

The following project proposal was created by a community partner of the Upstate Institute to describe the way they would like to engage with a Colgate student this summer. The research project proposed will be a full-time research project conducted by a Field School Fellow this summer. Below, the partner describes their organization and the research project, as well as a statement of benefit derived by the community for this project. The proposal also mentions logistical considerations and required skills for a student interested in doing this work.

Adirondack Center for Loon Conservation, 15 Broadway, Saranac Lake, NY 12983
www.adkloon.org

Project Title: Artificial Nest Rafts – How useful are they for Adirondack loons?

Mission: The mission of the Adirondack Center for Loon Conservation (ACLC) is to promote the conservation of Common Loons in and beyond New York's Adirondack Park. With the loon as our centerpiece, our work encompasses scientifically driven research on loon health and population dynamics; educational outreach to residents and visitors in the Adirondack Park; wildlife biology and conservation training for college students and volunteers; and conservation and management activities related to maintaining robust populations of Common Loons in New York State and throughout North America.

Through this research project, we are seeking to determine the effectiveness of placing artificial nest rafts for loons on Adirondack lakes. The goals of this project will be to:

1. Identify and contact individuals and lake associations who are placing artificial loon nesting rafts on lakes throughout the Adirondack Park.
2. Conduct a survey of the people placing rafts to collect information on raft construction, lake characteristics, and utilization of raft(s) by loons.

3. Develop an Access database for nest raft utilization in the Adirondacks. This will include:
 - a. Contact information for the person(s) placing a raft;
 - b. Lake and territory location of raft(s) placed;
 - c. Specific site characteristics of raft placement (e.g., depth, proximity to shore, presence of predators (e.g., eagles), dams, history of water level fluctuation...)
 - d. Construction of raft (e.g., size, materials used...); and
 - e. Utilization of the raft by loons, including nest preparation and hatching success.
4. Summarize the results of the survey to determine the type of raft(s) and site characteristics of raft deployment that are most utilized by loons and hatch the most loon chicks annually.
5. Collaborate with NYS DEC wildlife staff to develop guidelines for the deployment of loon nest rafts in New York's waterbodies.

The proposed project will benefit the Adirondack region by developing guidelines for the appropriate use and placement of artificial nest rafts for loons on lakes and ponds in the Park. Additionally, the Access database will enable the Adirondack Center for Loon Conservation to better document the utilization of loon nest rafts throughout the Park in future years.

Currently, the construction and placement of nest rafts is being conducted in a haphazard way in New York. People know about nest rafts and want loons nesting by their lakefront homes, so they place a raft. However, it may not be constructed appropriately for Adirondack lakes (e.g., some plans are for very large rafts for use on huge reservoirs) or placed in a suitable site on the lake (e.g., may be exposed to wind and waves). And there are potential detriments to the loon population of raft placement as well. Rafts may attract more nesting pairs to a lake than it has capacity for, which results in territorial disputes between nesting pairs. Loon chicks can be killed during a territorial dispute, thus defeating the purpose of raft placement.

The Adirondack Center for Loon Conservation has been collecting names of people who have contacted the Center regarding loon nest rafts. Additionally, an outdated (2002 – *see attached*) set of recommendations for nest raft placement and a spreadsheet of some former nest raft locations exist. However, we have had not yet had the staff capacity to update these documents or to develop a true database of loon nest raft utilization in the Adirondacks.

Thus, we would like to develop scientifically-based guidelines for placement of artificial loon nesting rafts in the Park. These guidelines will summarize the type of raft construction most suitable for Adirondack lakes and the location conditions for best placement of rafts on a lake. The Access database that will be developed in this project will enable the Adirondack Center for Loon Conservation to continue to monitor the placement and use of rafts throughout the Park in future years.

This will be a full-time project that will be conducted primarily at the Adirondack Loon Center in Saranac Lake, NY. A portion of the project, the survey of people placing nest rafts on Adirondack lakes, analysis and interpretation of the survey results, and drafting the nest-raft guidelines can also be conducted remotely.

External resources that would be helpful for this project include a laptop computer with Microsoft Office (ideally including Access), assistance with designing the nest raft survey, and possibly statistical analysis of the survey results.

Dr. Nina Schoch will be supervising and mentoring the Field School Fellow.

5. Training & Skills necessary to complete this work. You should also discuss the experiences and skills a student will gain from working with your organization in general. For example, will students learn specific skills, have the opportunity to attend staff meetings, or grow in other ways through their experience?

Recommended skills for this project include:

- An outgoing, engaging personality, and enjoyment of interacting directly with people
- Proficiency with Microsoft Office, especially Word, Excel, and Powerpoint
- Ability to analyze survey results through statistics
- Ability to present results of surveys through reports and powerpoint presentations

Experience and skills the student will acquire through working with this project:

- Ability to design, conduct, interpret, and present the results of survey
- Ability to design and utilize databases in Microsoft Access
- Ability to design a brochure and report summarizing guidelines for loon nest raft placement
- Experience with working with a small wildlife conservation nonprofit organization

In addition to conducting the project on loon nest raft utilization, the student will have the opportunity to participate in a variety of activities conducted by the Adirondack Center for Loon Conservation, including field research to monitor and capture loons, outreach presentations and events, and interacting with Loon Center visitors and staff. These opportunities will provide the student with:

- An enhanced understanding of common loon ecology and conservation
- Exposure to conducting field research on common loons
- Experience with public presentations and events
- Enhanced ability to interact with the public and engage people in conversations about loon natural history and ecology

New York State Department of Environmental Conservation

Division of Fish, Wildlife & Marine Resources

Nongame and Habitat Unit

625 Broadway, 5th Floor, Albany, New York 12233-4754

Phone: (518) 402-8897 • FAX: (518) 402-8925

Website: www.dec.state.ny.us



Should you provide an artificial nesting raft for Common Loons?

Thank you for your inquiry about plans for construction and placement of nesting rafts for Common Loons (*Gavia immer*). Nesting islands, or “rafts”, were first developed in the Midwest in the early 1970s. They proved to be an excellent management tool in the right circumstances, especially when artificial impoundments or dams caused dramatic fluctuations in water levels, or when unusually high populations of predators destroyed nests along shorelines. As a result of successful raft placement, loon productivity in many places has increased. ***However, loon rafts require a significant time commitment in terms of both construction and maintenance, and their placement on lakes may not always be warranted.***

Rafts generally will not attract loons to a new lake or to an abandoned territory, nor will they inspire non-breeding pairs to nest. Most successful rafts are placed in existing territories where a resident pair has repeatedly nested and failed due to changing water levels or predation. A raft has to be placed in an appropriate location to be successful and to attract a breeding pair. A sheltered spot away from prevailing winds and wave action is required. Additionally, the spot should have 4-6 feet of water so that the loons can avoid detection by predators when they get on and off the nest. If no such spot exists, placing a raft is probably a futile effort.

Rafts require continuous monitoring and annual maintenance from dedicated individuals. Ideally, rafts should be taken out of the water every fall and replaced in the spring as soon as possible after ice-out. This requires a couple of strong bodies, especially when the rafts are waterlogged and loaded with dirt, vegetation, and nesting material. Islands have to be anchored so they don't float away, but this also means that when water levels drop, they may have to be moved into deeper water. Storms and violent winds may flip rafts over. If you go ahead with a raft, you should commit to annual maintenance, as well as to checking the raft periodically throughout the nesting season.

PERMITS MAY BE REQUIRED!

Before you consider placing a raft, you should first contact your New York State Department of Environmental Conservation (DEC) regional office (addresses on other side) to determine what permit(s) may be needed. **PLEASE DO NOT PLACE A RAFT WITHOUT FIRST OBTAINING ALL NECESSARY AUTHORIZATIONS!!!**

In order to assess the viability of an artificial island, please take a few moments to answer the questions on the attached evaluation form. If you decide an artificial island is appropriate, you'll need to spend some time observing loons in the area to determine where their territories are. You'll also want to scout out appropriate locations for raft placement.

Thank you for your interest in loon rafts! If you'd like more information about loons in New York, please contact your regional DEC office or the Adirondack Cooperative Loon Program:

Region 5 (eastern Adirondacks)

Bureau of Wildlife
NYS Dept. Environ. Conservation
P.O. Box 296
Ray Brook, NY 12977
(518) 897-1291

Region 6 (western Adirondacks)

Bureau of Wildlife
NYS Dept. Environ. Conservation
State Office Bldg.
Watertown, NY 12601
(315) 785-2261

Adirondack Cooperative Loon Program

P.O. Box 195
Ray Brook, NY 12977
(518) 891-8836
aclp2@juno.com
www.adkscience.org/loons

Evaluation of a Site for the Use of Artificial Nesting Rafts for Common Loons

Lake Name: _____
Town: _____
County: _____

Date: _____
DEC Office Use Only - _____
Pond ID#: _____

Lake Ownership (circle one): Public Private Public/Private

APA Land Use Classification: _____

1. Are there resident loons in the area where you're considering placing a raft? Yes _____ No _____

If yes: How many? _____ How often are they there? _____ Daily
_____ Weekly
_____ Monthly

2. Is there a loon pair present that defends or patrols the lake or a section of the lake? Yes _____ No _____

If Yes: Does this pair's territory contain a feasible site for a raft out of wind, away from boat traffic, and in deep enough water? Yes _____ No _____

3. Is the pair nesting, but the nest fails **every** year? Yes _____ No _____

If yes: C What is the evidence of nesting?

C Describe nest site, if known:

C Are nest failures due to water level fluctuations or egg predation? Yes _____ No _____
Explain: _____

4. Are you able to commit to maintain and repair a raft for a period of 5 years? Yes _____ No _____

5. Is the lake, or proposed raft site (includes submerged lands), owned by New York State? Yes _____ No _____

*If yes: **a permit is required.** Please contact your local regional DEC office.*

Is the lake a navigable water? Yes _____ No _____

*If yes or unknown : **a permit may be required.** Please contact your local regional DEC office.*

If you answered "Yes" to Questions 1-4, then an artificial nesting island may be warranted. If you answered "Yes" to any part of Question 5, a permit from DEC may be required prior to placing a raft. Otherwise, we recommend waiting, and continuing to observe the loons in your area. Reevaluate the viability of a nesting raft at a later date or if conditions change. **If you do place a nesting raft, please complete the information on the both sides of this form, and return it to the address on the reverse side.**

If you do place a nesting raft, please complete the information on the both sides of this form, and return it to the address below. Please provide as many details as possible.

1. Describe location of territory, including a map of the lake and territory (*please attach additional sheets if needed*).

2. Raft size:

3. Materials used:

4. Date of placement:

5. Distance from nearest shoreline:

6. Water depth:

Raft Information provided by:

Your Name: _____
Address: _____

Phone #: _____
E-mail: _____

Designated caretaker (if not you):

Name: _____
Address: _____

Phone #: _____
E-mail: _____

Please return this completed form to:

Adirondack Cooperative Loon Program, P.O. Box 195, Ray Brook, NY 12977

