

**Recommendation for support of Washington Department of Fish and Wildlife
Fish Program 2010-2011 Sportfishing Rule Proposal #32
to ban lead in fishing tackle on 13 common loon nesting lakes.**

Recommendation

I/The _____ support/s the protection of common loons nesting on Washington's lakes by eliminating a significant source of mortality from lead fishing tackle ingestion with potential lead poisoning. Loons ingest lead fishing gear and likely expire from lead toxicity, as one lead sinker can kill a loon. I/We support this ban on the use of all lead fishing tackle on Washington Department of Fish and Wildlife's selection of 13 common loon nesting lakes, and/or support a ban of lead weights, sinkers (one ounce or less), or artificial lures, jigs (two inches and less along its longest axis, measurement including the hook). This will be determined by WDFW as a recommendation to the WDFW Wildlife and Fishing Commission on October 1st and 2nd, 2010.

The leaded gear is defined as follows:

(A) "Lead jig" means any lead weighted fishing hook that measures two inches and less along its longest axis, measurements include the hook. (Lead jigs, or jig heads, are defined as lead weights of a variety of shapes that have been cast around a hook shaft.)

(B) "Lead sinker and weights" means any lead device designed to be attached to fishing line for the purpose of sinking the line, the lead portion of which is one inch/ounce or less. (Sinker category includes trolling sinkers, split-shot sinkers, bass-casting sinkers, worm weights, and many other shapes of fishing gear used to weight fishing lines.)

Basis for Recommendation

The common loon (*Gavia immer*) is a charismatic symbol of Washington's lakes that faces a variety of threats linked to anthropogenic activities. Because of the loon's top trophic-level position, high visibility to people, limited dispersal ability and relatively slow replacement rate, it is widely used as an indicator species for aquatic integrity, such as for Methylmercury. (Evers 2006).

The common loon is listed as a "State Sensitive" species in Washington State. "State Sensitive status is warranted because the common loon is a rare breeding species and vulnerable to a number of threats. Loons require special management to breed in proximity to humans, and they are likely to become endangered or threatened without continued cooperative management and removal of threats (Richardson, S., Hays, D., Spencer, R., and Stofel, J. WDFW Washington State status report for the Common Loon 53 pp. 2000).

Ingestion of lead fishing gear is the single largest cause of mortality of Washington's common loons, accounting for 39% of all mortalities in the state (Poleschook and Gumm 2008). Lead poisoning resulting from the ingestion of Pb fishing tackle has been identified as a significant cause of Common Loon mortality throughout eastern Canada and the United States. Lead poisoning affects nerve impulse transmission, causing systemic paralysis. This neurological dysfunction is the source of many of the clinical signs of acute Pb poisoning in loons such as head-shaking, gaping, wing and eye droop. Chronic toxicosis in loons has been associated with immunosuppression, and decreased weight, body fat, and muscle mass (Sidor et al 2003, M. Pokras, pers. com.). Other in-field diagnostic symptoms include green feces, disorientation, and lethargy causing less frequent dives in depth and duration, increased occurrence in shallow waters and frequent bouts of beaching with progression of condition (K. Taylor,

pers. com.). Lethargic behaviors may predispose lead-poisoned loons to boat collisions (Miconi et al. 2000).

The toxic effects of Pb are well documented and confirm a direct link between ingestion of Pb fishing tackle and mortality (McIntyre 1988, McNicholl 1988, Ensor et al. 1992, Pokras and Chafel 1992, Franson et al. 1993, Pokras et al. 1993, Poppenga et al. 1993, Scheuhammer and Norris 1996, Miconi et al. 2000, Franson et al. 2003, Sidor et al. 2003). In a nationwide waterbird study (based on live bird sampling) Franson et al. (2003) found loons to have the highest incidence of Pb ingestion (3.5%). In New England, a 14-year study diagnosing causes of mortality in 522 Common Loons documented that 44% of the breeding adults died from Pb toxicosis (Sidor et al. 2003). Substantial rates of Pb-related mortality are also known for Michigan (T. Cooley, pers. com.) and Minnesota (P. Perry, pers. com.). Radiographs were used *in situ* to document Pb ingestion (Franson et al. 2003) and relate blood Pb levels in wild birds.

Blood Pb concentrations in live-captured loons without Pb in the gizzard average less than 0.05 ppm and range up to 0.12 ppm (BRI, unpubl. data). Based on the live recovery of beached New Hampshire loons with Pb poisoning (as proven by radiographs) (Figure 9), and follow-up monitoring, most or all loons die after ingesting Pb sinkers. Blood Pb levels of these dead loons ranged from 0.24 to 0.80 ppm, ww (LPC, unpubl. data; n=21). The 36 Canadian Wildlife Service found Pb sinkers or Pb-headed jigs in all loon carcasses with lethal concentrations of Pb in the liver (Scheuhammer and Norris 1996). (Evers, D.C. 2007 Status Assessment and conservation plan for the common loon in North America, USF&WS).

Pokras and Chafel (1992) state: "In the United States and Canada, it is estimated that hundreds of tons of lead fishing tackle are deposited in marine and freshwaters annually, primarily through the loss of sinkers and jigs while fishing. More than 30 species of waterbirds, including loons, all dabbling ducks, eagles, other wildlife, domestic animals and humans, including children, have also inadvertently and/or intentionally swallowed lead sinkers with resultant lead toxicosis and even death."

The U. S. Fish and Wildlife Service state that 1.6 to 2.4 million waterbirds die from lead toxicosis in the United States per year, or about 4400 to 6500 per day. This is a likely contributor to the population decline of many waterbirds.

The common loon may inadvertently swallow sinkers or jigs when catching and swallowing fish with active fishing lines, and/or fish with broken fishing lines, or inadvertently mistake and ingest lost sinkers for small stones which helps grind fish bones and other prey in their gizzard. Wisconsin has stated that the impacts of lead on its common loon population indicates that "it's likely that loons ingest lead sinkers and jigs mistakenly along with the stones they ingest to aid their digestion of fish. The lead artifacts we have recovered from lead poisoned loons are similar in size to these stones. The proportion of lead poisoning among loon fatalities in Wisconsin is comparable to that observed in Canada (26%–30%) but is slightly lower than that of breeding loons in the New England states (44%–52%). Our findings suggest that lead exposure is a major mortality factor for loons in Wisconsin. Mortality of individual loons can occur within weeks of ingesting a lead sinker or jig."

Mortality and reduced productivity as a result of lead sinkers and jigs are clearly limiting factors for common loon nesting populations in New Hampshire, per Vogel, H. et al, 2008 (Summary of LPC field activities in New Hampshire). Studies of banded loons have revealed an 86% reduction in nesting potential in a loon territory the year after the death of the female of a territorial pair and a 42% reduction after the death of the male (Evers, D.C. 2006 and pers. Communication Vogel, H.).

There are many U.S. manufacturers that now produce lead-free sinkers and jigs that are available in fishing tackle stores and retail outlets nationwide. They are known to be effective and comparably-priced to lead sinkers and jigs. Links to non-toxic fishing tackle can be seen at: www.loonwatch.org The EPA, 1994, has referenced that one lead sinker is lost for every 6 hours of fishing. It would be irresponsible to continue to allow the use of toxic products for sports or fishing purposes and their deposition in Washington waters.

“Lead Poisoning Prevention Program”, Oregon.gov. states on their web site: “There is a human health risk for exposure to lead. Children and adults can get lead poisoning by breathing or swallowing dust that contains lead. When lead is absorbed, it affects almost every body system. Even small amounts can be harmful. Anyone can get lead poisoning. Lead is most dangerous to young children because their bodies and brains are still growing and developing. Lead can interfere with normal brain development, resulting in permanently reduced IQ and behavioral problems. Young children are more at risk for exposure to lead because children explore their environment by putting their toys, hand and other objects in their mouths. If children put objects with lead dust in their mouths, they can become lead poisoned.

**A piece of lead as small as a grain of sand is enough to
poison a child.**
(Centers for Disease Control, 1991)

References

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