

**INTERNSHIP: FRIENDS OF SEBAGO LAKE  
QLF CANADA OFFICE, MONTREAL, QUEBEC or  
QLF U.S. OFFICE, IPSWICH, MASSACHUSETTS**

Sebago Lake shorefront owners and users founded Friends of Sebago Lake (FOSL - <http://friendsofsebago.org>) in 1992 in response to harmful changes in flow policies at the lake's outlet dam, Eel Weir. These changes in flow have caused increased flooding occurrences, wave undermining and collapse of bluffs, beach erosion, fish population changes, and lake wetland and water quality deterioration.

The mission of FOSL is to promote an understanding of the multiple harmful impacts of unnatural freshwater flows by dam regulation and to advocate for the restoration of natural freshwater seasonal water flows from inland waters to the seas.

Following the completion of Federal Relicensing of Eel Weir dam in 2016, FOSL focused on advocating for anadromous fish restoration of the Presumpscot River- Sebago Lake watershed. Anadromous fish migrate between fresh water and the sea. FOSL's work included participation in various Federal Energy Regulatory Commission (FERC) proceedings affecting a multitude of Presumpscot River dams. Because research informs our advocacy, FOSL actively reviews literature, researching and compiling information on the effects of dams and unnatural freshwater flow regulation on lakes, rivers, and estuaries, where freshwater mixes with ocean water.

In partnership with the Quebec-Labrador Foundation, FOSL seeks one Research Intern to design and build an online database of the FOSL electronic files of studies and information regarding the impacts of dams and unnatural freshwater flow that have been collected for over the past 26 years. The Intern will work with a supervisor as needed to edit and present files for public access, as well as conduct further information searches expanding the FOSL database.

\*Much of FOSL's research points toward the importance of silicate, phosphorus, nitrogen and other nutrient transport cycles from inland areas to maritime environments. These nutrients play a key role in vegetative growth and also fresh and saltwater diatom development. Diatoms are silica walled single-cell microalgae forming the base of complex food chains. When natural river flows (the primary vehicle for land to sea nutrient transport) are anthropogenically altered, there may be unintended consequences affecting plant growth, fisheries health and climate change to name a few impacts.

**QUALIFICATIONS:** Well organized and reasonable computer skills (i.e. word processing). Independent worker who enjoys researching and research. Familiarity with any of these fields is considered an asset: chemistry, geochemistry, hydrology, geomorphology, biology, marine science, estuarine systems, ocean fisheries science, wetland science, groundwater dynamics, oceanography, and statistics and data analysis.

*Preferred Language: English Fluent. Other language(s) would be helpful.*

*Education: Undergraduate or Graduate Student*

*Compensation: Stipend*



*Dates of Internship: TBD/Flexible, May – August 2019*  
*Application Deadline: March 30th, 2019*

**CONTACT:**

**Emily McIntosh**

Director of Conservation Internships

Quebec-Labrador Foundation

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**SAMPLE REFERENCES**

- <https://diatoms.org/what-are-diatoms>
- Frings, et al. 2016 The continental Si cycle and its impact on the ocean Si isotope budget [https://ac.els-cdn.com/S0009254116300201/1-s2.0-S0009254116300201-main.pdf?\\_tid=9b4d8bf6-7718-4032-b669-c16a58db02fa&acdnat=1546016391\\_b4b1add6afb67b323f60331587b78afb](https://ac.els-cdn.com/S0009254116300201/1-s2.0-S0009254116300201-main.pdf?_tid=9b4d8bf6-7718-4032-b669-c16a58db02fa&acdnat=1546016391_b4b1add6afb67b323f60331587b78afb)
- Harrison, et al. 2012 Global importance, patterns & controls of dissolved silica retention in lakes, & reservoirs. <https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2011GB004228>
- Lauerwald, et al. 2013 Retention of dissolved silica within the fluvial system of the conterminous USA. <https://link.springer.com/article/10.1007/s10533-012-9754-8>
- Struyf & Conley 2018 Silica: an essential nutrient in wetland geochemistry. <https://esajournals.onlinelibrary.wiley.com/doi/10.1890/070126>

