



STATE OF MICHIGAN

JENNIFER M. GRANHOLM
GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
LANSING

REBECCA A. HUMPHRIES
DIRECTOR

11/16/2004

Ron Brown
PO Box 156
Honor, MI 49640

Mr. Brown,

Attached please find the most recent DNR Fisheries survey of Little Platte Lake. You also inquired about reference books relating to restoration, fish species in MI, etc. The following is a good start: "Managing Michigan Ponds for Sport Fishing," Extension Bulletin E-1554. This book is a publication of Michigan State University Extension (phone #: 248-858-0880), and can be purchased for \$4.00. You also asked for guidance on fish structure placement into Little Platte Lake:

Since artificial structures may increase the amount of angler harvest, care should be taken to assess fish community structure and potential harvest levels prior to construction. Overharvest should be avoided by not placing artificial structure in waters where the target populations experience heavy fishing pressure. Additionally, artificial structures should be limited to lakes that are devoid of natural habitat, including vegetation, as structures are less effective when existing habitat is available.

Although artificial structures may be constructed of many different types of materials, the use of natural materials such as whole log clusters and brush piles is recommended. While synthetic materials have increased longevity, treated lumber, tires, and plastics should not be used owing to the potential to release harmful contaminants. The placement of artificial structures should take into consideration the depth of the thermocline and navigational uses. Structures should be placed above the late summer thermocline at depths of 3-6 meters and at least 1 meter below the water surface or near the shoreline to reduce navigational hazards and facilitate fish use (Walters et al. 1991, Bassett 1994, Rogers and Bergersen 1999). The amount of placed structure is dependent upon the amount of existing natural structure. At a maximum, artificial structures should not cover more than 0.25 to 0.7% of the lake area (Wilbur 1974, Wege and Anderson 1979). When practical, structures should be aggregated as opposed to singly place to encourage fish use and angler success (Johnson and Lynch 1989, Bassett 1994).

If artificial structure is desired, the following criteria should be met:

1. The water body is characterized by a healthy fish population that is neither stunted nor overharvested.
2. The water body is defined by a relatively homogeneous bottom, a lack of natural habitat structure, and a lack of aquatic vegetation.

NATURAL RESOURCES COMMISSION

Keith J. Charters-Chair • Mary Brown • Bob Garner • Gerald Hall • John Madigan • Frank Wheatlake

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If the above criteria are met, the following should be recommended for the construction and placement of artificial structure:

1. The structure should consist of natural materials when possible.
2. The structure should be placed above the thermocline or near the shoreline to encourage use by target species and avoid navigational hazards.
3. Construction and design should reflect target species preference (see Table 1).

Table 1. Target fish species and associated artificial structure

Target Species	Structure Type
Smallmouth Bass	Half-log (Hoff 1991, Wills et al. 2004), Rock reefs (Bassett 1994)
Largemouth Bass	Whole log tree drops (Bassett 1994),
Bluegill	Whole log tree drops (Bassett 1994), Brush bundles and evergreen trees (Wilbur 1978, Wege and Anderson 1979, Walters et al. 1991, Johnson and Lynch 1992)
Rock Bass	Whole log tree drops (Bassett 1994), Rock reefs (Bassett 1994)
Black Crappie	Whole log tree drops (Bassett 1994)
White Crappie	Brush bundles and evergreen trees (Walters et al. 1991, Johnson and Lynch 1992)
Walleye	Rock reefs (Bassett 1994)

Please note that the Michigan Department of Environmental Quality Geological and Land Management Division has regulatory authority over the placement of artificial structures in inland waters. Therefore, you will have to apply for a permit to install fish structures into Little Platte Lake.

I will gladly attend a Little Platte Lake Association meeting to discuss the issues in this letter at your convenience.

If you have any questions please let me know:

Todd Kalish



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MICHIGAN DEPARTMENT OF NATURAL RESOURCES

Fisheries Division

FISH COLLECTION

Water Little Platte Lake
 County Benzie T. 27N R. 14W Sec. Many Date 06/23-26/81
 I.D. _____ Sheet 1 of 2

Summary of: (x) All sites () Coll. site No. _____ () Index site No. _____ (x) All gear () Gear _____

Sample site(s): Number of 15 Depth Range 0-8ft. Temperature range _____

Location(s) (describe or map below): Fyke nets set around entire shoreline and even in middle of lake.

Cover (abundance, type): Submergent and emergent vegetation (common). Majority of submergent vegetation was located along eastern shoreline.

Fish foods: Aquatic insects, minnows.

Water clarity, level, etc.: clear Cond.: _____ Electro. eff.: _____

Weather: Present Clear Preceding clear

Temperature: Air 70°F Water surface 68°F Time of day _____

Stream: Length _____ Avg. width _____ Avg. depth _____

Velocity: Ave. _____ Surface _____ Discharge _____

Bottom type: _____

Gear Description: Great Lakes gill net (500 ft. net with 50 ft. panels of 1 1/2-6" stretch measure at 1/2" intervals) and inland lake fyke nets.

Effort: Net lifts 1 gill & 24 fyke Net nights 1 gill & 24 fyke Area covered _____ Hours shacked _____

Purpose of collection: Document existing fish population.

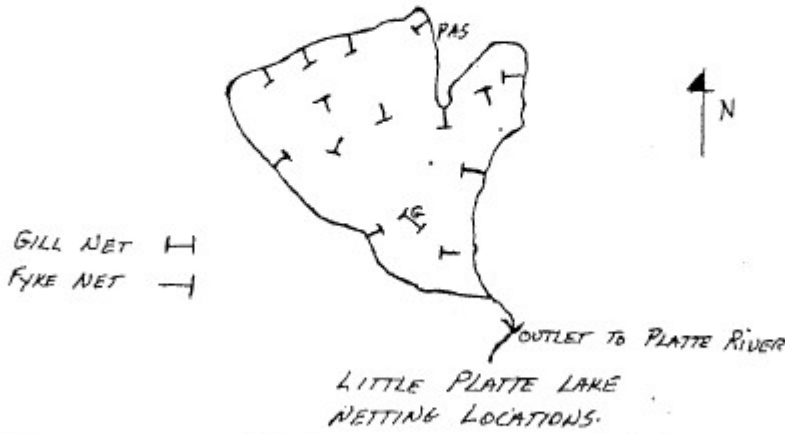
Data collected (✓): (x) CATCH SUMMARY (x) LENGTH-FREQUENCY (x) LENGTH-BIOMASS () LENGTH-WEIGHT
 () GROWTH () MARK & RECAPTURE ESTIMATES () AGE-FREQUENCY & SURVIVAL

Analysis, map, remarks, fishing reports: Only 1 gill net set was made due to the shallow depth (maximum of 8 feet) of the lake and the possibilities of a boat hitting the net at night. The lake contains a diverse fish population. The total number of fish for a lake this size was quite low. However, there was a good number of large bluegill and pumpkinseed. The number of pike was low and possibly due to a lack of suitable spawning habitat. It is also possible that the lake may winterkill during severe winters.

FOLD
HERE

Carp were observed along the eastern shoreline but were not collected in the nets. The lack of alewives may be due to a dam on the outlet stream (at Deadstream Road) blocking their upstream movement from Big Platte Lake.

The tiger musky probably escaped from the Platte River Hatchery where they are reared annually.



Collection by Ralph Hay Sec. Mgmt. Identification by Ralph Hay Sec. Mgmt.
 Analysis by Ralph Hay Sec. _____

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 (x) C.O., (x) extra

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

R-6070 4/81

Water Little Platte Lake T. 27N R. 14W Sec. Many
 County Benzie Id. _____

FISH GROWTH ANALYSIS

Collection Date 06/23-26,

Gear and Methods Fyke Nets and Modified Great Lakes Gill Nets

Collected By Ralph Hay & Elbert Hamilton Section Mgmt. Aged By Steve Lazar Section Mgmt.

Species ↓	Age Group ↕	Number of fish	Length range in inches	Mean length in inches	State avg. length	Growth index (by age group)	Mean g index for spe
Tiger Musky	III	4	24.2 - 27.8	25.5	-		
	IV	1	29.8	29.8	-		
Northern Pike	II	2	21.5 - 23.5	22.5	19.0	+3.5	
	III	3	22.2 - 23.9	23.1	21.8	+1.3	
	IV	6	24.5 - 26.3	25.4	24.2	+1.2	+1.2
Bluegill	III	3	4.2 - 4.8	4.5	5.3	-0.8	
	IV	3	6.0 - 6.2	6.1	6.2	-0.1	
	V	5	6.0 - 6.9	6.5	6.9	-0.4	
	VI	3	7.5 - 7.8	7.7	7.4	+0.3	
	VII	9	7.3 - 8.3	7.8	8.0	-0.2	
	VIII	22	7.3 - 8.1	7.8	8.4	-0.6	
	IX	3	8.0 - 8.3	8.2	8.7	-0.5	
	X+	1	9.7	9.7	-	-	-0.4
Yellow Perch	VI	2	7.9 - 8.7	8.3	9.7	-1.4	
	VII	1	10.9	10.9	10.5	+0.4	
	VIII	1	11.2	11.2	11.3	-0.1	

↓ Several species may be listed on one sheet.
 ↕ Age in years. Fish become one year older on January 1.

Species ↓	Age Group ↕	Number of fish	Length range in inches	Mean length in inches	State avg. length	Growth index (by age group)	Mean growth index for species
Rock Bass	IV	1	5.3	5.3	6.4	-1.1	
	V	15	5.1 - 6.1	5.5	7.2	-1.7	
	VI	6	6.5 - 7.6	7.2	8.1	-0.9	
	VII	5	7.4 - 9.5	8.0	8.8	-0.8	
	VIII	5	8.1 - 9.7	8.7	9.4	-0.7	
	IX	4	8.0 - 10.2	9.3	-	-	-1.0
Pumpkinseed	III	2	4.5 - 5.8	5.2	5.2	0	
	IV	20	5.2 - 7.3	6.6	5.8	+0.8	
	V	4	5.7 - 7.3	7.1	6.3	+0.8	
	VI	4	7.0 - 7.7	7.4	6.8	+0.6	
	VII	2	7.5 - 7.7	7.6	7.2	+0.4	
	VIII	2	7.7 - 8.2	7.8	-	-	
	IX	1	8.0	8.0	-	-	+0.8
Largemouth Bass	II	2	7.0 - 7.2	7.1	8.7	-1.6	
	III	4	9.6 - 11.8	10.4	10.6	-0.2	
	IV	2	14.4 - 15.1	14.8	12.0	+2.8	
	V	1	15.5	15.5	13.7	+1.8	
	VIII	1	20.2	20.2	17.6	+2.6	

Analysis: Average length for bluegill, rock bass and pumpkinseed calculated using weighted means. State average length for June-July. Northern pike and pumpkinseed are growing better than the state average while bluegill and rock bass exhibit poor growth.

Prepared by Ralph Hay Section Mgmt. Date 02/10/82
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