

CORRESPONDENCE/MEMORANDUM

STATE OF WISCONSIN

Original copy
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Date: September 10, 1979

File Ref: 3610-1

To: Randy Schumacher

From: Lawrence Claggett

Subject: Fish Management Survey Report, Pretty Lake, Waukesha County

INTRODUCTION

The history of fishery investigations in Pretty Lake prior to 1977 was summarized by Tills (1977) in a report of the 1976 electrofishing survey. That survey indicated the lake's fish population was unbalanced in favor of slow-growing bluegill, and there appeared to be few large predators in the lake. A 1977 seining survey was recommended to assess the structure of the bass and bluegill populations.

Surveys were conducted in May 1977 and 1978 as combined surveys and experimental management activities. Most of the panfish removed were stocked in Milwaukee park ponds. It was hoped that this would increase growth of panfish in Pretty Lake while providing stock for area ponds. This report will present both surveys and compare the results.

METHODS

Pretty Lake was surveyed May 19, 23, 24 in 1977 and May 23, 24, 25 in 1978 with a survey seine. In 1977 three hauls were made with a combined length of 4900 feet. The seine was 2100 by 15 feet with graded mesh from 0.5-2.0 in. In 1978 five hauls were made with a combined length of 5950 feet. A new seine was used, measuring 1400 by 15 feet with 0.75 in. mesh. The hauls in both years were made in the same general area of the lake (see attached lake map).

Panfish numbers were estimated by weight. In 1978, panfish species composition was determined from a random sample of the catch. Scales were taken from both panfish and gamefish. Sample size was increased for bluegill in 1978 to assure sufficient data for age and growth comparisons.

RESULTS AND DISCUSSION

Seven species of fish were captured in 1977 compared to nine species in 1978 (see summary fishing records attached). Panfish were most numerous and were dominated (75-95%) by bluegills in both samples.

Northern Pike

Slightly fewer northern pike were captured in 1978 than 1977. More large individuals but fewer small ones were taken in 1978. The absence of

age II fish in the 1978 sample (see attached length frequencies) may be due to the change in the sampling gear.

Growth rates were faster than regional averages reported by Mackenthun (1949) but slower than reported by Druckenmiller (1972) (Table 1 & 2). Growth rates were similar to those given by Snow (1978) for northern Wisconsin lakes. In Pretty Lake, northern pike were slightly larger at each age in 1978 than 1977, although this should be interpreted with caution due to the small sample size.

The population is likely limited by the lack of good spawning areas. The only suitable spawning habitat appears to be the inlet on the southeast side of the lake which may be sensitive to water level fluctuations.

Largemouth Bass

Approximately equal numbers of largemouth bass were taken in 1977 and 1978. More very large individuals were captured in 1977 and more 10-12 inch bass were taken in 1978 (see attached length frequencies). The bass population was dominated by fish less than 12 in. (70% in 1977, 80% in 1978). This may be an indication that large bass are moderately overharvested.

Growth of largemouth bass in Pretty Lake was slower than regional averages until age IV (Table 3 & 4). This slow initial growth is probably due to competition with bluegills for food resources. Growth of age groups older than age III was between southeast Wisconsin averages reported by Mackenthun (1949) and Druckenmiller (1972). Growth rates were similar to averages given by Snow (1978) for northern Wisconsin lakes. Yearly comparisons indicate that bass older than age III were longer at each age in 1977 than 1978 based on this information. Panfish removal in 1977 did not result in an increased growth rate of bass age III and older in 1978.

Bluegill

Bluegill dominated the fish populations in Pretty Lake. They comprised approximately 90% of the total catch for both years combined. Based on seine catches, panfish (approximately 90% bluegill) were much more abundant numerically in 1977 than 1978. Although total pounds of panfish captured were greater in 1977, the weight difference was not as great as the numerical difference between the two years. The estimated number per pound was 50 in 1977 compared to 16 in 1978. The larger mesh used in 1978 was probably the major cause of the larger size of panfish caught. It is also possible that in 1978 that numbers were reduced because the cool spring had delayed spawning, and bluegills were less susceptible to the gear.

Bluegills were extremely slow growing in Pretty Lake (Table 5 & 6). Their lengths at each age were much less than averages from northern Wisconsin lakes (Snow, 1978). Approximately 90% of the 1978 collection was between 4-6 inches in length and ranged from 3-6 years in age. No significant difference could be detected in the growth rate of bluegill between 1977 and 1978.

TABLE 1. Northern Pike Age Data From Pretty Lake, 1977

Age	Length Mean (in.)	Number	Length Range (in.)	SD
II	11.03	15	9.3 - 14.3	1.41
III	17.58	17	16.3 - 19.3	0.95
IV	20.72	6	19.5 - 22.0	0.86
V	22.70	2	22.1 - 23.2	0.85
VI	24.00	1	24.0	---

TABLE 2. Northern Pike Age Data From Pretty Lake, 1979.

Age	Length Mean (in.)	Number	Length Range (in.)	SD
III	17.96	19	15.3 - 20.3	1.53
IV	19.20	3	16.7 - 21.2	2.29
V	24.08	8	21.5 - 27.6	2.27
VI	27.10	2	24.3 - 29.9	3.96

TABLE 3. Largemouth Bass Age Data From Pretty Lake, 1977.

Age	Length Mean (in.)	Number	Length Range (in.)	SD
I	4.30	1	---	--
II	7.20	17	4.8 - 8.8	0.97
III	9.00	34	7.0 - 11.0	0.98
IV	12.18	14	10.4 - 14.2	1.14
V	14.46	13	13.0 - 15.6	0.66
VI	15.80	10	14.2 - 16.8	0.87
VII	16.94	5	15.0 - 18.5	1.47
VIII	19.47	3	19.0 - 19.9	0.45
XI	19.55	2	19.3 - 19.8	0.35

TABLE 4. Largemouth Bass Age Data From Pretty Lake, 1978

Age	Length Mean (in.)	Number	Length Range (in.)	SD
I	4.76	8	4.4 - 5.2	0.27
II	7.01	31	4.6 - 8.5	1.00
III	9.07	18	6.0 - 11.1	1.32
IV	11.29	25	9.4 - 14.8	1.20
V	13.49	18	11.5 - 15.4	1.06
VI	14.58	13	12.3 - 16.3	1.29
VII	16.13	4	14.0 - 18.4	1.81
VIII	18.40	1	---	--

Other Species

TABLE 5. Bluegill Age Data From Pretty Lake, 1977.

Age	Length Mean (in.)	Number	Length Range (in.)	SD
II	2.60	1	---	--
III	3.20	3	3.0 - 3.5	0.26
IV	4.52	11	3.9 - 5.1	0.37
V	5.14	11	4.3 - 6.1	0.57
VI	5.90	3	5.6 - 6.4	0.44

TABLE 6. Bluegill Age Data From Pretty Lake, 1978.

Age	Length Mean (in.)	Number	Length Range (in.)	SD
III	3.39	9	2.9 - 4.3	0.39
IV	4.48	19	3.7 - 5.3	0.54
V	5.19	37	4.0 - 6.5	0.53
VI	5.83	8	4.7 - 6.2	0.50
VII	5.60	1	---	--

Complete chemical reclamation is an alternative management approach that could yield the most predictable results. Many lakes where the fish populations have been removed and then restocked have responded with excellent fishing after several years. Problems have arisen however in maintaining the high quality of the fishery. Pretty Lake is probably best suited for a bass-perch fishery, although both species would have to be carefully managed to avoid a return to the present unbalanced populations.

Other Species

Due to the relative scarcity of other panfish, their role in the fishery is probably minimal. They were not taken in sufficiently large numbers to accurately assess growth rates. It is interesting to note that pumpkinseed population structure and growth rate appeared much better than bluegill. Apparently there is enough niche separation or resource partitioning to limit competition. Werner, et. al. (1977) found pumpkinseeds to be predominantly benthic feeders in two southern Michigan lakes. This possible difference in feeding habits may be a factor in Pretty Lake.

Very few of the 500 walleye stocked in 1967 appear to remain in Pretty Lake. Thirteen were caught in the seine in 1977 but only one in 1978.

Conclusions and Recommendations

Pretty Lake's fish population is unbalanced in favor of slow-growing bluegill. There is not enough mortality by predator fish or fishermen to reduce the bluegill population. Although there is a substantial largemouth bass population, it appears that larger individuals are over harvested. Panfish removal in 1977 was not successful in increasing growth of bluegill. It may have had the undesirable effect of decreasing growth rate of large bass. A sufficient proportion of the population was probably not removed in order to significantly increase the growth of bluegill. Because fewer bluegills were removed in 1978 little effect is anticipated by next year. Although desirable as a source of panfish for area ponds, this program is difficult to justify in terms of the time and manpower involved to produce negligible desired effects on Pretty Lake fish populations. If this program is continued I would recommend removal of more panfish by careful timing of the sampling to coincide with inshore spawning movement. Data analysis could be refined by back calculating growth to separate growth by year. Population estimates of largemouth bass age 3 and older should also be made to assess abundance.

Other management techniques could be used to improve the predator-prey balance in Pretty Lake. Additional predators such as northern pike or walleyes could be stocked, or a size limit could be placed on largemouth bass to increase their numbers. A partial chemical treatment might be tried as an experimental management approach to reduce the size of bluegill year classes. Congdon (1976), Davis (1979), and others have shown some success with this technique. Recent research has shown that young of the year ^{bluegills} move to open water for a period shortly after hatching (Beard, 1978). They may be susceptible during this period to spot treatments.

Complete chemical reclamation is an alternative management approach that would yield the most predictable results. Many lakes where the fish populations have been removed and then restocked have responded with excellent fishing after several years. Problems have arisen however in maintaining the high quality of the fishery. Pretty Lake is probably best suited for a bass-panfish fishery, although both species would have to be carefully managed to avoid a return to the present unbalanced populations.

REFERENCES CITED

- Beard, T. 1978. Bluegill fry migration. Wis. Dep. Nat. Res. Fish Res. Quart. Rep.
- Congdon, J. 1976. Chemical treatment with fintrol (antimycin) for selective control of stunted panfish, Silver Lake, Columbia County. Wis. Dep. Nat. Res. Fish Mgt. Rep. No. 87 11 p.
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- Snow, H. 1978. Age-length averages for northern Wisconsin counties. Unpublished Data, 2 p.
- Tills, D. W. 1977. Fish management survey report, Pretty Lake, Waukesha County, Wis. Dep. Nat. Res. Intra-department memo 13 p.
- Werner, E. E. , D. J. Hall, D. R. Laughlin, D. J. Wagner, L. A. Wilsmann, and F. C. Funk. 1977. Habitat partitioning in a freshwater fish community. J. Fish. Res. Board. Can. 34:360-370.

LC:bg

Attach.

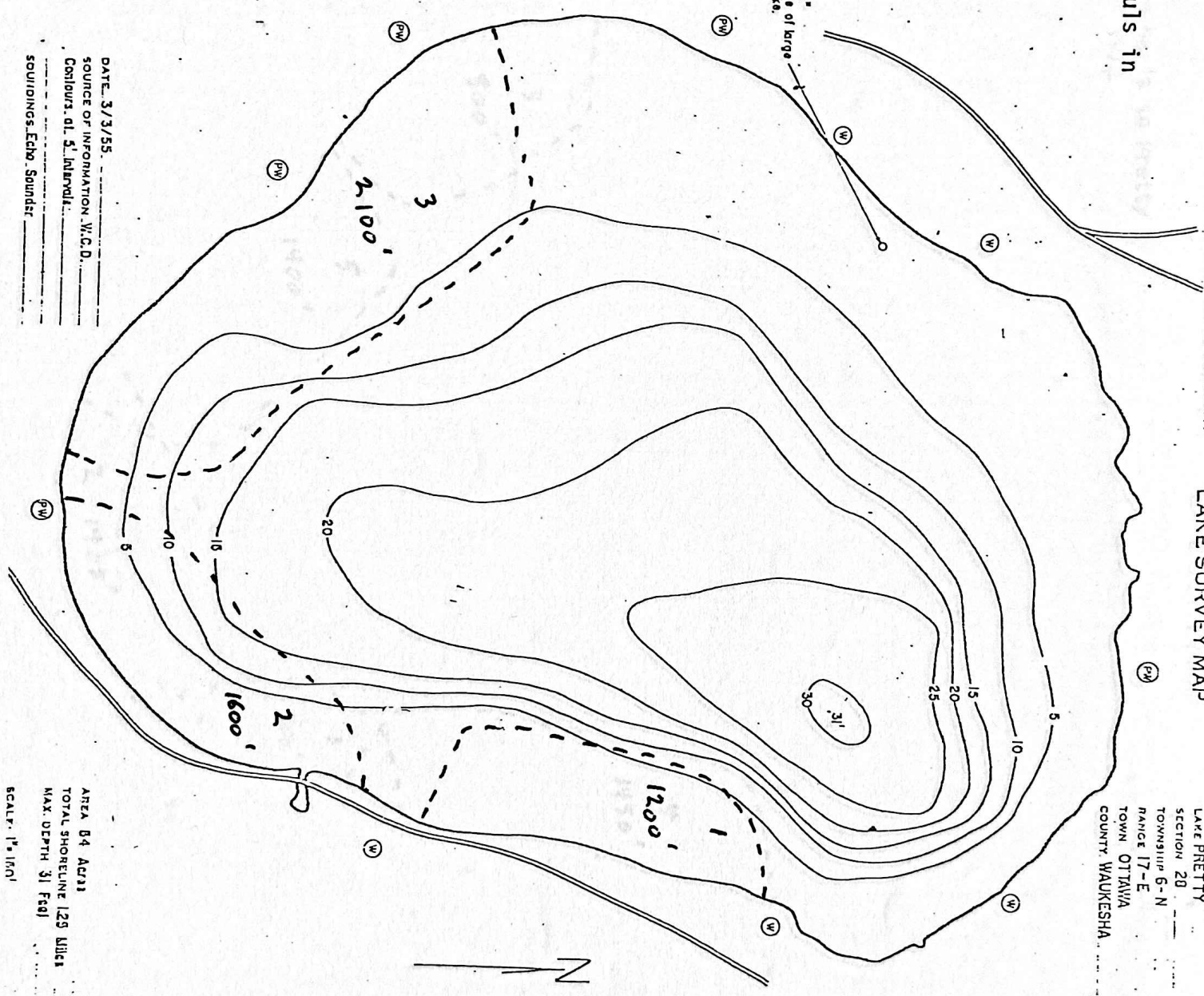
cc: Donald W. Tills
James Addis

Location of survey seine hauls in Pretty Lake 1977

WISCONSIN CONSERVATION DEPARTMENT LAKE SURVEY MAP

LAKE PRETTY
SECTION 20
TOWNSHIP 6-N
RANGE 17-E
TOWN OTTAWA
COUNTY WAUKESHA

B.M. 100 + 10-1/2"
Taken from surface of large
granite rock in lake.



DATE 3/3/55
SOURCE OF INFORMATION W.C.D.
Contours at 5' intervals
Sounding: Echo Sounding

AREA 64 ACRES
TOTAL SHORELINE 123 MILES
MAX. DEPTH 31 Feet
SCALE: 1" = 100'

Location of survey seine hauls in Pretty Lake 1978

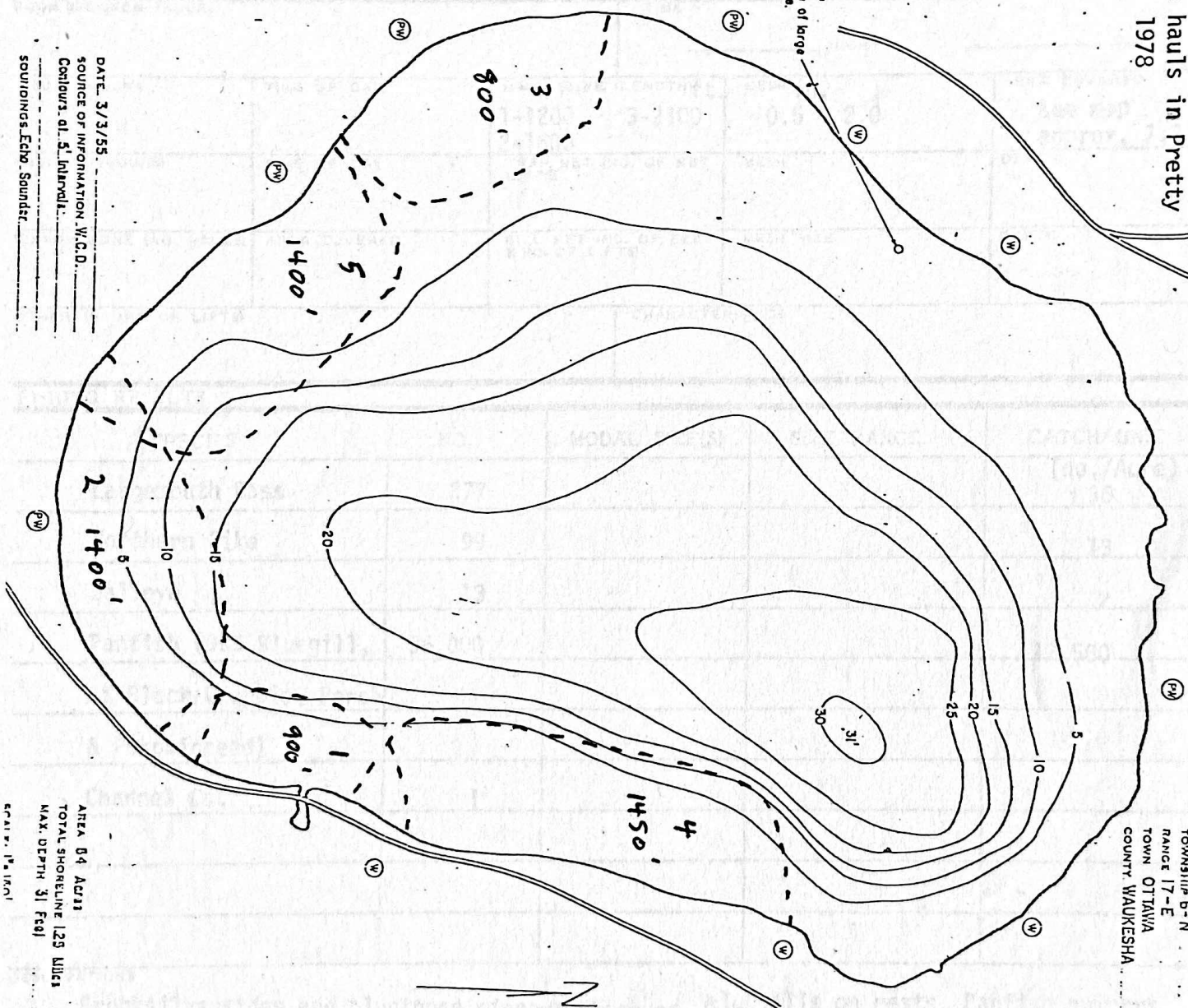
WISCONSIN CONSERVATION DEPARTMENT

LAKE SURVEY MAP

LAKE PRETTY
SECTION 28
TOWNSHIP 6-N
RANGE 17-E
TOWN OTTAWA
COUNTY WAUKESHA

B.H. 100 + 10-1/2"
Taken from surface of large
granite rock in lake.

DATE 3/3/55
SOURCE OF INFORMATION W.C.D.
Contours at 5' intervals
SOUNDINGS Echo Sounder



AREA 04 ACRES
TOTAL SHORELINE 123 Miles
MAX. DEPTH 31 Feet

Scale 1" = 1 mile

ANNUAL FISHING RECORD

FORM 3600-63

DEPARTMENT OF NATURAL RESOURCES

COUNTY Waukesha	WATERS Pretty Lake
SAMPLING OBJECTIVE Panfish Removal	NUMBER AND LOCATION OF STATIONS (HABITAT) 3 seine hauls
PERIOD FISHED (DATES) May 19, 23, 24 1977	see map

GEAR BOOM SHOCKER (HOURS)		TIME _____ NIGHT _____ DAY		
VISUAL HOURS	TIME OF DAY	HAUL SEINE (LENGTH) ft. 1-1200 3-2100 2-1600	MESH in. 0.5 - 2.0	AREA COVERED see map approx. 7.7 acres
ANGLING (HOURS)	TIME OF DAY	TRAP NET (NO. OF NET LIFTS)	MESH	DEPTH
MINNOW SEINE (NO. HAULS)	AREA COVERED	GILL NET (NO. OF FEET X NO. OF LIFTS)	MESH SIZE	DEPTH
OTHER (HOURS OR LIFTS)		CHARACTERISTICS		

FISHING RESULTS				
SPECIES	NO.	MODAL SIZE(S)	SIZE RANGE	CATCH/ UNIT (no./Acre)
Largemouth Bass	277			36
Northern Pike	99			13
Walleye	13			2
Panfish (95% Bluegill, 5% Black Crappie, Perch & Pumpkinseed)	96,000			12,500
Channel Catfish	1			

OBSERVATIONS
Brooksilversides and bluntnose minnows observed, Bluegills on nests. Panfish numbers
estimated by weight, approximately 50 fish per pound, 1920 lb taken,

SIGNED (COMPILER) <i>Justin Cawey</i>	DATE 12-1-77
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ANNUAL FISHING RECORD

FORM 3600-63

DEPARTMENT OF NATURAL RESOURCES

COUNTY Waukesha	WATERS Pretty Lake
SAMPLING OBJECTIVE Panfish removal Panfish supply for park ponds	NUMBER AND LOCATION OF STATIONS (HABITAT) 5 seine hauls
PERIOD FISHED (DATES) 5-14-78	see map

GEAR BOOM SHOCKER (HOURS)		TIME ____ NIGHT ____ DAY		
VISUAL HOURS	TIME OF DAY 0800-1500	HAUL SEINE (LENGTH) (ft.) 1-900 3-800 2-1400 4-1450	MESH (in.) 0.75	AREA COVERED see map Approx. 6.8 acres
ANGLING (HOURS)	TIME OF DAY	TRAP NET (NO. OF LIFTS)	MESH	DEPTH
MINNOW SEINE (NO. HAULS)	AREA COVERED	GILL NET (NO. OF FEET X NO. OF LIFTS)	MESH SIZE	DEPTH
OTHER (HOURS OR LIFTS)		CHARACTERISTICS		

FISHING RESULTS

SPECIES	NO.	MODAL SIZE(S)	SIZE RANGE	CATCH/UNIT
Largemouth Bass	264	9.25	4.0 - 18.4	39
Northern Pike	73	16.25 - 17.25	15.0 - 29.9	11
Walleye	1	-	21.4	-
Bluegill (sample)	220	5.0	2.9 - 6.5	
Pumpkinseed (sample)	49	6.1	3.2 - 8.5	
Yellow Perch (sample)	42	7.3, 7.6, 7.7	4.8 - 10.8	
Black Crappie (sample)	34	6.6, 7.0, 8.3	4.3 - 9.7	
Brown Bullhead	29	11.5	8.5 - 12.9	
Rockbass	1			
Panfish (85% Bluegill)	24,460			3,600

OBSERVATIONS

Abundant minnows and young bluegills observed. Panfish not consistently in shallows (not spawning). Panfish numbers estimated by weight, approximately 16 fish per pound, 1,457 lb. taken.

SIGNED (COMPILER)

Larry Chappett

DATE

5-30-78

CORRESPONDENCE/MEMORANDUM

State of Wisconsin
Department of Natural Resources

DATE: February 21, 1995

FILE REF: 3600

TO: Jim McNelly

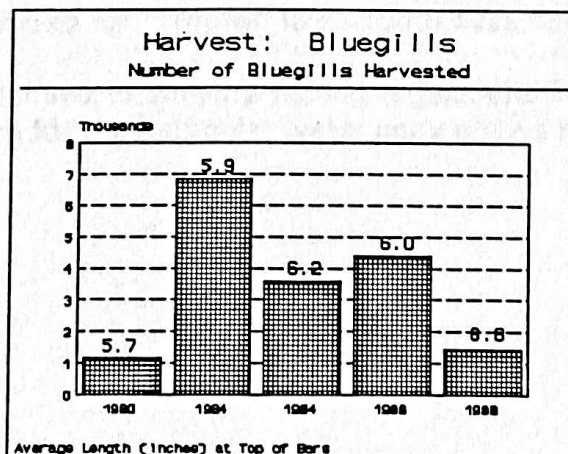
FROM: Randy Schumacher

SUBJECT: Additional Justification For The Pretty Lake, Waukesha Co. Proposed Regulation Change

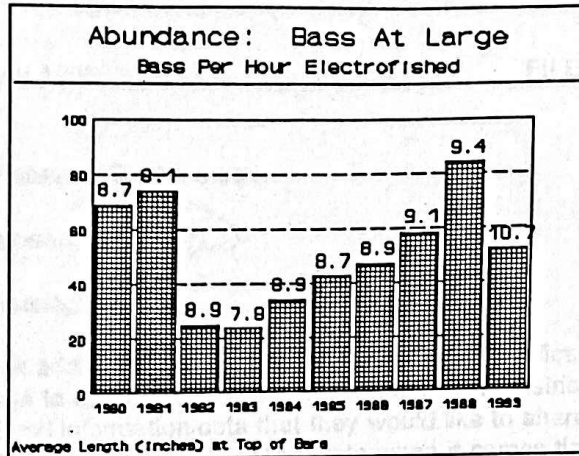
We are proposing to repeal the current 16 inch size limit on largemouth bass and let the lake revert to the base 14 inch size limit for this area.

Pretty Lake is a 64 acre seepage lake that was part of the original four study lakes where we looked at either a 12-16 inch slot size limit or a 16 inch minimum size limit on large and smallmouth bass. Because of this association, we have reasonably good information on the fishery; including several creel surveys between 1980 and 1988.

The synopsis of our observations on this fishery over the 16 inch size limit time frame is that there has been an overall positive response--bluegills are bigger and the number harvested is close to pre-regulation levels.



Also, largemouth bass abundance is back up to about pre-regulation levels (1980-1981); and their average length is about two inches above what it was pre-regulation.



One may ask, If the bluegills are bigger and as abundant as they were before the regulation; and the bass are bigger and almost as abundant as before the regulation, then why do we want to change a regulation that is working?

The reason is simply that, based on four creel surveys that have been done since 1980 (three of which are post-regulation); anglers are not abiding by the 16 inch size limit. The degree of compliance we see is very close to that we see on lakes with a 14 inch bass size limit. In two of the three post-regulation creel surveys, the average size of a largemouth bass observed in the harvest was less than 14 inches (13.0 and 13.7 inches).

In our discussions with the Pretty Lake Management District, we agree that we do not intend to manage this lake for "Trophy" largemouth bass fishing.

This regulation is proposed to simplify fishing regulations in a situation where the management objective for the particular water body allows it.

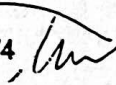
CORRESPONDENCE/MEMORANDUM

DATE: 3 February 1995

FILE REF: 3600/tds



TO: District Fisheries Supervisors

FROM: Tim Simonson, FM/4 

SUBJECT: Spring Hearings

I have been asked to seek additional background information and justification for your **RULE PROPOSALS**. I would like to ask you to poll the managers in your district that proposed rule changes to see if they have additional information/data that they would like to share with other Department staff. This information will help staff in other parts of the state when it comes time to defend rule proposals they are unfamiliar with.

Please summarize the additional information/data that went into your decision to advance the rule and send me a memo describing the justification by the end of **FEBRUARY**. I will circulate this information to the other District Supervisors. If you or your staff still have questions about a specific proposal from outside your district, please feel free to contact the author.

In the future, if you feel the justification for a rule change is not sufficiently documented within a proposal (form 1000-3) from either your district or others, I suggest you send it back to the author (if submitted from your district) for clarification, ask for more information, or reject it at the fall regulation review, on the grounds that not enough information was presented. I would like have a  available supporting information presented on form 1000-3. These forms are widely distributed and are available to all staff for review prior to the hearings.

Finally, I am not suggesting that all the current (or past) rule proposals do not contain adequate justification; generally, I think most have been fully justified. I am merely suggesting that if you have difficulties with the justification for a specific proposal, that you express those concerns prior to or at the fall regulations review meeting so that we can get all the available information distributed at that stage of the process. That way we won't be seeking additional information so late in the game.

Thanks.

cc: Lee Kemen, FM/4
Dave Ives, Acting Section Chief

Pretty Lake
09-May-2001
Boom Shocker Electrofishing Survey Results

SPECIES	AVERAGE LENGTH	NUMBER CAUGHT
Rock Bass	6.9	2
Warmouth Bass	3.8	5
Northern Pike	17.4	5
Brown Bullhead	10.2	23
Black Crappie	7.5	3
Pumpkinseed	5.5	31
Bluegill	4.7	276
Largemouth Bass	12.9	43
Yellow Perch	9.2	6
Yellow Bullhead	4.7	11