



**Friends of Northern Lake Champlain
Request for Proposals
March 30, 2021**

Wind, Waves, and Variables – Lessons about the Lake Champlain Basin

A. Introduction:

Friends of Northern Lake Champlain has received grant funding from the Lake Champlain Basin Program and is requesting proposals to partner with an educational consultant to design and teach a series of classes to 5th grade students from four schools in Grand Isle and Franklin counties of Vermont during the 2021-2022 academic year.

We will partner with a local educational organization to design and teach a curriculum where students will learn about the Lake Champlain Basin by: collecting and analyzing empirical and observational data, interacting with elders and experts, perform field and classroom work, and create reports using diverse media. With this curriculum students will learn about the social and economic history of the region, plus the elements of the physical, chemical and biological science that underpin the dynamics of the watershed. Today's grade school students will make the decisions of tomorrow, and as adults, they are more likely to act in an environmentally responsible manner if these values are inculcated in their youth. The course will be congruent with the Next Generation Science Standards and will be instructed in four (4) three-hour sessions each month with two field trips. The field trips will include an examination of the Chazy reefs exposed at the Isle LaMotte Preservation Trust's Goodsell Ridge preserve, and an excursion to the Missisquoi National Wildlife Refuge

B. Scope of Work and Tentative Timeline:

The purpose of this project is to establish curriculum and teach lessons about pertinent social and physical sciences of the Lake Champlain Basin to 5th grade students at four schools located in Grand Isle and Franklin counties. Members of FNLC will provide support to an educational partner when visiting schools and teaching lessons, and will organize field trips to the Missisquoi National Wildlife Refuge and Isle LaMotte Goodsell Ridge Preserve where we will focus on sound principles of data collection, interviewing, observation, and interpretation. We will collect photos, audio files, sketches, reflection papers, and reports to help solidify and foster life-long commitments in the students to educate themselves and make informed decisions about Lake Champlain. The main outcome of the course is that the pupils will gain confidence in participating, and be capable of directing their future actions in a fashion that minimizes deleterious effects to Lake Champlain.

- **Skills Lessons: Observations & Understanding the Watershed, The 5 Senses, Journaling and Scientific Inquiry**
 Students will create a journal to be used throughout the course to keep notes, observations, sketches, questions and answers, and to document knowledge gained about the watershed. Memory games and other techniques should be used to hone observational skills and demonstrate the need to see as well as look, and how the familiar is recognized, but the unfamiliar requires extra attention. Students will also learn to describe object attributes of materials from the region, via hands-on exercises using the five senses and the Scientific Method of Inquiry.
- **Society Lessons: The Social Fabric of Place, Interviewing Elders, Industry & Activity through the Ages**
 Students will examine and understand the reasons behind the settlement of land in the watershed and then compare the students' own place to see how it conforms to these norms. They will determine what factors played a role in the original settlement of a student's local place – water transport, resources, safety, food, labor sources. Once appropriate subjects have been approached we would like the students to interview them, in standard practice (e.g. NPR Story Corps), and documented to be archived. Through this exercise students will become aware of the change that has happened in the watershed during modern time.
- **Geology Lessons: Rocks & The Basin Foundation**
 Students will learn about Earth accretion, density stratification (core, mantle, crust), and materials (rocks and minerals). A fieldtrip to Isle la Motte Goodsell Ridge will accompany, where learners will have the chance to identify and sketch several fossils. They will be asked to write a report on the excursion while answering questions such as: why are tropical marine fossils found in this environment?
- **Water Lessons: The Water Cycle, The Watershed, The Human side of water use and Dynamic Ecosystems**
 A general review of the water cycle and how the finite resource of water plays an important part in the ecosystem will be learned along with the definition of the watershed, its physical attributes (area, rivers, lakes it contains, population distribution & density), main and unique features and the variables that can affect it. The importance of water to society and sources of drinking water in the basin should also be explored. Sources of pollution and the activities that humans undertake to safeguard and recoup water, plus an exploration of what could be done differently should be examined. A fieldtrip to the Missisquoi National Wildlife Refuge will be involved in this lesson where the “filtration capacity” of wetlands will be explored.

Timeline:

| Task | Task Title | Objective | Deliverable | Timeline |
|-------------|--|---|---|-----------------|
| 1 | Educator Selection | Release RFP and select educational consultant. | Signed contract with educational consultant | April 2021 |
| 2 | School Selection | Have commitments from 4 schools to participate in the program and finalize curriculum. | MOU from participating schools, finalized curriculum. | August 2021 |
| 3 | Skills Lessons: Observation & records | Make journals & learn scientific Inquiry. | Questionnaire and student responses. | October 2021 |
| 4 | Society Lessons: Learn cultural history | Examine cultural history and information gathering through effective interviewing techniques. | Audio files and interview notes | November 2021 |
| 5 | Geology Lessons: Geo-time, basin geology | Examine geologic make-up and principles of the basin | Basin geology notes and photographs | January 2022 |
| 6 | Water Lessons: sources of water & pollution | Use aquifer model & dye to demonstrate water cycle | Water cycle & basin notes and photographs | February 2022 |
| 7 | Fieldtrip MNWR: Learn the importance of wetlands | Observe wetlands & biota relation to the lake and water cycle & basin | Species List & Wrap-up questionnaire | April 2022 |
| 8 | Fieldtrip Goodsell: Basin in geo-context | Tropical fossils & glacial erratic blocks - 480Ma & 10ka environments | Sketch of fossils & photographs | May 2022 |
| 9 | Final Report | Synopsis of program | Inclusive Final Report | July 2022 |

C. Content of Proposals:

Responses to this request for proposals (RFP) should consist of the following:

- A statement identifying individuals who were involved in the preparation of the proposal as well as a single point of contact.
- A list of individuals that will be committed to this project and their professional qualifications. The names and qualifications of any sub-consultants shall be included in this list.

- A scope of work and project budget. The budget should provide hourly rate information. The effort will be reimbursed on a time and materials basis.

D. Project Budget:

Friends of Northern Lake Champlain received a grant from the Lake Champlain Basin Program with a budget of \$20,000 to complete the educational consultant portion of this project.

E. Submissions:

Consultants wishing to be considered for this project should submit a complete proposal including a detailed project budget *via email only* to:

Patrick Daunais
Projects Coordinator
Friends of Northern Lake Champlain
pdaunais@friendsofnorthernlakechamplain.org

Please use “Wind, Waves, and Variables” in subject line.

We must receive all proposals no later than **5 PM on April 23rd, 2021**.

Proposals and/or modifications received after this time will not be accepted or reviewed.

F. Contract Time Period:

Contractors may begin work as soon as the selection process is complete. The project is expected to be completed by **July 30, 2022**.