

News from

LAKE FAIRLEE NATURE ASSOCIATES

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Dale Gephart and Doug Tifft, editors

Greetings. Topics this month include: Treasure Island plans, a UVM summer intern for Lake Fairlee, an online local watershed inventory, and the impending return of the loons. We thank Nathaniel Sharp from the Vermont Center for Ecostudies (VCE) and Oliver Pierson from the Vermont Department of Environmental Conservation (VDEC) for contributions to this issue.

TREASURE ISLAND NEWS

The Treasure Island Exploratory Committee was instrumental in securing \$9000 in funding from the Lake Fairlee Association and private donors for a halftime Treasure Island Manager this coming summer. In collaboration with Thetford Town Manager Bryan Gazda we have written an AARP grant application for \$7000 in walkway improvements to the waterfront to make it more accessible to seniors, the handicapped, and children in strollers. In the future, we hope to apply for grants to make the restrooms/changing rooms ADA-compliant, create a handicapped-accessible nature trail, and build a dock at the north end for kayaks and canoes. More recently the committee has discussed the need for a comprehensive site survey to assist long-range planning, cleanup and site restoration of the wooded northern end of the property, and protecting the lakeshore ecology by becoming a demonstration site in the Vermont Lake Wise program. (Dale Gephart)

LAKE FAIRLEE IS NOW ON I-NATURALIST

check it out at https://www.inaturalist.org/observations?place_id=168234

The community science database [iNaturalist](#) is available as a free downloadable app and as a powerful tool for documenting and exploring biodiversity information on the iNaturalist website. To submit data, you must simply take a photograph of a tree, bug, fish, flower, fungus, or any other living thing that sparks your curiosity, identify it to the best of your ability, and upload it to the iNaturalist app or website. Once uploaded, experts from across the state and even across the globe will help narrow down your ID to family, genus, or species. Once multiple iNaturalist users have agreed on a species ID, that observation will go into a [broader database](#) where scientists can access and use this vast collection of biodiversity information.

The [Vermont Atlas of Life on iNaturalist](#) is one of the most active communities of iNaturalist users in the country. Recently, the [Lake Fairlee Watershed](#) was added to the iNaturalist database as a searchable location, thanks to a collaborative effort of the [Vermont Department of Environmental Conservation](#) and the [Vermont Center for Ecostudies](#). Within the boundaries of the watershed, nearly 50 iNaturalist users have already submitted 874 observations of 434 species. From the most commonly-observed species, the [Spring Peeper](#), to more rarely observed organisms such as the [Eastern Elliptio](#), a freshwater mussel, or the [Long-tailed Duck](#), a rare visitor during migration, the watershed is home to a diversity of fascinating species, both familiar and unfamiliar. If you'd like to add more observations and species to the Lake Fairlee Watershed database (see link above under headline), we'd encourage you to photograph the flora and fauna you encounter with your smartphone or digital camera and upload each of those encounters to iNaturalist. To learn more about what iNaturalist is and how it works, visit the [Vermont Atlas of Life iNaturalist page](#). (Nathaniel Sharp)

VERMONT WILD BEE SURVEY

While many Vermonters are familiar with the honeybees and Bumble Bees that buzz from flower to flower throughout the warmer months, there are actually far more bee species out there than these well-known large and fuzzy bees! The Vermont Center for Ecostudies' [Vermont Wild Bee Survey](#), a project of the [Vermont Atlas of Life](#), aims to thoroughly catalog the bee species of the state. Over 300 species have been documented so far, including several species that have never been recorded in the state before. Orange County alone hosts more than 50 species of bees that pollinate a wide variety of plants, and there are likely many more out there to be discovered. If you'd like to help with this community science project, simply snap a photo of any bees that you see in your garden or your local meadow, and upload them to [iNaturalist](#) for bee experts to identify. Each photo of a bee contributes to a broader understanding of the species diversity and population dynamics of bees in Vermont, from the [Common Eastern Bumble Bee](#) to the much rarer [Parnassia Miner](#). (Nathaniel Sharp)

VERMONT LADY BEETLE ATLAS

Fourteen of Vermont's 35 known native species of lady beetles (or ladybugs, as they're often known) have not been recorded in the state since the 1970s. Have they truly disappeared? Or are they still out there in the forests and meadows? Recent rediscoveries in neighboring states of species long-thought to be extirpated have raised hopes that maybe some of these long-lost lady beetles are hanging on in Vermont. If you'd like to join in the search for lost lady beetles, you can contribute incidental lady beetle sightings to the [Vermont Atlas of Life on iNaturalist](#), a project that gathers all observations of lady beetles in Vermont that's closely monitored by Vermont lady beetle experts. If you'd like to be involved in more thorough surveying, you can choose to adopt a survey block and conduct regular surveys for lady beetles from spring through autumn. To learn more about this project conducted by the Vermont Center for Ecostudies as part of the [Vermont Atlas of Life](#), visit the [Vermont Lady Beetle Atlas homepage](#). (Nathaniel Sharp)

VERMONT DEC LAKES AND PONDS PROGRAM

The Vermont Department of Environmental Conservation Lakes and Ponds Program is excited about some enhanced monitoring and planning efforts that will kick off in 2021 at Lake Fairlee.

- As usual, we will support John Tarbell with his summer lake data collection through our Lay Monitoring Program. John's summer work has pointed out some concerning water quality trends on Lake Fairlee, namely significantly increasing total phosphorus concentrations, which our spring phosphorus data collection has also confirmed. See the [Lake Fairlee scorecard](#) for details.
- To better understand what is driving these trends, our inland lake monitoring experts Kellie Merrell and Leslie Matthews will make a two-day "Next Generation Lake Assessment Visit" this summer. The Next Generation Lake Assessment is a comprehensive, quantitative survey of a lake's condition which began in 2010. A suite of physical, chemical, and biological parameters are sampled at three areas: the deep open-water "index site," ten randomly distributed shoreland and littoral habitat sites, and the inlets and outlet.

- DEC will also be working with local stakeholders and organizations to develop a lake watershed action plan for Lake Fairlee. A Lake Watershed Action Plan (LWAP) is an assessment to identify the highest nutrient/sediment pollution loading areas of the lake watershed that are resulting in water quality and habitat degradation. The LWAP results in a prioritized list of projects and strategies to address the sources of pollution and habitat degradation identified in the assessment. The plan may also contain recommendations to preserve natural features and functions, encourage use of low-impact green stormwater infrastructure, and maintain the aesthetic and recreational uses of lakes. DEC will be advertising a request for proposal in the near future to competitively select a qualified service provider to lead this effort.
- We anticipate that our Aquatic Nuisance Control Grant in Aid Program will fund one or more projects on Lake Fairlee this summer, working with local officials and volunteers.

Please don't hesitate to reach out to me if you have any questions or comments about any of this work at Oliver.Pierson@vermont.gov or 802-490-6198. Thanks for your interest in improving water quality in Lake Fairlee! (Oliver Pierson, Vermont DEC Lakes and Ponds Program Manager)

VERMONT LOON CONSERVATION PROJECT

With the help of local Loon Watch volunteer Doug Tifft and others, we'll make sure the loon nesting raft at the northern end of Lake Fairlee is ready to go by early May. Doug's observations and those sent to him from the lake community will keep track of the activities of the nesting loon pair over the summer. On July 17, we have our annual statewide loon count to estimate the adult loon population in Vermont and visit the less surveyed lakes and ponds in the state. We'll also be following the loon pair on Miller Pond which has not been successful for several years, as well as loons on Lake Morey, where we have loon activity but no recorded nest attempts. There is a chance a pair is forming there and we keep surveying the north marsh, but so far Morey is a place for loons to hang out. (Eric Hanson, Vermont Loon Conservation Project, VCE)

A UVM INTERN FOR LAKE FAIRLEE THIS SUMMER

This summer several of our lake-related projects will include the assistance of a Rubenstein Summer Intern Hannah Randall. She will be a senior at the University of Vermont in the fall. Hannah will work full time for ten weeks with her salary paid by both the Lake Fairlee Association and the University of Vermont. Dale Gephart will be her mentor and time coordinator. We expect she will be working with several members of the Nature Associates. Details are pending, but we anticipate she will be "teaching the teachers" for nature study activities at one or two camps on Lake Fairlee. She will also join the Water Quality Action Committee/VDEC collaboration in their phosphate studies of both tributaries and the lake bed. And she will be a cyanobacteria monitor for Lake Fairlee as part of the state program. With the support of professor Mindy Morales, limnologist at UVM, she will be doing her own project creating an inventory of the algae in the lake. Many of her educational activities will be facilitated by the new Lake Fairlee watershed community science database, as noted in the article about I-Naturalist. (Dale Gephart)

Correction from prior newsletter: Tom Ward is designing the Lake Fairlee Association website and Katherine Babbott is writing the Lake Fairlee Association newsletter.