



Lamprecht Pond Management Consulting

38 Yrs Experience Managing Fish Populations

Scott Lamprecht, SCDNR Retired

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Dear Mark,

I am writing in reference to my July 19th water quality assessment of Lake Frances. A quick reading was made on July 8th by the DNR. However, this was made from the causeway shoreline. This mid afternoon reading showed a somewhat depressed oxygen (50% saturation) and a salinity of greater than 9ppt (~ 25% full seawater salinity). I was able to conduct a mid day survey of the entire lake, which provided additional information and understanding of what is transpiring.

This spring, the lake has experienced a chronic low level die-off of large grass carp. A single species fish kill typically indicates a disease issue, while the death of large size individuals is indicative of a low oxygen issue. The elevated salinity level may also be a contributor as it is approaching the upper tolerance level of most freshwater fishes. The elevated salinity has affected submersed vegetation to the point that it may also contribute to eliminating critical grass carp food source.

The current oxygen profile collected throughout the lake indicated a less than ideal oxygen level throughout all arms of the lake (mid day 50% saturation). While less than ideal, it doesn't appear to be critically bad. The lake lacks a heavy algae bloom or much of any bloom in except in the deep arm of the lake. This arm actually had the highest oxygen levels down to 9' of depth.

I maintain that emergency aeration would quickly turn the system around. However, I no longer see it as an absolute necessity given the most recent oxygen survey. I see the lake conditions gradually improving as salinity drops with more freshwater inputs from the watershed. I have never seen the lake this saline. Perhaps a flap that temporarily limits high tide inputs, would help hasten this transformation. A rubber flap, hinged at the top across the downstream opening of the cut-out weir, would be helpful, even if not 100% restrictive.

Additional water quality monitoring is warranted and should be continued throughout the summer of 2022 on an as needed basis.

Regards,

A handwritten signature in black ink, appearing to read 'Scott Lamprecht', written over a light blue horizontal line.

Scott Lamprecht
Fisheries Biologist