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Pelican Lake project targets fish kill, algal bloom problems

By: **Charles Tweed**
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A new aeration system is key to solving the fish kill and blue-green algal bloom problems in Pelican Lake, according to the chair of the Pelican Lake Healthy Water and Fish Committee.

The micro-bubbler project, which is set to be installed this weekend, will see eight one-inch pipes bored out approximately 500 feet near the Pelican Yacht Club on the north end of the lake. Each line will branch out with between six to eight bubblers at the end that will provide a combined 190 cubic feet per minute of air to the bottom of the lake.

Trevor Maguire, who chairs the PLHWFC, said while he was scuba diving last year, he came across about three feet of "porridge" on the bottom of the lake, with the bottom eight inches having the consistency of "grease."

"It needs to be broken up," he said. "Putting in a substantial aeration field will go a long way to cleaning up some of the problems. It's not going to fix it entirely, but it will be the first, working, major system that will keep the lake from dying off in the bad years."

Part of the problem is the anaerobic environment that has been created on the bottom of the lake. The lack of oxygen means organic material, which also loads the lake with nutrients, cannot decay.

"If we can put oxygen into the organic material that is anaerobic, it begins to breakdown," Maguire said. "The negative is that when I do it, I put a lot of organic material into the water column and I release a lot of nutrients."

It's a delicate balance as Maguire is trying to oxygenate and stir up the lake to break down the organic material, but by doing so he will cause nutrients to be released that can cause blue-green algal blooms in the water, which can make the lake toxic.

"It's the blue-green that is the problem. That's the stuff that kills your lake, poisons the fish, kills the dog and makes you sick," Maguire said. "In the area where the bubblers are running you find that the bottom is clearer. It's still a bit mucky, but a sucker (fish) can lie on the bottom there. You go somewhere else and they drop into three feet of goop."

Worse yet, Maguire said the anaerobic organic material chokes out any healthy bacteria and organisms that might feed on the algae.

Oxygen-level tests on the water this winter were dangerously close to causing a major fish kill, which would have compounded the problem as the dead fish release nutrients back into the water and eliminate natural predators of the algae.

In December of last year, the group installed a micro-bubbler system that could pump up to 39 cubic feet of air with 20 bubblers attached.

In the winter, fish gravitate toward the bubblers. Maguire said the aerator, combined with aerators set up by the Pelican Lake Advisory Committee, helped avoid a fish kill, but it's time to take the process to the next level.

"Over time the material will become aerobic and the aerobic bacteria and critters will feed upon it and break it down further," Maguire said.

The RM of Riverside and RM of Strathcona have been supportive of the project, he said.

The group, which hasn't received any funding from the government yet, has paid for some of the equipment out of pocket and hopes to be eligible for some upcoming grants.

"It's not going to fix it overnight, it's going to take years, but it's the first step," Maguire said.

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