

Connors Lake/Lake of the Pines, Fisheries Committee Report (April 11, 2019): Ed Peters

There have been several important events since the last newsletter was published. First, the Fisheries Crew from the Park Falls office of the Wisconsin DNR did fall electrofishing surveys on Connors Lake and Lake of the Pines. One of the objectives for these surveys was to evaluate the 2018 crop of young of the year (YOY) Walleyes. The second major event was the habitat improvement efforts that were spearheaded by Dave Bauer and this is covered in a separate article in this newsletter. The third events were meetings with Wisconsin DNR research scientists, Stephanie Shaw and Greg Sass. In addition, I contacted Kathy Overmann at Fishing Has no Boundaries in regards to the installation of an accessible fishing pier at Connors Lake. Each of these is covered in separate sections of this report.

Fall Electrofishing Surveys: The fall electrofishing surveys were conducted at Connors Lake on 26 September, 2018 and at Lake of the Pines on 4 October, 2018. The survey on Connors Lake sampled three miles of the total five miles of shoreline in 1.4 hours of shocking, while the Lake of the Pines survey sampled the whole shoreline (4.9 miles) in 2.2 hours of shocking. The difference may be related to the inclusion of several inexperienced netters in the overall crew on Connors Lake, but only DNR personnel on the Lake of the Pines crew. Of the 38 Walleye collected from Connors Lake only two were in the size range that are considered to be age 0+ or YOY. Similarly, there were two YOY size Walleye collected from the Lake of the Pines. Table 1 summarizes the results for all game species collected during the fall surveys on both Connors Lake and Lake of the Pines. As expected, the overall abundance of Walleye and Muskellunge in Lake of the Pines is higher than in Connors Lake as a result of the stockings that have occurred there.

Table 1. A comparison of the results from the fall 2018 Walleye Recruitment Surveys, using electrofishing, at Connors Lake (Connors) on 26 September, 2018 and Lake of the Pines (LOP) on 4 October, 2018.

Species	Number Captured		Size Range		Catch/Mile Sampled	
	Connors	L O P	Connors	L O P	Connors	L O P
Walleye (age 0+)	2	2	7.0-7.7	7.3-8.0	0.67	0.41
Walleye (age 1+)	23	33	8.2-11.0	8.4-10.7	7.67	6.73
Walleye (other)	13	52	11.4-18.4	11.2-23.4	4.33	10.61
Smallmouth Bass	6	1	5.5-20.9	12.0-12.4	2.00	0.45
Largemouth Bass	8	7	4.0-15.4	2.5-13.4	2.67	1.43
Muskellunge	7	39	9.5-45.4	9.0-38.9	2.33	7.96
Northern Pike	12	2	8.0-27.4	19.5-21.9	4.00	0.41

In Table 2 I have tried to summarize the information in the fall electrofishing reports from both Connors Lake and Lake of the Pines. Many fisheries biologists use a series of length categories to describe the size of fish that are collected during surveys of fish populations. In 1976 Dick Anderson and his students at the University of Missouri proposed using a stock density index to evaluate the well-being of a fish population. In 1984, Don Gablehouse (one of Dr. Anderson's students), from the Nebraska Game and Parks Commission, proposed size categories for a variety of fish species that were based on lengths that

are proportional to the world record length of each species. The categories are stock, quality, preferred, memorable and trophy. Fish in the stock category are a minimum of 20-26% of the world record length for their species; quality fish are at least 36-41% of the world record length; preferred fish are at least 45-55% of the world record length, memorable fish are 59-64% of the world record length and trophy fish are 74-80% of the world record length. The lengths listed are for the major game species collected from Connors Lake and Lake of the Pines. So, the fall electrofishing survey captured a trophy size Smallmouth Bass (20.5 inch) and three memorable size Muskies (43 – 44.5 inch) from Connors Lake. The fall electrofishing survey on the Lake of the Pines collected three preferred size Walleye (20 – 23.4 inch) and one preferred size (38.5 inch) Muskie.

Table 2. The distribution by size categories (Stock, Quality, Preferred, Memorable, Trophy; as defined by Gablehouse (1984)) for fish species captured during electrofishing sampling at Connors Lake (Connors) on 26 September, 2018 and Lake of the Pines (LOP) on 4 October, 2018.

Species/Lake	Stock	Quality	Preferred	Memorable	Trophy
Walleye	10 inch +	15 inch +	20 inch +	25 inch +	30 inch +
/ Connors	20	3	0	0	0
/ LOP	61	26	3	0	0
Muskellunge	20 inch +	30 inch +	38 inch +	42 inch +	50 inch +
/ Connors	7	3*	3*	3	0
/ LOP	27	7	1	0	0
Northern Pike	14 inch +	21 inch +	28 inch +	34 inch +	44 inch +
/ Connors	11	5	0	0	0
/ LOP	2	1			
Smallmouth Bass	7 inch +	11 inch +	14 inch +	17 inch +	20 inch +
/ Connors	4	2	1*	1*	1
/ LOP	1	1	0	0	0
Largemouth Bass	8 inch +	12 inch +	15 inch +	20 inch +	25 inch +
/ Connors	5	3	1	0	0
/ LOP	4	4	0	0	0

Gablehouse, D. W. 1984. A length-categorization system to assess fish stocks. *North American Journal of Fisheries Management* 4:237-285.

Meetings with DNR research scientists: After the February 7 meeting in Park Falls with Dr. Greg Sass and Dr. Stephanie Shaw we were hoping to develop some plans to start a research project that would involve Connors Lake and Lake of the Pines in a broader study of lakes in our area. So far we are waiting for the next step in that process. On March 30 Steph Shaw presented an overview of research projects that she is involved with at the Lake Escanaba Research Station near Boulder Junction. Her presentation was sponsored by Walleyes for Tomorrow and was well attended by interested people from our lake association and by others from as far away as Shawano.

Dave Bauer and I have been talking about a project that we may be able to develop on our own this coming summer. We have, thanks to Dave Shiots and others who have collected water chemistry data, a real wealth of information. Over the past several years (2015-2017), we have noticed some unusual patterns developing in the Connors Lake dissolved oxygen: depth profiles. During the mid to late summer, dissolved oxygen concentrations just below the thermocline have dropped drastically. Figure 1 shows an example of this phenomenon. The low dissolved oxygen concentrations (0.69 mg/L) at 20 feet may be a significant issue for fish that want to use the cooler water 60 to 70° at that depth. Dave and I are wondering whether this is widespread across the lake, or is it confined to the open water area

(deepest spot) where the regular measurements take place. So, we propose to take some additional measurements around Connors Lake when this happens again.

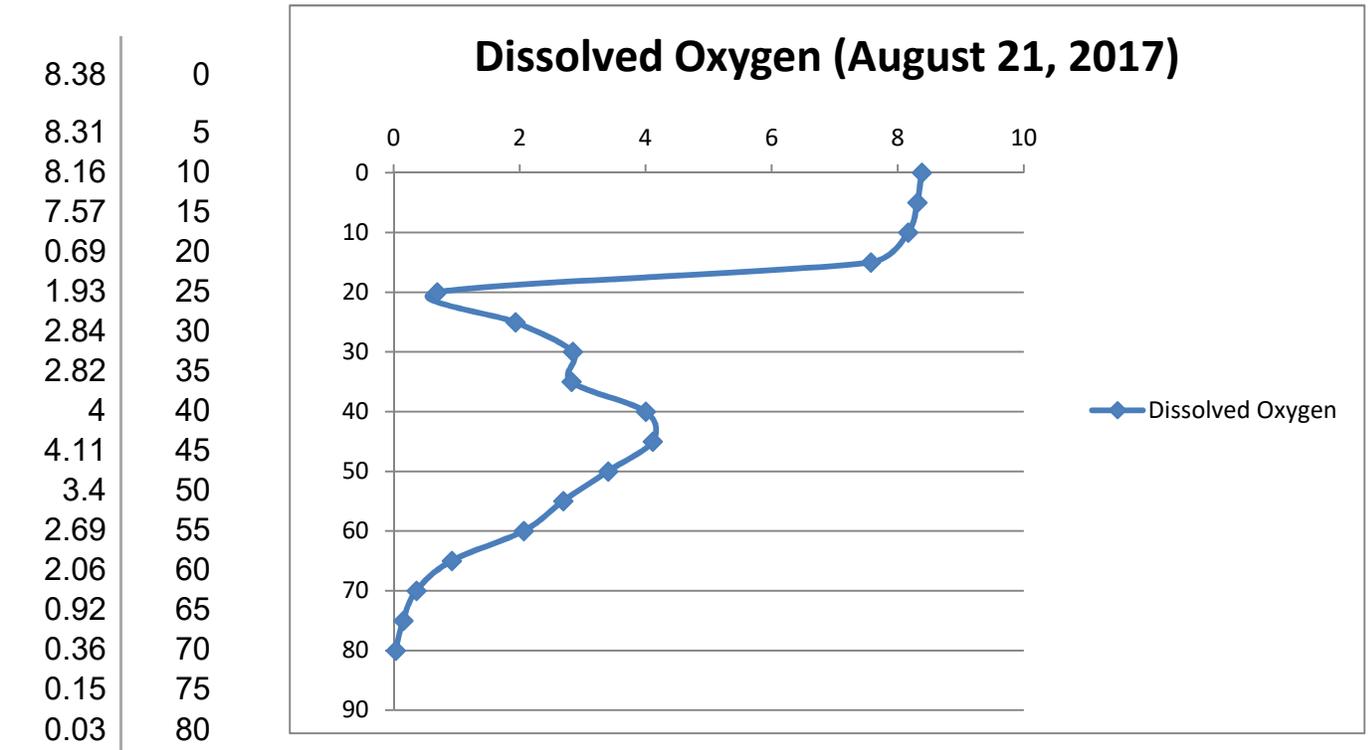


Figure 1. Dissolved Oxygen (mg/L): Depth (feet) profile from Connors Lake on August 21, 2017.

There is, however, a possibility that this situation does not develop every year. For example, in 2018 this low concentration of dissolved oxygen did not seem to develop. Figure 2 illustrates this. The dissolved oxygen concentration at 15 feet was 3.53 mg/L on August 18, 2018 and, although not ideal, that concentration of oxygen is not lethal for fish.

This is another example of how important it is for all of these activities that the lake association carries out on a regular and consistent basis are to understanding the health and well-being of these treasures that are Connors Lake, Lake of the Pines. We are indeed blessed to live and play in this wonderful area of Wisconsin and we need to take care of it so that future generations can also enjoy it.

Dave and I may be asking for some assistance to gather information that may lead to a better understanding of how water chemistry affects fish populations in these lakes.

D.O. MG/L	Depth FEET
8.57	0
8.43	5
5.54	10
3.53	15
4.69	20
4.94	25
5.82	30
5.93	35
5.53	40
5.35	45
3.88	50
2.98	55
2.77	60
1.49	65
0.25	70
0.05	75
0.04	80

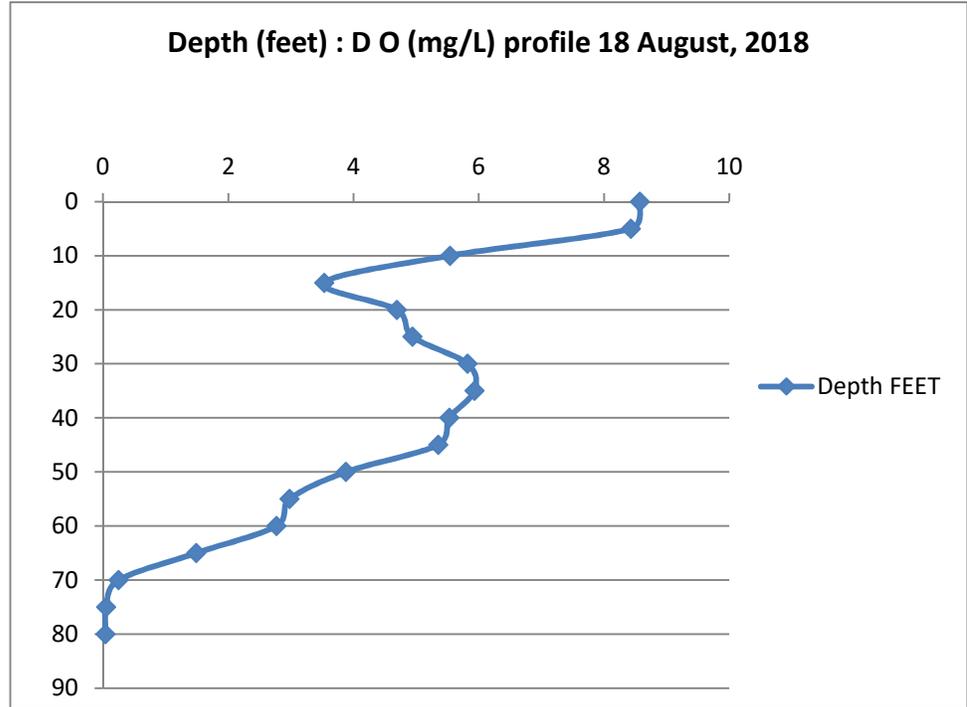


Figure 2. Dissolved Oxygen (mg/L) : Depth (feet) profile for Connors Lake, August 18, 2018

Potential for an accessible fishing pier on Connors Lake: The Fishing has no Boundaries organization is interested in locating an accessible pier in southeast Sawyer County, but they need more information on who in our vicinity would use such a facility. They need some additional information before they will commit to participating in a project on Connors Lake. I will contact Kathy Overmann and bring this before the board and the general membership later this summer.