

Using the TLWC Temperature & Dissolved Oxygen Reports to Catch More Walleye

Catching Walleye in Bull Shoals or Norfolk Lakes can often be intimidating and frustrating. Anglers routinely ask, "Where do you begin dissecting a deep lake the size of Bull Shoals or Norfolk Lake with so much shoreline and irregularities?" Understanding your prey and the water they live in is a great place to start.

The Twin Lakes Walleye Club (TLWC) temperature (Temp) and dissolved oxygen (DO) reports give you some extraordinary starting information about what depth the Walleye are likely inhabiting and where they are NOT likely to be found in great numbers. This eliminates much of the water in the lakes and can guide you to why certain fishing methods have been productive in the last 2 weeks. Our fishing reports will typically reflect this information and help you determine where the fish are likely hanging out and why.

Jeremy Risley, Arkansas Game and Fish Commission North-Central Fisheries Supervisor recently provided some background information on the importance of collecting temperature and DO readings as well as how this information can maximize your fishing success.

Risley stated "One of the most valuable aspects of these reports is to define the location of the thermocline. As the spring progresses to summer, the water temperature and density begin to become distinctly different from the upper and lower water layers. The upper layer (epilimnion) is heated by sunlight and well mixed by wind action which results in an oxygen-rich layer of less dense water. Isolated from sunlight and mixing, the denser lower water layer (hypolimnion) remains cold and typically has decreasing oxygen levels due to biological demand. A thin layer of water located between the two layers is called the metalimnion (aka thermocline). The water temperature and density in this layer rapidly decreases with depth. The dramatic changes in temperature and density act as a physical barrier that prevents the upper and lower layers from mixing. Typically, anglers will find Walleye actively feeding near the thermocline since temperature and DO levels are close to what Walleye prefer. However, Walleye will leave their comfort zones to feed and return throughout the day. Therefore, fishermen typically **catch walleye at, just above, or just below the bottom of the thermocline.**

As summer progresses, the surface temperature increases, and the biological demand decreases the DO level below the thermocline. At this point, it is believed Walleye will choose areas with ideal water temperature over DO to inhabit. That is until the DO level falls below 2-3 parts per million (PPM), which can cause Walleye to become stressed and lethargic. Temperature seems to be far less limiting to Walleye as they can thrive in warmer water than their preferred range if there is plenty of forage to fuel their revved-up metabolism. Eventually, as summer progresses into fall, the upper layer begins to cool which reduces the density of this layer. Fall winds begin mixing the lake at greater depths which pushes the thermocline deeper. Once all the layers reach a similar temperature and density, the lake has completed the "turn-over" process. This results in

similar temperatures and DO levels from top to bottom. Turn-over in Bull Shoals and Norfolk Lakes, typically, begin in October in the upper portion so the lakes end in mid to late November at the dams. At this point, the Walleye begin to scatter throughout the lake."

Jeremy goes on to state: "I dislike having preferred ranges for temperature and DO for any fish species. I've expressed this in past presentations. It causes us, the anglers, to have our blinders on and pigeonhole the fish into specific criteria instead of fishing the conditions and **let the fish tell you where they are**. The fact is they are animals, and we know that animals don't always follow the norm that we think they should. Over the years, I've caught or sampled fish in weird places that were outside their preferred ranges which left me wondering why they were there.

Jeremy has provided three publications. One is from 1979 which discusses the **biological data of Walleye**. Another from 1984 which talks about **habitat suitability of Walleye**. Finally, a **chapter from the 2011 Walleye management book** which talks about Walleye Habitat. Each publication talks about temperature and/or DO preferences for Walleye.

Temperature: As you read these you can see, there is no consensus on the Walleye's preferred range for temperature. Heck, my wife, and I can't agree on the ideal temperature for the house! I couldn't imagine trying to figure it out for millions of Walleyes in a reservoir.

DO: It appears anything over 5 PPM or mg/L is considered ideal for Walleye. They can live in DO as low as 2 PPM but can be stressed. Anything less than 2 can be lethal. That is fairly easy to measure in a lab. Now is that the same the Walleye in the wild? I can't answer that. I would guess it is fairly close.

The take-home message is many variables influence Walleye's behavior and preferences. That is why I would rather **have the fish tell you where they are or what they want** than follow some publication or even listen to one of us biologists!"

Those detailed documents Jeremy mentions are available for you who want to become better fishermen and dive deep into understanding Walleye, or to read when you just have trouble sleeping! Just click on the document title links above.

Other variables that influence where Walleye can be found include high vs low water, where the food is, and reproductive instincts, but that is another story for a different time...

You will become a more successful Walleye fisherman by eliminating non-productive areas of the lake and follow these guidelines. Start fishing by gleaning where Walleye should or should not be from our bi-weekly Temp & DO reports and combine that with the details from our club's fishing reports. Be sure to experiment and try different things (at least one thing each trip, a different: depth, area, speed, and bait or color) to "**Let**

the Walleye tell you where they are and what they want". This same message is repeated throughout many communications from professional Walleye anglers across the country!

In closing, did you find this information interesting and/or informative? If so, let us know. We can work with AGFC biologists to provide more biological background on Walleye and how it could impact your fishing success on the area lakes.

Thanks to Jeremy for his input and editing review.