as ever.

Gondreau's catch has varied widely in size and quantity, and is now much less than formerly.

This illustration given as an argument in favor of large mesh nets, and of the limited range of movement of fish. "Fish are local".
(244).

POLLUTIONS OF SAGINAW RIVER.

Old settlers say that in an early day the water of the river was very pure and clear.

Of more recent years the river has been contaminated to a very great extent. This contamination may be traced mainly to 3 causes.

1. The lumbering and milling industries when the forests were being worked up. This put into the river great quantities of sawdust, planks, narks and other refuse from the logs and mills. This means of contamination is rapidly decreasing, as the forests along the river and its branches are well worked up. But at the present time there are at least 3 booms of logs in the river between Bay City and Saginaw. One at Melbourne, at least 1 1/2 mile in length and from 20 to 30 rods in width, another at a point 4 miles below Saginaw 1/2 mile long and 20 rods wide, and a third at Saginaw 1/2 mile long by 20 rods wide.

2. Numerous salt works were located along the river when the mills were numerous, as the refuse wood from the mills was used to evaporate the salt water. These salt blocks

threw all waste material into the River, and it is thought that this contaminated the water to the detriment of the fish life. Mr. Geo. W. Green, of Saginaw, laid especial emphasis on this source of contamination. As mills have stopped work, salt wells have ceased to be worked until there are only a few salt works now in operation along the river.

The decrease in the number of mills and salt wells along the river seems to be benefiting quite perceptibly the fish life of the river.

3. The third means of contamination of the river is the sewage and refuse of the cities on its bank. This increases with the growth of the cities, but it is not considered as detrimental to fish life as the first two mentioned above.--(262-264).

FISH IN SAGINAW RIVER.

The kinds of fish caught in the Saginaw River are:

Suckers. Perch.

"Shovel-nosed Pike."

Sunfish.

Rock Bass.

Black Bass.

Catfish.

Bullheads.

Wall-eye.

Suckers and Perch form the bulk of the catch. Mr. Carl thought suckers formed $2/3$ of the catch and perch $1/3$, all the rest amounting to not more than 2-3% of the whole.

These fish find a ready market in winter because they are fresh fish and are preferred to frozen fish of other species. (whitefish, trout, etc.).

Mr. Carl says the fish enter the river in the following order:

1. Bullheads and catfish last of August first of September.
2. Perch last of September and first of * October.

3. . Suckers October 15 to sometime in November, the November run being usually lighter than the October run, hence the desire for an earlier season.

The suckers of last year than known before for a number of years. The years before they were very small. This is the common testimony and it is thought the fish are finding Saginaw R. better grounds for living than formerly.

4. The wall-eye last year was so scarce that it plays no part in the fishing of last winter.

Speaking of the wall-eye of previous years Mr. Tromble and Mr. Penniman have observed light runs in January and February. They say that a thaw or rain which starts a current down the river into the Bay "draws" the fish, and just after such times there is sure to be better fishing and frequently the wall-eye ascends at this time.

The great run of wall-eye is in April when they are ascending to spawn. None of these are now caught, as the nets must be lifted by April 1. Mr. Green says before the

present law was passed in 1889 he has seen 5 or 6 tons of wall-eyes taken daily from about 18 pounds for a few days. They would be past in from 10-20 days. He says the wall-eye can find good spawning ground up the tributaries of the Saginaw R. to 10 or 12 miles above Saginaw.

Mr. Penniman and others think that whether the wall-eye ascends the river or not in April depends on circumstances. If the river breaks up first, they ascend the River. If the bay breaks up first, they spawn in the shallow water of the Bay. They never spawn under the ice. Suckers are always found following wall-eyes for the spawn which they eat in great quantities.--(266-299).