# 2006 L.L.Bean Acadia Research Fellowship Grants

To facilitate and encourage scientific research in the park, L.L.Bean has generously donated $25,000 annually to establish the L.L.Bean Acadia Research Fellowship Program. Fellowships for the 2006 season were recently awarded from a highly competitive applicant pool of 23 proposals, cumulatively requesting more than $109,000. With an additional $10,000 in support this year from Acadia Partners for Science and Learning, seven projects were funded, with cumulative awards of $35,000. Summaries of the funded proposals are listed below.

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Natalie L. Cleavitt, Cornell University. "Bryophytes and lichens in select habitats of Acadia National Park: Does substratum chemistry explain distribution?" Examines the importance of substratum chemistry for communities of mosses, liverworts, and lichens on cliffs and trees in Acadia National Park and expands the baseline inventory of these organisms in the park. The research will increase understanding about management of vulnerable habitats and will amplify public appreciation for and enjoyment of these often over-looked organisms.

Holly A. Ewing and Kathleen C. Weathers, Bates College and the Institute for Ecosystem Studies. "Soil as a mediator between atmospheric deposition and streamwater." Soil sampling to collect inputs to a large-scale ecosystem model, calibrating the model, and improving our understanding of the potential response of Acadia National Park to long-term atmospheric deposition.

Amanda Little, University of Minnesota, Duluth. "*Sphagnum* in Acadia National Park." An inventory characterizing the diversity of *sphagnum* species present in the park, describing the dynamics of *sphagnum* moss communities in response to beaver and human activity, and establishing a baseline of sphagnum species composition and abundance for future studies on the impacts of air pollution on *sphagnum* in Acadia National Park.

Katherine McPhee, University of Maine. "The significance of relationships and invasive species: The European fire ant and Homopterans." Research into the relationship between aphids and the invasive European fire ant, looking at the impact of the invasive ant on aphid populations, including whether there is a shift in aphid species.

Sarah J. Nelson, University of Maine, Senator George J. Mitchell Center for Environmental and Watershed Research. "How much is enough? Developing a citizen-based monitoring plan for mercury in gauged watershed streams at Acadia National Park." Continues the long-term record of mercury data in paired research watersheds at Acadia National Park while determining the appropriate timing and frequency of sampling to capture the essential data used to calculate mercury budgets in the watersheds and developing a long-term monitoring plan for mercury in these watersheds that includes high school students as citizen scientists.

Aimee Phillippi, Unity College. "Monitoring the abundance and distribution of the invasive Asian shore crab, *Hemigrapsus sanguineus*, on the Schoodic Peninsula and its effects on intertidal crab and bivalve populations." *Hemigrapsus sanguineus* is an invasive species that is a potential threat to area ecosystems and to the shellfish industry. This study quantifies the current Asian shore crab population at its present northern boundary, the current populations of other intertidal crab species, and the bivalve populations in the same areas. The project will also develop public outreach materials.

Nishanta Rajakaruna, College of the Atlantic. "Conservation Biology of Rare Plants of Acadia National Park: A proposal to conduct ecological and physiological studies to better inform rare plant monitoring and management protocols." Provides information on the localities and size of extant populations in the park for five rare species of plants. The completed project will recommend monitoring protocols and management responses for the five species and will provide much-needed biological and ecological data currently lacking for these species.