The Effects of Lead Fishing Tackle on Loons in New Hampshire

by Harry Vogel, Loon Preservation Committee Executive Director

Did you know that 50% of the loon mortalities that the Loon Preservation Committee (LPC) has collected during the past approximately 20 years resulted from ingesting lead fishing tackle? Since 1989, the Loon Preservation Committee has sent any dead loons we find on New Hampshire lakes to Dr. Mark Pokras, a Veterinary Pathologist at Tufts Center for Conservation Medicine, to learn about causes of mortality in loons. In 2010, LPC staff and volunteers recovered 16 adult loons; 11 of these adults were found to have died from ingested lead fishing tackle, the highest number ever recorded.

As a result of the record number of lead tackle mortalities in 2010, LPC and University of Wisconsin-Madison graduate student (aka Squam Lakes Loon Biologist) Tiffany Grade undertook a comprehensive investigation of collected loon mortalities from 1989 to 2010 to establish: 1) how many loons died from lead fishing tackle during that period; 2) the success of New Hampshire's legislation to protect loons from lead fishing tackle mortality; 3) the sizes and types of lead tackle ingested by loons; and 4) the population-level impacts of lead fishing tackle on loons in New Hampshire.

Legislation to restrict the use *in lakes and ponds* of lead sinkers weighing one ounce or less and lead-headed jigs measuring less than one inch in length (including the hook) took effect in New Hampshire in 2000. Subsequent legislation to restrict the use of these tackle *in all freshwater* in New Hampshire took effect in 2005, and the sale of these tackle was restricted beginning in 2006. This legislation has not been as effective as we had hoped in reducing loon deaths from ingested lead tackle. Rates of lead tackle mortalities fell only a small amount, from 12.4/1,000 adult loons to 9.8/1,000 adult loons. A large proportion (45%) of the lead tackle deaths are from continued use of illegal sinkers, but an almost equally large proportion (41%) are from large (1" or longer in length including the hook) lead-headed jigs not covered by the current legislation. **These larger lead jigs are still legal for use and sale in New Hampshire, but they are deadly to loons when ingested.**

An *adult common loon and chick.* (Photo by Kittle Wilson.)

Our data indicates that most of the lead tackle in lead-poisoned loons results from current fishing use. If loons were ingesting tackle primarily from a reservoir of lead tackle on lake bottoms, we would expect a roughly even number of lead deaths every month that loons are on lakes (April through October). However, lead tackle mortalities peak markedly in July and August, coincident with the peak of the summer fishing and

Loons, *continued on page 6*

Loons, *continued from page* 3

tourist season. We found associated tackle (hooks, line, swivels, and/ or leaders) in 66% of loons with ingested sinkers or jigs, also indicating ingestion from current use.

Lead fishing tackle is having a population-level impact on New Hampshire's loons. Lead tackle is the largest contributor to documented adult loon mortality (Figure 1). It should be noted that the numbers we present in this article are only *documented* cases of lead mortalities—we are not recovering every loon that has died from ingested lead tackle, so the data we present here should be regarded as minimum numbers and an under-estimate of the true impact of lead tackle on loons in New Hampshire.

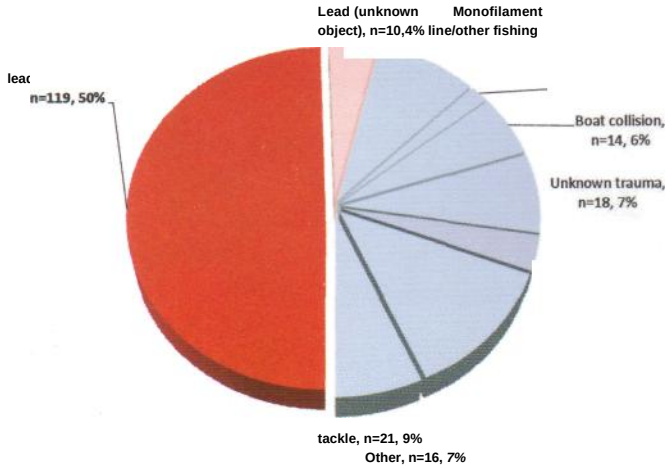

***Figure* 1: *Lead fishing tackle accounts for 50% of documented causes of adult loon mortality in New Hampshire from* 1989-2010.**

Intensive management of New Hampshire's loon population has helped loons to overcome some of the negative consequences of human activities over the past 37 **years.** LPC is proud of what our small but dedicated staff has been able to achieve with the help of our volunteers and the support of our members and friends. However, loons are still far below their estimated historical abundance in New Hampshire, and their challenges continue to grow in number and in scope every year. Lead has by far the largest impact in limiting New Hampshire's loon population growth and viability of any currently quantified stressors.

New legislation has been introduced to increase the size standard for restricted lead tackle in New Hampshire. Our data indicate that changing the currently legislated jig standard to solely a weight standard of one ounce, as proposed in the introduced legislation, would be protective of loons. The legislation would close a loophole in the law that currently allows the use of lead jigs measuring an inch or longer that weigh less than an ounce.

For more information about loons and the Loon Preservation Committee, visit www.loon.org.