

FERRY COUNTY RESOLUTION NO. 2009-36

GRANTING PERMISSION FOR LOON LAKE LOON ASSOCIATION  
TO USE ELECTRIC AND/OR GAS MOTOR FOR LOON STUDY

WHEREAS, on September 24, 1990 the Board of Ferry County Commissioners passed Ordinance No. 1990-04 abolishing the use of internal combustion boat engines on Empire, Ferry, Fish and Swan Lakes; and

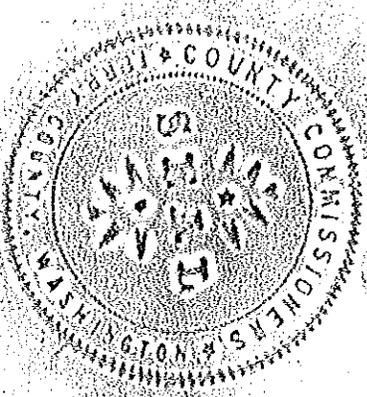
WHEREAS, on June 23, 2009 the Board of Ferry County Commissioners received a letter from Loon Lake Loon Association and Biodiversity Research Institute requesting permission to use a gas motor for the capturing the Long, Swan and Ferry Lakes territorial common loon pairs and chicks for banding and lab sampling; and

WHEREAS, the capturing of loons is accomplished at night and will be done very quietly without disturbing sleeping campers during the period of July 8<sup>th</sup> to July 17<sup>th</sup>, 2009.

NOW THEREFORE BE IT RESOLVED, that the Board of Ferry County Commissioners are granting permission to the Loon Lake Loon Association and Biodiversity Research Institute to conduct the capture of loons for banding and lab sampling by using a gas motor during the period of July 8<sup>th</sup> to July 17<sup>th</sup>, 2009.

NOW THEREFORE BE IT FURTHER RESOLVED, that this permission will be revoked on July 18<sup>th</sup>, 2009 and all Lakes named in Ordinance No. 1990-04 will be non-motorized Lakes.

DATED this 29<sup>th</sup> day of June 2009.



BOARD OF FERRY COUNTY COMMISSIONERS

Brad L. Miller

BRAD L. MILLER, Chairman

Ronald "Joe" Bond

RONALD "JOE" BOND, Vice Chair

Robert L. "Bob" Heath

ROBERT L. "BOB" HEATH, Member

ATTEST:

Debbie Bechtol

Debbie Bechtol, Clerk of the Board

67.5

**LOON LAKE LOON ASSOCIATION  
and  
BIODIVERSITY RESEARCH INSTITUTE**

June 23, 2009

Ferry County Commissioners:

Loon Lake Loon Association and BioDiversity Research Institute request permission for the use of electric and/or gas motor (9.8 hp) for night-lighting and capturing the Long, Swan, and Ferry Lakes territorial common loon pairs and chicks for banding and lab sampling. All dates are determined by hatching and age of chicks of the year, and this year will be the week of July 8<sup>th</sup>-July 17<sup>th</sup>. This will be accomplished at night and we work very quietly without disturbing sleeping campers when capturing the loons. The motor of choice is to use a quiet 4 stroke gas motor owned by the USFS on all lakes. We also use electric motors (8 hp) though they are not as fast and effective on larger lakes, such as Swan and Long.

*80# A.P.*

We attempt banding at night and hopefully capture all loon families at that time. This is usually one night per lake, unless we have to come back for correct-aged chicks or were unsuccessful at capturing the adults. Chicks need to be 4-5 weeks of age, which is the recommended age for being able to keep bands on their tarsus. Sometimes, we have to come back for chicks that were too young when the adults were captured. Such will be the case for Long Lake this year as the chicks will be only two weeks of age.

We capture the chicks and weigh them for determining how they place on the "Chick Survival Curve." The Long Lake chicks may not have enough small-fry fish for survival and we will have to accomplish feeding studies to help determine if they will need supplemental small-fry added to the lake. Without capturing/banding efforts these chicks may not get the sufficient fry needed to fledge and may perish. (Ferry and Swan Lakes are now supplemented with small-fry fish for chicks after extensive research determining that Ferry Lake had no small-fry available for chicks and Swan Lake had minimal.) We also have to coordinate the banding schedule with all lakes and appropriate agencies in the area. The expenses for banding are \$6500.00 a state.

BioDiversity Research Institute biologists recommend using gas motors as the first choice for capturing common loons throughout the United States. Gas motors are important from the standpoint that they are faster than electric motors. Loons can swim underwater faster than electric motors can travel and thus gas motors are more successful for loon capture. In the last few years, we have not been able to capture the new territorial Ferry Lake male and female due to the slow speed of the electric motors used. We even placed two electric motors (8 hp) on a small aluminum boat and were not able to gain the speed we needed for capture of the loon when it resurfaced. Loons also remember these capture attempts and it becomes more difficult for being able to capture them after several repeated failures.

Long Lake is the newest territorial pair of common loons in Washington and no motors are allowed on this lake. We cannot capture a loon without the help of additional speed from motors. The common loon is listed as "Sensitive" in the state and is being up-listed to possibly "Endangered" in 2010 or 2011. There are only about 15 pairs of common loons in all of Washington and banding is an extremely important conservation effort. Without banding we would not be able to identify territorial pairs and chicks returning to the territorial lakes or natal lake region. Much data is gained when loons are banded. See attachment including WA State Scientific Collection Permit #09-241 for 2009.

We extend an invitation to all campers at the campground and agency personnel to be involved or watch when we are banding and many children place bands on common loons and chicks. (This is under the direction of the biologists.) The children then have the opportunity to name the chicks.

We did not expect Long Lake to become a territorial common loon nesting lake in 2009 and to hatch two chicks, but it did. We do not have much time for your approval for this very important conservation effort which needs the use of gas and electric motors for capturing and banding the common loons and chicks in Ferry County.

Thank you for your consideration and if you need any referrals for our efforts, please contact:

Dana Base, District Biologist, WDFW, 509-684-2362  
Linda Fee, Republic Ranger District, 509-775-7400  
James McGowan, Colville National Forest District, 509-684-7000

Sincerely,  
*Daniel Poleschook, Jr.*  
*Ginger Gumm*

Daniel Poleschook, Jr. and Ginger Gumm  
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**WASHINGTON STATE SCIENTIFIC COLLECTION PERMIT**

Washington Department of Fish and Wildlife, Attn: SCP  
 600 Capitol Way North  
 Olympia, WA 98501  
 (360) 902-2464

RCW 77-32-240, WAC 220-20-045.

Permit holder is authorized to collect fish, shellfish, wildlife, or the nests of birds, as provided herein and under the Permit Conditions for:

Display

Research:

- Electrofishing
- Education
- Scientific Investigation

Starting Date: June 1, 2009 Expiration Date: December 30, 2009

<b>Permit Holder: David C. Evers</b> <b>Agency: BioDiversity Research Institute</b> <b>Address: 19 Flaggy Meadow Rd.</b> <b>Gorham, ME 04038</b>		<b>Date of Birth: NA</b>
<b>Telephone: 207 839-7600</b>	<b>Fax:</b>	<b>Email: oksana.lane@briloon.org</b>

<b>Sub-Permit Holder(s):</b> <b>Lucas Savoy</b> <b>Darwin Long</b> <b>Rick Gray</b> <b>Chris DeSorbo</b> <b>Daniel Poleschook</b> <b>Ginger Gumm</b>	
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<b>Species:</b> <b>Common loon</b> <b>Western grebe</b> <b>Clark's grebe</b> <b>Common merganser</b> <b>Red-necked grebe</b>	<b>Number:</b> <b>20</b> <b>10</b> <b>10</b> <b>10</b> <b>20</b>	<b>Location and Method of Collection:</b> <b>Statewide by night lighting and dip netting, no retention, release at site.</b>
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**GENERAL PERMIT CONDITIONS:**

.. A Scientific Collection Permit is non-transferable.

# BIODIVERSITY RESEARCH INSTITUTE

BRI  
19 Flaggy Meadow Road  
Gorham, ME 04038  
(207) 839-7600  
[www.BRIloon.org](http://www.BRIloon.org)

Submitted by Lucas Savoy

BioDiversity Research Institute is a Maine-based nonprofit research group dedicated to progressive environmental research and education that furthers global sustainability and conservation policies. Fundamental studies involve avian conservation and aquatic toxicology. We believe high trophic level piscivorous wildlife are vital indicators of aquatic integrity.

Piscivorous birds are useful ecological indicators to determine the quality of aquatic ecosystems, especially the presence and effects of environmental stressors. The use of piscivorous birds as indicators of environmental contaminants is common (Thompson 1996, Evers et al. 1998, Wolfe et al 1998, Wolfe and Norman 1998). Loons in particular, feeding at higher aquatic trophic levels, provide the best insight into the presence and ability of methylmercury (MeHg) to bioaccumulate and biomagnify (Scheuhammer 1999, Thompson 1996, U.S. EPA 1997, Evers et al. 2003).

## STUDY OBJECTIVES

- 1) Continue live capture and color banding common loons and grebes to document year to year mate and site fidelity, migratory routes, wintering areas, and survival;
- 2) Determine contaminant levels in loons and grebes breeding in Washington.

## BANDING: CAPTURE AND COLOR MARKING

Common Loons and grebe species are captured on their breeding grounds using a night-lighting technique (Evers 2001). Each adult loon and large young are fitted with a metal USFWS issued band (silver) and 1 to 3 plastic color bands designed specifically for loons and grebes. The use of color marked-birds with subsequent field observations on loons provide an effective way of monitoring site and mate fidelity, seasonal movements, survivorship, individual reproductive success, and general bird behavior.

Carcass recoveries (deceased) and re-observations (alive) of color marked birds outside of their breeding grounds provides valuable insight into their migratory routes and wintering areas. Until recently, through color marking efforts, information on the wintering areas of the Washington Common Loon population was unknown. On April 5, 2002, a band return of a chick from Ferry Lake of 2001 was recovered on Hobuck Beach on the Pacific Peninsula of Washington. This was the first recovery of a Washington Common Loon on its winter territory and provided valuable insight that the Washington coastline may be utilized for wintering locations for the Washington loon. In 2004, three color marked loons, one adult and two juveniles, were followed initially along their migration path and provided valuable insight into Washington loon migratory routes. More research and color marking of Washington's Common Loon is needed to determine migratory routes and wintering sites for the state's loons.

## **COLLECTION OF BLOOD AND FEATHER SAMPLES FOR HEAVY METAL AND Hg ANALYSIS**

Whole blood and a secondary flight feather from each wing of adult loons and grebes are collected to document levels of methylmercury present in certain aquatic ecosystems. All tissue samples are analyzed by Dr. Robert Taylor, Trace Element Research Laboratory, Texas A&M University, College Station, Texas.

**BLOOD:** The collection of blood samples from loons and grebes are used to identify body burdens of contaminants accumulated during the previous 2-3 months (the average life of red blood cells.) Levels of Hg and other heavy metals should correlate with levels in local food resources (Evers et al.2004). Whole blood is drawn from the metatarsal vein through an adapter into a 1-7cc Vacutainer vile containing sodium heparin (green top) and immediately placed into an iced cooler. The blood samples are kept on ice until they can be frozen and are not opened until lab analysis.

**FEATHERS:** The collection of feather samples for contaminant analysis is extremely useful in identifying the body burden of heavy metals, including Hg, in loons and grebes. Mercury is locked in the keratin proteins in feathers and is not subject to degradation (Thompson 1996). All feathers are cleaned at the lab to remove any external contaminants. The second secondary (S2) flight feather is clipped from each wing of individuals with completely molted-in flight feathers (adults). Secondary feathers are not collected from individuals with flight feathers remaining in partial sheath (juveniles). The secondary feather is chosen for standardization purposes. All secondary feathers are clipped with wire cutters, approximately 2mm above the superior umbilicus. Upon collection, the feathers are placed in a zip-lock bag and are refrigerated until lab analysis.

Since 1995, Washington's Common Loon have been banded and color marked by the cooperative efforts of BRI, LLLA, WA Dept.F&W, US FS, and the Colville Tribes Federation. Lab analysis is accomplished by using blood and feather samples for contaminants such as heavy metals and Hg, for genetic profiles for North American breeding populations providing science-based mitigations for catastrophic events known to impact large populations of loons (i.e. marine oil spills and botulism), for isotope analysis for future determinations of migratory territories (winter and breeding), and for determining individual physical characteristics and health of the Washington loons.

**DISPOSITION of SPECIMENS**

- Museum Collection (display location):
- Capture and Release (locations of both): at site of capture
  - Band     Mark    Other:
- Fit with radio transmitters - Radio Frequencies:
- Tissue sampling (explain and list tissue/preservation): collect blood and feather sample
  - lethal     sub-lethal     non-lethal

**Research data will be collected in the following area(s):**

- Aging     Behavior     Physiology     Artificial Propagation
- Genetics     Census     Life History     Pathology     Other: contaminants

\_\_\_\_\_  
**Signature of Applicant**

\_\_\_\_\_  
**Date of Application**

**PLEASE ATTACH A COMPLETE STUDY PLAN AND PERMITTEE QUALIFICATIONS TO THIS APPLICATION**