OHIO NORTHERN UNIVERSITY

THE GETTY COLLEGE OF ARTS & SCIENCES

The School of Science, Technology, and Mathematics

May 7, 2023

To Whom It May Concern,

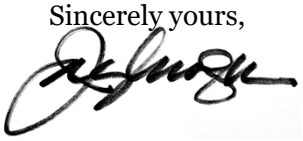
My name is Jay Mager, and I am a Professor of Biological Sciences at Ohio Northern University. I am writing in support of the State of Maine's 131st Legislature's Legislative Document Number 958, *An Act to Expand Protections to Maine's Loons from Lead Poisoning by Prohibiting the Sale and Use of Certain Painted Lead Jigs,* presented to the House of Representatives on March 2, 2023.

As a scientist who has spent the last 32 years conducting research to better understand the leading threats to loon survivorship and productivity, I have become acutely aware of some of the leading causes of Common Loon mortality in North America, including lead toxicity (see review by Paruk et al. https://doi.org/10.2173/bow.comloo.02). Thankfully, the overwhelming scientific evidence demonstrating the harm that ingestion of lead fishing gear and tackle have had on the short- and long-term health of Common Loons in North America have led to actions such as the banning of the sale and use of certain types of lead fishing tackle among a number of states, including the Maine in 2013 (LD 730, S.P. 268).

While I am grateful for such actions, I am sorry to learn that within the State of Maine, the sale of painted lead jigs were exempt from such a ban. As an ornithologist and loon biologist who has an understanding of the diet of Common Loons as well as someone who has seen radiographs of digested fishing tackle present in the gizzards of Common Loons, I believe that it is more than likely that any painting coating a lead object ingested by a Common Loon would be broken down/digested by the stones and acids within the gizzard of the Common Loon within a very short time period. The caustic acids within the gizzard are extremely powerful, as they are necessary to digest material such as fish scales, fish bones, and crayfish carapaces (and unfortunately lead), and the stones within the gizzard, like a rock tumbler, mechanically digest materials such as stainless steel. I would guess the time it takes for the paint covering a jig would be worn to a point to expose the loon to the lead beneath to be less than seven days after ingestion, but would defer more precise time estimates to experts who have examined this a bit more closely, such as Dr. Mark Pokras at Tufts University. Unfortunately, solid items like these jigs do not pass through the digestive tract, but rather remain in the gizzard of the Common Loon, and thus expose the bird to the lead that lies beneath. Consequently, this exposed lead harms Common Loons in ways that has been documented by many (e.g., Pokras and Chafel *Journal of Zoo and Wildlife Medicine* 23:92-97, Pokras et al. *Northeastern Naturalist* 16:177-182, Sidor et al. *Jounal of Wildlife Diseases 39*:306-315, Grade et al. *Ambio* 48:1023-1028), leading to the initiatives that banned the sale of use of lead fishing tackle stated in Maine LD 730 (2013). As such, it is my opinion that that the paint covering such jigs would not prevent a loon that has ingested it from the fatal effects of the lead beneath, and would cause similar harm to a loon that has ingested a 'bare lead jig'.

I appreciate your time and consideration of this testimony in support of piece of legislature. Please do let me know if/how I can be of any further assistance to you.

Sincerely yours,



Jay Mager
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