

March 12, 2015

Sylvia Roy, CLGM
Chief Administrative Officer
Summer Villages of Pigeon Lake
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Dear Ms. Roy:

Subject: Commercial Fishing of Pigeon Lake

Thank you for enquiring with regard to the status of commercial fishing on Pigeon Lake. The Government of Alberta closed all commercial fisheries across the entire province as of August 1, 2014. This decision was made only after significant deliberations on the many issues related to conservation and management of our fisheries. A science-based assessment of commercial fisheries was also considered and identified major issues with the continuance of commercial fishing with respect to the long-term sustainability of the finite fisheries resources in our province, and conflicts amongst stakeholders in allocation of fish at these commercially fished waterbodies. The intent of this closure is to ensure our provinces fisheries are managed sustainably and to maximize the benefits they provide to all Albertans. This closure also serves to help ensure Alberta continues honouring Treaty rights to Aboriginal fishers and takes into account our growing recreational fishing sector.

Department staff are continuing to monitor oxygen and temperature conditions through the open water season to determine in-lake conditions that result in summer-kill. Lake Whitefish are sensitive to low oxygen and high water temperatures. What we have learned about Pigeon Lake is that it rarely thermally stratifies (water layers acting as barriers to mixing due to temperature differences between layers) which means that there are few thermal refugias in the lake for species like Lake Whitefish to escape warmer water temperatures. In terms of oxygen, there are a number of factors which can lead to reduced oxygen levels in the lake during the summer months. Warmer temperatures reduce the waters capacity to hold oxygen compared to cooler temperatures, while periods with low wind will reduce the capacity of oxygen to diffuse across the lakes surface. In addition, the die off of algae during the summer-fall months results in an increased biological demand for oxygen in the water, further reducing the level in the lake. As such, Lake Whitefish summer kills that occur on Pigeon Lake are not directly linked to the numbers of fish in the Lake, but to the water quality conditions present throughout the summer months.

The commercial fishery on Pigeon Lake did not result in fewer or more summer-kills occurring nor would it have had an effect on numbers of fish that died in a summer kill event. Reduction of density of fish in Pigeon Lake will not serve to improving water quality, in fact if predatory fish numbers were drastically reduced we would likely see an increase in algal bloom magnitude as there would be more minnows and fewer zooplanktons to consume algae.

I hope this answers your question and provides some information that you can share with your Council.

Yours truly,

A handwritten signature in black ink, appearing to read 'R. Barrett', followed by a star-like flourish.

Randall Barrett
Director, Red Deer North Saskatchewan Region

cc: John Tchir, Resource Manager