

LEGISLATIVE COMMITTEE MINUTES

**SB89**

# Bill as Introduced

SB 89 - AS INTRODUCED

2013 SESSION

13-0864

10/05

SENATE BILL

**89**

AN ACT

relative to the definition of lead fishing sinkers and jigs.

SPONSORS:

Sen. Forrester, Dist 2; Sen. Watters, Dist 4; Sen. Fuller Clark, Dist 21; Sen. Odell, Dist 8; Sen. Pierce, Dist 5; Sen. Hosmer, Dist 7; Sen. Reagan, Dist 17; Sen. Gilmour, Dist 12; Rep. Lefebvre, Sull 1; Rep. L. Ober, Hills 37; Rep. Kurk, Hills 2; Rep. Kidder, Merr 5

COMMITTEE:

Energy and Natural Resources

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ANALYSIS

This bill clarifies the definition of lead fishing sinkers and jigs which are subject to the prohibition on sale and use in the state.

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Explanation:

Matter added to current law appears in ***bold italics***.

Matter removed from current law appears [~~in brackets and struck through.~~]

Matter which is either (a) all new or (b) repealed and reenacted appears in regular type.

## STATE OF NEW HAMPSHIRE

*In the Year of Our Lord Two Thousand Thirteen*

AN ACT relative to the definition of lead fishing sinkers and jigs.

*Be it Enacted by the Senate and House of Representatives in General Court convened:*

1 1 Fish and Game; Definition of Lead Fishing Sinkers and Jigs. Amend RSA 211:13-b, IV to read  
2 as follows:

3 IV. For purposes of this section, "lead sinker" means any sinker made from lead~~[, the lead~~  
4 ~~portion of which has a mass of]~~ **that weighs** one ounce or less, and "lead jig" means a lead weighted  
5 hook that ~~[measures less than one inch along its longest axis]~~ **weighs one ounce or less.**  
6 **Prohibited fishing tackle shall include lead sinkers with a total weight of one ounce or less**  
7 **and lead jigs with a total weight of one ounce or less, regardless of whether they are**  
8 **painted, coated, or covered by some other substance or by attached skirts.** Lead sinkers and  
9 lead jigs shall not include lead fishing related items including but not limited to ~~[fishing line, flies,~~  
10 ~~lures, or spoons]~~ **lead core line, spinnerbaits, buzzbaits, spoons, poppers, plugs, or flies.**

11 2 Sale Prohibited; Lead Fishing Sinkers and Jigs. Amend RSA 339:77 to read as follows:

12 339:77 Lead Fishing Sinkers and Jigs; Sale Prohibited.

13 I. No person shall sell or offer for sale within the state of New Hampshire a lead sinker or  
14 lead jig. ~~[The definition of lead sinker and lead jig in RSA 211:13-b, IV shall apply to this section.]~~

15 II. **For purposes of this section, "lead sinker" means any sinker made from lead that**  
16 **weighs one ounce or less, and "lead jig" means a lead weighted hook that weighs one ounce**  
17 **or less. Prohibited fishing tackle shall include lead sinkers with a total weight of one**  
18 **ounce or less and lead jigs with a total weight of one ounce or less, regardless of whether**  
19 **they are painted, coated, or covered by some other substance or by attached skirts. Lead**  
20 **sinkers and lead jigs shall not include lead fishing related items, including but not limited**  
21 **to lead core line, spinnerbaits, buzzbaits, spoons, poppers, plugs, or flies.**

22 III. Any person who violates this section shall be guilty of a violation.

23 3 Effective Date. This act shall take effect January 1, 2015.

**SB 89 – AS AMENDED BY THE SENATE**

03/14/13 0781s

2013 SESSION

13-0864

10/05

**SENATE BILL 89**

AN ACT relative to the definition of lead fishing sinkers and jigs and the penalties for prohibited sales of lead fishing sinkers and jigs.

SPONSORS: Sen. Forrester, Dist 2; Sen. Watters, Dist 4; Sen. Fuller Clark, Dist 21; Sen. Odell, Dist 8; Sen. Pierce, Dist 5; Sen. Hosmer, Dist 7; Sen. Reagan, Dist 17; Sen. Gilmour, Dist 12; Rep. Lefebvre, Sull 1; Rep. L. Ober, Hills 37; Rep. Kurk, Hills 2; Rep. Kidder, Merr 5

COMMITTEE: Energy and Natural Resources

**AMENDED ANALYSIS**

This bill clarifies the definition of lead fishing sinkers and jigs which are subject to the prohibition on sale and use in the state. The bill also provides that the penalty for a retail sale of a prohibited lead fishing sinker and jig is a separate violation for each day of sale.

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03/14/13 0781s

13-0864

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*Be it Enacted by the Senate and House of Representatives in General Court convened:*

1 Fish and Game; Definition of Lead Fishing Sinkers and Jigs. Amend RSA 211:13-b, IV to read as follows:

IV. For purposes of this section, "lead sinker" means any sinker made from lead~~[, the lead portion of which has a mass of]~~ **that weighs** one ounce or less, and "lead jig" means a lead weighted hook that ~~[measures less than one inch along its longest axis]~~ **weighs one ounce or less. Prohibited fishing tackle shall include lead sinkers with a total weight of one ounce or less and lead jigs with a total weight of one ounce or less, regardless of whether they are painted, coated, or covered by some other substance or by attached skirts.** Lead sinkers and lead jigs shall not include lead fishing related items including but not limited to ~~[fishing line, flies, lures, or spoons]~~ **lead core line, spinnerbaits, buzzbaits, spoons, poppers, plugs, or flies.**

2 Sale Prohibited; Lead Fishing Sinkers and Jigs. Amend RSA 339:77 to read as follows:

339:77 Lead Fishing Sinkers and Jigs; Sale Prohibited.

**I.** No person shall sell *at retail* or offer for *retail* sale within the state of New Hampshire a lead sinker or lead jig. ~~[The definition of lead sinker and lead jig in RSA 211:13-b, IV shall apply to this section.]~~

**II.** For purposes of this section, "sell at retail" or "retail sale" means the sale to any person in the state of New Hampshire for any purpose other than for resale, "lead sinker" means any sinker made from lead that weighs one ounce or less, and "lead jig" means a lead weighted hook that weighs one ounce or less. **Prohibited fishing tackle shall include lead sinkers with a total weight of one ounce or less and lead jigs with a total weight of one ounce or less, regardless of whether they are painted, coated, or covered by some other substance or by attached skirts. Lead sinkers and lead jigs shall not include lead fishing related items, including but not limited to lead core line, spinnerbaits, buzzbaits, spoons, poppers, plugs, or flies.**

**III.** Any person who violates this section shall be guilty of a *separate* violation for each day of sale or offering of sale, provided that the penalty for each violation of this section shall not exceed \$250.

3 Effective Date. This act shall take effect June 1, 2015.

## SB 89 – AS AMENDED BY THE HOUSE

03/14/13 0781s

22May2013... 1489h

2013 SESSION

13-0864

10/05

SENATE BILL **89**

AN ACT relative to the definition of lead fishing sinkers and jigs and the penalties for prohibited sales of lead fishing sinkers and jigs.

SPONSORS: Sen. Forrester, Dist 2; Sen. Watters, Dist 4; Sen. Fuller Clark, Dist 21; Sen. Odell, Dist 8; Sen. Pierce, Dist 5; Sen. Hosmer, Dist 7; Sen. Reagan, Dist 17; Sen. Gilmour, Dist 12; Rep. Lefebvre, Sull 1; Rep. L. Ober, Hills 37; Rep. Kurk, Hills 2; Rep. Kidder, Merr 5

COMMITTEE: Energy and Natural Resources

## AMENDED ANALYSIS

This bill clarifies the definition of lead fishing sinkers and jigs which are subject to the prohibition on sale and use in the state. The bill also provides that the penalty for a retail sale of a prohibited lead fishing sinker and jig is a separate violation for each day of sale.

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03/14/13 0781s

22May2013... 1489h

13-0864

10/05

## STATE OF NEW HAMPSHIRE

*In the Year of Our Lord Two Thousand Thirteen*

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*Be it Enacted by the Senate and House of Representatives in General Court convened:*

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IV. For purposes of this section, "lead sinker" means any sinker made from lead~~[, the lead portion of which has a mass of]~~ **that weighs** one ounce or less, and "lead jig" means a lead weighted hook that ~~[measures less than one inch along its longest axis]~~ **weighs one ounce or less. Prohibited fishing tackle shall include lead sinkers with a total weight of one ounce or less and lead jigs with a total weight of one ounce or less, regardless of whether they are painted, coated, or covered by some other substance or by attached skirts.** Lead sinkers and lead jigs shall not include lead fishing related items including but not limited to ~~[fishing line, flies, lures, or spoons]~~ **lead core line, spinnerbaits, buzzbaits, spoons, poppers, plugs, or flies.**

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339:77 Lead Fishing Sinkers and Jigs; Sale Prohibited.

**I.** No person shall sell *at retail* or offer for *retail* sale within the state of New Hampshire a lead sinker or lead jig. ~~[The definition of lead sinker and lead jig in RSA 211:13 b, IV shall apply to this section.]~~

**II.** For purposes of this section, "sell at retail" or "retail sale" means the sale to any person in the state of New Hampshire for any purpose other than for resale, "lead sinker" means any sinker made from lead that weighs one ounce or less, and "lead jig" means a lead weighted hook that weighs one ounce or less. **Prohibited fishing tackle shall include lead sinkers with a total weight of one ounce or less and lead jigs with a total weight of one ounce or less, regardless of whether they are painted, coated, or covered by some other substance or by attached skirts. Lead sinkers and lead jigs shall not include lead fishing related items, including but not limited to lead core line, spinnerbaits, buzzbaits, spoons, poppers, plugs, or flies.**

**III.** Any person who violates this section shall be guilty of a *separate violation for each day of sale or offering of sale, provided that the penalty for each violation of this section shall not exceed \$250.*

3 Effective Date. This act shall take effect June 1, 2016.



## CHAPTER 193

## SB 89 – FINAL VERSION

03/14/13 0781s

22May2013... 1489h

2013 SESSION

13-0864

10/05

SENATE BILL **89**

AN ACT relative to the definition of lead fishing sinkers and jigs and the penalties for prohibited sales of lead fishing sinkers and jigs.

SPONSORS: Sen. Forrester, Dist 2; Sen. Watters, Dist 4; Sen. Fuller Clark, Dist 21; Sen. Odell, Dist 8; Sen. Pierce, Dist 5; Sen. Hosmer, Dist 7; Sen. Reagan, Dist 17; Sen. Gilmour, Dist 12; Rep. Lefebvre, Sull 1; Rep. L. Ober, Hills 37; Rep. Kurk, Hills 2; Rep. Kidder, Merr 5

COMMITTEE: Energy and Natural Resources

## AMENDED ANALYSIS

This bill clarifies the definition of lead fishing sinkers and jigs which are subject to the prohibition on sale and use in the state. The bill also provides that the penalty for a retail sale of a prohibited lead fishing sinker and jig is a separate violation for each day of sale.

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03/14/13 0781s

22May2013... 1489h

13-0864

10/05

## STATE OF NEW HAMPSHIRE

*In the Year of Our Lord Two Thousand Thirteen*

AN ACT relative to the definition of lead fishing sinkers and jigs and the penalties for prohibited sales of lead fishing sinkers and jigs.

*Be it Enacted by the Senate and House of Representatives in General Court convened:*

193:1 Fish and Game; Definition of Lead Fishing Sinkers and Jigs. Amend RSA 211:13-b, IV to read as follows:

IV. For purposes of this section, "lead sinker" means any sinker made from lead~~[, the lead portion of which has a mass of]~~ **that weighs** one ounce or less, and "lead jig" means a lead weighted hook that ~~[measures less than one inch along its longest axis]~~ **weighs one ounce or less. Prohibited fishing tackle shall include lead sinkers with a total weight of one ounce or less and lead jigs with a total weight of one ounce or less, regardless of whether they are painted, coated, or covered by some other substance or by attached skirts.** Lead sinkers and lead jigs shall not include lead fishing related items including but not limited to ~~[fishing line, flies, lures, or spoons]~~ **lead core line, spinnerbaits, buzzbaits, spoons, poppers, plugs, or flies.**

193:2 Sale Prohibited; Lead Fishing Sinkers and Jigs. Amend RSA 339:77 to read as follows:

339:77 Lead Fishing Sinkers and Jigs; Sale Prohibited.

**I.** No person shall sell *at retail* or offer for *retail* sale within the state of New Hampshire a lead sinker or lead jig. ~~[The definition of lead sinker and lead jig in RSA 211:13-b, IV shall apply to this section.]~~

**II.** For purposes of this section, "sell at retail" or "retail sale" means the sale to any person in the state of New Hampshire for any purpose other than for resale, "lead sinker" means any sinker made from lead that weighs one ounce or less, and "lead jig" means a lead weighted hook that weighs one ounce or less. **Prohibited fishing tackle shall include lead sinkers with a total weight of one ounce or less and lead jigs with a total weight of one ounce or less, regardless of whether they are painted, coated, or covered by some other substance or by attached skirts. Lead sinkers and lead jigs shall not include lead fishing related items, including but not limited to lead core line, spinnerbaits, buzzbaits, spoons, poppers, plugs, or flies.**

**III.** Any person who violates this section shall be guilty of a *separate* violation for each day of sale or offering of sale, provided that the penalty for each violation of this section shall not exceed \$250.

193:3 Effective Date. This act shall take effect June 1, 2016.

Approved: July 2, 2013

Effective Date: June 1, 2016

# Amendments

Amendment to SB 89

1 Amend the title of the bill by replacing it with the following:

2

3 AN ACT relative to the definition of lead fishing sinkers and jigs and the penalties for  
4 prohibited sales of lead fishing sinkers and jigs.  
5

6 Amend the bill by replacing section 2 with the following:

7

8 2 Sale Prohibited; Lead Fishing Sinkers and Jigs. Amend RSA 339:77 to read as follows:

9 339:77 Lead Fishing Sinkers and Jigs; Sale Prohibited.

10 I. No person shall sell *at retail* or offer for *retail* sale within the state of New Hampshire a  
11 lead sinker or lead jig. [~~The definition of lead sinker and lead jig in RSA 211:13-b, IV shall apply to~~  
12 ~~this section.~~]

13 II. For purposes of this section, “sell at retail” or “retail sale” means the sale to any  
14 person in the state of New Hampshire for any purpose other than for resale, “lead sinker”  
15 means any sinker made from lead that weighs one ounce or less, and “lead jig” means a  
16 lead weighted hook that weighs one ounce or less. Prohibited fishing tackle shall include  
17 lead sinkers with a total weight of one ounce or less and lead jigs with a total weight of one  
18 ounce or less, regardless of whether they are painted, coated, or covered by some other  
19 substance or by attached skirts. Lead sinkers and lead jigs shall not include lead fishing  
20 related items, including but not limited to lead core line, spinnerbaits, buzzbaits, spoons,  
21 poppers, plugs, or flies.

22 III. Any person who violates this section shall be guilty of a *separate* violation for each  
23 day of sale or offering of sale, provided that the penalty for each violation of this section  
24 shall not exceed \$250.

**Amendment to SB 89**

**- Page 2 -**

2013-0467s

**AMENDED ANALYSIS**

This bill clarifies the definition of lead fishing sinkers and jigs which are subject to the prohibition on sale and use in the state. The bill also provides that the penalty for a retail sale of a prohibited lead fishing sinker and jig is a separate violation for each day of sale.

Amendment to SB 89

1 Amend the title of the bill by replacing it with the following:

2

3 AN ACT relative to the definition of lead fishing sinkers and jigs and the penalties for  
4 prohibited sales of lead fishing sinkers and jigs.  
5

6 Amend the bill by replacing sections 2 and 3 with the following:

7

8 2 Sale Prohibited; Lead Fishing Sinkers and Jigs. Amend RSA 339:77 to read as follows:

9 339:77 Lead Fishing Sinkers and Jigs; Sale Prohibited.

10 I. No person shall sell *at retail* or offer for *retail* sale within the state of New Hampshire a  
11 lead sinker or lead jig. ~~[The definition of lead sinker and lead jig in RSA 211:13-b, IV shall apply to~~  
12 ~~this section.]~~

13 II. For purposes of this section, "*sell at retail*" or "*retail sale*" means the sale to any  
14 person in the state of New Hampshire for any purpose other than for resale, "*lead sinker*"  
15 means any sinker made from lead that weighs one ounce or less, and "*lead jig*" means a  
16 lead weighted hook that weighs one ounce or less. *Prohibited fishing tackle shall include*  
17 *lead sinkers with a total weight of one ounce or less and lead jigs with a total weight of one*  
18 *ounce or less, regardless of whether they are painted, coated, or covered by some other*  
19 *substance or by attached skirts. Lead sinkers and lead jigs shall not include lead fishing*  
20 *related items, including but not limited to lead core line, spinnerbaits, buzzbaits, spoons,*  
21 *poppers, plugs, or flies.*

22 III. Any person who violates this section shall be guilty of a *separate violation for each*  
23 *day of sale or offering of sale, provided that the penalty for each violation of this section*  
24 *shall not exceed \$250.*

25 3 Effective Date. This act shall take effect June 1, 2015.

2013-0781s

AMENDED ANALYSIS

This bill clarifies the definition of lead fishing sinkers and jigs which are subject to the prohibition on sale and use in the state. The bill also provides that the penalty for a retail sale of a prohibited lead fishing sinker and jig is a separate violation for each day of sale.



Rep. Ketel, Straf. 17  
May 1, 2013  
2013-1489h  
10/04

**Amendment to SB 89**

Amend the bill by replacing section 3 with the following:

**3 Effective Date.** This act shall take effect June 1, 2016.

Rep. J. Webb, Rock. 6  
Rep. F. Rice, Rock. 21  
Rep. Sanders, Rock. 12  
Rep. Burt, Hills. 6  
May 1, 2013  
2013-1503h  
10/04

Floor Amendment to SB 89

Amend the bill by replacing section 3 with the following:

3 Effective Date.

- I. Section 2 of this act shall take effect June 1, 2019.
- II. The remainder of this act shall take effect June 1, 2016.

# Committee Minutes

**SENATE CALENDAR NOTICE  
ENERGY AND NATURAL RESOURCES**

Senator Russell Prescott Chairman  
 Senator Bob Odell V Chairman  
 Senator Jeb Bradley  
 Senator Martha Fuller Clark  
 Senator Jeff Woodburn

For Use by Senate Clerk's Office ONLY	
<input type="checkbox"/>	Bill Status
<input type="checkbox"/>	Docket
<input type="checkbox"/>	Calendar
Proof: <input type="checkbox"/>	Calendar <input type="checkbox"/> Bill Status

**Date: February 12, 2013**

**HEARINGS**

**Wednesday**

**2/20/2013**

ENERGY AND NATURAL RESOURCES

LOB 101

9:00 AM

(Name of Committee)

(Place)

(Time)

**EXECUTIVE SESSION MAY FOLLOW**

**Comments:** This is an amended notice

- |          |              |   |
|----------|--------------|---|
| 9:00 AM  | SB65-FN      | relative to energy efficiency plans of gas and electric distribution companies.           |
| 9:15 AM  | SB89         | relative to the definition of lead fishing sinkers or jigs.                               |
| 9:30 AM  | SB148-FN     | relative to electric renewable portfolio standards.                                       |
| 9:45 AM  | SB154-FN-A-L | establishing an energy conservation loan program and an energy conservation project fund. |
| 10:00 AM | SB188-FN     | relative to municipally-owned utilities.  |

**Sponsors:**

**SB65-FN**

Sen. Martha Fuller Clark

Rep. Beatriz Pastor

Rep. Peter Bixby

**SB89**

Sen. Jeanie Forrester

Rep. Benjamin Lefebvre

Sen. David Watters

Rep. Lynne Ober

Sen. Martha Fuller Clark

Sen. Bob Odell

Sen. David Pierce

Sen. Andrew Hosmer

Sen. John Reagan

Rep. Neal Kurk

Rep. David Kidder

Sen. Peggy Gilmour

**SB148-FN**

Sen. Jeb Bradley

Sen. David Boutin

Sen. Sharon Carson

Sen. Sam Cataldo

Sen. Jeanie Forrester

Sen. Martha Fuller Clark

Sen. Bob Odell

Sen. Jeff Woodburn

Rep. Gene Chandler

Rep. Naida Kaen

Rep. Beatriz Pastor

**SB154-FN-A-L**

Sen. Bob Odell

Rep. Beatriz Pastor

Rep. Raymond Gagnon

**SB188-FN**

Sen. Peggy Gilmour

Sen. Jim Rausch

Sen. Sharon Carson

Sen. David Boutin

Sen. Bette Lasky

Sen. Donna Soucy

Rep. Brian Rhodes

Rep. David Campbell

Rep. Michael O'Brien

Rep. Shannon Chandley

Rep. John Graham

# SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

*Chris Cote, Legislative Aide*

**SB 89 – relative to the definition of lead fishing sinkers and jigs.**

Hearing Date: 2.20.13

Time Opened: 9:26am

Time Closed: 11:45am

**Members of the Committee Present:** Senators Bradley, Fuller Clark, Odell, Prescott, and Woodburn

**Members of the Committee Absent:** none

**Bill Analysis:** This bill clarifies the definition of lead fishing sinkers and jigs which are subject to the prohibition on sale and use in the state.

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**Sponsors:** Sen. Forrester, Dist 2; Sen. Watters, Dist 4; Sen. Fuller Clark, Dist 21; Sen. Odell, Dist 8; Sen. Pierce, Dist 5; Sen. Hosmer, Dist 7; Sen. Reagan, Dist 17; Sen. Gilmour, Dist 12; Rep. Lefebvre, Sull 1; Rep. L. Ober, Hills 37; Rep. Kurk, Hills 2; Rep. Kidder, Merr 5

**Who supports the bill:** Carl Malcolm, EB James, Nancy McDonald, Blair Newcomb, Tom O'Brien NH Lakes, Teresa Lynch Mascoma Lake Association, Rep. Karen Ebel, Jim O'Brien The Nature Conservancy, Jone Fichter Lake Sunapee Pro. Assoc. Ralph Kirshner, Catherine Corkery NH Sierra Club, Cynthia O'Leary, Frank Raffafle, Sheridan Brown Loon Preservation Committee, Harry Vogel LPC, Mark Pokras PhD Tufts University, Rick Vand Pete Ecosystem Management Consultants, Kittie Wilson LPC, Rep. Suzanne Smith, Dean Merchant, Sen. Forrester SD2, Tyffany Grade LPC, John Cooley LPC, Andrea LaMoreaux NH AKGS Assoc. Paul Nickerson NH Audubon, Elizabeth Williamson, Sen. David Watters, Sen. David Pierce, Mark Chaffee, Shirley Green, Frieda Yueh

**Who opposes the bill:** James Doughty NH Bass Nation, Frank Campisi NH Bass Nation, Robert Goss, David Poole NH Guides Association, Brandi Nute AJ's Bait and Tackle, Gary Clark Northern Bass Survey, Justin Bridgham, Dick Smith NH Bass Federation, Stephen Perry Anglers, Bill Carney, Rep. Al Baldasaro, Tom Hubert NH Fish and Game, Bayard Lonmiller,

**Summary of testimony presented in support:**

- Senator Forrester, SD2, introducing the bill to protect loons and other birds that might swallow the sinkers, bans lead jigs or sinkers weighing 1 ounce or less, hook with piece of lead molded on it, this bill only impacts tackles weighing more than 1 ounce, and excludes spinner bait and other similar items, used MA language as a starting point defined the weight at the total lure, does not take effect till 2015
- Rep. Paul Henle, Merrimack D12, long history with the lakes region, supporting the bill, main concern is that NH needs to have a brand that cares about the environment, worried that people might think NH does not care about the environment, support the loons and economy of lakes region,
- Sheridan Brown, Loon Preservation Committee, education cannot reduce mortality because education has been tried for 15 years, it has not worked, in other states education programs do not work either, lead sinkers remain the largest known cause of mortality, other states have followed suit with NH and banned the use of lead in certain circumstances in fresh water, this bill will make NH in concert with MA, this bill will have a minimal impact on current fishermen, there is an expanded market for lead free tackle, many lures are not impacted by this bill and there is a phase in process for this bill, retailers can sell their inventories until 2015, wildlife watchers spend more in NH than anglers and will be only encouraged by this change, this bill is consistent with NH F and G's mission saying that one person's recreation should not be at another person's activity

Sen. Clark

- Q: heard in numerous emails that this will increase cost, the difference is typically an increase A: there is an increase in cost, not universally true to say this is more expensive,
- Q: its seems that in light of other tackle, this is a relatively small increase? A: will impact different people differently

Sen. Odell

- Q: one of the concerns of fish and game, VT does not have lead protection but there loon population has been growing, A: defer to other experts here, but VT does have ban on half ounce or less lead tackle
- Mark Poquas, Vet professor from Tufts University, handed out pictures of tackle that has killed loons in NH, this weekend there was a scientific meeting in Boston regarding lead and human health including birds, the scientific and medical community are against lead, sporting goods are often made with lead, alarming number of loons dying because of this tackle, population levels are impacted due to this tackle, and lead poisoning is terrible, chronic and slow death, takes this issue seriously from a number of perspectives

Sen. Bradley

- Q: expert on loon mortality, ask for comment on one sentence that loon mortality is very low and population is increasing, A: the study went across the country and focused on a small sample size, not the animals that are coming in sick and dying, good study and not representative of here
- Q: regarding public policy, look at your work over this other study? A: that over decades my work has shown that there are numerous concerns including pollution and development, there are other threats
- Harry Vogel, NH Loon preservation committee, senior biologist and executive director, lead fishing tackle, in 2010 the committee collected 11 loons dead from lead, a comprehensive study that looked at dead loons from 1989-2010, 49% died due to lead, loons get this lead from fish that they consume, loons make strike directly at tackle and occasionally from lake bottom. What is seen is that in July and August deaths peak due to increased fishing during summer months, often it is larger jigs with lead that are found to kill loons, weights range up to .74 ounces meaning that 1 ounce jigs are the problem, the lead that is widely dispersed during digestion is the problem, the largest ever found was over 1 ounce, lead fishing tackle is 9 times the cause of death for loons than the next item, minimum numbers are presented here because finding carcasses is difficult, loons are long lived birds and they do not breed until 6 or 7
- Rick Van Pole, PhD in natural resource management, in favor of this bill, there are alternative substances, and there are other concerns associated with the usage of lead, this substance can be addressed and NH can take a leadership role on this, getting rid of lead will help other wildlife
- Carl Malcom, as a lead alternative manufacture, developed a metal alloy of bismuth and tin to make tackle
- Senator Odell: Q: longer term, are sales up, more acceptance, what is the trend, A: more momentum now, Bass Pro Shops brought them in, within 10 years this will be the tackle used
- Q: have you felt the change and is the law impacting this A: this is still in its infancy and many anglers do not know about the law, comparatively priced,
- Senator Bradley: Q: what is the price difference, A: extra 10% price, process is the same but the metal is the cost,
- Q: what would be the cost to fill the tackle box? A: tournament angler would be a \$500 investment, smaller for most anglers,
- Q: predict that in five years lead will phase out? A: based on economics
- Senator Prescott: Q: can anyone distribute your tackle A: yes anyone can
-

**Summary of testimony presented in opposition:**

- Rep. Baldasaro, HD Rockingham D5, opposed, the bill came to the house and was killed, the bottom line is that this tackle is not killing these birds, in NH the issue is shoreline development that encroaches on their territory, this bill is a threat to fishing tournaments, veterans groups, young children, nothing that backs this bill regarding studies, the study from the EPA does not suggest lead has an impact on these birds, NH Fish and Game opposes this bill, financial burden on NH businesses
- Glenn Normandeau, NH fish and game, director, no one wants to see loons die, this is a passionate topic, its NH fish and game that must take care of these birds, have gone over this topic before, the department has setup a committee to discuss this issue with all interested parties, commission unanimously voted against this bill, bill has several problems, would cover shops on the coast and harm the sale of saltwater tackle, the current bill we have works well regarding 2000 and 2004 legislation, the high pressure education process was effective initially but not for long term, as education pressure was lessened the mortality rates went up, currently sustaining long term education is the challenge, there is a concern with the practicality with enforcement and the department being blamed for mortality rates, practical issues involved here and would like to work on a collaborative process to address this concerns, very frustrating,  
Sen. Bradley
- Q: this bill has been here for a long time, bill passed in 1998, if the committee saw fit to re-refer the bill for one year, could a consensus be found, A: I cannot guarantee an outcome  
Sen. Odell
- Q: concerns about this proposed bill, is it still possible to work with committee to make the bill easier for NH fish and game, A: better addressed by commission member testifying afterward  
Sen. Fuller Clark
- Q: Overtime, will need for this tackle diminish, and we will not see this tackle used? A: in ten years this tackle will be gone for the most part, and slowly being phased out, problem here is in market and pricing, at the federal level there is much effort going in to remove lead from environment in many ways, and there is a point where this issue will be moot,
- Gary Clark, resident of Merrimack, owner of Northern Bass Supply, reality check on what we are talking about here, this law will restrict the size of jigs, bass jigs only account for a .05% of loon deaths, this bill will put him out of business by making him less competitive with other companies engaged in



online sales, several items he has currently would not be allowed to be sold under the bill, puts out a catalog every year and increasing the cost will lower the demand, often people will buy tackle at one location and this will stop them from coming to this location, essentially making this inventory worthless, alternatives are not that prevalent, tungsten must be made into powder form before working the metal, brass or steal work in other tackle but not jigs, suppliers would have to retool with a different substance, fishermen will go where its competitive and they will continue to use their current tackle rather than replacing it, Fish and Game are not lead police and have more important issues than checking lead tackle, must be education on this issue

Senator Prescott

- Q: do you have in catalog that some jigs not available for sale in MA, A: no

Senator Odell

- Q: testimony concerns me, do not want to put anyone out of business, amendment will allow the sale outside the state, but not in the state, A: well that would complicate things and create confusion, sell to someone in CT but not if they come up here to buy something
- Justin Brigham, NH resident, opposed to legislation, fisherman, competing in tournaments since 2005, has a degree in biology from Plymouth State, has a decent foothold on both sides of the argument, committee was formed to address the concerns of this bill but was never given a chance, handed out several studies, average weights found are much lower than half an ounce, jigs and split shot sinkers found were very small, average weight of stones found in loons are similar to average weight of sinkers found, studies suggest that loons are getting sinkers off bottom, not off prey items, is lead having an overall negative impact and will further restrictions have an impact? Most likely not, and these regulations will harm economy,
- James Doughtry, treasurer of Bass Nation in NH, shows various types of lures used, jigs would be outlawed if bill passes, making the point that lures do not look like prey items of loons, jigs and number 2 lures look nothing like fish prey, trying to bring more fishing events to the state but will not bring an event to NH, regulations would hurt average fishermen because they would be spending more on replacing their tackle box, why do fishermen have to support this issue, have not asked for waterfront zoning, have not asked for restrictions on beaches, fishermen are first conservationists, care about the environment, never witness a loon chasing his bait or fishing being reeled in never heard of it
- Tom Hubert, NH fish and game, commission is against this bill, commission was surprised to revisit this issue again and felt that it was a work in progress, proposed legislation will not take effect until much later and why the rush, loons are making a great recovery, loon population is growing

considerably, most of the deaths are due to tackle that is banned already and new legislation will not be effective, conservations officers will not be citing young anglers at dockside, enforcement issue, could be a negative impact on local tackle shops, concern that increase regulations will hurt these businesses, this is an issue that is taking care of itself in that most shops are already moving away from lead, no one on the commission is anti loon and education is the answer, if the bill does pass then education funding will be required

- Senator Bradley: Q: Bass anglers use lures that are what size? A: most often it is the tackle used by kids using light tackle that is the problem and bass fishermen use heavier equipment,
- Jake Smith NH Bass federation, bass fisherman, opposed to the legislation, everyone likes the loons and does the bill make a difference or make sense? No dispute that small lead objects can cause death in loons, but what is reasonable, collectively these studies suggest that it is small amounts of lead that are at issue, not the larger lures, why did Maine, VT, and NY arrive at a different size and not outlaw jigs? Skirted jigs made out of substitute metals are not currently available, most bass fishermen are already using different smaller materials, tungsten is typically much more expensive than lead over double the price
- Senator Bradley: Q: if the bill were amended to be ½ ounce, you support it A: not for jigs, but for sinkers

**Fiscal Note:**

See Fiscal Note

**Future Action:**

CSC

Date hearing report completed: 2.26.13

[file: SB0089 report]

# Speakers

# SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

Date: 2.20.13

Time: 9:15A.M. Public Hearing on SB89

SB 89 - relative to the definition of lead fishing sinkers and jigs.

Please check box(es) that apply:

SPEAKING	FAVOR	OPPOSED	NAME (Please print)	REPRESENTING
✓	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> FRANK RAFFAELLI	SELF LAKES
✓	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> GARY CLARK	NORTHERN MASS SUPPLY
✓	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Justin Brigham	SELF / NH TRF
✓	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Dick Smith	NH BASS FEDERATION
✓	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> Sheridan Brown	Loon Preservation Cmte
★	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> Harry Vogel	Loon Pres. Comm.
★	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> MARK TOKRAS	Tufts Univ.
✓	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> Tida Vande Fed	Ecosystem Mgmt Consultants
✓	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> STEPHEN PERRY	Anglers
✓	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Kithie W. Susan	LPC
✓	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> John B. Wilson	NH LAKES
✓	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> BILL CARNEY	SELF
✓	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> Rep Suzanna Smith	Grafton
✓	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Linda Howes	SELF health pack hair
✓	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> Dean merchant	SELF
✓	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> Senator Forrester	Dist. 02
✓	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> Tiffany Shade	LPC
✓	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> JOHN COOLEY	LPC
✓	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> ANDREA LAMOREAUX	NH LAKES ASSOC
★	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Rep Al Baldasaro	Rock-DIST 5
		<input checked="" type="checkbox"/>	JOHN SHEEHAN	SELF

# SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

Date: 2.20.13

Time: 9:15A.M. Public Hearing on SB89

SB 89 - relative to the definition of lead fishing sinkers and jigs.

Please check box(es) that apply:

SPEAKING FAVOR		OPPOSED	NAME (Please print)	REPRESENTING
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <u>CALL (CHIP) MALCOLM</u>	<del>SELF</del> <sup>LUNDAH HENDALL TACKLE CO.</sup>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <u>E. B. James</u>	<u>Squam Lakes Association</u>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <u>James Doughty</u>	<u>NH B.A.S.S. Nation</u>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <u>Nancy McDonald</u>	<u>Self</u>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <u>Blair Deborah Newcomb</u>	<u>self</u>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <u>Tom O'Brien</u>	<u>NH LAKES</u>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <u>FRANK CAMPISI</u>	<u>NH BASS NATION</u>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <u>Robert Goss</u>	<u>Mass TBF / Resident</u>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <u>Teresa Lynch</u>	<u>Mascoma Lake Assoc</u>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <u>Rep. Karen Ebel</u>	<u>Merrimack Dist #5</u>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <u>DAVID POOLE</u>	<u>NH GUIDES ASSOC.</u>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <u>Jim O'Brien</u>	<u>The Nature Conservancy</u>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <u>JOE FICHTER</u>	<u>LAKE SWAPPEE PROT. ASSN</u>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <u>RALPH KIRSHNER</u>	<u>SELF</u>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <u>Catherine Corkery</u>	<u>NH Sierra Club</u>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <u>Cynthia O'Leary</u>	<u>self</u>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <u>Glenn Normandeau</u>	<u>NH F&amp;G</u>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <u>Brandi Nute</u>	<u>AJ's Bait + Tackle</u>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <u>Alvin Chute</u>	<u>AJ's Bait + Tackle</u>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>REP. PAUL HENLE</u>	<u>MERRIMACK DIST 12</u>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>Shirley Gilman</u>	<u>DIST. #12</u>





# Testimony





**New Hampshire Guides' Association  
PO Box 255  
Tilton, N.H. 03276**

Senator Russell Prescott  
State House  
Room 302  
107 North Main Street  
Concord, NH 03301

February 20, 2013

Dear Chairman Prescott,

My name is Richard Estes, I am a resident of Ossipee, NH and I am the current Legislative Liaison for the New Hampshire Guides' Association. We are an organization of professional hunting, fishing and recreational guides that offers our services to the citizens and visitors of our great state. We would like to submit this written testimony to you and the other honorable members of the Committee on Energy and Natural Resources, to voice our opposition to Senate Bill 89 as written. The President of the New Hampshire Guides' Association (NHGA) has polled our membership and with a vote of our board of directors we overwhelmingly oppose this bill.

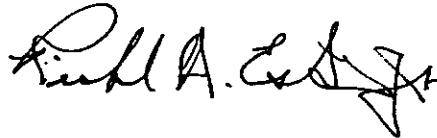
As you know this is not the first time that similar legislation has been proposed in reference to the prohibition of lead in fishing gear. As a matter of record over the past twenty plus years RSA 211:13-b has been changed several times. Also some attempts to change this statute have failed over the same period of years. The most recent proposed changes to this statute was in the last legislative session. It is our belief that the product of this last attempt to fine tune RSA 211:13-b was the establishment of a committee to look at this issue and come up with recommendation that might finally resolve the questions of lead in fishing equipment. Our organization was invited to participate in these deliberations, and we in fact assigned a member of the NHGA to be our representative. With the 2013 session of the general court, we find new legislation with no apparent input from this committee. That leaves us to look at Senate Bill 89 and offer to you our concerns.

Firstly, we understand that the fishing tackle industry is very dynamic, in that someone is always coming up with a new idea. That leaves two alternatives as we see it, to either constantly change legislation in an attempt to address these changes or to institute well thought out legislation that addresses the root problem. The first alternative proves to be confusing to the general fishing public, as well as expensive, because fishermen go out and find equipment that fits the law only to have new legislation come along and outlaw it in a few short years. Of course, we would rather get some legislation enacted that would stand the test of time. That said, we have adapted our fishing equipment to RSA 211:13-b as of the last change. We see nothing wrong with the language "...“lead jig” means a lead weighted hook that measures less than one inch along its longest axis....”.

To address the changes in what RSA 211:13-b IV has presently, as far as the exceptions to the definitions of “lead sinkers” and “lead jigs”, we can offer that only “flies” has a statutory definition under RSA 207:1 VII. The proposed changes to the exception, “lead core line, spinnerbaits, buzzbaits, spoons, poppers, plugs”, have no statutory definitions. In the case of lead core lines and buzzbaits, even Webster’s Dictionary doesn’t define them. This issue alone makes this legislation, as written, flawed. We would point out that this appears to be an attempt to keep stride with the dynamic nature of the fishing tackle industry, which we previously stated would not be our first choice.

The New Hampshire Guides’ Association would respectfully submit that you give the committee, that was proposed by the previous session of the legislature, a chance to come up with meaningful legislation that can be enforced after its passage. This committee, as we understand it, was charged with producing an educational answer to the lead issue as well. We feel that educating the fishing public will be a better and more palatable solution than the threat of court appearances and \$250 fines. Being so connected to the fishing tackle industry as we are as guides, it is abundantly clear to us that no legislative body could be expected to maintain pace with the ever changing flow of new ideas that come from that industry.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Richard A. Estes". The signature is fluid and cursive, with a prominent initial "R" and "A".

Richard A. Estes  
Director/Legislative Liaison  
New Hampshire Guides’ Association

[http://cfpub.epa.gov/ncer\\_abstracts/index.cfm/fuseaction/display.abstractDetail/abstract/1916/report/F](http://cfpub.epa.gov/ncer_abstracts/index.cfm/fuseaction/display.abstractDetail/abstract/1916/report/F)

Final Report: Evaluating the Impact of Multiple Stressors on Common Loon Population Demographics - An Integrated Laboratory and Field Approach

EPA Grant Number: R829085

Title: Evaluating the Impact of Multiple Stressors on Common Loon Population Demographics - An Integrated Laboratory and Field Approach

Investigators: Meyer, Michael W.

Institution: Wisconsin Department of Natural Resources

EPA Project Officer: Sergeant, Anne

Project Period: October 1, 2001 through March 31, 2005 (Extended to November 25, 2005)

Project Amount: \$490,759

RFA: Wildlife Risk Assessment (2001)

Research Category: Biology/Life Sciences , Ecological Indicators/Assessment/Restoration

Description:

Objective:

In this research project, an intensive effort was focused on collecting information on the abundance, distribution, and health of common loons inhabiting an area of Wisconsin where lakes vary in Hg contamination and degree of habitat alteration and human disturbance. A rigorous field sampling scheme was used to produce a random sample of loon breeding pairs, from which the common loon population density and critical population demographic parameters (adult survival, fecundity, and juvenile recruitment) were quantified. Concurrently, the impact of stressors on these parameters was quantified. Several stressors are likely associated with impacts on loon demographic parameters including Hg exposure, habitat quality, and human disturbance.

The goals of this project were to: (1) conduct research to improve predictions of loon population dynamics in regions impacted by multiple stressors, (2) advance techniques for assessing the relative risk of Hg exposure and other stressors on loon populations in the Upper Midwest United States, and (3) predict the population level benefits of reducing or controlling the impact of stressors on loon populations. The specific objectives of the research project were to: (1) estimate the population size of adult common loons in an 8,600 km<sup>2</sup> region of northern Wisconsin impacted by Hg deposition, habitat alteration, and human disturbance; (2) quantify loon population demographic parameters within this study area, including adult survival, fecundity, and juvenile recruitment rates; (3) assess the impact of stressors (Hg exposure, habitat alteration, human disturbance) on the measured demographic

parameters; and (4) predict the population-level benefits that could be achieved by reducing stressors demonstrated to impact demographic parameters

The results include a Common Loon Projection Matrix Model, which provides output predicting population growth rates as a function of estimates of loon population abundance, demographic parameters, and impacts of stressors on the parameters.

#### Summary/Accomplishments (Outputs/Outcomes):

Field surveys were conducted from May 1 to September 30 in 2002, 2003, and 2004 to estimate the loon population density and population demographic parameters (adult survival, fecundity, and juvenile recruitment) within the area of risk. Geographic information system (GIS) tools were used to create an 8,600 km<sup>2</sup> sample grid, which was subdivided into 344 25-km<sup>2</sup> cells. Cells were stratified into four categories of loon nesting habitat quality based on surface water area (hectares). Cells were randomly selected (22 in 2002, 32 in 2003, 36 in 2004) from each strata and all lakes greater than 4 ha within or intersected by the cells were surveyed to count and map the number and location of loons present. There are a total of 1,582 waterbodies greater than 4 ha within the study area; 4 ha is the minimum size lake used by territorial loons in the risk assessment region. The dual frame sampling method (Haines and Pollock, 1998) was used to estimate population abundance. Demographic parameters (adult survival, juvenile recruitment, fecundity) were estimated via reobservation of color-marked individuals and weekly surveys of lakes occupied by territorial loons, which quantified nest success and chick survival. A two-stage site specific Wisconsin Loon Projection Matrix model was developed that produces an estimate of the annual growth rate of the loon population within our study area in 2002-2004.

The impact of Hg exposure on demographic parameters was assessed in the field and laboratory and integrated into the population model to evaluate the benefits of reducing Hg exposure on the loon population growth rate. Hg risk is established on the basis of exposure (as predicted by laboratory-derived pharmacokinetic model and as indexed by lake pH and loon egg, blood, and feather Hg concentrations in the field) and compared to thresholds of effects determined in controlled studies with common loons. Effect thresholds are established via controlled dosing studies of loon chicks and loon eggs in the laboratory as well as field correlations of Hg exposure, reproduction, and survival.

Loon habitat models were constructed to evaluate the potential impact of habitat alteration (associated with human settlement) on loon population growth rates. First, spatially explicit variables such as shoreline housing densities were incorporated into the habitat model, along with lake morphometrics, water chemistry, and clarity for 377 randomly selected lakes. Shoreline habitat was mapped into categories of nest habitat quality. Logistic regression analysis then evaluated the relationship between these lake features and loon presence/absence and reproductive success. An index of human-related disturbance rate also was developed via passive observation and quantification of significant disturbance events during incubation and chick rearing.

Finally, we quantified the benefits of Hg exposure reduction to the loon population within the risk assessment region by predicting the change in annual growth rate that will occur if fish Hg concentrations are reduced to the No Observable Adverse Effect Level (NOAEL), 0.1 µg Hg/g fish wet

**weight. Also, we assess the current and predict the future population-level risk posed by habitat alteration as a result of human shoreland housing development with the risk assessment region.**

This research project is the first to demonstrate the population level benefits of Hg exposure reduction for a wildlife species using the multistressor approach. Simultaneously, we predict the risk posed by habitat alteration caused by a record rate of housing construction on lakes within the study area between 1990-present. To attain this information, the size of the population at risk is estimated, a site-specific projection matrix population model is developed, the levels of stressors within the risk assessment region are quantified, the impact thresholds for the stressors are determined, and the population benefits of stressor reductions are predicted via changes in the calculated annual growth rate. To our knowledge, this is the first risk assessment project to use this novel approach.

Project collaborators at the U.S. Environmental Protection Agency (EPA) National Health and Environmental Effects Research Laboratory Atlantic Ecology Laboratory, Narragansett, Rhode Island, are applying this approach to the loon population in New England; however, they are using different data sources. Upon completion, results of both projects will be compared, and when appropriate, results will be pooled to strengthen the predictive power of the models.

It is estimated that there are approximately 1,200 adult loons present within our 8,600 km<sup>2</sup> risk assessment region (2003 estimate); 80 percent are pair-bonded, and 20 percent are floaters. The two-stage Wisconsin Loon Projection Matrix Model developed for the loon population within the risk assessment region using demographic parameters measured in 2002-2004 predicts an annual growth rate of 1.0133 ( $\pm$  0.0008). This slow rate of growth also is predicted by the 5-year LoonWatch Wisconsin Loon population estimate 1995-2005, providing an independent estimate of growth (1.2%/year) very similar to that predicted by our population model (1.3%/year).

We have demonstrated that there is no discernable impact of Hg exposure on adult loon survival in New England and Wisconsin, though the approach was unable to detect differences of 1-3 percent in adult survival rates that could be demographically significant. Controlled laboratory dosing studies conducted by research colleagues at the U.S. Geological Survey (USGS) La Crosse in 1999, 2000, and 2003 have allowed for establishment of the Lowest Observable Adverse Effect Level (LOAEL) for Hg to be 0.4  $\mu$ g MeHgCl/g diet for a critical life-stage of the common loon, the growing chick from hatch to day 105. No toxic effects were measured when chicks received diets containing 0.1  $\mu$ g MeHgCl/g diet fed, thus establishing the NOAEL for loon chicks. In addition, USGS LaCrosse and Wisconsin Department of Natural Resources (WDNR) are conducting an ongoing loon Hg egg injection study to quantify the level of MeHg in eggs that causes reduction in embryo survival. Preliminary results in 2005-2006 show a significant reduction in egg hatching rate when 1.3  $\mu$ g MeHgCl/g wet weight egg is injected into loon eggs via the air cell 3 days post-laying. These eggs have background levels of 0.4  $\mu$ g Hg/g wet weight, thus our preliminary prediction is that loon egg hatching rates will be lower when eggs contain greater than 1.7  $\mu$ g MeHg/g wet weight. This 3-year experiment is ongoing. The final year of this experiment will occur in 2007 or 2008 pending funding, and final results will be available upon completion. Other controlled dosing studies, including an ongoing egg injection experiment at USGS Patuxent, have found significant reductions in avian embryo survival when egg Hg concentrations exceed 1  $\mu$ g/g. A pressing research

need is determination of comparative toxicity of mechanically injected MeHg versus maternally deposited MeHg in ovo.

The Wisconsin Loon Habitat model was developed to assess the population level impacts of habitat alteration caused by rapidly increasing human settlement within the risk assessment region. Logistic regression analysis shows several variables are strong predictors of lake use by territorial loons and reproductive success. These parameters include lake size and shape, presence of good nest habitat, high water clarity, and lake depth. No indices of human settlement (shoreline building density or boating activity) were statistically significant predictors of impaired lake use by loons in our risk assessment region. Many examples of loon pairs habituating to high levels of human disturbance were evident during the study. A plot of shoreline housing density versus loon pair presence and reproductive success, however, does show no lake use by territorial loons or reproduction success when shoreline building densities exceed 25 buildings/km. This level of building density was found on only 5 percent of lakes surveyed during our study in 2002-2004, but the potential exists for this level of density to be achieved on 67 percent of lakes in our risk assessment region, with potentially large population consequences for loons. Current Wisconsin shoreland zoning (WDNR NR 115) permits a density of up to 33 buildings/km of shoreline (e.g., 1 building/100 ft of lake shoreline). As 67 percent of lakes within our study area have less than 10 percent of shoreland in public ownership, these lakes all are at risk of exceeding 25 buildings/km shoreline if completely subdivided into 100 foot x 300 foot parcels, the minimum size currently allowed by zoning regulations.

We found that approximately 10 percent of the loon population within the Wisconsin risk assessment region exhibits Hg exposure levels that are consistent with toxicity in the laboratory. The toxicity impacts are most likely to affect chick survival and nest success via reduced egg hatchability. The potential benefits of reducing fish Hg concentrations to the NOAEL (0.1 µg MeHg/g whole fish wet weight, 4-8 inch yellow perch) was simulated by increasing chick survival and nest success rates 10 percent and recalculating the annual growth rate. We estimate the annual growth rate of the loon population within our risk assessment region will increase 1.5 percent if fish Hg levels are reduced to less than or equal to 0.01 µg/g. The population-level improvement could be even greater in loon populations receiving higher Hg exposure, such as the population sampled at Kejimikujik National Park, Nova Scotia, in 1999 (Burgess and Hobson, 2005), where loons have 2-5 times higher Hg levels than in Wisconsin. A simulation exercise was conducted, and it is estimated that reducing fish Hg concentrations to the NOAEL could increase the annual growth rate of Kejimikujik population by up to 5 percent; however, density dependent limiting factors and essential habitat requirements will mitigate actualized growth rates. The final calculation of benefit for the Nova Scotia population awaits quantification of site-specific population demographic parameters and Hg exposure profiles.

**Despite the fact that we measured no effect of the current level of human settlement on lake use by loons or habitat quality, a large portion of the risk assessment region is at risk to future impacts.** This is because much of the lake shoreline in the risk region is in private ownership, subject to subdivision into 100 ft x 300 ft parcels (as allowed by current statewide zoning regulations). Current market pressure for undeveloped shoreland in the risk region is enormous, with vacant land on some lakes selling for \$1,500 - \$2,000 per linear foot of lake frontage (up to \$250,000 for vacant parcels on some

lakes). This potential monetary windfall, plus the increase in property appraisals and consequent tax burdens, has led many lakefront property owners to subdivide large properties into smaller parcels. The only constraints on development currently are statewide shoreland zoning (WDNR NR 115) and local zoning ordinances at the county and township level.

We simulated the potential population level impacts of development by displacing 10 percent and 30 percent of the current breeding loon population in our study area. We reduced the proportion breeding in the fecundity parameter of the Wisconsin Loon Projection Matrix Model and calculated changes in annual growth rates. These reductions result in a 1 percent and 3 percent reduction in annual growth rate. It is probable that a 30 percent reduction in the proportion of adults breeding would lead to a fairly rapid population decline, despite the long lifespan of loons. Further, it is likely the decline would be exacerbated by density dependent factors impacting additional demographic parameters, including decreased adult survival rates, nest success rates, and chick survival rates. Displaced adult loons will fight to the death to acquire breeding territories, as well as cause nest abandonment and intentionally kill the young of resident pairs. If a large proportion of the existing breeding population is displaced because of degradation of nesting and chick-rearing habitat quality, it is likely these other demographic parameters will also decline, potentially resulting in a dramatic population decline. Proactive measures that protect habitat quality can prevent these scenarios from playing out. Wisconsin is currently revising the NR 115 Shoreland Management rules. To conserve common loons within our risk assessment region, an effort should be made at the state, county, and township level to protect common loon nesting habitat from degradation (primarily lakeshore wetland habitat and islands) to promote water clarity by controlling nonpoint sources of nutrient runoff and by promulgation of zoning rules that reduce shoreland housing density to 1 building/200 ft of frontage on all lakes of potential use by breeding loons where there is no shoreland in public ownership. Our surveys show that lakes with greater than 10 percent of shoreland in public ownership still are used by territorial loons despite high density housing development on the privately owned shore. These protected shoreland areas can provide secure nest sites and low disturbance areas for early chick rearing.

We noted a high rate of adult loon mortality caused by ingestion of lead fishing tackle within the study area in 2000-2005. Eleven dead adult loons, in body condition allowing for necropsy, were turned in to our group by the public in 2000-2005. Lead poisoning was the cause of death of 5 of these 11 loons (WDNR Health Team, 2006). In New England, lead fishing tackle has been banned in some states because of the high rate of mortality associated with ingestion of lead tackle by fish-eating birds. Two private, nonprofit organizations, Wisconsin LoonWatch, Ashland, Wisconsin, and the Raptor Education Group, Inc., Antigo, Wisconsin, have initiated a lead fishing tackle exchange program where they provide anglers nonlead alternatives when they turn in their lead fishing jigs and sinkers. This effort should be supported at the state level because of the importance of adult loon survival to the future status of loons in Wisconsin.

## Stakeholders and Users of Data and Results

Assessing the ecological risk of Hg exposure to piscivorous wildlife is a priority issue for federal and state resource management agencies and industry alike. Currently, Hg emission reduction rules have been promulgated by EPA, but the rules are being contested in court by several states that contend that emission reductions will not achieve benefits as quickly as needed. Our establishment of a fish NOEL for loons of 0.1 µg Hg/g whole fish wet weight, as well as documentation of population level benefits to be achieved by reaching this target, will be of interest to these parties.

Wisconsin Department of Natural Resources and other state agencies with a management responsibility to protect lakes from degradation will be interested in our assessment of the potential impact of housing development on loon populations. The extrapolation of future risk via model simulation under current shoreland management rules argues for proactive measures to protect key habitat features as well as promotion of less dense housing concentrations on lakes with no shoreline in public ownership. Habitat protection recommendations made here can safeguard the future status of loons in the region, while accommodating additional human population growth.

Natural resource agencies and conservation groups will be interested in the common loon population and habitat models generated by this project, as well as management recommendations that are presented.

## How this Project Furthers Natural Resource Science and Management

This project demonstrates that the approach of assessing multiple stressors at the population level is a viable and important new tool in the science of ecological risk assessment and management. Traditional wildlife contaminant risk models often are compromised by a lack of relevant toxicological data from the laboratory and from the field, resulting in the use of numerous uncertainty factors. In addition, measurement of impacts most often are made at the individual level and only occasionally extrapolated to population level effects. This project delivers a scientifically defensible ecological risk assessment for Hg for wildlife, based on an at-risk species, a combination of laboratory and field studies that establish species-specific thresholds of risk, and a population model that predicts costs and benefits of increases or decreases in stressor levels. This risk assessment paradigm is amenable to many stressor scenarios



and species at risk. We recommend its consideration by other scientists in the risk assessment and management field.

#### References:

Haines DW, Pollock KH. Environmental and Ecological Statistics 1998;5:245-256.

#### Journal Articles:

No journal articles submitted with this report: [View all 12 publications for this project](#)

#### Supplemental Keywords:

common loon, loon, Wisconsin, WI, Hg, ecological risk assessment, population model, habitat model, multiple stressors, population viability assessment, lake shore management,, Ecosystem Protection/Environmental Exposure & Risk, Toxics, Water, Geographic Area, Scientific Discipline, RFA, Ecosystem/Assessment/Indicators, exploratory research environmental biology, HAPS, wildlife, Ecology, Mercury, Ecological Risk Assessment, EPA Region, Ecological Effects - Environmental Exposure & Risk, Ecosystem Protection, 33/50, Ecology and Ecosystems, State, demographic data, demographic, predicting risk, stressors, impact of stressors on loon population, mercury & mercury compounds, Region 5, loon population demographics, ecological exposure, population, loon, contaminants, Mercury Compounds, multiple stressors

#### Progress and Final Reports:

[Original Abstract](#)

[2002 Progress Report](#)

[2004 Progress Report](#)

[Top of Page](#)

The perspectives, information and conclusions conveyed in research project abstracts, progress reports, final reports, journal abstracts and journal publications convey the viewpoints of the principal investigator and may not represent the views and policies of ORD and EPA. Conclusions drawn by the principal investigators have not been reviewed by the Agency.

Mascoma Lake Association  
PO Box 9  
Enfield, NH 03748  
February 16, 2013



Senate Committee on Energy and Natural Resources  
107 North Main Street  
Concord, NH 03301

Dear Senators,

As President of the Mascoma Lake Association I am writing to ask you to support SB 89. Many of our 200 members enjoy both the Loons and fishing. These two groups can coexist. This bill would amend legislation to help protect the state's Common Loon. The Common Loon is not all that common and is on the list of Threatened Species. More than 50% of the recovered dead adult loons in NH have died from these lead headed jigs. There is an alternative for the fisherman. I do not think we need to choose between the rights of one group to fish vs. the ability of a species to survive. The loons need our protection. Adult loons do not reproduce until they are around six years old and average only one chick every two years in New Hampshire. The loss of every adult loon is a significant blow to the species.

The current law does not protect them enough and should be amended. Jigs that are longer than one inch (the size that is currently legal) are the main culprits. Our Lake Association has purchased lead free alternatives to offer fisherman and will continue to do so in the future. There are quality alternatives out there. Last summer I met a bass fisherman preparing for the tournament and he stated his group had already switched over to non -lead alternatives and felt the non -lead jigs were just fine and just slightly more expensive. Considering the cost of the travel, boat, entrance fees and all he felt it was not a big expense, just a minor change.

Please support this bill. The ability of future generations to hear that eerie call of the loon on a summer's night and enjoy the beauty of this species depends on our protection.  
Thank you.

Sincerely,

Teresa Lynch, President of Mascoma Lake Association

Sheridan T. Brown, Esq.  
PO Box 1656  
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603-230-2473

February 20, 2013

The Honorable Russell E. Prescott, Chair  
Senate Energy and Natural Resources Committee  
Legislative Office Building, Room 101  
33 North State Street  
Concord, NH 03301

Dear Chairman Prescott and Members of the Energy and Natural Resources Committee:

I am writing on behalf of the Loon Preservation Committee (LPC) in support of Senate Bill 89. As you know, this bill would address the largest known cause of New Hampshire adult loon mortality—ingestion of lead sinkers and jigs weighing one ounce or less. Whereas you will be hearing from experts on loon biology regarding the necessity of this bill, I would like to focus on some additional points that encourage SB 89's passage.

#### **I. EDUCATION ALONE CANNOT REDUCE LOON MORTALITY FROM LEAD SINKERS AND JIGS**

Opponents of this bill will claim that education hasn't been given enough of an opportunity to address the problem of loon mortality from lead sinkers and jigs. In fact, education has been given a 15-year chance since an extensive lead education program by our state's Fish and Game Department ("Fish and Game") was established in 1998. This program was "consisting of, but not limited to, press releases or articles for all news media, an informational brochure for distribution by licensing agents and at department sponsored training programs, videos for use by television outlets, posters for boat access kiosks and other bulletin boards, and a mobile display for use at public events." *See* RSA 207:60.

Fish & Game's current educational program at RSA 207:60 came about largely due to an "Educate, Don't Legislate" petition drive by sportsmen's groups during the first legislative effort to protect loons. Last year, a similar refrain was heard after SB 224 passed the Senate. A steering committee was then proposed by Fish and Game to discuss how educational efforts might be reinvigorated. However, it is clear from Fish and Game's statements on budget matters that the department's resources for education are scant.

More important, an education only-approach has been unsuccessful in significantly reducing loon mortality everywhere it has been tried. This includes the State of Minnesota, which ran an intensive educational effort spanning 10 years. Harry Vogel and Tom O'Brien will be providing further details on failed education-only efforts in other places.

We are fully supportive of all education, but not as a replacement for adequate regulation. In spite of LPC's more than three decades of educating the public about the lead tackle threat to loons, and Fish & Game's own initiatives, lead fishing sinkers and jigs today remain the largest known cause of NH adult loon mortality.

## II. NEW HAMPSHIRE HAS A HISTORY OF LEADERSHIP ON LOON PROTECTION

Until being surpassed by Massachusetts last year, New Hampshire led the nation in protecting its loons from lead fishing jigs and sinkers. We were the first state to ban the use of lead sinkers and jigs in 1998 in freshwater lakes and ponds. In 2004, we added a sale ban and extended the use ban to all freshwaters of the state.

Other states began to follow New Hampshire's lead in the early 2000's. Since 2003, Vermont has banned the sale and freshwater use of sinkers weighing one-half ounce or less. 10 V.S.A. § 4615; and 10 V.S.A. § 4606(g). For the same length of time, Maine has banned the sale of such sinkers. The Maine legislature will also be considering legislation similar to SB 89 in this session. 12 M.R.S.A. § 12663-A (2013).

## III. SB 89 PROMOTES CONSISTENCY WITH NEIGHBORING STATES

In addition to providing adequate protection for New Hampshire's loons, the restrictions in SB 89 will make our laws consistent with those enacted last year in Massachusetts and those that may be enacted in Maine. Massachusetts now bans the freshwater use of lead sinkers, lead weights, and lead fishing jigs with a mass of less than one ounce. CMR 321 § 4.01(4)(i). It is worth noting that the Massachusetts State Fisheries and Wildlife Board must have appreciated the data on loon mortality; it voted unanimously to adopt the new regulations.

Massachusetts interprets the one ounce or less weight standard as total jig weight *inclusive* of skirts, paint, or other covering. This is how it is defined in SB 89. Jigs are sold by weight, so this definition eliminates guesswork for consumers who want to comply with the law. There is no need to determine the percentage of lead in a given jig. If a jig weighs one ounce or less and it contains lead, it is prohibited.

## IV. SB 89 WILL HAVE MINIMAL IMPACT ON THE AVERAGE ANGLER

A wide variety of alternatives to lead sinkers and jigs already exists. They are comparable in price to lead tackle (sometimes lower in price) and they perform as well or even better. There is also an expanding market for lead-free tackle, particularly following the enactment of Massachusetts' new regulations. The availability of new alternative tackle will only be hastened by SB 89 the same way it was when smaller lead sinkers and jigs were banned. Chip Malcolm, a manufacturer of lead-free tackle, is here today and will speak to you about these topics.

The avid anglers who oppose this bill will attempt to create confusion by presenting a variety of lures with the intent of killing this bill by a thousand cuts. However, many of the lures they will talk about, like the Swedish Pimple, are not affected by SB 89. This bill specifically **excludes** "lead fishing related items **including but not limited to** lead core line, spinnerbaits, buzzbaits, spoons, poppers, plugs, or flies." Despite SB 89's clear language, which is not an exhaustive list of excluded items, the American Sportfishing Association, an organization with at least one board member representing a major nationwide manufacturer of lead tackle, has been contacting its membership to tell them the bill bans all of these items.

**V. SB 89 WILL HAVE MINIMAL IMPACT UPON RETAILERS**

Two components of this bill will greatly minimize its potential impact to retailers. First, the bill includes an 18-month phase-in period during which retailers can continue to sell the items prohibited by this bill. Second, a proposed amendment will prohibit only **retail sale** in the State of New Hampshire. So, retailers can sell lead tackle to out-of-state buyers, or they can sell it to other retailers within New Hampshire positioned to do so. This will allow our state's retailers to sell their inventory without sacrificing the bill's effectiveness in protecting loons.

The language prohibiting retail sale is modeled after that of New York State (which bans the sale of lead sinkers weighing one-half ounce or less). N.Y. Envtl. Conserv. §11-0308 (2013). Of the various sale bans in the northeast, this statute is by demonstration the most effective at deterring sales by large retailers. The online product pages of Bass Pro Shops and Cabela's featuring prohibited tackle include very clear notices stating that it can't be shipped to NY. No similar notice appears with regard to products banned in Maine or Vermont. A sufficient deterrent to nationwide retailers such as this bill proposes is necessary to ensure our laws are effective in protecting loons and not disadvantageous to local retailers.

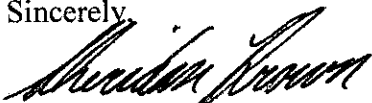
**VI. THE STATUS QUO PLACES THE COST OF LEAD TACKLE USE ON PARTIES OTHER THAN ANGLERS**

One national special interest group has suggested this bill will jeopardize \$210 million in retail spending by anglers. This is pure histrionics and it also ignores the fact that wildlife watchers spent \$281 million in NH in 2011—35% more than anglers—and loons were probably high on the list of iconic species that people were watching while spending money on cameras, binoculars, travel, and other items. See U.S. Fish and Wildlife Service, 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation State Overview at p. 18-20 (Sept. 2012), available at <http://library.fws.gov/Pubs/natsurvey2011-prelim-state.pdf>.

More important, those who commit time and money to maintaining our state's small loon population currently bear the cost of lead tackle rather than the anglers who use it. Just 34 pieces of lead tackle caused loon mortality that completely erased five full seasons of nesting raft construction to sustain our loon population. This bill is entirely consistent with the principle underlying Fish and Game's request for search and rescue funding—one person's recreational activity should not be subsidized by another. Just as it is unfair for anglers' and hunters' license fees to cover the cost of others who hike ill-prepared, the general public—and our state's loon population—should not be left the tab by anglers who fish with a known toxin that has already been removed from gasoline, paint, toys, and other items.

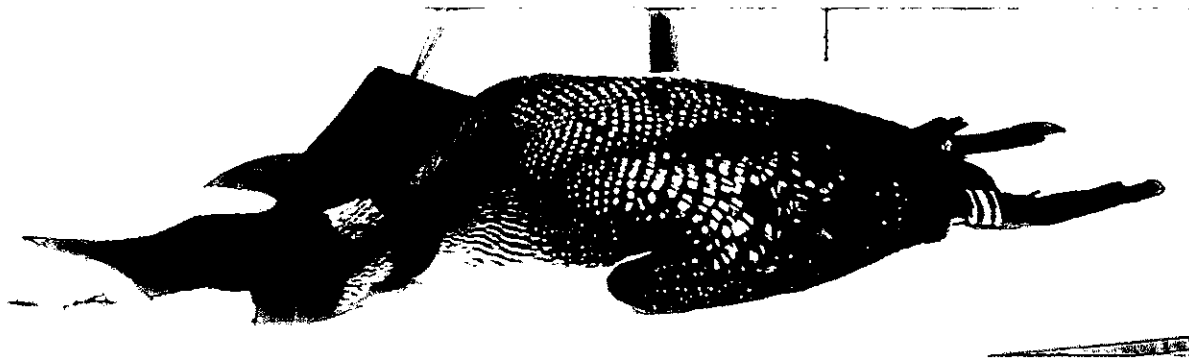
To adequately protect our state's loons, we ask you to please report SB 89 as "ought to pass." Thank you for your consideration of this important legislation.

Sincerely,



Sheridan Brown

# Effects of Lead Fishing Tackle on Loons in New Hampshire, 1989-2011



Loon Preservation Committee  
Harry Vogel, Senior Biologist/Executive Director  
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20 February 2013

# Effects of Lead Fishing Tackle on Loons in New Hampshire, 1989-2011

## Loon Preservation Committee

Harry Vogel, Senior Biologist/Executive Director

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603-476-5666; [hvogel@loon.org](mailto:hvogel@loon.org)

20 February 2013

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During the summer of 2010, Loon Preservation Committee (LPC) staff and volunteers collected 11 loons that died from ingested lead fishing tackle, the highest number LPC has recorded to date. As a result of this record number of lead tackle mortalities, the Loon Preservation Committee, University of Wisconsin-Madison graduate student Tiffany Grade, and Dr. Mark Pokras at Tufts University School of Veterinary Medicine undertook a comprehensive investigation of collected loon mortalities from 1989-2010 to establish: 1) the number of New Hampshire loons that 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 New Hampshire loons; and 4) the population-level impacts of lead fishing tackle on loons in New Hampshire (Grade 2011). This report updates this study with loon mortality data collected in 2011—the most recent year for which results are available.

### Loon Mortality from Lead Fishing Tackle in New Hampshire

We found that **49% of New Hampshire adult loon mortalities LPC collected from 1989-2011 resulted from ingested lead fishing tackle** (Figure 1). In 2000, legislation took effect in New Hampshire 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 total length (including the hook). 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. Our analysis comparing pre- and post-restriction periods (1989-1999 vs. 2000-2011) found that the rate of lead fishing tackle mortalities in New Hampshire loons fell subsequent to these restrictions (Figure 2); however, this reduction has not been large enough to protect our loon population, and recently (2006-2011) rates of lead tackle mortalities have begun to rise once again.

Loons can ingest lead fishing tackle by ingesting a fish with attached tackle or by striking at tackle or a fish being retrieved through the water. In a small number of cases, loons may also ingest a small sinker after mistaking it for the pebbles they ingest as grit. Although the typical prey of loons is yellow perch, loons can ingest larger fish (Figure 3; Evers *et al.* 2010), especially



those impaired in some way, e.g., by attached lead tackle (Barr 1996). Dr. Mark Pokras of Tufts University and staff at USGS National Wildlife Health Center have found fish with attached tackle in loons' digestive tracts (M. Pokras, pers. com.; USGS National Wildlife Health Center, unpubl. data).

Our data indicate that **much of the ingested lead tackle in lead-poisoned loons results from current fishing activity**. If loons were ingesting tackle primarily from a reservoir of lead tackle on lake bottoms, we would expect an even distribution of mortalities throughout the time loons are on lakes (mid-April through October). However, lead tackle mortalities are strongly correlated with the peak of summer fishing and tourist season in July and August ( $p=0.00005$ ; Figure 4). We found associated tackle (hook, line, swivel, leader) in 66% of loons with ingested jigs and/or sinkers, also indicating ingestion from current fishing activity.

Ingested jigheads removed from dead loons are missing the hook, which breaks off in the gizzard soon after ingestion. When we added the average length of jig hooks to the length of the eroded jigheads removed from loons, we found that sizes of jigs ingested by New Hampshire loons exceeded one inch in total length and, therefore, were legal for sale and use in New Hampshire (Figure 5). **From 2000-2011, legal-sized jigs comprised 52% of the tackle found inside New Hampshire loons that died from lead tackle** (Figure 6). Therefore, recent (2000 to 2011) mortality of New Hampshire loons from ingested lead tackle is a result of an inadequately protective standard for lead-headed jigs and inadequate compliance with New Hampshire's legislation restricting use of small lead sinkers.

The majority of jigheads removed from New Hampshire loons weigh less than 0.4 oz (Figure 7). However, these eroded jigheads are missing the hook and enough of the mass of lead to fatally poison the loon (Figure 8). Cook and Trainer (1966) found that 66% of the volume of lead shot in the gizzard of Canada geese dissolved within three days of ingestion. Larger jigs would lose a lower percentage of total volume in the same period but are also resident in a loon's gizzard for a much longer time (estimated 2-4 weeks) before death. Therefore, the mass of the entire jig at ingestion would be greater, perhaps by a substantial amount. The largest reported piece of lead fishing tackle removed from a Common Loon to date weighed 2.76 oz (a lead sinker swallowed by a loon in North Carolina; Franson *et al.* 2003). The weights of eroded tackle objects removed from loons in New Hampshire indicate that restricting the use and sale of lead sinkers and lead-headed jigs weighing 1 oz or less would be protective of most loons.

#### Population-level Impacts of Lead Fishing Tackle on New Hampshire's Loons

Lead tackle is the largest contributor to documented New Hampshire adult loon mortality in the state and is responsible for the deaths of 124 adult loons since 1989 (Figure 1). LPC collects 28% to 31% of total expected loon mortalities (Sidor *et al.* 2003; Grade 2011). Our data and methods have produced a conservative assessment of loon mortality from ingested lead tackle; therefore, the data we present should be regarded as minimum numbers. **Actual loon mortalities from ingested lead tackle are likely much higher than we report.**

Loon life history is characterized by low rates of natural adult mortality, delayed maturation (average age of first breeding is 6-7 years), and low productivity (an average of about ½ a chick per pair, per year in New Hampshire). Adult survival is by far the largest factor influencing the growth and viability of New Hampshire's loon population (Figure 9); therefore, limiting adult mortality is of prime importance to the continued viability of loon populations (Gear *et al.* 2009; Meyer 2006). The combination of lead tackle as the largest source of known adult mortality (Figure 1) and the critical importance of adult survival for loon population growth (Figure 9) makes lead tackle the largest quantifiable factor limiting the recovery of New Hampshire's loon population (Figure 10).

Multiple analyses suggest that **lead fishing tackle is having a population-level impact on the New Hampshire loon population:** 1) An analysis using the loon population model published in Gear *et al.* (2009) indicates that New Hampshire's loon population is approximately 13-17% lower than the projected population had the loons that died from lead tackle survived; 2) Ingested lead fishing tackle is known to have caused the deaths of an average of 1.1% of the total adult loon population each year (Figure 11), which exceeds the maximum sustainable level for all human-caused mortalities for loons of 0.43% (see Dillingham and Fletcher 2008); 3) LPC's Loon Recovery Plan projects a long-term decline in New Hampshire's loon population, even at recent (2006-2010) levels of intensive management and outreach (LPC, 2011). Lead fishing tackle is the largest quantifiable factor causing this projected decline (Figure 10).

The loon population projection in LPC's Loon Recovery Plan is based on published loon life history parameters, quantified stressors, and current levels of management. It should be considered optimistic given our limited knowledge and likely underestimation of the effects of present and future stressors and uncertainty about our ability to maintain and expand our research, management, and outreach programs.

#### Lead Fishing Tackle and the Challenge of Preserving Loons

The growth of New Hampshire's loon population since 1975, despite high levels of human-caused mortalities, has been achieved through intensive management supported by the extensive contributions of a dedicated corps of volunteers. This exceptional effort has helped loons to overcome some of the negative consequences of human activities over the past 38 years. One of the most evident and successful of LPC's management activities is the provision of artificial nesting rafts to loon pairs. **Despite record numbers of nesting rafts floated by LPC staff and volunteers from 2006-2011 (a total of 276 rafts floated), the benefit to our loon population of our intensive raft program was entirely negated by 38 pieces of lead fishing tackle.**

New Hampshire's loon population is not self-sustaining and is dependent on LPC's intensive management for its persistence. Despite record levels of management and outreach, New Hampshire's loons have achieved the minimum reproductive success required to sustain their population in only two of the past seven years (Figure 12). The loon population remains far below its estimated historical abundance and carrying capacity (Figure 13) and the challenges

facing loons continue to grow in number and in scope. Population declines would initially result in decreased numbers of juveniles and unpaired loons—segments of the population difficult to monitor and quantify—and impacts to the number of paired adults would appear only after several years. LPC's statewide loon count in 2011 showed a drop in paired adults (Figure 13) after a high number of lead tackle mortalities from 2006-2010 and poor reproductive success of our loons over the same period.

Loons continue to face an uncertain future in New Hampshire, which makes it of prime importance to bolster our state's loon population against future stressors by addressing critical issues like lead fishing tackle that can be mitigated through relatively simple measures like material substitutions. Limiting the sale and use of lead fishing tackle would also protect a host of other species in addition to loons. Lead fishing tackle ingestion has been documented in 28 other bird species, including bald eagles, great blue herons, and many species of waterfowl (Franson *et al.* 2003; Scheuhammer *et al.* 2002), and the Environmental Protection Agency considers 75 species to be susceptible to lead fishing tackle ingestion (US EPA 1994).

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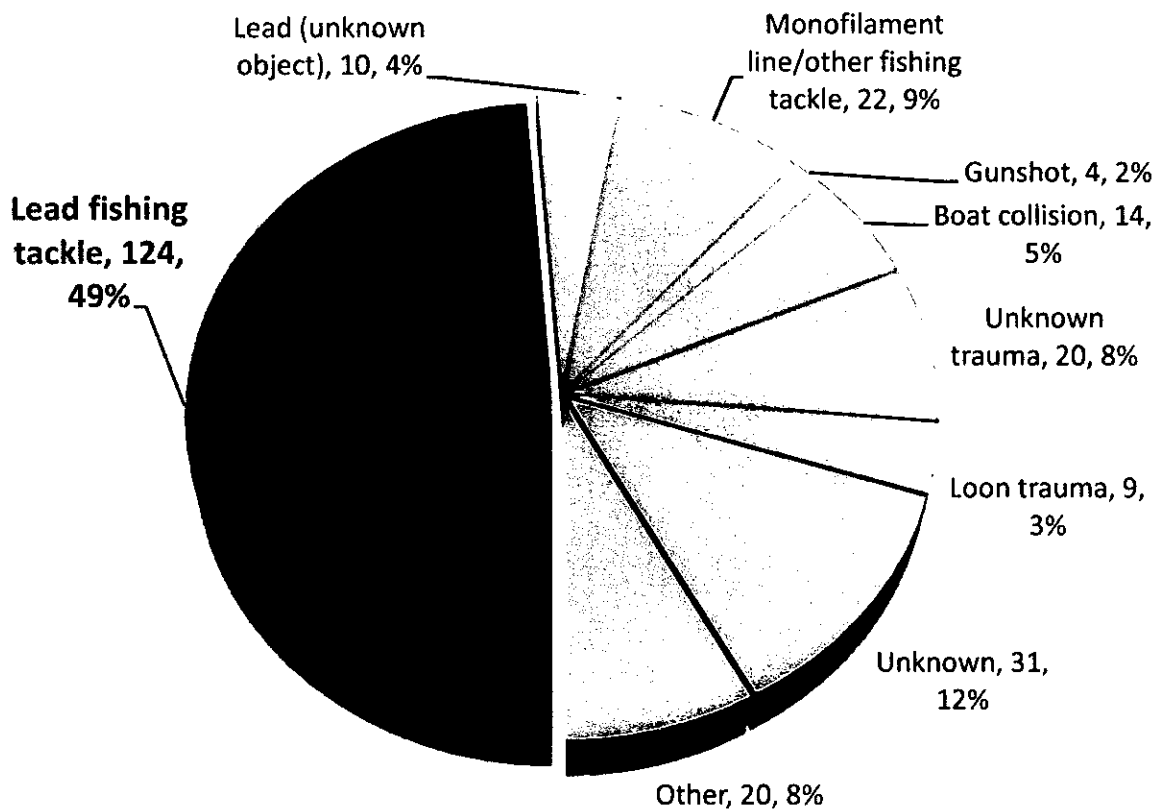


Figure 1. Lead fishing tackle is responsible for 49% of documented New Hampshire adult loon mortalities from 1989-2011.

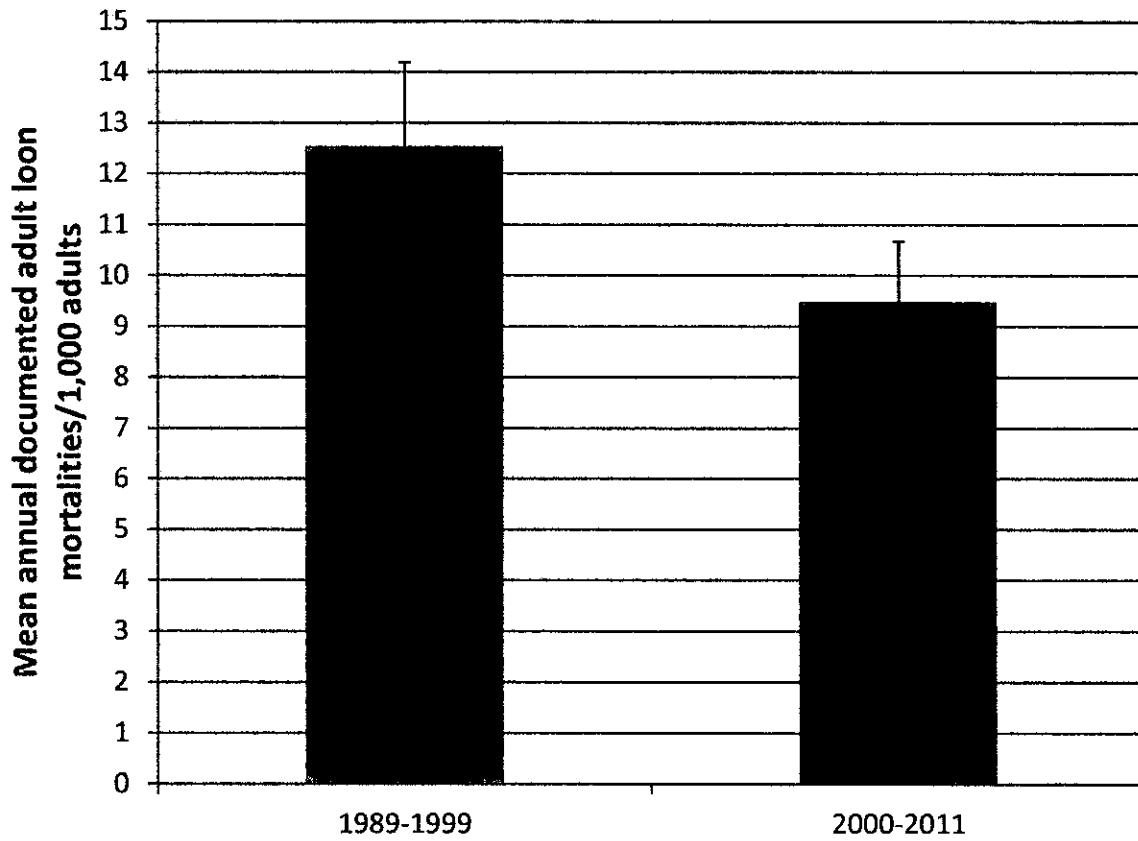


Figure 2. Mean documented mortality rates for pre-lead restriction period (1989-1999) and post-lead restriction period (2000-2011) show that mortalities from ingested lead fishing tackle have declined slightly since 2000; however, this reduction is not statistically significant ( $p=0.15$ ). Error bars are standard errors.



Figure 3. Loons will ingest fish larger than 12" (Evers *et al.* 2010), providing a clear mechanism for the ingestion of large-sized jigs and sinkers that may be attached to these fish.

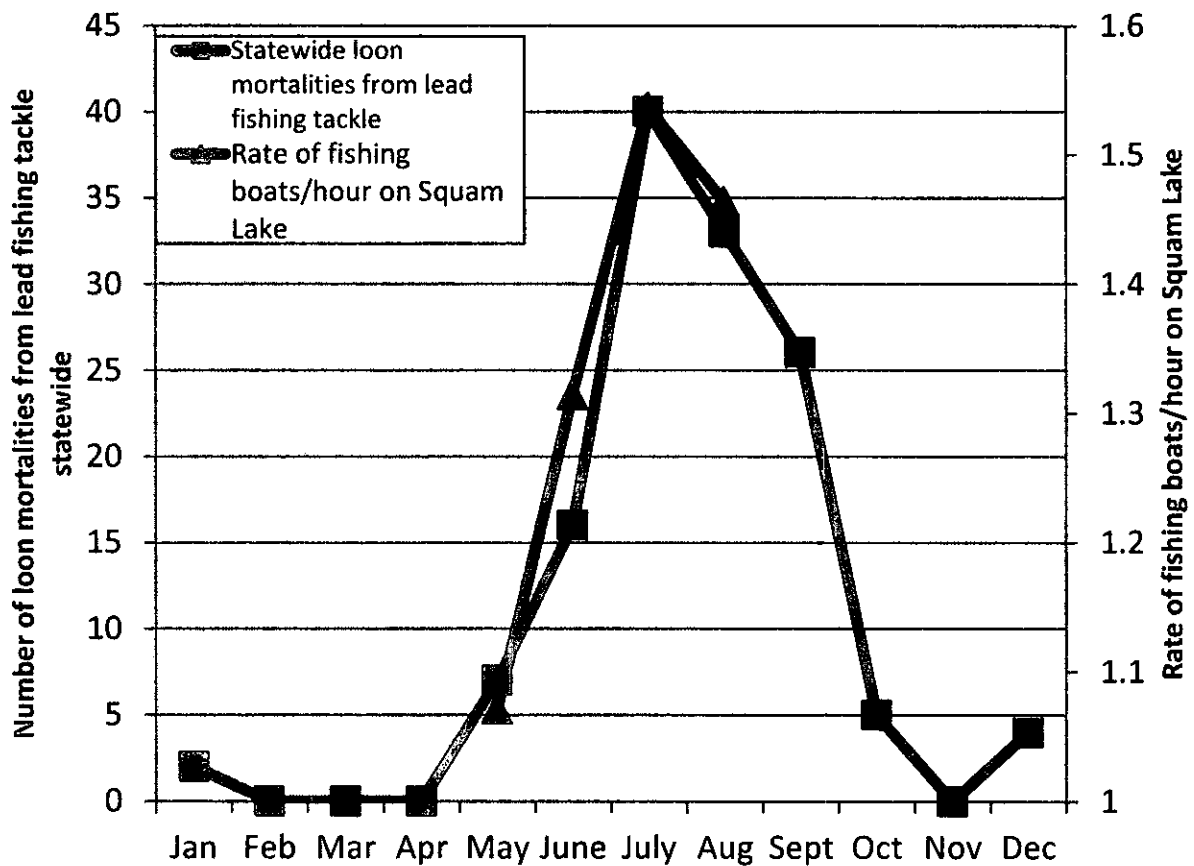


Figure 4. The timing of loon mortalities from ingested lead fishing tackle and of fishing activity indicates that mortalities result from current use rather than a reservoir of tackle on lake bottoms. The boating survey shown here, using Squam Lake as a metric for statewide fishing activity, is the most extensive survey of fishing activity undertaken in New Hampshire.



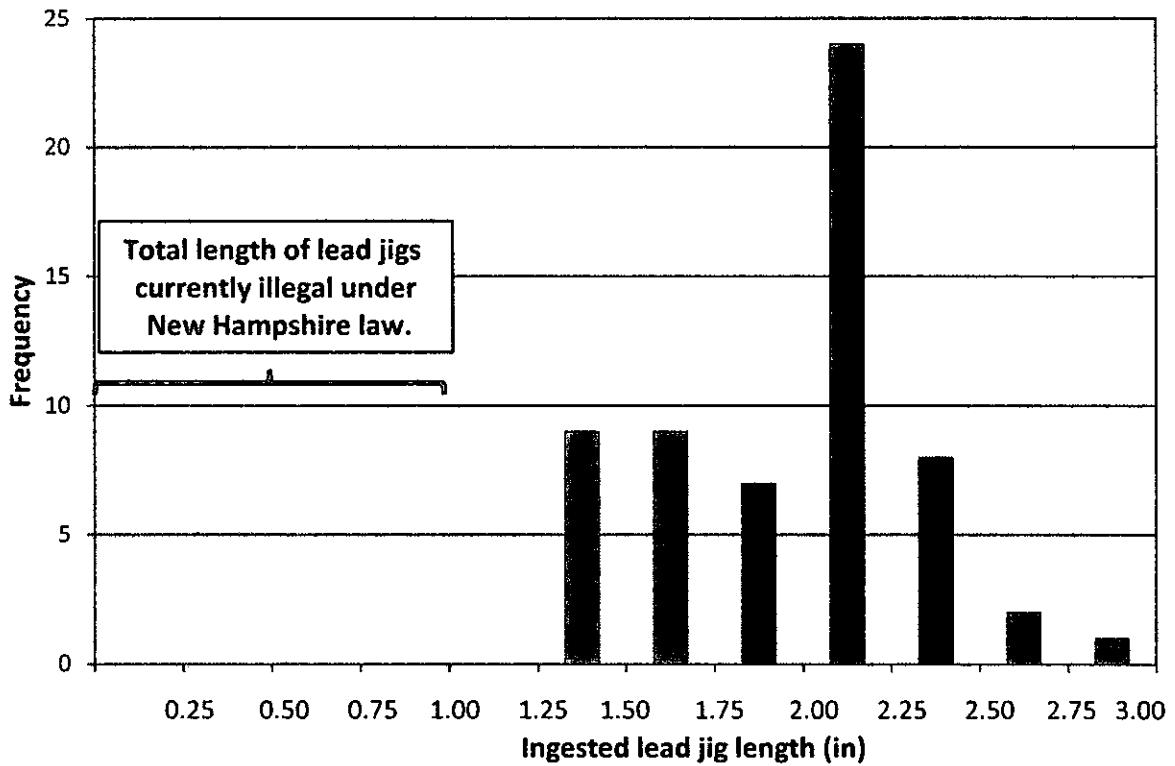


Figure 5. The sizes of jigs ingested by New Hampshire loons from 1989-2011 exceed the sizes currently banned in New Hampshire. Length of ingested jig length=length of eroded jighead removed from each loon + average length of hook of purchased jigs from each size category. Total number of purchased jigs=57.

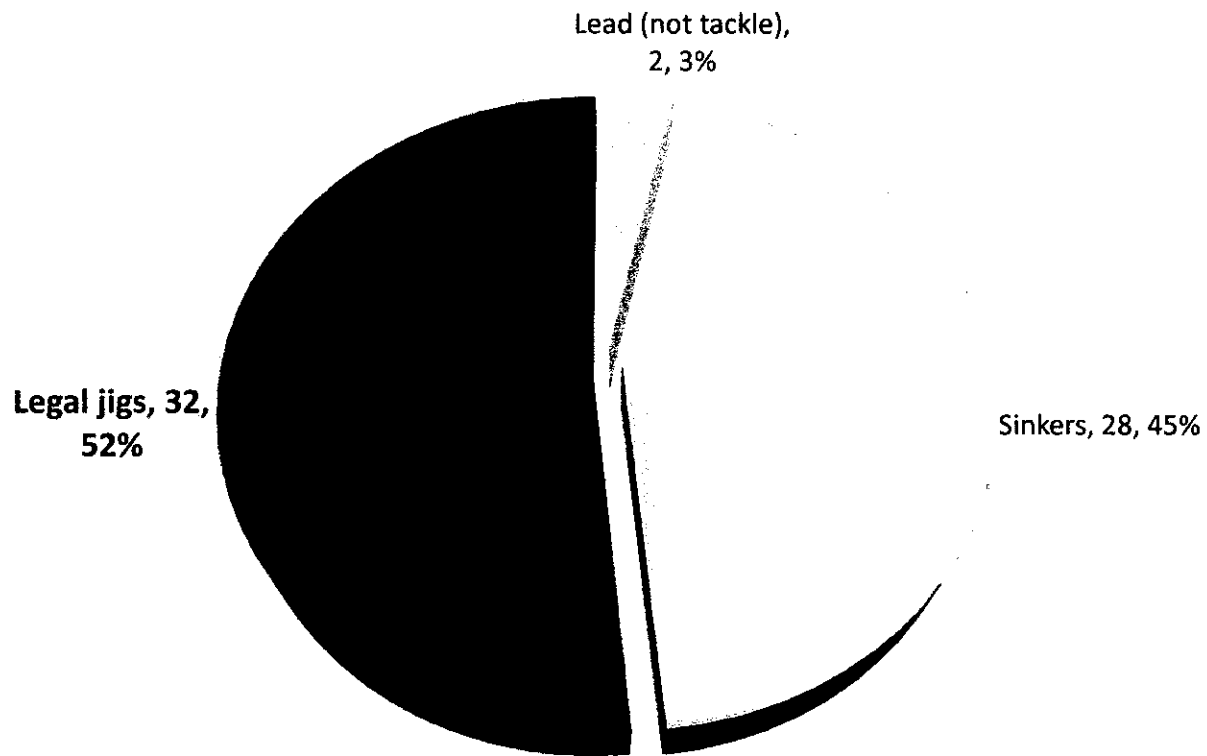


Figure 6. Recent (2000-2011) mortality of New Hampshire loons from ingested lead tackle is a result of an inadequate standard for lead-headed jigs (red slice) and poor compliance with lead sinker legislation (blue slice).

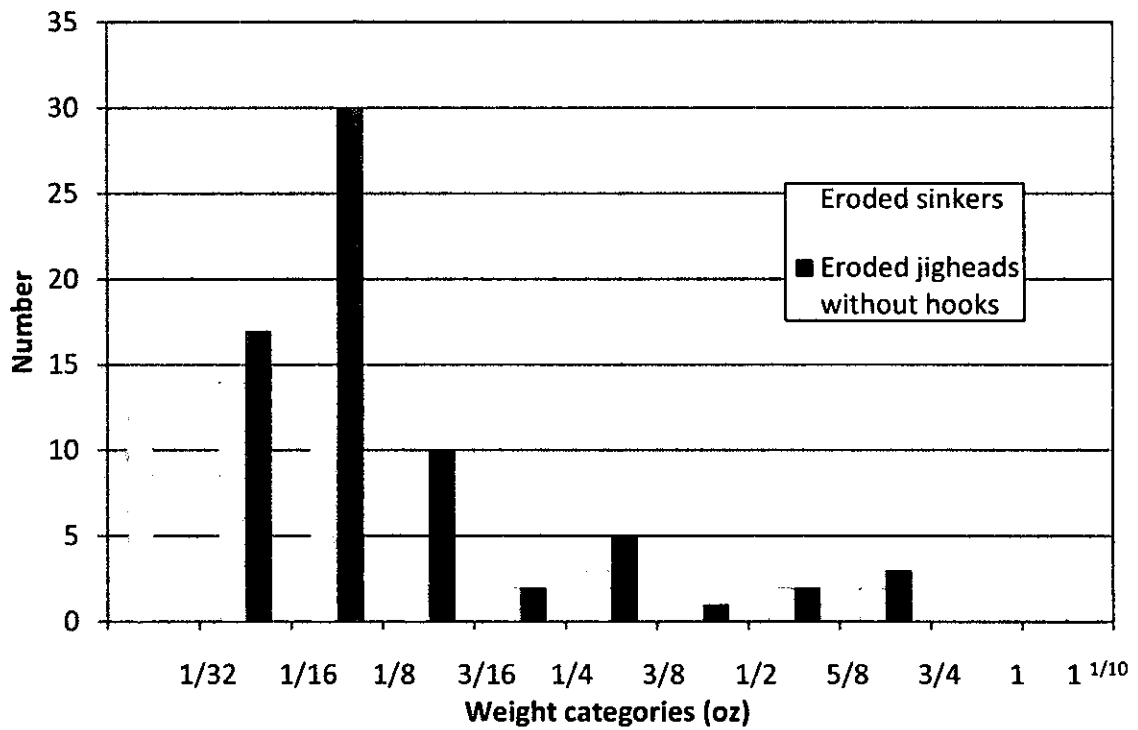


Figure 7. Weights of eroded lead sinkers and lead jigheads (without hooks) removed from loons in New Hampshire. Eroded tackle removed from loons indicates that restricting use and sale of lead sinkers and lead-headed jigs weighing 1 ounce or less would be protective of most (not all) loons.

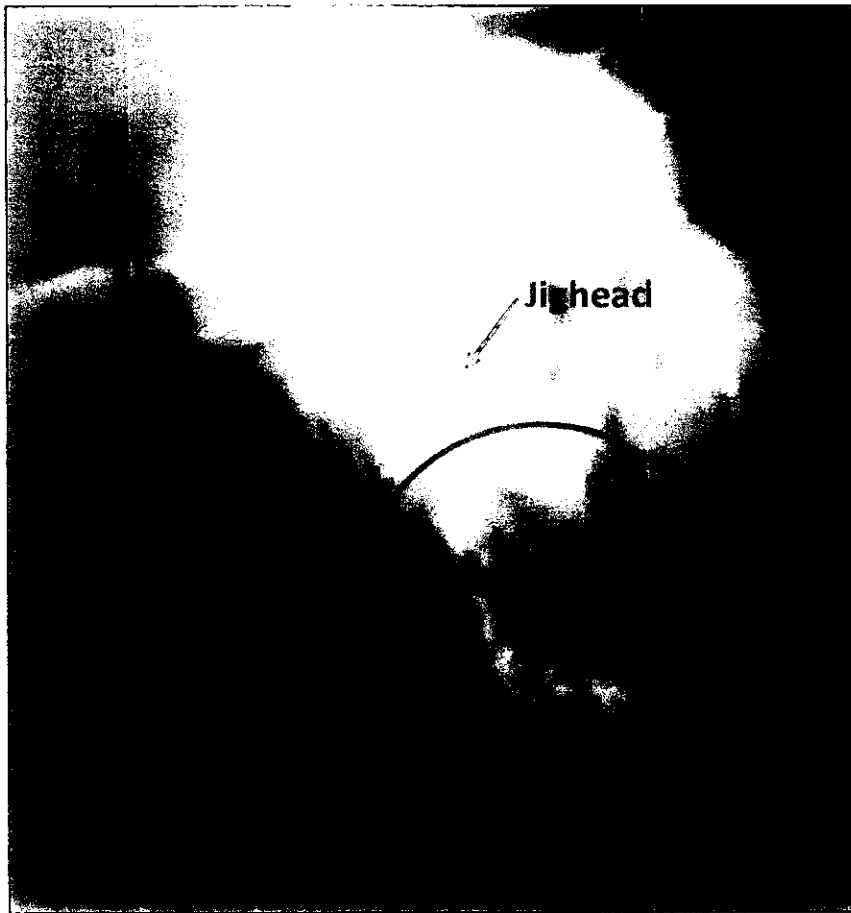


Figure 8. A plume of eroded lead leaching from a jig ingested by a loon. Lead eroded from ingested tackle enters the loon's system and causes lead poisoning and death.

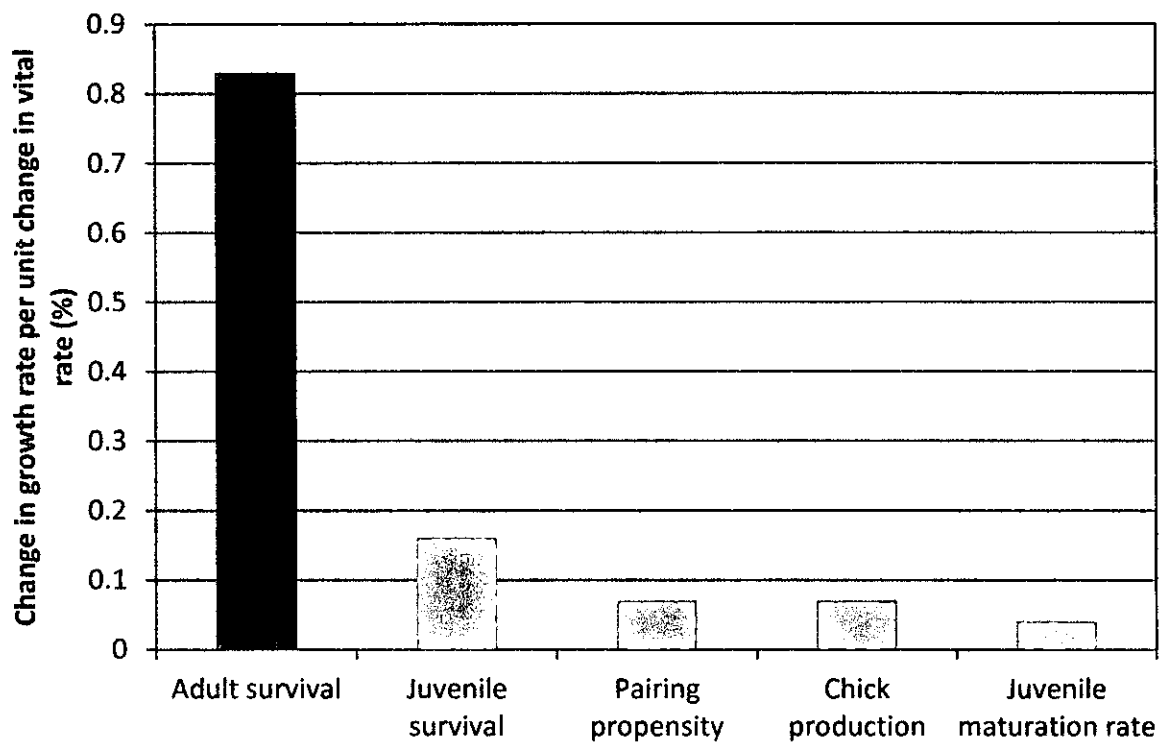


Figure 9. The impact of different Common Loon vital rates on the growth rate of New Hampshire's loon population. This graph demonstrates the overwhelming importance of adult survival in maintaining a viable loon population (Gear *et al.* 2009).

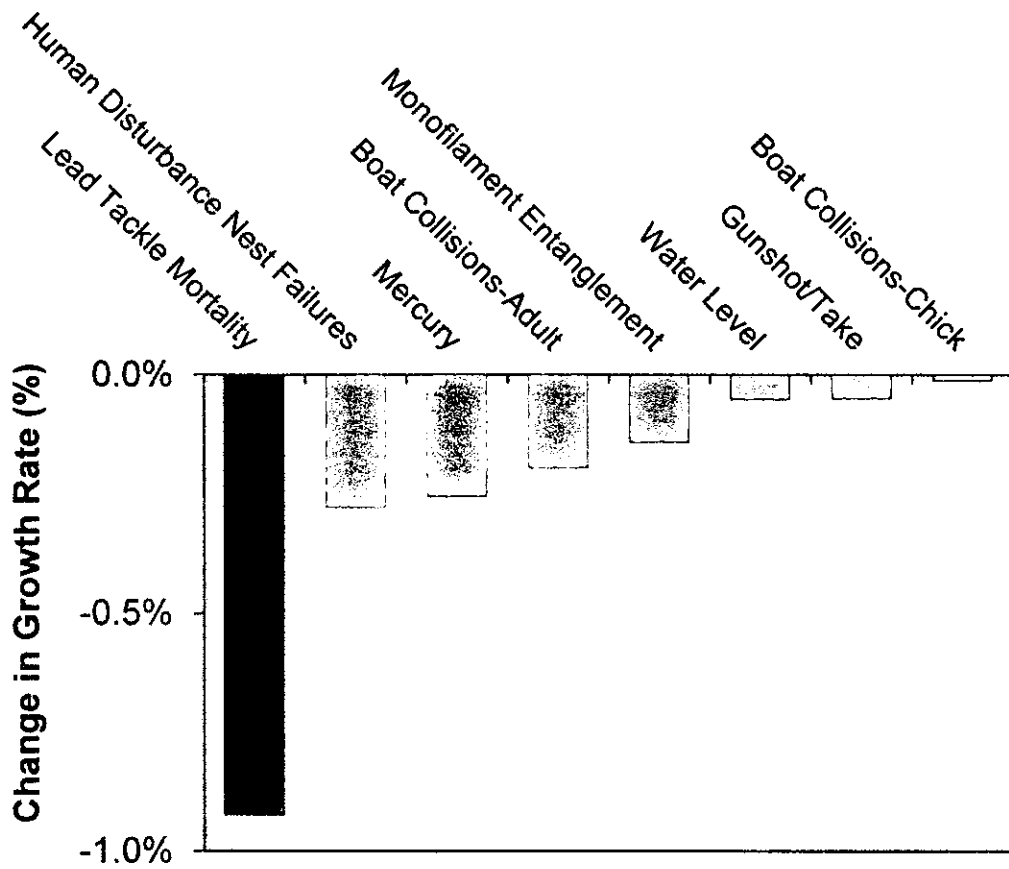


Figure 10. Lead is by far the largest quantifiable factor decreasing the growth rate of New Hampshire's loon population.\*

\*This figure provides estimates of stressor impacts on the New Hampshire loon population growth rate. Values reflect the difference between current conditions and a baseline unimpaired state, (the absence or complete mitigation of the stressor). Impacts were derived by applying the observed extent and unit impact of individual stressors to demographic vital rates in a population model developed for loons (Gear *et al.* 2009). For mortality stressors like lead poisoning, the observed mortality rate from the stressor (e.g., 10.9 loons per thousand loons per year (1989-2011) for lead tackle) was reduced by the observed background mortality rate (8%) before deriving the population growth rate impact. This offers a conservative estimate by allowing for natural mortalities—loons that might have died from other causes if they had not been killed by the stressor in question.

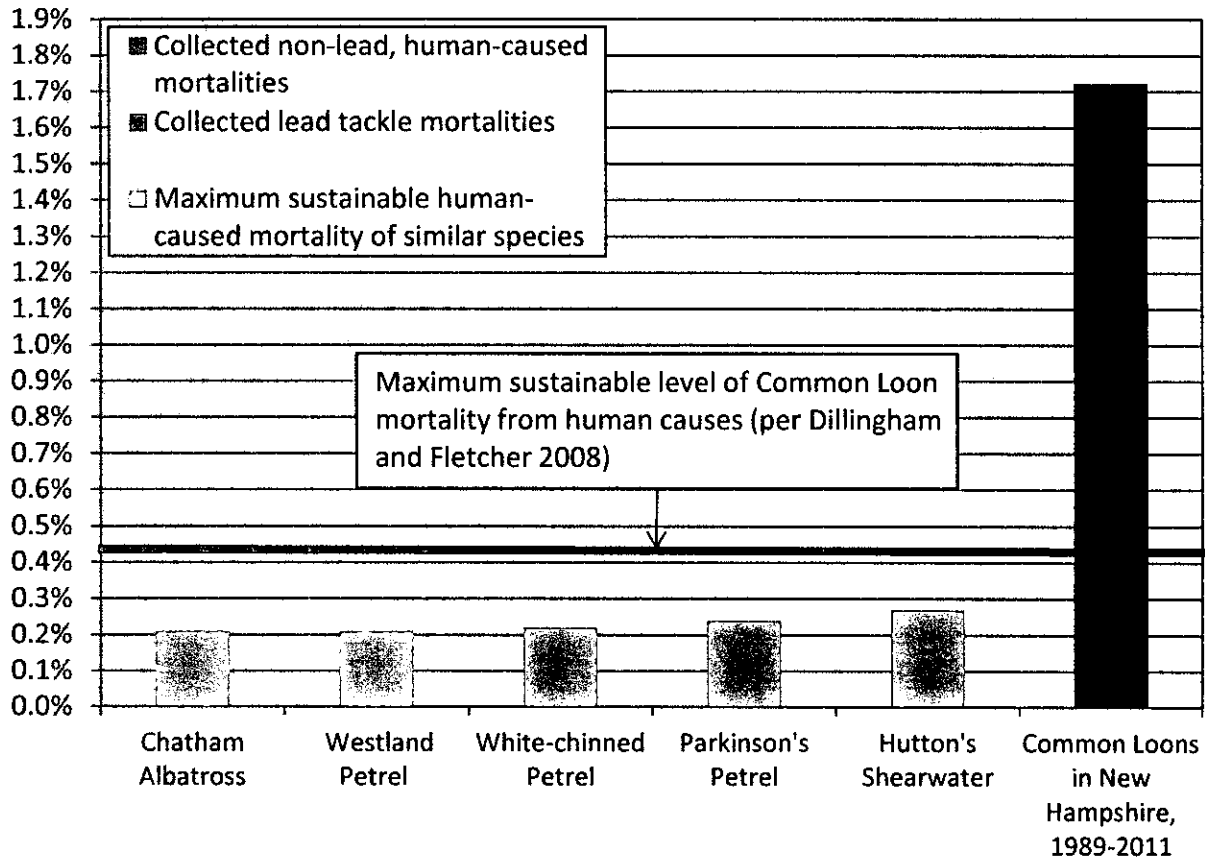


Figure 11. Lead has a population-level impact on loons in New Hampshire. Collected adult loon mortalities as a percent of total adult population indicate that yearly collected lead mortalities are approaching or exceeding sustainable levels for New Hampshire's loon population. These are conservative estimates of actual adult loon mortality. The gray bars show the maximum sustainable levels of human-caused mortality for closely related species with similar life history characteristics\* (Dillingham and Fletcher 2011).

\* All species have an annual breeding cycle, a lifespan of 15-30 years, a breeding success rate of 0.2-0.62 chicks/year, and begin breeding between 4-8 years of age (BirdLife International 2013; Agreement on the Conservation of Albatrosses and Petrels 2010; Agreement on the Conservation of Albatrosses and Petrels 2009; del Hoyo *et al.* 1992).

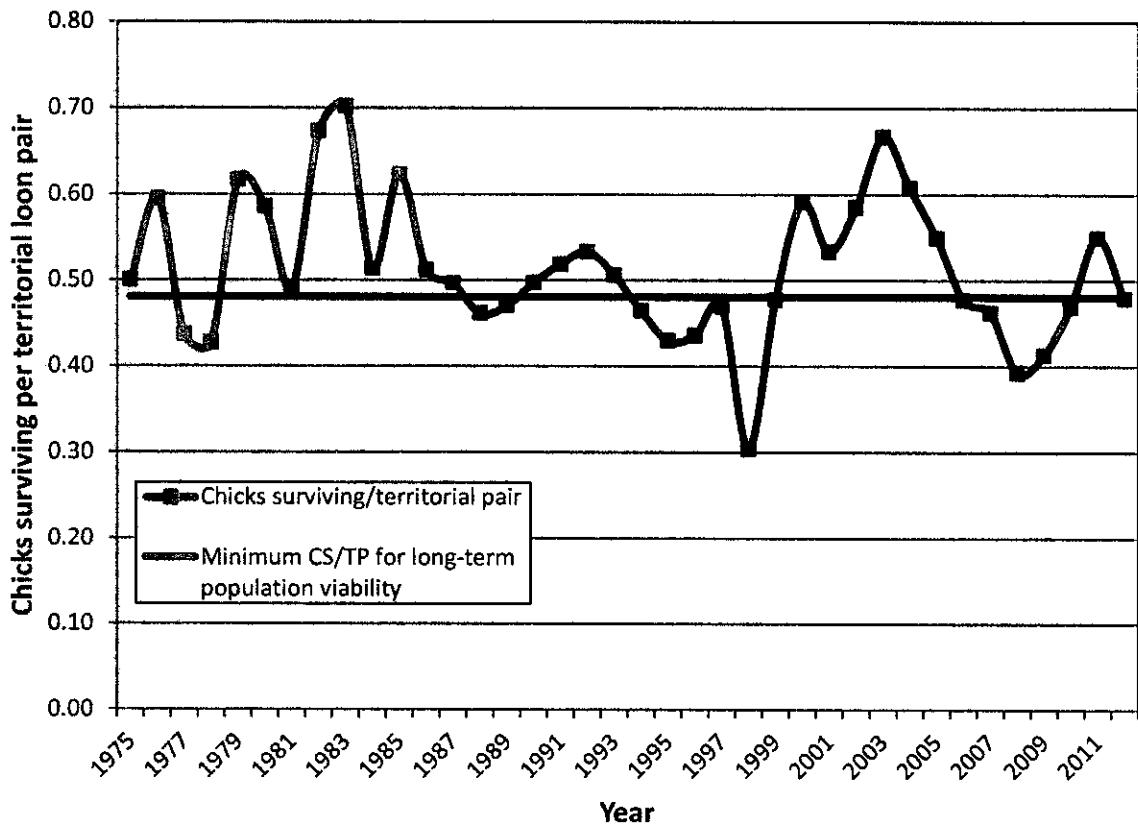


Figure 12. Loons have achieved the minimum reproductive success required to sustain their population in only two of the past seven years, despite record levels of management and outreach.



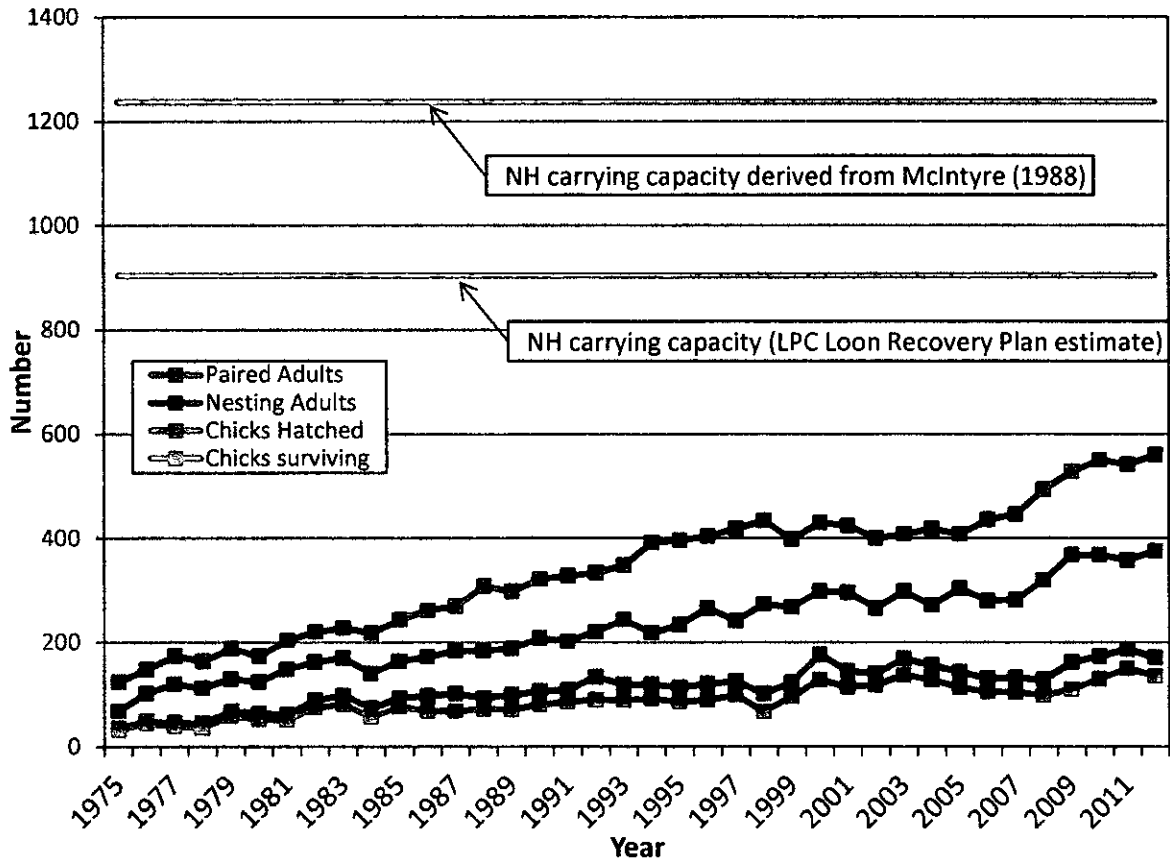
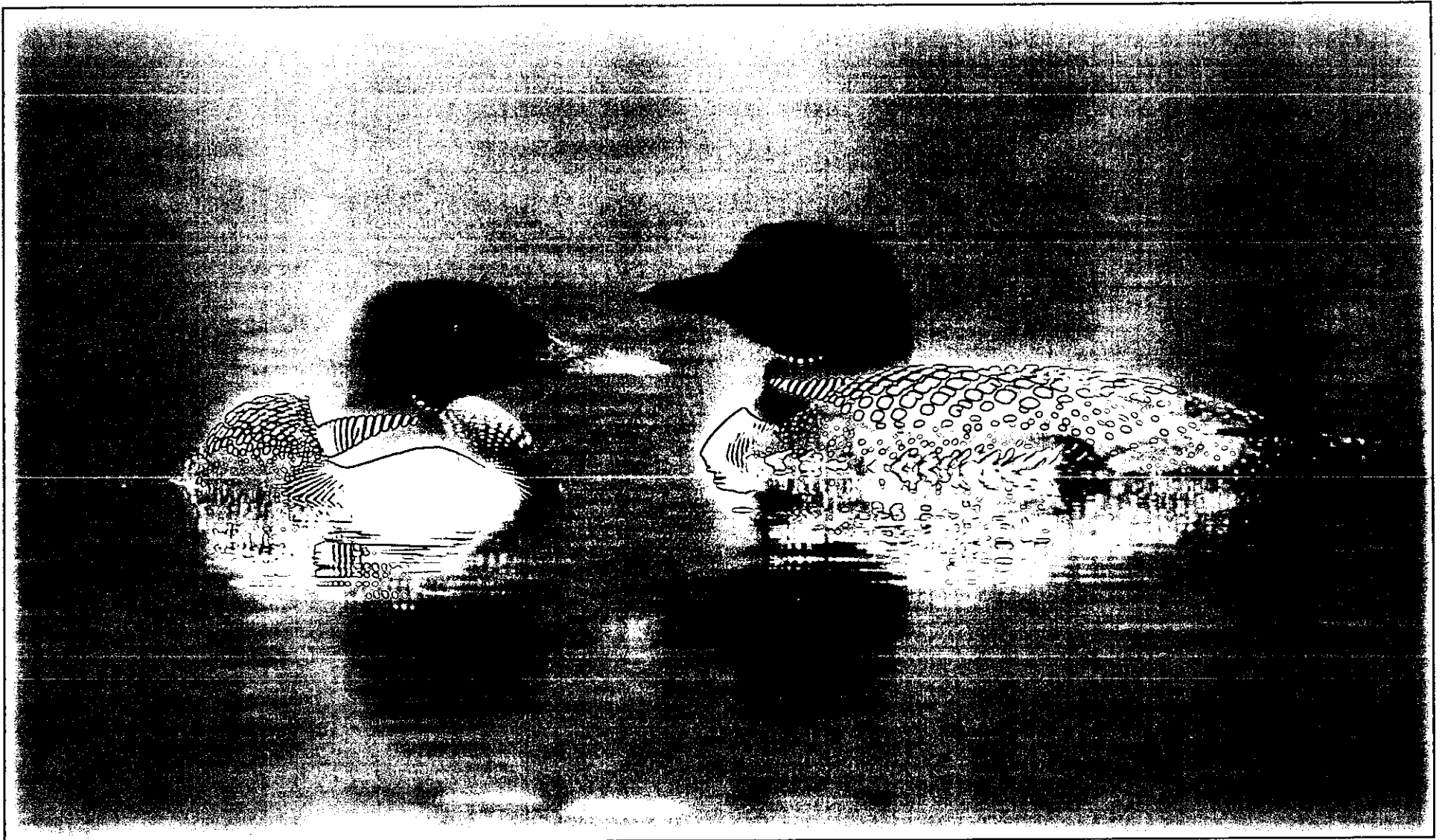


Figure 13. Paired adult loons are far below estimates of New Hampshire's carrying capacity and declined in 2011 after high adult mortality from ingested lead tackle and recent reductions in productivity (chicks surviving per territorial pair). These declines occurred despite record levels of management and outreach to increase productivity and decrease adult mortality.

The Loon Pair of Pleasant Lake in New London:  
10 chicks hatched in the past 5 years. 3 chicks lost to predators.  
Losing one of these adults would be an enormous loss.



The longer a loon pair is together, the better their parenting skills.  
It is extremely important to protect New Hampshire's paired loons.



Loons often include very large fish in their diet.





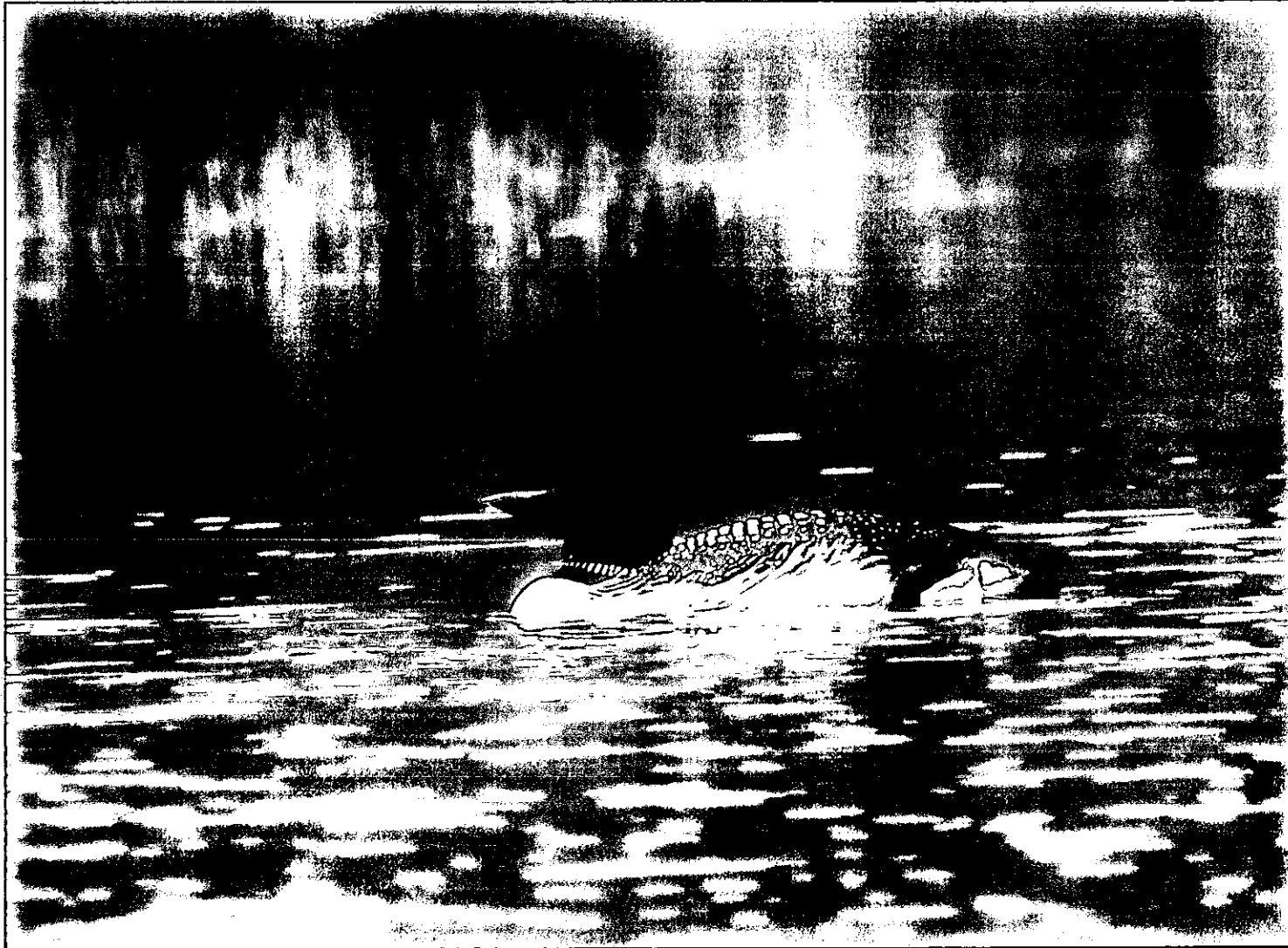
A large fish who has broken a fishing line and is trailing a lead jig would be moving slower in the water, making it an easier catch.



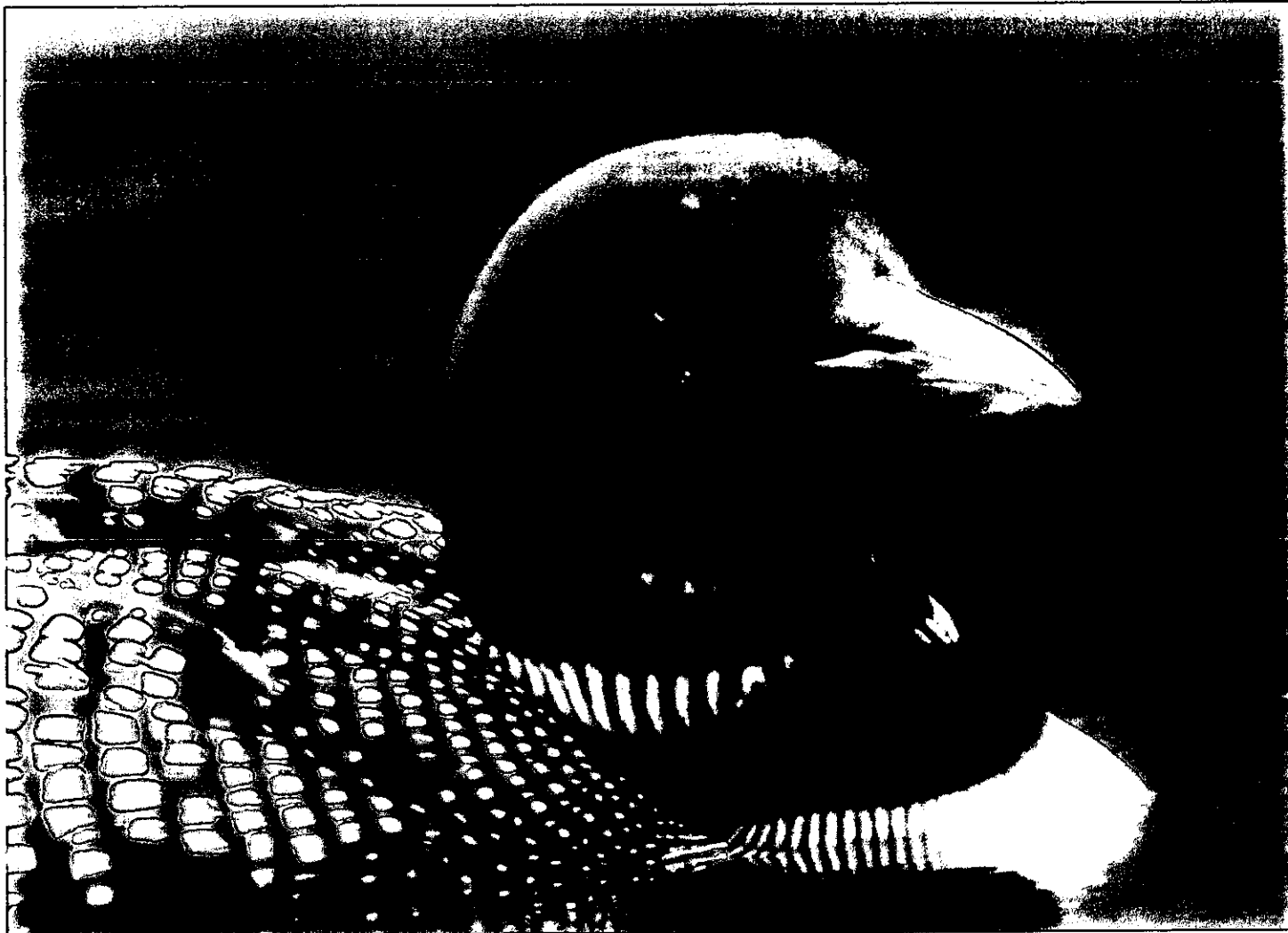
The ingested lead would be absorbed into the loon's blood stream.  
The loon would die within 2-4 weeks.



This loon is dying of lead poisoning.  
He is very subdued, with eyes half closed.  
He is having trouble holding his head up. His body lists to one side.



Obviously suffering, he can no longer swim or dive. He floats quietly,  
his beautiful call silenced. He is not able to feed himself.  
He is now an easy prey for a Bald Eagle or other predator.





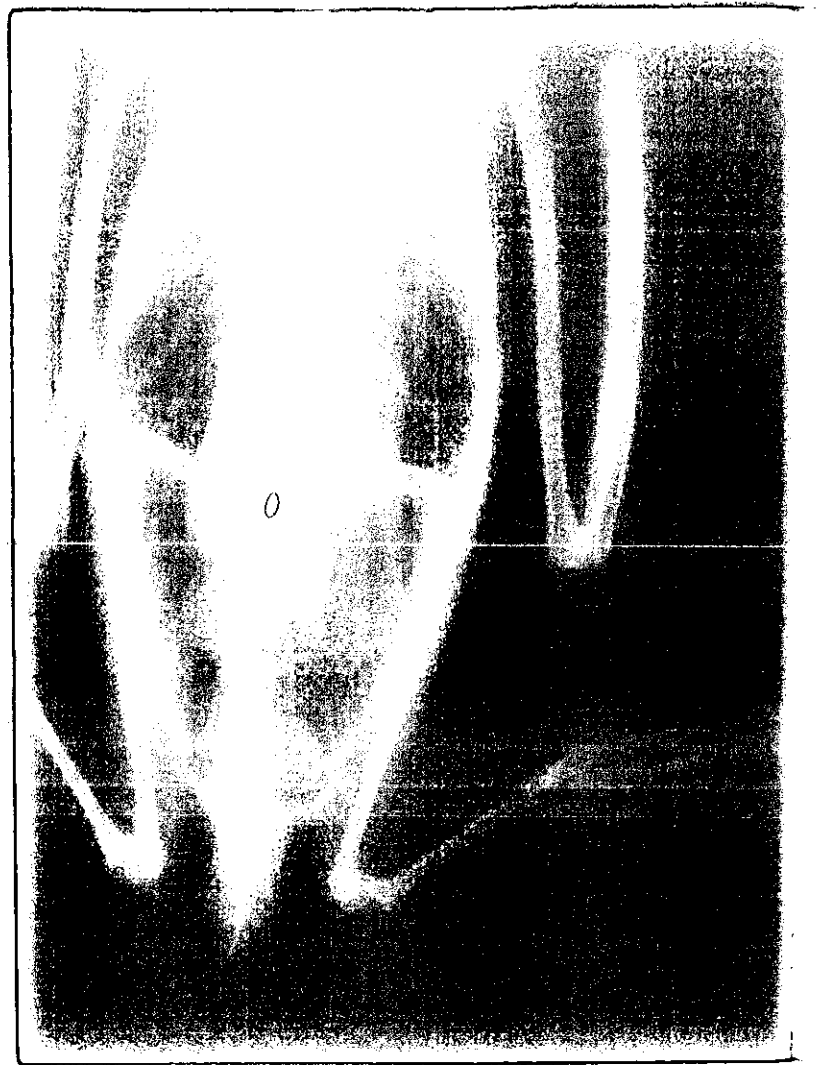
Retreating to a quiet backwater of the lake, the loon faces death with as much dignity as possible.



The loon was very near death when he was picked up by biologists from The Loon Preservation Committee. He offered no resistance.



The blood level of this loon was 63.3 micrograms/deciliter, well above the level of lead toxicity which is 20 micrograms/deciliter. The loon was euthanized. Lead fishing tackle was found in the loon. This is an all too familiar story, since half of the loons that die each year die the same way.



Thankfully, this is a problem with an easy solution. Alternatives to lead fishing tackle are readily available. Please pass this bill. It will definitely help to keep the Call of the Loon echoing across New Hampshire's beautiful lakes.

*(All photographs taken on Pleasant Lake by Kittie Wilson)*



**New Hampshire State Senate  
Energy and Natural Resources Committee  
Hearing SB89**

Mr. Chairman and Members of the Committee, I am John Wilson from New London.

I have built and floated about a half dozen Loon nesting rafts. These rafts have cost me more than \$1000 to construct. The rafts provide loon nests protection from predators and from changing water levels in the lakes. They are one means by which the professionals and volunteers of the Loon Preservation Committee have brought about the growth in the State's loon population. Even with all of this help, the Common Loon remains a threatened species in New Hampshire.

This past year my rafts produced four chicks. The data from 2011 show that four adult loons died from the ingestion of lead fishing tackle. This an example of man shooting himself in the foot. What makes it even worse is that an adult loon does not begin reproducing until 6 or 7 years of age, so its loss to the loon population turns out to be about three times that of the loss of a chick.

So, on the one hand you have man working to aid a threatened species and on the other you have man subjecting the same species to lethal toxins in the form of lead fishing jigs. This just does not make sense when there are excellent performing non-lead alternatives available at very competitive prices. (Senate Bill 89 addresses this problem. Please support it.)

This situation does not need to exist. The New Hampshire Fish and Game Department's pamphlet entitled "Let's Get the Lead Out" states in part, "Lead poisoning is preventable. Inexpensive and ecologically sound alternatives to lead sinkers and jigs are available. Anglers can use sinkers and jigs made from non-toxic materials such as steel, tin, brass, tungsten and bismuth".

In 2000, New Hampshire was first in the nation with its restrictions on lead fishing tackle used in fresh water. Very good, long term data have unequivocally demonstrated the need for amending this law. Lead jigs, one ounce or less in

weight are causing loon deaths. With the selection of excellent performing non-lead jigs available at very competitive prices, Senate Bill 89 provides a solution that is fair and reasonable.

Please support Senate Bill 89.

I thank you.

John B. Wilson



# Nourishing Wellness

Good health is a choice you can make today!

New Hampshire Senate  
Energy and Natural Resources Committee

Linda Howes, CN, HHP  
Nourishing Wellness  
PO Box 185  
Springfield, NH 03284

Feb 19, 2013

Dear Committee member,

I am asking for your support on SB 89 to protect our loons and our environment from lead poisoning due to fishing tackle.

There are many hats I wear in regard to this issue: as a Forest Society Land Steward for Grafton Pond, as a volunteer with the Loon Preservation Committee, as a Lake Host on Grafton Pond for the NH Lakes Association, and as a health practitioner.

Scientists are in agreement: "there is NO safe level of lead"!

We've already removed lead from gasoline, cookware, ceramics, and paint, we've also had massive recalls on products contaminated with lead such as children's toys and lunchboxes, isn't it time we take the next step to reduce our exposure to lead here in NH?

The Loon Preservation Committee has years of scientific data on the affects of lead on our New Hampshire loon population, the very same loons that are designated as a *threatened species*.

Loons are New Hampshire's "canary in the coal mine". They are warning us that something is seriously wrong in our environment.

As a health practitioner, a lover of loons, and lover of our New Hampshire environment I am very concerned; if the lead in fishing tackle is killing off our beloved loons, how is lead affecting other wildlife species? How is lead affecting the ecosystems of our lakes – the very lakes, and the very loons that attract visitors to our wonderful state? And just as importantly how is lead affecting our human population?



# Nourishing Wellness

Good health is a choice you can make today!

I'm concerned for the men, women, and children that enjoy the sport of fishing if they are using lead fishing tackle. Lead is a highly toxic substance that has very detrimental affects on the body.

We know that lead is especially harmful to the developing brain and nervous system of unborn and young children and can cause permanent damage. Even low levels of lead are harmful and continue to pose a serious threat to the health of many children and adults.

Low levels of lead are also associated with:

- Increased risk of heart attack and stroke
- Reproductive issues
- Reduced intelligence and cognition
- Learning disabilities
- Impaired behavior
- Violent behavior
- ADD/ADHD
- Impaired hearing acuity
- High blood pressure
- Osteoporosis
- Damage to the kidneys, liver, heart and brain

This should not be about politics, or about economics. This is about our health, the health of our children, loons and other wildlife, our lakes, and the environmental future of New Hampshire.

You have the opportunity to do the right thing. Please support SB 89.

Sincerely,

Linda Howes CN, HHP  
[www.NourishingWellness.net](http://www.NourishingWellness.net)

*Good health is a choice you can make today!*



**DATE: FEBRUARY 20, 2013**

**To: SENATE ENERGY and NATURAL RESOURCES COMMITTEE**

**SENATE BILL 89 – relative to a ban on the sales and use of LARGE leadhead jigs.**

**Good Morning Mr. Chairman and members of the committee. For the record my name is James Doughty, I am the treasurer and conservation director for the New Hampshire chapter of the B.A.S.S. NATION, the President of the NH LAST CAST CLUB, a bass fishing club from Nashua, NH, and the proud father of two boys ages 8-5 that are avid fishermen and outdoors enthusiasts.**

**The New Hampshire B.A.S.S. NATION opposes SB 89 for these reasons:**

**The financial impact: This is a multi-pronged problem in that if SB 89 were to pass it would hurt small businesses throughout the state through loss of revenue. Tackle shops will be forced to buy and then sell non-lead tackle that is anywhere from 3-10 times as expensive as tackle used today.**

**It would hurt lodging and restaurants because this would surely cause some families to spend their tourism dollars in another state. In fact my organization was in talks to possibly bring a B.A.S.S. national fishing event to the lakes region which would have generated MILLIONS OF DOLLARS for the area businesses. If this bill passes we would never see an event of that magnitude. If this bill passes it's quite possible that our own fishing organizations would explore other states to hold their events in.**

**And it would hurt the fishermen of this state because they will have to spend their hard earned money to replace fishing tackle that hasn't been shown to have a significant impact on the loon population. Why should I, as a fisherman, have to absorb the this financial burden when the "science" being put forth in support of this bill is so overwhelmingly biased. We haven't asked the state to legislate against waterfront development, but that is the single greatest risk to the loon! We haven't asked that the waterfront owners give up their beautiful docks or sandy beach and turn it into a marshy area so the loons can nest in some natural habitat instead of a manufactured "false" nesting platform, but maybe we should????**

**The truth is we as fishermen are the very first conservationist's. We are stewards of the lakes and that's why we helped craft the legislation that is on the books today. There is no basis to strengthen this lead ban. Since 2000 when the current lead ban was put into effect the loon**

lead toxicosis has gone from 5.4% and plummeted all the way to 5.3%! Do you really think that banning these bigger jigs will have any effect on these numbers, when there is nothing to support that they are a danger to loons? The fact that all this data is acquired by one organization and processed by one doctor alarms me. I don't question for a moment Dr. Pokras' credentials, I have had casual conversations with him and enjoyed our talks very much, but when one doctor does the bulk of the data gathering the potential for bias is greater, in my opinion. I know the LPC uses Tufts and Dr. Pokras because he is affordable, actually I believe he is free, but if the LPC can't afford the financial burden to pay to have these necropsies done, why should I as a fisherman pay because of the flawed and misleading claims generated by the necropsy findings.

In comparison to our nearby states, Maine, Vermont and New York, New Hampshire has a similar lead law because the overwhelming data shows that almost all of the lead found in dead loons is less than a ½ ounce. Only Massachusetts has a complete lead ban, and I know for a fact that it is not enforced and many, many, fishermen still use lead fishing tackle. Massachusetts also has a very small loon population because there are only a few lakes that could support loons anyway. I don't know how New Hampshire would enforce this with their already strapped resources, and I fear it would put undo stress and responsibility on Fish and Game officers.

In closing I would like to say how disheartened I am at seeing our great state inch closer to becoming a "nanny" state. We can't and shouldn't try to legislate all the ills of the world away. I live here because I love the outdoor activities it offers me and my family, and anything that adversely affects my ability to enjoy these great outdoors is something I will certainly fight against.

I would like to thank you all for allowing me to speak in opposition of SB 89 and I hope you will take the correct measures and vote this bill down. Please ITL SB 89. Thank you.



February 20, 2013

The Honorable Russell Prescott, Chair  
Senate Energy and Natural Resources Committee  
Legislative Office Building, Room 101  
Concord, NH 03301

**Re. SB 89, relative to the definition of lead fishing sinkers and jigs.**

Dear Senator Prescott and Members of the Committee:

Thank you for this opportunity to provide testimony to your committee on SB 89, a bill that the New Hampshire Lakes Association (NH LAKES) strongly supports. NH LAKES is a statewide nonprofit organization dedicated to protecting the state's lakes and their watersheds. Our membership consists of over a hundred local lake associations and many more hundreds of individuals and families, along with private businesses and many municipalities – all committed to protecting our lakes, which includes our native wildlife that inhabit them.

There is considerable data to support the premise that (the metal) lead from fishing tackle is the leading cause of adult loon mortality in New Hampshire. You will no doubt hear from the opponents of SB 89 that education alone is the answer to this problem. We agree that education is necessary; however, we also strongly believe, from 20 years in the lakes education business, that education alone will not effectively safeguard loons. In fact we need both a robust and consistent statewide education program to get lead out of our freshwater fishing tackle and we need laws that specifically prohibit the sale and use of the lead fishing tackle (as described in SB 89) that is killing our adult loons. This is not just our opinion but is a position supported by data.

- In Minnesota, a comprehensive 10-year outreach campaign failed to measurably reduce loon mortalities from ingested lead fishing tackle.<sup>1</sup>
- In Great Britain, nationwide outreach failed to reduce the rate of Mute Swan mortality from lead tackle.<sup>2</sup>
- In Sweden, a 15-year outreach effort to encourage use of non-toxic fishing tackle by the Swedish Angling Association and other fishing and industry partners failed to produce a reduction in the use of lead tackle.<sup>3</sup>

This is just some of the data to support our premise that in order to protect our loons from the lethal effects of lead fishing tackle, we must clarify the regulations and then educate anglers and retailers about the importance of this transition. On behalf of NH LAKES we request that you pass SB 89 as proposed.

Sincerely,

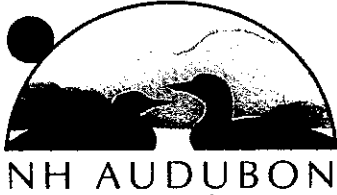
A handwritten signature in cursive script that reads "Tom O'Brien".

Tom O'Brien, President

<sup>1</sup> Baribeau, A. 2009. Get the Lead Out! Program. Report for the 2010 Environmental Initiative Awards. Minnesota Pollution Control Agency.

<sup>2</sup> Kirby, J., S. Delany, and J. Quinn. 1994. Mute Swans in Great Britain - a review, current status and trends. Hydrobiologia 280:467-482.

<sup>3</sup> Swedish Chemicals Agency and Swedish Environmental Protection Agency. 2007. Report Nr 5/07, Swedish Chemicals Agency.



#### STATEWIDE OFFICES

84 Silk Farm Road  
Concord, N.H. 03301  
PHONE 603-224-9909  
FAX 603-226-0902  
nha@nhaudubon.org  
www.nhaudubon.org

#### REGIONAL CENTERS

##### AMOSKEAG FISHWAYS LEARNING CENTER

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P.O. Box 330  
Manchester, N.H. 03105  
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*Managed by NHA in partnership  
with PSNH, the N.H. Fish and  
Game Department, and the U.S.  
Fish and Wildlife Service.*

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26 Audubon Way  
Auburn, N.H. 03032  
PHONE 603-668-2045  
FAX 603-668-3796

##### McLANE CENTER

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Concord, N.H. 03301  
PHONE 603-224-9909  
FAX 603-226-0902

##### NEWFOUND AUDUBON CENTER

50 North Shore Road  
P.O. Box 142  
Hebron, N.H. 03241  
PHONE 603-744-3516  
FAX 603-744-1090

February 20, 2013

The Honorable Russell Prescott  
Chair, Senate Energy and Natural Resources Committee  
Room 101, Legislative Office Building  
Concord, NH 03301

**Re: Support for House Bill 89 relative to the definition of lead fishing sinkers or jigs**

Dear Chairman Prescott and Members of the Senate Energy and Natural Resources Committee,

I am writing on behalf of the Audubon Society of New Hampshire in strong support of SB 89. We are a statewide non-governmental organization dedicated to protecting New Hampshire's environment for wildlife and for people.

SB 89 revises RSA 211:13-b, IV to ban the use of lead jigs which are one ounce or less in weight. The Legislature's previous action to ban the use of lead sinkers of one ounce or less in weight and lead jigs of less than one inch in length has helped to reduce mortality of Common Loons in New Hampshire waters. However, the one-inch total length is an inadequate standard, as evidenced by the continued mortality of loons due to ingestion of lead fishing tackle. In fact, lead-headed jigs have been the largest single cause of loon mortality in New Hampshire since enactment of the initial ban in 2000.

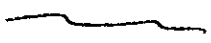
The Common Loon is not the only New Hampshire wildlife species that is vulnerable to harm from lead fishing tackle; it is merely the only one that is monitored closely. Researchers<sup>1,2</sup> have documented ingested lead tackle in 28 species, including Canada Goose, Mallard, American Black Duck, Wood Duck, and Common Merganser, as well as in Great Blue and Green herons and Bald Eagles.

The fishing tackle industry has responded to this problem and the resulting bans in other states by developing non-poisonous alternatives, some of which are less expensive than lead.

Passage of SB 89 will make the ban on lead-headed jigs consistent with the original intent of RSA 211:13-b - to reduce loon mortality due to lead fishing tackle in New Hampshire waters, and will protect other native species from the harmful effects of lead in the environment.

We urge you to vote SB 89 Ought to Pass.

Sincerely,

  
Michael J. Bartlett  
President

<sup>1</sup> Scheuhammer, A., S. Norris. 1995. A review of the environmental impacts of lead shotshell ammunition and lead fishing weights in Canada. Occasional Paper No. 88. Canadian Wildlife Service.

<sup>2</sup> Scheuhammer, A., S. Money, and D. Kirk. 2003. Lead fishing sinkers and jigs in Canada: Review of their use patterns and toxic impacts on wildlife. Occasional Paper No. 108. Canadian Wildlife Service.

# The Efficacy of Education to Address Loon Mortality From Ingested Lead Fishing Tackle

## - Loon Preservation Committee -

The Loon Preservation Committee (LPC) has conducted intensive public education on the dangers of lead tackle to loons and other wildlife since learning of the critical role of lead fishing tackle in adult loon mortality in 1989. Circa 2000, New Hampshire Fish and Game and the US Fish and Wildlife Service produced and distributed "Get the Lead Out" brochures and conducted additional public education through a number of programs. LPC's data have shown that these education efforts have not been effective in addressing the continuing problem of mortality of loons from ingested lead fishing tackle. LPC believes in the value of education and strongly supports educational programs as part of a comprehensive effort to mitigate this serious issue; however, in researching education programs on lead fishing tackle, LPC was unable to discover a single **education-only** program that reduced the threat of lead fishing tackle to wildlife.

- In Minnesota, a well-funded 10-year outreach campaign failed to measurably reduce loon mortalities from ingested lead fishing tackle. Described as "one of the most ambitious in the country," this campaign included over 200 lead tackle exchanges which collected 8,000 lbs of lead; distribution of 50,000 sample packages of lead-free tackle; displays at retail stores; and media coverage. At the end of the program, Kevin McDonald, supervisor of the Sustainable Development Unit of the Minnesota Pollution Control Agency, concluded, "I believe no one knowledgeable about our concerted and sustained educational efforts in Minnesota would make the claim that education alone will sufficiently reduce or eliminate avoidable loon deaths as a result of lead ingestion" (K. McDonald, pers. comm., Baribeau 2009).
- In Great Britain, outreach failed to reduce the rate of Mute Swan mortality from lead tackle. A substantial decline in the impact of lead tackle on swans was achieved only after a parliamentary ban on the use of lead weights of the sizes ingested by swans (Sears and Hunt 1991, Kirby *et al.* 1994).
- In Sweden, a 15-year nationwide outreach effort to encourage use of non-toxic fishing tackle by the Swedish Angling Association and other fishing and industry partners failed to produce a reduction in the use of lead tackle. Following outreach efforts aimed at retailers of tackle in Stockholm, city officials reported that retailers "did not intend to stop selling lead sinkers until legislation was introduced." The Swedish Environmental Protection Agency and the Swedish Chemicals Agency proposed that the use of lead in fishing tackle should be restricted (Swedish Chemicals Agency *et al.* 2007).
- A report on efforts to eliminate the use of lead tackle in Canada concluded, "Probably the most effective way to reduce lead poisoning of loons and other water birds is to phase out the sale and/or use of lead fishing sinkers through government regulation, which would also

stimulate the availability, sale, and use of nontoxic alternatives” (Scheuhammer and Norris 1995).

- Dr. Milton Friend, emeritus director of the US Geological Survey National Wildlife Health Center, wrote: “Education processes by themselves can be invaluable in shaping public opinion at the local level but are unlikely to be an adequate force for change....Without legislation that prohibits the use of hazardous types of lead based fishing tackle, there is little incentive for the development of alternatives...” (M. Friend, pers. comm.).

LPC believes in the value of education and has devoted considerable resources toward a sustained lead educational effort including presentations, displays at The Loon Center, posters at lake access points, distribution of lead-free tackle, lead tackle exchanges, brochures, and innumerable contacts with anglers and other lake users in the field. However, education **alone** has proven inadequate to address the issue of adult loon mortality from ingested lead fishing tackle. This inadequacy is evidenced by the failure of LPC’s intensive education efforts since 1989 to significantly reduce rates of loon mortality from ingested lead tackle, as well as the failure of programs in other states and countries to reduce wildlife mortality from lead tackle. Given exceptionally high levels of loon mortality from lead tackle in New Hampshire, these findings indicate that a reliance on a less effective method of mitigation (education alone) will not be enough to address this primary cause of adult loon mortality. Therefore, LPC believes that a comprehensive solution involving legislation backed by an intensive educational effort will be required to address this issue.

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20 February 2013

Senate Energy and Natural Resources Committee  
LOB 101  
Concord NH 03301

RE: SB 89 relative to the definition of lead fishing sinkers and jigs.

Dear Senators:

This letter is in support of SB 89.

We have unleaded gas, unleaded paint, unleaded toys, unleaded electronics; why not unleaded loons -- and unleaded children?

We know what lead does to loons. Less obvious is what it does to people.

In New Hampshire and 18 other states, packaging can contain no more than .01% (100 ppm) lead. Lead is too dangerous for children to even touch. Long before there are any obvious symptoms of lead poisoning, it has neurological effects. Even brief contact with lead by a child can reduce IQ by one point, which the NIH estimates will result in \$17,000 less income over a lifetime. Fortunately, the effects are not additive in linear fashion, or many of us would have negative IQs.

Behavioral effects may mean problems in school or with the criminal justice system, at great cost to the taxpayer, as well as the emotional costs for families and others. The packaging can't contain lead, but the package can -- curiously and curiously.

The Jarden Corporation, a leading manufacturer of fishing gear in the U.S under brands such as Berkley, Abu Garcia, and Shakespeare, now labels its Johnson lead jigs: "Do not place hand in mouth after handling this product." Tell that to a toddler.

Toxic tackle is "traditional." So were belching smokestacks and poisoned rivers, child labor and slavery. Some traditions need to change.

Alternatives are available, but some fishermen are unwilling to use them voluntarily. They don't believe lead is a problem

Science is not a question of belief; it's a question of evidence. Whether or not you believe in fairies has no bearing on the scientific question of whether they exist. Education alone will not change beliefs; it has yet to eliminate Elvis sightings.

Mercury, another heavy metal, is present in freshwater fish in New Hampshire and all other states. We severely limit the recommended amount of this fish people, particularly children, should eat. Catching toxic fish with toxic tackle is considered "sport." Fine. But eating it is bass backwards -- a new version of the unspeakable chasing the inedible.

Much of the evidence for the presence of mercury in our ecosystem first came from loons. As a "top predator," they are highly sensitive to environmental problems, and serve as a "sentinel species" that can warn of environmental problems for another top predator -- humans.

There are some uses of lead for which there are no good substitutes. Fishing tackle is not one of them. Let's do what NH Fish and Game has been urging for years -- get the lead out. Of loons, people, and politics.

=====

A loon is not a duck.

Ducks have many ducklings; most of them do not survive to adulthood. They can breed multiple times per year. The fancy terminology for this is that ducks are an "R-selected" species. They reproduce rapidly; when survival conditions are right, they can quickly recover from a population crash.

Loons (and humans) have few young, breed relatively infrequently, and invest a lot of care in their young to make sure the few that they have survive. Technically, these are "K-selected" species.

The game we hunt and fish we catch are almost all R-selected species. If they didn't breed like rabbits, there wouldn't be enough of them left to continue to reproduce. There are many examples throughout history of animals becoming extinct due to human overutilization or habitat destruction. Do we want that to happen to loons?

In recent history, Common Loons bred as far south as Pennsylvania. Their breeding range has been pushed north; New Hampshire is now at the southern fringe. As a species, they are not endangered, but they are threatened in New Hampshire. If loons from elsewhere would reoccupy our lakes when we lose them, we would have fewer problems, but the evidence shows this rarely happens.

In fact, we seem to have three separate breeding populations in New Hampshire alone, that do not go far from their home areas. Once gone, they may take decades to return to a lake, if ever. The New Hampshire Endangered Species Conservation Act requires protection of "...any species of native wildlife whose continued existence as a viable component of the state's wild fauna is determined to be in jeopardy..." What happens in Canada is irrelevant to New Hampshire law.

It is hard for many sports fishermen to understand why only a few extra loon deaths per year from lead fishing tackle has such an impact. They are used to dealing with R-selected species that bounce back from losses, or with introduced species like Smallmouth Bass that have displaced native fish. One way to understand the problem is to visualize it not as loons, but as dollars.

Assume you have \$500 (your population). You put it in the bank and earn 5% interest (reproduction). At the end of the year, you have \$525. If you spend \$25 annually (mortality), your capital remains stable -- you still have \$500.

But what happens if you spend \$35 per year? Do the math:

The first year, your principal = \$500 and interest = \$25. Subtotal: \$525. Subtract \$35 spent = \$490 (Figures rounded off to the nearest dollar.)

The second year, your principal = \$490 and interest = \$25. Subtotal: \$515 - \$35 = \$480.

The third year, your principal = \$480 and interest = \$24. Subtotal \$504 - \$35 = \$469.

The fifth year, your principal = \$457 and interest = \$23, Subtotal \$480 - \$35 = \$445.

By the ninth year, you have lost more than a quarter of your money. Your principal = \$405 and interest = \$20. Subtotal \$425 - \$35 = \$390.

You then need to more than double your interest rate to get back to your original capital (population). With a K-selected species like loons, this can't happen. They are barely hanging on as is. They have evolved over tens of millions of years to reproduce in the absence of lead; it may take that long for them to adapt, if they can.

We don't have that long.

---

How much is that loon seen through the window? The one with the waggly foot?

How do you place a monetary value on a loon vs. a fish?

The bass fishermen make dire predictions about how much money the state will lose if we restrict lead jigs. Fishing derbies will be cancelled, fishermen will go elsewhere and not buy New Hampshire licenses, etc.

It's a nice script for a horror movie, but there's little evidence in reality.

Fishermen come to New Hampshire for the fishing. The fish are not going away. The loons are.

There were dire predictions that logging would disappear from the state when we enacted forestry laws. Boaters were supposedly going to leave the state when we put speed limits on our lakes. What's next -- demanding the removal of traffic lights so we don't scare away cars?

Like it or not, most people from out of state do not visit New Hampshire for its cultural institutions -- great museums, world-renowned symphony orchestras, medieval architecture, etc. We have culture, but let's face it -- we can't compete with the great cities of the world,

Where we can compete is with our natural environment. Tourists from as far away as China come to see our stunning lakes and mountains. They may never have heard of loons, but once they hear one, they don't forget it.

I rent out a house on an island in Lake Winnepesaukee in the summer. People leave comments in the guest book. The fishing is rarely mentioned; but the loons are well represented. People come for the loons; the fish are a side benefit.

I don't advertise the fishing, although people are welcome to enjoy it, despite the state's mercury warnings I post about them.

I do advertise the loons.

How much is that worth to me in rental income, and to the state in meals and rentals taxes? I don't know.



How much are the loons worth to the New Hampshire hospitality industry, real estate industry, etc? I don't know.

I suspect it's a lot more than we take in with fishing license fees.

And then there are the non-monetary values. Some things are priceless. Let's not lose them.

=====  
Here's a riddle for you: Why is a loon like a stunted pig?

Because it doesn't bring home the bacon.

The explanation is somewhat circuitous.

Once upon a time in England, the Sheriff of Nottingham pursued an infamous group of outlaws in Sherwood Forest, since they were hunting the King's deer. Robbing the rich was a less serious offense; the King came first. Fish and wildlife belonged to the landowners, who could set mantraps for poachers. Enforcement methods have changed, but English private gamekeepers still exist to catch poachers.

After the American Revolution, the ex-colonials had a new idea: wildlife should belong to everyone, no matter whose land it happened to be on at the time. You could own fish in a private pond, but the native fish in the lakes and rivers were also public property. This idea has now evolved into what is now called the "Public Trust Doctrine," where the air, water, and the wild creatures in and on it are the responsibility of the state, for the benefit of all it's citizens, not just a select few.

New Hampshire and many other states have adopted this doctrine into law -- mostly. Unfortunately, contradictory remnants of our colonial heritage still exist. Fish and game was viewed as a resource for consumption, forests were for logging, minerals were for mining, and rivers and lakes were for dumping sewage and industrial waste. Protecting scenery, inedible birds,, etc. was not much of a consideration.

Slowly, attitudes changed. The logging and fire destruction of the White Mountains helped lead to the Weeks Act in 1911, establishing National Forests. The Passenger Pigeon was gone by 1913, and people realized wildlife was not an inexhaustible resource. Yet it was not until the 1981 that the Lincoln paper mill closed, and the Pemi River was no longer the color of the paper being produced. By the time the fish returned there, state laws had long been in place to control fishing. New Hampshire had a Fish and Game Department, funded by license fees from hunters and fishermen, and controlled by a Fish and Game Commission made up of those hunters and fishermen. He that paid the piper called the tune.

This was all very logical at one time, but it no longer works. There are now far more birdwatchers than hunters in this state, and nobody has figured out how to enforce birdwatching licensing, or collecting revenue from other nonconsumptive uses of many natural resources. We have a timber tax, an ammunition tax, duck stamps, etc.; but we don't charge tourists or residents on a pay-per-view basis for watching moose or the rest of our natural resources.

In many states, most recently California, the Department of Fish and Game has become a Department of Fish and Wildlife, recognizing the importance of non-game wildlife to the environment -- and the economy. In New Hampshire, non-game wildlife is non-revenue wildlife as far as our state agency is concerned, and is therefore treated like the runt of a litter, getting the dregs after the marketable piglets are attended to.

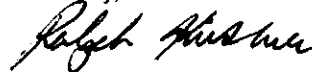
The New Hampshire Fish and Game Commission protects its turf -- fish and game. Non-game threatened species like loons are not supposed to be their concern; by law, they fall under the exclusive purview of the Executive Director of Fish and Game. However, the Commission, also by law, takes positions "...on proposed legislation that affects fish, wildlife, and marine resources and the overall management of the fish and game department."

The Executive Director knows who controls the department and his budget. It's not the loon lovers., birdwatchers, or tourists photographing moose; it's the hunters and fishermen on the Fish and Game Commission, who treat the state's wildlife like they own it, as British Royalty once did. It's long past time for New Hampshire's Sheriff of Nottingham and our legislature to bring his department into the 21st Century.

We don't have a Corrections Commission made up of ex-cons controlling our prisons. We don't have an Education Commission of 12-year olds controlling our schools. We don't have horse and buggy owners on a commission to control our highways. Why do we still have the anachronism of the New Hampshire Fish and Game Commission?

Thank you.

Sincerely,



Ralph Kirshner

Dear Senators:

My name is Gary Clark, a resident of Merrimack, the owner of Northern Bass Supply in Brentwood, and a New Hampshire fisherman, I strongly oppose SB89. It is "feel good" legislation that would fail to accomplish the goals set forth by the LPC, could and would not be enforced, and only serves to severely damage related New Hampshire businesses, the fishing public and the State's treasury. The following highlight the major opposition points:

**1. SB89, IF IMPLEMENTED, WOULD PUT NORTHERN BASS SUPPLY OUT OF BUSINESS**  
Northern Bass Supply is a 25-year old New Hampshire retail business where over 80% of its sales are internet-based to out-of-state buyers in a very competitive market. They currently offer 361 SKU's of inventory which would be banned from sale under SB89. In addition, they offer 452 SKU's of softbaits that require the use of one or more of the banned items. The retail sales figures for those items will be over \$100,000. If out-of-state customers cannot obtain the popular jig heads and jigs from NBS, they will buy them elsewhere and, importantly, they will purchase their other needs such as softbaits, rods and reels elsewhere. In short, SB89 would put NBS in a non-competitive national position from which it could not recover and would have no other choice but to close the doors.

**2. SB89 WOULD HAVE A SEVERE IMPACT ON COASTAL AND OTHER NEW HAMPSHIRE TACKLE DEALERS**

While the intent of SB89 is to protect loons in the freshwater environment, tackle dealers will not be able to sell leaded jig heads to saltwater fishermen (like popular Mackerel jigs), but fishermen can use them in our coastal waters. They will buy those products out-of-state, thus severely impacting coastal dealers and effecting tax revenues to the state. In addition, there are several dealers of fishing tackle within the state who would also be impacted.

**3. SB89 DOES NOT APPLY TO A SIGNIFICANT PORTION OF NH LOON HABITAT DESPITE ITS INTENT**

No Interstate bodies of water would be affected by this legislation because no Concurrence is established with our bordering states, which is a necessity for any law to be active. That means primary loon environments such as Lake Umbagog, Great East Lake, etc. on the Maine border. Plus all of the Connecticut River would not be enforceable under SB89. THIS ALONE IS REASON ENOUGH TO ITL THIS BILL!

**4. SB89 COULD NOT, AND WOULD NOT BE ENFORCED TO ANY DEGREE OF EFFECTIVENESS**

The Fish & Game Department has never been, nor will they be, the 'Lead Police'. Not once in the last 10 years has Northern Bass Supply been checked for legality under the current law. Not once have I, nor any other bass fisherman that I know of, been stopped on the water and checked for lead weights. Such will be the case with SB89. To assume that F&G officers will come on board a fishing boat and spend an hour destroying jigs by removing all skirting material, scraping off enough paint to get to bare metal, using a test device to see if it is lead and then micro-weighing it to see if it is under an ounce is a ridiculous waste of their valuable time.

**5. SB89 IS BIASED AGAINST BASS FISHERMEN WHILE ALLOWING TROUT FISHERMEN TO "SKATE"**

The initial "lead law", as well as SB89, exempts trout flies from the regulation and yet many of these lures contain lead eyes or lead wraps. A strong outcry by trout fishermen, led by Ellis Hatch, got the exemption initially in return for support of the first bill. The LPC knows that their proposal would probably not pass if Trout Unlimited were to be strongly against it. So, while the LPC'S science proclaims that even a tiny amount of lead will kill a loon, and lead dissipates

quickly into the loon's bloodstream, flies are not a problem because they would easily pass through the digestive system before dissolving. ARE WE SUPPOSED TO BELIEVE THAT? I would contend that more trout with broken off flies in them are eaten by loons than people suspect while the number of bass with a broken off jig in its jaw are miniscule targets of loons.

#### **6. SB89 PROPONENTS DISTORT THE STATISTICS ON LEADED JIG-CAUSED LOON MORTALITY RATES**

You have seen, or will see, a pie-chart from the LPC indicating that 50% of loon mortalities are caused by lead ingestion. They will briefly mention that 24% are lead jig heads and, even less briefly, acknowledge that the size of those lead heads are small and length of the jig is a guess. Attached is a "true" graph, superimposed on their own material, which shows only 5 out of 59 total deaths attributable to jigs over

22 years might be attributable to, and used by, NH bass fishermen. THIS RELATES TO A DEATH RATE OF ONE LOON EVERY 4.5 YEARS – EQUIVALENT TO DEATHS CAUSED BY GUNSHOTS AND FAR LESS THAN THAT CAUSED BY BOAT COLLISIONS.

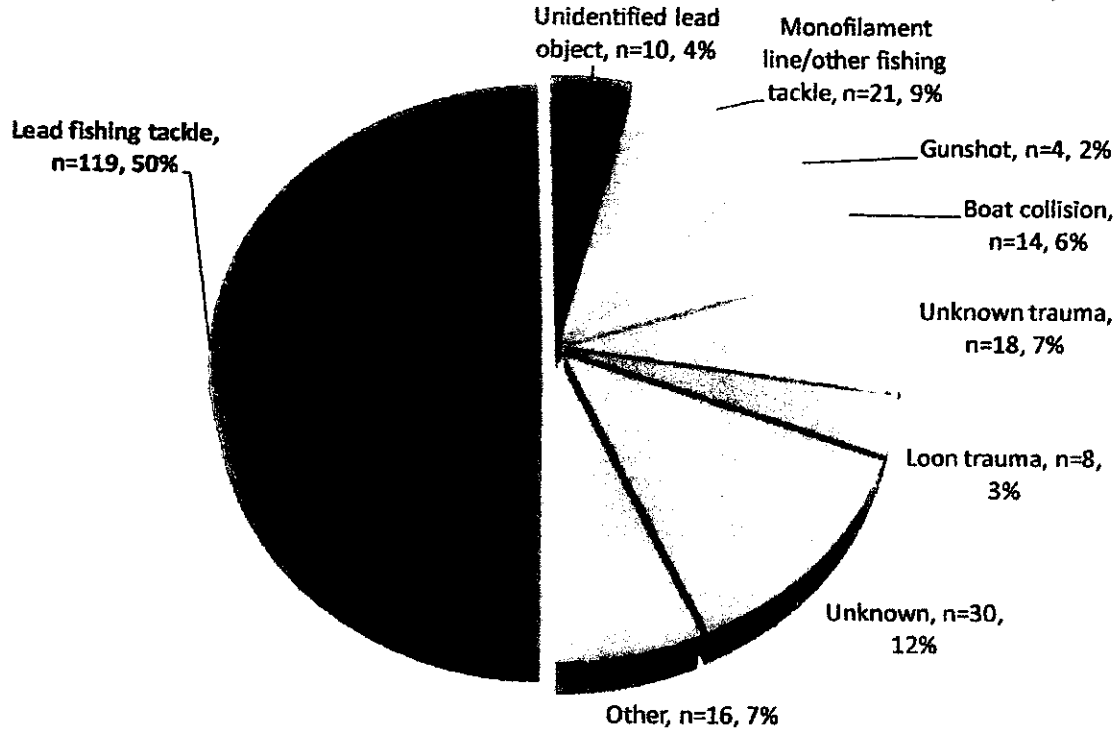
**IN SUMMARY, WITH THE LOON POPULATION INCREASING YEARLY IN NEW HAMPSHIRE, IT IS IMPERATIVE THAT THIS COMMITTEE JUDGE SB89 ON ITS MERITS, NOT ON WHETHER IT "SOUNDS GOOD". EVERYONE, INCLUDING FISHERMEN, LIKE LOONS, BUT THERE ARE CERTAINLY MORE EFFECTIVE WAYS OF PROTECTING THEM THAN BURDENING THE BASS FISHING COMMUNITY (USERS AND SELLERS ALIKE) WITH A REGULATION THAT STIFLES THEIR ENJOYMENT AND INCOME.**

I thank you for taking the above into consideration when determining your stand on SB89. If, at any time, I can be of assistance to you in your determination, please feel free to call me at the below number.

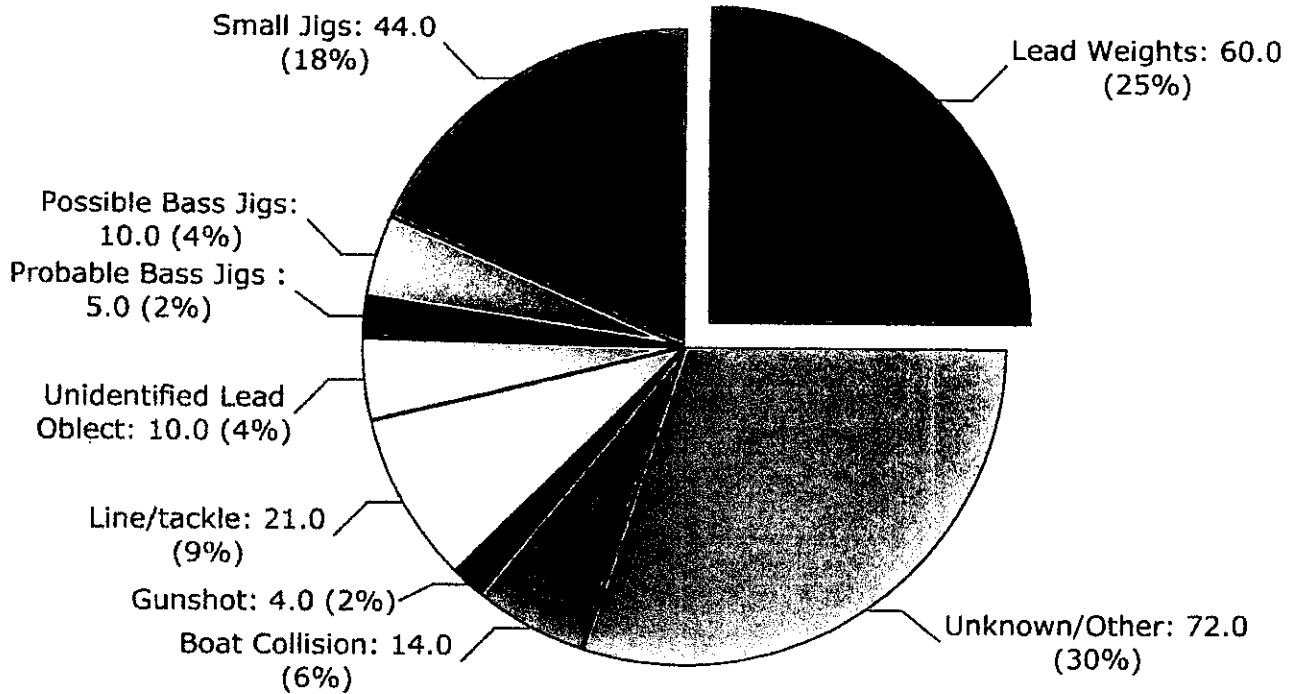
Gary Clark, President  
Northern Bass Supply  
1-800-227-7032  
nbs@northernbass.com

# REALITY CHECK

## LPC LOON MORTALITY CHART (1989-2010)



## A "REAL LOOK" AT THE NUMBERS



**POSSIBLE BASS JIGS - 15 OVER 22 YRS**  
**1 EVERY 1 1/2 YRS**  
**ABOUT EQUAL TO BOAT TRAUMA**  
**POPULATION LOSS ABOUT .14%**

**PROBABLE BASS JIGS - 5 OVER 22 YRS**  
**1 EVERY 4 1/2 YRS**  
**ABOUT EQUAL TO GUNSHOTS**  
**POPULATION LOST ABOUT .05%**

Justin Brigham  
93 New Boston Rd.  
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(603) 670-4488  
justinbrigham@hotmail.com

Date: February 20, 2013

To: Senate Energy and Natural Resources Committee

Good morning Mr. Chairman and members of the Committee. For the record, my name is Justin Brigham. I am a citizen of New Hampshire and am here today to speak publicly on why I am opposing SB 89.

**Personal Background:** One of my passions is fishing, and I have been competing in bass fishing tournaments since 2005. Another passion I have is science; I have B.S. degree in environmental biology from Plymouth State University. I am currently in the graduate program at Plymouth State University working to obtain a M.S. in biology; where my thesis work focuses on smallmouth bass spawning behaviors. In addition, I have also taken several courses pertaining to avian ecology and ornithology.

**Introduction:**

- Through 2011- 2012, similar legislation (SB 224) to further restrict lead was considered, and voted to a summer interim study. From this, further restriction of lead was deemed **not necessary** as the average sizes of lead found in loons remained within current regulations: RSA 211:13b. To address this issue a committee was formed to construct a program to better educate recreational anglers, and prevent the use and improper disposal of **smaller lead tackle**. However, this program has not been given any chances before the proposal of SB 89.
- Similar to SB 224, I believe SB 89 lacks evidence in the size class of lead tackle that it would restricted.

**Study 1:** Pokras et al. (2009) "Lead Objects Ingested by Common Loons in New England" Table 1.

- Based on 222 pieces of lead found in 118 loons over a 13 year period (1987-2000).
- The average **Sinker** weight was **0.14 ounces**.
- The average **Jig** weight was **0.13 ounces**.
- **"The ingested lead fishing gear primarily represents the smaller sizes and weights available on the market"**.

**Study 2:** Franson et al. (2003) "Lead Fishing Weights and Other Fishing Tackle in Selected Waterbirds".

- Examined over 2000 waterbirds between 1995 and 1999 from 25 states.
- Of 311 loons collected, 11 (**3.5%**) were found with ingested lead fishing gear.
- **Jigs and split shot** sinkers ranged from **0.02 - 0.14 ounces**.

**Study 3:** Franson and Hansen (2001) "Size Characteristics of stones ingested by Common Loons".

- Stomach contents of 132 Common Loon from 1990 - 1998 were analyzed.
- The average **weight** was **0.21 ounces**.

### Conclusion

- The LCP likes to suggest that the smaller pieces of lead were once pieces 1oz or greater. However, there is **NO** scientific evidence to support these erosion rates of materials within the gizzards of common loons, it's **only speculation**.
- The similar size classes of stones and lead from these three studies suggest that loons are mistaking **SMALL lead tackle** for grit on the bottom of aquatic systems, **NOT** from prey items that have lead hanging off them like the LPC likes to speculate.
- The weight for both sinkers and jig recovered (**~0.14oz**) are **well below** suggested restrictions of SB 89 (1.0oz or less).

**Study 4:** Fall 2011 Loon Preservation Committee newsletter: Page 3, Figure 1.

- All four variables show an increasing loon population trend between 1975 to present (Common Loon number are on the rise).
- These numbers continued to increase despite the time period when there were no restrictions on lead, and continue on the same trajectory with lead restriction.

**In Closing**

- Is lead having an overall negative effect on the Common Loon population?
- Are further restrictions on lead going to yield significantly lower mortality rates?

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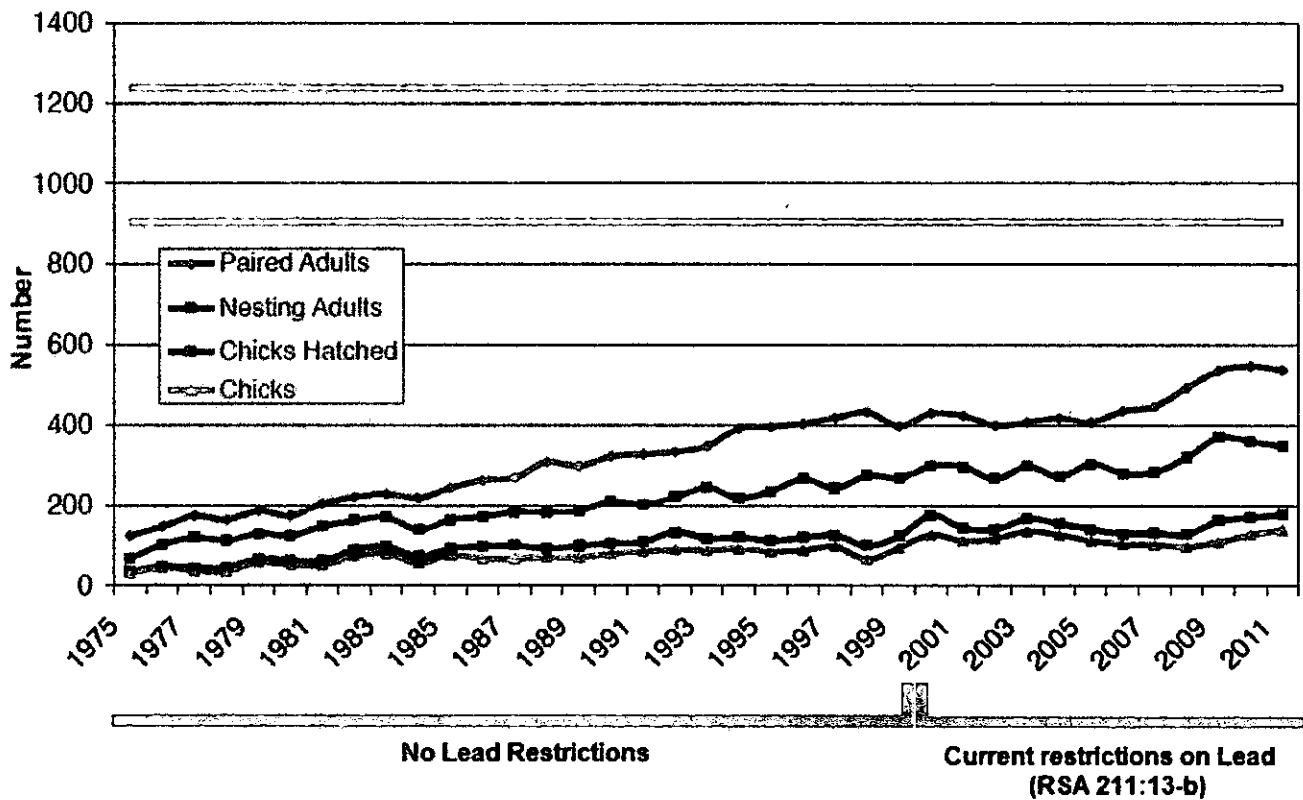
**Study 1:** Pokras et al. (2009) "Lead Objects Ingested by Common Loons in New England" Table 1.

Lead object	Length (mm)			Width (mm)			Mass (g)		
	Mean	Median	Range	Mean	Median	Range	Mean	Median	Range
Sinkers	14.03 (± 6.47)	12.7	4.0-40.2	5.89 (± 2.55)	5.5	0.3-15.2	4.04 (± 4.63)	2.4	0.3-25.0
Jigheads	16.53 (± 6.58)	15.3	5.2-33.6	6.55 (± 2.33)	6.0	3.0-13.9	3.89 (± 3.64)	3.2	0.3-18.1
Split shot	5.79 (± 2.33)	6.1	1.2-9.9	4.85 (± 1.68)	4.5	1.5-8.13	1.60 (± 1.04)	1.4	0.3-5.7

	Length (in)		Mass (oz)	
	Mean	Range	Mean	Range
Sinkers	0.55	0.15 - 1.58	0.14	0.01 - 0.88
Jigs	0.65	0.20 - 1.32	0.13	0.01 - 0.63

**Study 3:** Fall 2011 Loon Preservation Committee newsletter: Page 3, Figure 1.

**Loon Paired Adults, Nesting Adults, Chicks Hatched, and Chicks Surviving in New Hampshire, 1975-2011**





# New Hampshire Bass Federation

www.NHBassFederation.com



Richard "Dick" Smith -- Conservation Director  
123 Prospect Hill Road (603) 525-4229  
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Date: February 19, 2013

To: Senate Energy and Natural Resources Committee

**Senate Bill 89** -- relative to a ban on the sales and use of **large** leadhead fishing jigs

Good morning Mr. Chairman and members of the Committee. For the record, my name is Richard Smith. I am a citizen of New Hampshire and live in the village of Hancock. I am here representing the New Hampshire Bass Federation (NHBF) as the **non-paid** director of conservation.

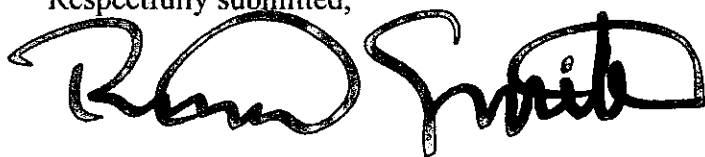
The New Hampshire Bass Federation **opposes** SB 89, relative to the ban on the sales and use of **large** traditional leadhead fishing jigs and tube lures, for the following reasons:

- This is **not** about who likes the loons and who does not. We **ALL** appreciate the loons just as we appreciate all wildlife and fish. I'm sure much is going to be said about how wonderful the loons are, and we agree.
- There is **no dispute** that **small** fishing tackle made with lead can kill some loons. The cumulative data from many studies conducted over many years clearly shows that the vast majority of leadhead jigs found in dead loons is of small weight (0.13 oz on average). SB 89 wants to ban 1 oz jigs that weigh 8 times the average weight of jigs actually found in dead loons. This is totally unreasonable and would hurt recreational fishing without assurances that it would even save 1 bird a year.
- SB 89 would wipe out 2 entire classes of fishing lures: our traditional jigs and tube lures.
- I recently received my 2013 Bass Pro Shops big master catalog. There isn't a single skirted jig or jighead for tubes listed that is made from tungsten or any other alternative metal. Bass Pro Shops sells more fishing tackle than any other supplier in the world. You will not find these jigs at Wal-Mart, Dick's Sporting Goods, or Cabela's either.
- There is no realistic or reasonable way that we can protect each individual bird from everything that can happen. For example, some loons are killed each year from collisions with motorboats. Should we then propose legislation to ban motorboats that can go over 30 mph in order to save those loons?
- Our NH Fish & Game department is focused on maintaining the **overall** populations of **all** wildlife and fish . . . not trying to "save" individual birds or fish. Since the loon counts started in 1975 the NH loon population has been steadily increasing . . . including last year.

◉ Last year the House of Representatives and the NH Fish & Game Commission made it clear that further restrictive legislation was not needed, but rather they wanted to see an ongoing comprehensive and effective positive educational campaign crafted by all the stakeholders in order to motivate resident and out-of-state anglers to use non-lead fishing tackle whenever possible. We agree. The planning for this educational campaign is already underway.

Please ITL SB 89 and give this educational campaign a chance to work.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Richard D. Smith". The signature is written in a cursive style with a large, stylized initial "R" and "S".

Richard D. Smith



**Comments of the American Sportfishing Association  
To the New Hampshire Senate Energy and Natural Resources Committee  
On SB 89  
February 20, 2013**

On behalf of the members of the American Sportfishing Association (ASA), ASA urges the committee to reject SB 89. SB 89 would ban the use of lead jigs and sinkers weighing one ounce or less. It would unnecessarily restrict the use of lead sinkers and fishing jigs, one of the most popular and versatile artificial lures used by anglers throughout New Hampshire for a variety of recreational fish species.

Last year, ASA submitted similar testimony and our understanding was that the committee determined it would conduct a study, working with the sportfishing industry, to better understand the use and potential impact of lead sinkers and jigs. Our understanding was that the committee would bring the information gained from that effort back to the legislature in 2014. SB 89 is similar legislation to that discussed last year and in the interim ASA was not requested to provide any sportfishing industry information nor, to our knowledge were any of our industry members asked to provide information to the study effort.

ASA is the sportfishing industry's trade association, and represents the interests of the entire sportfishing community by providing a unified voice when emerging laws and policies could significantly affect sportfishing business or sportfishing itself. We invest in long-term ventures to ensure the industry will remain strong and prosperous, as well as safeguard and promote the enduring economic and conservation values of sportfishing in America. ASA also represents over one-half million anglers through its KeepAmericaFishing™ angler advocacy program.

America's anglers generate over \$48 billion in retail sales annually, with a \$115 billion impact on the nation's economy and creating employment for more than 828,000 people. According to the Census Bureau and the U.S. Fish and Wildlife Service, New Hampshire's 228,000 anglers spend \$210 million annually, generating \$23.9 million in state and local tax revenue and supporting 3,614 jobs. Annually, fishing license sales and revenues from the federal manufacturers excise tax on fishing tackle, which is paid by our members, provide an additional \$9 million for fisheries conservation and restoration in New Hampshire. Thirty-three percent of New Hampshire's anglers are non-residents.

Sound fish and wildlife management decisions must consider three major areas: biological, economic and social impacts. In this instance, there is no biological reason to

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restrict fishing tackle containing lead. Loon mortality caused by lead ingestion is extremely low and loon numbers in the state, by every measure we can detect, appear not only to be stable but increasing. Ingestion of lead recreational fishing products is not negatively impacting the populations of water birds in New Hampshire. Three studies showing lead ingestion by loons indicate that when lead is found in loons it is generally substantially less than one-half ounce in weight. Because SB 89 unnecessarily restricts the use of lead sinkers and especially jigs to one ounce or less this action will cause the cost of recreational fishing statewide to increase, thereby negatively affecting participation. As demonstrated by the number of comments received by the Committee in response to SB 89, this is not a popular proposal among the majority of the public.

Sportsmen and women in New Hampshire trust that the legislature uses factual information in a balanced manner to make decisions that impact both the resource and the angler or hunter. It is important for the Committee to foster constituent trust with balanced and factual decisions, especially when the segment of the population impacted provides for fish and wildlife management funding on behalf of all the citizens of New Hampshire through license fees and excise taxes on recreational fishing equipment.

The U.S. Environmental Protection Agency (EPA) has repeatedly been petitioned to ban lead in fishing tackle. In those efforts, loons were prominently mentioned. In its latest decision on February 14, 2012, and previously on November 4, 2010, the EPA dismissed the petition stating that the "...petitioners have not demonstrated that the requested rule is necessary to protect against an unreasonable risk of injury to health or the environment..." This is the third time in 15 years that the EPA has determined there was no need to take action against lead in fishing tackle. The biological facts, economic impacts and social unacceptability of the petitioned bans did not merit the requested action. The same holds true in New Hampshire. In addition, the European Union has considered restrictions on lead fishing sinkers and jigs and has never deemed any action necessary.

Advocates of SB 89 may have provided the Committee flawed information. In attempted justifications, there are several erroneous arguments related to proposed bans of lead fishing tackle. They typically ignore the economic impact of prohibiting all lead in fishing tackle on the sportfishing industry and the American recreational fishing public, and seriously overstate the availability and practicality of most alternatives to lead recreational fishing products.

In the paragraphs below, we have noted areas that frequently contain misinformation.

### **Science**

The United States model for managing fish and wildlife is respected worldwide. The magnitude of research and management on the widest variety of species is unrivaled. Aside from a highly successful user-pay model that benefits more than just hunted and fished species, fish and wildlife management in the U.S. is based on the dynamics of populations, not individuals. This successful population approach is commonly ignored

by advocates for lead bans in fishing tackle and instead they focus on individual animals.

ASA acknowledges that a single loon or water bird that ingests lead fishing tackle might be poisoned and possibly die, but we defer to more than a century of extensive fish and wildlife management in this nation and the success of monitoring and managing for populations, not individual animals.

The number of bird deaths cited each year from lead toxicosis as a result of the ingestion of lead fishing tackle is in no way a threat to any bird population. The April 2007 U.S. Fish and Wildlife Service document *STATUS ASSESSMENT AND CONSERVATION PLAN FOR THE COMMON LOON (GAVIAIMMER) IN NORTH AMERICA* supports this. The report cites healthy loon populations across most of their range in North America and indicates an increasing wintering loon population over a 47-year period citing that, "[o]verall, the Common Loon population in North America is relatively healthy and robust, with a total estimated breeding population of 252,000 to 264,000 territorial pairs." The status report also addresses the impacts of lead on loon populations and acknowledges that loons die from ingested fishing sinkers and jigs, but places that in perspective when it addresses the perennial and larger threats to loons such as shoreline development; general human activities on lakes; diseases, especially botulism; and entanglement in gill nets set for commercial fishing purposes. In general, the number of birds killed by wind power turbines is much more significant and concerning than those as a result of the ingestion of lead fishing tackle. Without question, loon mortality from gill nets may be one of the largest components of loon mortality.

Advocates of lead bans in recreational fishing equipment hold that lead in recreational fishing equipment is readily available to the environment and a general health hazard. Such is not the case. The solubility of lead in water only occurs in instances that would prohibit fish life sought by recreational anglers - very acidic or basic waters. Therefore, lead only poses a threat to wildlife through direct ingestion which has already been shown to have a minimal, if any, impact on most water bird populations. Lead is a naturally occurring element and exists in the environment without harm. No matter what action the Committee takes there will be just as much lead in the environment tomorrow as today.

#### **Use of Lead in Fishing Equipment**

Advocates of banning lead in recreational fishing equipment speculate that many sinkers and jigs are purchased to replace those lost while fishing. This assumption is purely conjecture and unsupported by any documentation. One could just as easily claim that many or most sinkers and jigs end up stored in tackle boxes, or are discarded in appropriate receptacles after use. Anglers purchase smaller sinkers in packages and larger sinkers individually. Because most of the purchases are for small sinkers, one package usually lasts more than one fishing season and typically lasts for many fishing seasons. The same is true for jigs. Studies indicate that sinker and jig loss is variable but they do show that both have a considerable use-life. For example, a 2006

Minnesota study in found that "[m]ean rates of tackle loss were low: 0.0127/h[our] for lures, 0.0081/h for large sinkers, 0.0057/h for small sinkers, 0.0247/h for jigs, and 0.0257/h for hooks. Many anglers lost no fishing tackle on a fishing trip."

Finally, advocates for banning lead in recreational fishing equipment point to all of the potential sources of lead entering the environment and misrepresent the overall contribution of fishing tackle as a source. Lead in recreational fishing equipment is by far the least of these sources and is used in forms that, when handled and used responsibly, essentially pose no hazard.

### **Alternatives to Lead in Fishing Equipment and Economic Impact**

Advocates for banning lead in recreational fishing equipment have probably told the Committee that there are many widely available and suitable substitutes for lead in recreational fishing tackle. In truth, each substitute has limited applications in sportfishing and either does not provide equivalent performance to lead and/or significantly increases the price of recreational fishing equipment. Present and foreseen technology only provides three reasonable alternatives, each with limitations in performance and/or price as compared to lead. These are steel (both carbon and stainless), tin and tungsten. All other substitutes are impractical or have very limited application and have or will not stand the test of the market place.

- Steel - Steel can be used only for tie-on and slide-on sinkers. It has a lower specific gravity than lead (somewhat variable depending on the alloy) and requires a larger sinker or more sinkers to approach the performance of lead. It is significantly harder, has a higher melting point and cannot be used for split shot sinkers, which constitute nearly half of the sinker market in the U.S. Because of its hardness and high temperature requirement for manufacturing, steel cannot be used to manufacture jigs. Pricewise, it is the closest comparable to lead at \$1.90/lb, while lead is currently \$1.09/lb. Carbon steel products rust and stainless steel sinkers and terminal tackle products, which do not rust, are more expensive.
- Tin - Tin is the only substitute for split shot sinkers and jigs, though like steel, it has a lower specific gravity, which requires that more or larger forms be used to match the equivalent weight of a lead sinker or jig. Its lower melting point makes it the only metal, besides lead, to bond to a fish hook without removing the temper from the hook. Its malleability makes it possible to use tin to produce split shot sinkers, the most popular sinker style purchased in the U.S. Tin is a precious metal and the current market price is \$11.31 per pound, making the source material approximately 11 times more expensive than lead. In addition, tin must be alloyed with antimony and this further increases the raw material price by approximately \$1.00/lb of raw material. Using tin increases the price of the product, at current market prices, up to 12 fold, depending on the product.
- Tungsten - Tungsten has a higher specific gravity than lead, but because of its hardness, can only be used as tie-on or slide-on sinkers. Because the melting

point of tungsten is slightly more than 6,000 degrees Fahrenheit, it cannot be used to manufacture jigs. Tungsten is currently selling on the markets for \$20/lb. Substitute products made with tungsten, as compared to lead, will cost up to 20 times the current price of lead recreational fishing products. There is an added energy manufacturing cost to tungsten because it has such a high melting point.

Please note that bismuth, at a price of \$12/lb, is not included in this list. Bismuth is frangible and after several years in the marketplace, bismuth sinkers and jigs were found to be unsuitable as a metal substitute for lead in fishing products.

With the higher price of raw materials for two of the highly touted substitutes, tin and tungsten, a substantial economic impact would be incurred if lead was further banned in fishing equipment. The impact for both sinkers and jigs can be estimated and is a staggering indicator. The value of the sinker market is approximately \$96.5 million annually and close to 50 percent of the market is for split shot sinkers. Using tin as a substitute for all split shot sinkers would result in a cost that is ten times the current price or an additional \$434 million annually. The value of the jig market is approximately \$75 million. The language in SB 89 would ban 80% of the jigs on the market from use in New Hampshire and the cost to anglers to replace practically all of the lead jigs in their tackle boxes would be significant and certainly impact angler participation in the state.

In addition to the higher raw material costs, there are also manufacturing processing costs that increase the price of the final product for both jigs and sinkers. These additional costs occur because manufacturers will have to retool their molds and other machinery to match the new physical properties of alternative metals. All alternative metals require additional energy for the manufacturing process.

It is difficult to obtain pure metals and banning any lead from the content is extremely restrictive and for most processes, difficult to obtain, but most importantly, imposing such a restriction foregoes the use of any future technologies for composites or coated lead products that can pass through the digestive tract of a bird without any harm. That area holds the most promise for new products.

Aside from steel, all of these factors add to the price of the product. Through experience and a number of surveys and studies, the sportfishing industry and the states know that anglers are very price sensitive to the cost of fishing equipment and licenses. Such price increases will drive anglers away from the sport and the impact will be decreased fishing license sales to state natural resource agencies and less money for fisheries conservation.

### **Human Health Hazards**

The use and handling of recreational fishing products made from lead do not present any significant or unreasonable health hazard to its users. As earlier stated, recreational fishing in New Hampshire has approximately 228,000 participants. Recreational fishing nationally enjoys a 93 percent approval rating and promotes essential social and cultural connections across all segments of our nation's population. Fishing participation

increases in difficult economic times because it is an enjoyable, family-oriented activity and a means to acquire food. But, it also has many participants who are over 65, retired and on limited income. These, and other participants, will seek alternate means to cut their costs of equipment or abandon the sport. One such alternate will be increased personal production of lead recreational fishing products. While the handling and use of manufactured lead recreational fishing products presents no harm; home production of lead requires appropriate caution.

Again, we urge the Committee to reject SB 89 and we request these comments be made part of the Committee's public record.



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20 February 2013

Senate Energy and Natural Resources Committee  
LOB 101  
Concord NH 03301

RE: SB 89 relative to the definition of lead fishing sinkers and jigs.

Dear Senators:

This letter is in support of SB 89.

We have unleaded gas, unleaded paint, unleaded toys, unleaded electronics; why not unleaded loons -- and unleaded children?

We know what lead does to loons. Less obvious is what it does to people.

In New Hampshire and 18 other states, packaging can contain no more than .01% (100 ppm) lead. Lead is too dangerous for children to even touch. Long before there are any obvious symptoms of lead poisoning, it has neurological effects. Even brief contact with lead by a child can reduce IQ by one point, which the NIH estimates will result in \$17,000 less income over a lifetime. Fortunately, the effects are not additive in linear fashion, or many of us would have negative IQs.

Behavioral effects may mean problems in school or with the criminal justice system, at great cost to the taxpayer, as well as the emotional costs for families and others. The packaging can't contain lead, but the package can -- curiouser and curiouser.

The Jarden Corporation, a leading manufacturer of fishing gear in the U.S under brands such as Berkley, Abu Garcia, and Shakespeare, now labels its Johnson lead jigs: "Do not place hand in mouth after handling this product." Tell that to a toddler.

Toxic tackle is "traditional." So were belching smokestacks and poisoned rivers, child labor and slavery. Some traditions need to change.

Alternatives are available, but some fishermen are unwilling to use them voluntarily.

They don't believe lead is a problem

Science is not a question of belief; it's a question of evidence. Whether or not you believe in fairies has no bearing on the scientific question of whether they exist. Education alone will not change beliefs; it has yet to eliminate Elvis sightings.

Mercury, another heavy metal, is present in freshwater fish in New Hampshire and all other states. We severely limit the recommended amount of this fish people, particularly children, should eat. Catching toxic fish with toxic tackle is considered "sport." Fine. But eating it is bass backwards -- a new version of the unspeakable chasing the inedible.

Much of the evidence for the presence of mercury in our ecosystem first came from loons. As a "top predator," they are highly sensitive to environmental problems, and serve as a "sentinel species" that can warn of environmental problems for another top predator -- humans.

There are some uses of lead for which there are no good substitutes. Fishing tackle is not one of them. Let's do what NH Fish and Game has been urging for years -- get the lead out. Of loons, people, and politics.

=====

A loon is not a duck.

Ducks have many ducklings; most of them do not survive to adulthood. They can breed multiple times per year. The fancy terminology for this is that ducks are an "R-selected" species. They reproduce rapidly; when survival conditions are right, they can quickly recover from a population crash.

Loons (and humans) have few young, breed relatively infrequently, and invest a lot of care in their young to make sure the few that they have survive. Technically, these are "K-selected" species.

The game we hunt and fish we catch are almost all R-elected species. If they didn't breed like rabbits, there wouldn't be enough of them left to continue to reproduce. There are many examples throughout history of animals becoming extinct due to human overutilization or habitat destruction. Do we want that to happen to loons?

In recent history, Common Loons bred as far south as Pennsylvania. Their breeding range has been pushed north; New Hampshire is now at the southern fringe. As a species, they are not endangered. but they are threatened in New Hampshire. If loons from elsewhere would reoccupy our lakes when we lose them, we would have fewer problems, but the evidence shows this rarely happens.

In fact, we seem to have three separate breeding populations in New Hampshire alone, that do not go far from their home areas. Once gone, they may take decades to return

to a lake, if ever. The New Hampshire Endangered Species Conservation Act requires protection of "...any species of native wildlife whose continued existence as a viable component of the state's wild fauna is determined to be in jeopardy...." What happens in Canada is irrelevant to New Hampshire law.

It is hard for many sports fishermen to understand why only a few extra loon deaths per year from lead fishing tackle has such an impact. They are used to dealing with R-selected species that bounce back from losses, or with introduced species like Smallmouth Bass that have displaced native fish. One way to understand the problem is to visualize it not as loons, but as dollars.

Assume you have \$500 (your population). You put it in the bank and earn 5% interest (reproduction). At the end of the year, you have \$525. If you spend \$25 annually (mortality), your capital remains stable -- you still have \$500.

But what happens if you spend \$35 per year? Do the math:

The first year, your principal = \$500 and interest = \$25. Subtotal: \$525. Subtract \$35 spent = \$490 (Figures rounded off to the nearest dollar.)

The second year, your principal = \$490 and interest = \$25. Subtotal: \$515 - \$35 = \$480.

The third year, your principal = \$480 and interest = \$24. Subtotal \$504 - \$35 = \$469.

The fifth year, your principal = \$457 and interest = \$23, Subtotal \$480 - \$35 = \$445.

By the ninth year, you have lost more than a quarter of your money. Your principal = \$405 and interest = \$20. Subtotal \$425 - \$35 = \$390.

You then need to more than double your interest rate to get back to your original capital (population). With a K-selected species like loons, this can't happen. They are barely hanging on as is. They have evolved over tens of millions of years to reproduce in the absence of lead; it may take that long for them to adapt, if they can.

We don't have that long.

=====

How much is that loon seen through the window? The one with the waggly foot?

How do you place a monetary value on a loon vs. a fish?

The bass fishermen make dire predictions about how much money the state will lose if we restrict lead jigs. Fishing derbies will be cancelled, fishermen will go elsewhere and not buy New Hampshire licenses, etc.

It's a nice script for a horror movie, but there's little evidence in reality.

Fishermen come to New Hampshire for the fishing. The fish are not going away. The loons are.

There were dire predictions that logging would disappear from the state when we enacted forestry laws. Boaters were supposedly going to leave the state when we put speed limits on our lakes. What's next -- demanding the removal of traffic lights so we don't scare away cars?

Like it or not, most people from out of state do not visit New Hampshire for its cultural institutions -- great museums, world-renowned symphony orchestras, medieval architecture, etc. We have culture, but let's face it -- we can't compete with the great cities of the world,

Where we can compete is with our natural environment. Tourists from as far away as China come to see our stunning lakes and mountains. They may never have heard of loons, but once they hear one, they don't forget it.

I rent out a house on an island in Lake Winnepesaukee in the summer. People leave comments in the guest book. The fishing is rarely mentioned; but the loons are well represented. People come for the loons; the fish are a side benefit.

I don't advertise the fishing, although people are welcome to enjoy it, despite the state's mercury warnings I post about them.

I do advertise the loons.

How much is that worth to me in rental income, and to the state in meals and rentals taxes? I don't know.

How much are the loons worth to the New Hampshire hospitality industry, real estate industry, etc? I don't know.

I suspect it's a lot more than we take in with fishing license fees.

And then there are the non-monetary values. Some things are priceless. Let's not lose them.

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Here's a riddle for you: Why is a loon like a stunted pig?

Because it doesn't bring home the bacon.

The explanation is somewhat circuitous.

Once upon a time in England, the Sheriff of Nottingham pursued an infamous group of outlaws in Sherwood Forest, since they were hunting the King's deer. Robbing the rich was a less serious offense; the King came first. Fish and wildlife belonged to the landowners, who could set mantraps for poachers. Enforcement methods have changed, but English private gamekeepers still exist to catch poachers.

After the American Revolution, the ex-colonials had a new idea: wildlife should belong to everyone, no matter whose land it happened to be on at the time. You could own fish in a private pond, but the native fish in the lakes and rivers were also public property. This idea has now evolved into what is now called the "Public Trust Doctrine," where the air, water, and the wild creatures in and on it are the responsibility of the state, for the benefit of all its citizens, not just a select few.

New Hampshire and many other states have adopted this doctrine into law -- mostly. Unfortunately, contradictory remnants of our colonial heritage still exist. Fish and game was viewed as a resource for consumption, forests were for logging, minerals were for mining, and rivers and lakes were for dumping sewage and industrial waste. Protecting scenery, inedible birds, etc. was not much of a consideration.

Slowly, attitudes changed. The logging and fire destruction of the White Mountains helped lead to the Weeks Act in 1911, establishing National Forests. The Passenger Pigeon was gone by 1913, and people realized wildlife was not an inexhaustible resource. Yet it was not until the 1981 that the Lincoln paper mill closed, and the Pemi River was no longer the color of the paper being produced. By the time the fish returned there, state laws had long been in place to control fishing. New Hampshire had a Fish and Game Department, funded by license fees from hunters and fishermen, and controlled by a Fish and Game Commission made up of those hunters and fishermen. He that paid the piper called the tune.

This was all very logical at one time, but it no longer works. There are now far more birdwatchers than hunters in this state, and nobody has figured out how to enforce birdwatching licensing, or collecting revenue from other nonconsumptive uses of many natural resources. We have a timber tax, an ammunition tax, duck stamps, etc.; but we don't charge tourists or residents on a pay-per-view basis for watching moose or the rest of our natural resources.

In many states, most recently California, the Department of Fish and Game has become a Department of Fish and Wildlife, recognizing the importance of non-game wildlife to the environment -- and the economy. In New Hampshire, non-game wildlife is non-revenue wildlife as far as our state agency is concerned, and is therefore treated like the runt of a litter, getting the dregs after the marketable piglets are attended to.

The New Hampshire Fish and Game Commission protects its turf -- fish and game. Non-game threatened species like loons are not supposed to be their concern; by law, they fall under the exclusive purview of the Executive Director of Fish and Game.

However, the Commission, also by law, takes positions "...on proposed legislation that affects fish, wildlife, and marine resources and the overall management of the fish and game department."

The Executive Director knows who controls the department and his budget. It's not the loon lovers, birdwatchers, or tourists photographing moose; it's the hunters and fishermen on the Fish and Game Commission, who treat the state's wildlife like they own it, as British Royalty once did. It's long past time for New Hampshire's Sheriff of Nottingham and our legislature to bring his department into the 21st Century.

We don't have a Corrections Commission made up of ex-cons controlling our prisons. We don't have an Education Commission of 12-year olds controlling our schools. We don't have horse and buggy owners on a commission to control our highways. Why do we still have the anachronism of the New Hampshire Fish and Game Commission?

Thank you.

Sincerely,

Kirshner

Ralph

# Committee Report

STATE OF NEW HAMPSHIRE  
SENATE  
REPORT OF THE COMMITTEE

Date: 3.7.13

THE COMMITTEE ON Energy and Natural Resources  
to which was referred Senate Bill 89

AN ACT relative to the definition of lead fishing sinkers and jigs.

Having considered the same, the committee recommends that the Bill:

**OUGHT TO PASS WITH AMENDMENT**

BY A VOTE OF: 5-0

AMENDMENT # 0781s

Senator Bob Odell  
For the Committee

Chris Cote 271-3067



## New Hampshire General Court - Bill Status System

**Docket of SB89**

Docket Abbreviations

**Bill Title:** (New Title) relative to the definition of lead fishing sinkers and jigs and the penalties for prohibited sales of lead fishing sinkers and jigs.

*Official Docket of SB89:*

<b>Date</b>	<b>Body</b>	<b>Description</b>
1/3/2013	S	<b>Introduced</b> and Referred to Energy & Natural Resources; <b>SJ 4</b>
2/12/2013	S	Hearing: 2/20/13, Room 101, LOB, 9:15 a.m.; <b>SC9</b>
3/7/2013	S	Committee Report: Ought to Pass with Amendment # <b>2013-0781s</b> , NT, 3/14/13; <b>SC11</b>
3/14/2013	S	Committee Amendment 0781s, NT, AA, VV;
3/14/2013	S	<b>Ought to Pass with Amendment</b> 0781s, NT, MA, VV; OT3rdg; <b>SJ 7</b>
3/27/2013	H	Introduced and Referred to Fish and Game and Marine Resources; <b>HJ31</b> , PG.1074
4/10/2013	H	Public Hearing: 4/25/2013 12:30 PM LOB 305-307
4/23/2013	H	Executive Session: 5/1/2013 10:00 AM LOB 307
5/15/2013	H	Majority Committee Report: Ought to Pass with Amendment #1489h for May 22 (Vote 9-6; RC); <b>HC39</b> , PG.1264
5/15/2013	H	Proposed Majority Committee Amendment # <b>2013-1489h</b> ; <b>HC39</b> , PG.1282
5/15/2013	H	Minority Committee Report: Inexpedient to Legislate; <b>HC39</b> , PG.1264
5/22/2013	H	Amendment #1489h: AA VV; <b>HJ43</b> , PG.1482-1483
5/22/2013	H	Floor Amendment # <b>2013-1503h</b> (Rep J.Webb): AF DIV 117-222; <b>HJ43</b> , PG.1483
5/22/2013	H	Lay on Table (Rep Baldasaro): MF <b>RC</b> 156-211; <b>HJ43</b> , PG.1483-1485
5/22/2013	H	<b>Ought to Pass with Amendment</b> #1489h: MA <b>RC</b> 225-142; <b>HJ43</b> , PG.1482-1487
6/6/2013	S	Sen. Prescott Moved Concur with House Amendment 1489h, MA, VV
6/12/2013	H	Enrolled, Recess of 6/5/13; <b>HJ49</b> , PG.1654
6/12/2013	S	Enrolled
7/3/2013	S	Signed by the Governor on 07/02/2013; Chapter 0193; Effective 06/01/2016

NH House

NH Senate

# Other Referrals

SB 89

# COMMITTEE REPORT FILE INVENTORY

\_\_\_\_\_ ORIGINAL REFERRAL

\_\_\_\_\_ RE-REFERRAL

1. THIS INVENTORY IS TO BE SIGNED AND DATED BY THE COMMITTEE AIDE AND PLACED INSIDE THE FOLDER AS THE FIRST ITEM IN THE COMMITTEE FILE.
2. PLACE ALL DOCUMENTS IN THE FOLDER FOLLOWING THE INVENTORY IN THE ORDER LISTED.
3. THE DOCUMENTS WHICH HAVE AN "X" BESIDE THEM ARE CONFIRMED AS BEING IN THE FOLDER.
4. THE COMPLETED FILE IS THEN DELIVERED TO THE CALENDAR CLERK.

- DOCKET (Submit only the latest docket found in Bill Status)
- COMMITTEE REPORT
- CALENDAR NOTICE
- HEARING REPORT
- HANDOUTS FROM THE PUBLIC HEARING
- PREPARED TESTIMONY AND OTHER SUBMISSIONS
- SIGN-UP SHEET(S)

ALL AMENDMENTS (passed or not) CONSIDERED BY COMMITTEE:

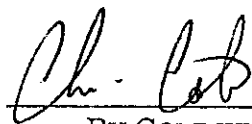
- AMENDMENT # 1503h       - AMENDMENT # 07815
- AMENDMENT # 1489b       - AMENDMENT # 04675

ALL AVAILABLE VERSIONS OF THE BILL:

- AS INTRODUCED       AS AMENDED BY THE HOUSE
- FINAL VERSION       AS AMENDED BY THE SENATE

\_\_\_\_\_ OTHER (Anything else deemed important but not listed above, such as amended fiscal notes): \_\_\_\_\_

DATE DELIVERED TO SENATE CLERK 8.8.13



BY COMMITTEE AIDE