

# CORRESPONDENCE/MEMORANDUM

STATE OF WISCONSIN

Date: September 19, 1980

File Ref: 3610-1

To: Water Files

From:  *mmp*

REC'D DNR

OCT 14 1980

GREEN BAY

Subject: Seine Survey - Bear Lake - Waupaca County

## BACKGROUND INFORMATION

Historically, Bear Lake has supported a warm water fish population. The major recreational fishery has been for the species of largemouth bass, northern pike and assorted panfish. Rough and forage fish species known to be present include carp, white sucker, redhorse, common shiner, golden shiner, mudminnow and brook silverside. All total 19 different fish species have been documented as being present.

The lake was managed as a two-story lake (warm water - cold water fishery) between 1956-1963. Rainbow and/or brown trout were stocked annually during this period. Trout stocking was discontinued in 1963 because:

1. An excellent northern pike population was present
2. Lake contained a very good warm water fish population.
3. Light fishing pressure for trout.
4. Poor return to the angler of stocked trout
5. Borderline thermo-chemistries for trout, on file are fishery survey reports for the years 1954, 1959, 1964 and 1973.

## 1980 SURVEY METHODS AND RESULTS

On May 28, 1980, a seine survey was conducted on Bear Lake. A total of 1800 feet of seine was used that fished a maximum depth of 20 feet. Approximately 4 surface acres of water were included in the seine haul. The seine haul location was the east shore in the vicinity of Bear Lake Campground. Suitable beaching areas for seining are restricted on the lake and determine the efficiency of this type sampling gear. A good representative sample of those fish species captured was obtained.

The attached length frequency forms lists the numbers and sizes of fish sampled. The length ranges compare favorably with those from the 1973 survey. The conclusion being that the overall fish population is basically unchanged.

Good natural recruitment of largemouth bass continues, the northern pike population is stable and bluegills attain desirable size and were in good condition (length - weight) relationship. A total of 24% of the seine sample of bluegills ranged in size between 6.0 - 7.9". A good population is considered to be one where 25 - 33% of a seine haul sample exceeds 6 inches in length. All other fish species captured, with the exception of perch, were in good condition. The perch condition was only fair.

A total of 13 large carp were taken that ranged between 23.0 - 29.4 inches. Carp have shown up in all past surveys and do not pose a major management problem at this time.

DISCUSSION AND MANAGEMENT IMPLICATIONS

A good self sustaining, warm water fish population is present. Bass, northern pike and bluegill will provide the best returns for angler effort in the immediate future.

Rooted aquatic vegetation is common to abundant out to the 15 foot depth and could be classified as a nuisance along some shoreline areas. Algae blooms seem to be more frequent and could be associated with land use practices and changes in the watershed areas.

At the present time a study of water quality conditions is being considered for the lake. Personnel out of the district office are heading up this study. I assume more information on this proposal will be forthcoming.

At this time there are no known fish management techniques that would significantly improve the fish population.

MJP:jcl

NOTED:

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Date

PANFISH LENGTH FREQUENCY  
FORM 3600-64

DEPARTMENT OF NATURAL RESOURCES

COUNTY		WATERS			DATE		GEAR	
WAUPACA		BEAR LAKE			5-28-80		1800 foot seine	
Size Range	SPECIES			Size Range	SPECIES			
	Bluegill	Perch	Sunfish		Bluegills	Bullhead	Sunfish	
<1				7.0	3		1	
1-1.4	Plus 142	Plus 38 perch		7.1				
1.5-1.9	fish not	not measured		7.2	2			
2.0	measured			7.3	3			
2.1				7.4	2			
2.2				7.5				
2.3				7.6				
2.4				7.7	1			
2.5	1			7.8				
2.6				7.9	1			
2.7	1			8.0				
2.8	4			8.1				
2.9	1			8.2				
3.0	2			8.3				
3.1	2			8.4				
3.2		1		8.5				
3.3				8.6				
3.4	1	1		8.7				
3.5	3			8.8				
3.6	2	1		8.9				
3.7	3			9.0		1		
3.8	5			9.1				
3.9	2			9.2				
4.0	5			9.3				
4.1	2			9.4				
4.2	8			9.5				
4.3	2			9.6				
4.4	2			9.7				
4.5	3	1		9.8				
4.6				9.9				
4.7	8	2	1	10.0				
4.8	4	1	1	10.1				
4.9	2	1		10.2				
5.0	2	1	1	10.3				
5.1	2	1		10.4				
5.2	5		1	10.5				
5.3	1			10.6				
5.4	4			10.7				
5.5	7		1	10.8				
5.6				10.9				
5.7	10		1	11.0				
5.8	2			11.1				
5.9	2		1	11.2				
6.0	4	1		11.3				
6.1	1			11.4				
6.2	3	1		11.5				
6.3	1			11.6				
6.4	3			11.7				
6.5	2			11.8				
6.6	1	1		11.9				
6.7	3			>12				
6.8	1							
6.9	1			Total	272	1	9	

INCHES

COUNTY		WATERS				DATE	GEAR	
WAUPACA		BEAR LAKE				5-28-80	1800 feet seine	
Size Range	SPECIES					Size Range	SPECIES	
	Largemouth Bass	Northern Pike	Redhorse	Sucker	Carp		No.	Pike
3.0- 3.4						27.0-27.4		
3.5- 3.9						27.5-27.9		
4.0- 4.4						28.0-28.4		
4.5- 4.9						28.5-28.9		
5.0- 5.4					plus 10	29.0-29.4		
5.5- 5.9					not	29.5-29.9		
6.0- 6.4					measured	30.0-30.4		
6.5- 6.9						30.5-30.9		
7.0- 7.4						31.0-31.4		
7.5- 7.9						31.5-31.9		
8.0- 8.4						32.0-32.4		
8.5- 8.9						32.5-32.9		
9.0- 9.4						33.0-33.4		
9.5- 9.9						33.5-33.9		
10.0-10.4	8					34.0-34.4		
10.5-10.9	6					34.5-34.9		
11.0-11.4	2					35.0-35.4		
11.5-11.9	4					35.5-35.9		
12.0-12.4	3					36.0-36.4		
12.5-12.9						36.5-36.9		
13.0-13.4						37.0-37.4		
13.5-13.9					2	37.5-37.9		
14.0-14.4					3	38.0-38.4		
14.5-14.9					2	38.5-38.9		
15.0-15.4					2	39.0-39.4		
15.5-15.9					3	39.5-39.9		
16.0-16.4		2				40.0-40.4		
16.5-16.9		2			6	40.5-40.9		
17.0-17.4						41.0-41.4		
17.5-17.9						41.5-41.9		
18.0-18.4		2				42.0-42.4		
18.5-18.9		2				42.5-42.9		
19.0-19.4						43.0-43.4		
19.5-19.9						43.5-43.9		
20.0-20.4						44.0-44.4		
20.5-20.9						44.5-44.9		
21.0-21.4						45.0-45.4		
21.5-21.9						45.5-45.9		
22.0-22.4						46.0-46.4		
22.5-22.9						46.5-46.9		
23.0-23.4						47.0-47.4		
23.5-23.9					2	47.5-47.9		
24.0-24.4						48.0-48.4		
24.5-24.9						48.5-48.9		
25.0-25.4						49.0-49.4		
25.5-25.9					3	49.5-49.9		
26.0-26.4								
26.5-26.9								4
Total	33	13	2	29	9			