



## 2007 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 2007 season were recently awarded from a highly competitive applicant pool of 23 proposals, cumulatively requesting more than \$102,000. With an additional \$5,600 in support this year from Acadia Partners for Science and Learning and the National Park Service, nine projects were funded, with cumulative awards of over \$30,000. Summaries of the funded proposals are listed below.

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**Dr. John Anderson, College of the Atlantic.** “Seabird Census and Census Protocol Development and Evaluation for Schoodic Island.” The intent of this study is to conduct a detailed census of breeding seabird populations on Schoodic Island, Acadia National Park, during the summer of 2007. In the course of this census researchers will evaluate a number of different techniques for counting breeding seabirds on the basis of 1) relative accuracy of each technique 2) repeatability of results 3) potential for significant disturbance of seabirds and other island occupants 4) time and personnel needed to conduct a count and 5) cost. The habitat on Schoodic resembles portions of that found at College of the Atlantic’s Eno Field Station on Great Duck Island. Comparison of seabird habitat use, distribution, and abundance between the two islands will provide better insight into patterns of island use and could assist management agencies in selecting islands likely to be important in seabird conservation.

**Dr. Joshua Carroll, University of New Hampshire.** “Perceptions of Recreation Experiences for Winter Visitors to Acadia National Park.” This project will gather basic social science information on winter visitors to the east side of Acadia National Park to help park managers understand who these visitors are, what they do, and how they feel about park facilities and management practices. This project will generate data about specific concerns and issues, such as visitor attitudes towards management practices and potential visitor conflicts. Results from this study will support the development of a winter use plan for the park, should park managers determine if one is needed.

**Kristen Covino, University of Maine.** “Migration in songbirds at Schoodic Peninsula: Using Ecophysiology to study migratory behavior of birds at Acadia National Park.” This study will determine the energetic conditions of autumn songbird migrants at Schoodic Peninsula; how energetic conditions influence decisions to initiate migration and the migratory direction chosen; and how the geography of Schoodic Peninsula relates to these decisions.

**Chris Koteas, University of Massachusetts.** “A detailed bedrock geologic map of the Schoodic section of Acadia National Park; characterizing granite genesis and hybridization in the Maine magmatic province.” The goal of this work is to produce a detailed map of the bedrock geology exposed throughout the Schoodic section of Acadia National Park. There exist multiple geologic exposures around the coastline within the Schoodic Section of Acadia National Park that are illustrative of both subtle and overt processes reflecting granite formation on a global scale. Detailed mapping and meticulous sample collection and analysis can be used to qualify and quantify the subtle chemical and mechanical mingling processes preserved in these rocks. This work will directly compliment on-going bedrock mapping and microanalytical studies being performed in the Gouldsboro granite throughout the Winter Harbor quadrangle, just north of the Schoodic Section of Acadia National Park.

**Ben Letcher, U.S. Geological Survey S.O. Conte Anadromous Fish Research Center.** “Assessment of spring anadromous brook trout migration in three small coastal streams of Acadia National Park, Mount Desert Island, Maine.” This project is an expansion of a cooperative pilot project assessing the status, biology and ecological significance of anadromous brook trout in Acadia National Park. This study will employ directional migration net techniques to complement current PIT tag methodological approaches to more precisely assess movements of brook trout in and out of Stanley Brook during the important spring migration period. Additionally, migration nets will be used in three adjacent streams to determine broader movements of brook trout within and between multiple coastal stream systems.

**Nick Mikash, Kaloyan Ivanov, and Shimshon Balanson, Cleveland State University.** “A survey of terrestrial isopods of Mount Desert Island.” Using appropriate quantitative methods isopods will be sampled across a gradient of highly disturbed to more pristine habitats to assess the abundance and diversity of this ecologically important taxonomic group. Specimens collected will be used to create a reference collection for the park which may be used in future related studies.

**Dr. Peter Sablock, Salem State College. “A noninvasive geophysical survey to determine the extent of the Thomas Frazer Homestead, Schoodic Peninsula, Acadia National Park.”** A geophysical remote sensing survey of the Frazer Point site will be conducted to identify large cultural anomalies associated with the Thomas Frazer homestead. This survey will provide cultural resource managers at Acadia National Park with a site plan and guide to cultural anomalies that should be investigated further.

**Bruce J. Stephen, Southeast Community College. “A Survey of Freshwater Snails of Acadia National Park.”** This study will provide biodiversity and abundance assessments of the freshwater snail fauna of Acadia National Park. It will provide baseline data for the State of Maine and the specific region of Acadia National Park regarding the freshwater snail species present, will serve as an indicator of wetland quality in some circumstances, and may indicate the presence of any invasive (exotic) species of snail, or the presence of uncommon, rare or endangered snail species. In addition, this project will help answer questions about the impacts of changing environmental conditions, such as drought, on these aquatic habitats as well as the consequences invasive species.

**Katherine Webster and Elizabeth Whitmore, University of Maine. “Zooplankton Community Structure and Dynamics in Lakes of Contrasting Water Clarity in Acadia National Park.** This research is closely coordinated with existing water quality monitoring activities by Acadia National Park staff and is designed to provide supplemental information on a key biotic component of lake ecosystems. It aims to quantify the abundance and composition of the zooplankton community, compare zooplankton community characteristics in the Acadia National Park lakes, and determine if *Daphnia* pigmentation differs among lakes of different water clarity or at depth in very clear lakes and if this can be attributed to ultraviolet radiation transmission in the water column.