

NICKERSON CONSERVATION FELLOWSHIP



**2005
CAPE COD
NATIONAL
SEASHORE**

Proposals will be accepted for research in the broad areas of the natural and social sciences. Of current interest are studies associated with water quality, air quality, kettle ponds, shorebirds, fish, aquatic organisms, saltmarshes, dune vegetation, and the political/social implications which accompany the management of these resources. The Fellowship Committee is also interested in proposals related to archeology, historic preservation, submerged cultural resources, and the influences of cultural change on natural resources. A list of Seashore research interests will be included with application materials.

Through this program we are seeking self-directed qualified individuals whose work will contribute to our knowledge of natural and cultural resources within the Seashore and their relationships with the local communities in which they are found.

THE NICKERSON CONSERVATION FELLOWSHIP IS SPONSORED BY
THE CAPE COD NATIONAL SEASHORE ADVISORY COMMISSION.

Joshua A. Nickerson Conservation Fellowship 2005 Request for Proposals

The Nickerson Conservation Fellowship Committee is currently soliciting proposals for the Nickerson Conservation Fellowship award. Proposals should briefly outline the objectives of the study and include methods and budget. Emphasis should be placed on how the study will increase conservation efforts or contribute to the protection of the Seashore's natural resources.

Cape Cod National Seashore contains a diverse variety of habitats, characterized by open ocean and associated beaches, estuaries and tidal flats. In addition to the marine environment, the Seashore is home to a unique kettle pond system, sensitive vernal ponds and a vast area of heathlands, a rare habitat that supports a wide range of species and contributes to global biodiversity. More than 17 federally-listed threatened or endangered species are found throughout the Seashore.

The coastal and physical processes that initially formed Cape Cod constantly reshape the area via wind, erosion, tides, and longshore currents. These conditions contribute to the sensitive environment that the Nickerson Conservation Fund is dedicated to study.

Major ecosystems and areas of research interest include:

Estuaries and Salt Marshes - nutrients, sedimentation, restoration of vegetation, benthos, waterbirds, fish and other fauna

Beaches, Spits, and Barrier Islands - shoreline change, invertebrates, dune plants, waterbirds

Ponds and Freshwater Wetlands - kettle ponds, vernal pools, invertebrates, fish, amphibians, marshbirds

Coastal Uplands - grasslands, heathlands, forests, reptiles, landbirds, mammals

Also of interest are non-native plants & animals, biodiversity monitoring, historic preservation, cranberry bog demonstration/restoration, archeology, submerged cultural resources, and political/social implications associated with the management of natural and cultural resources.

Topic of interest: While this project is put forth as a topic of interest, other topics related to resource management and protection will be given equal consideration for funding.

The Nickerson Fellowship Committee is potentially interested in funding a project to support initial research and monitoring of the nuisance brown algal species, *Pilayella littoralis*, at the Cape Cod National Seashore (CCNS), Wellfleet, and Truro outer beaches. Commonly referred to as "mung", the alga occurs in abundance not only on the lower Cape's outer beaches, but on much of the Massachusetts eastern shoreline. Presently very little is known about *Pilayella littoralis* and the factors influencing its proliferation in our coastal waters. However, with dedicated project funding we can increase our knowledge of the alga and decipher its possible impacts to water quality and human health.

Each year during peak visitation in the summer season, lower Cape beaches experience closures due to unsafe levels of bacteria, specifically fecal coliform and *Enterococcus*. Several hypotheses have been put forth that potentially link beach closures with occurrence of mung. One belief is that the alga may harbor bacteria or serve as a substrate for bacteria, another is that mung restrict free movement of water and restrict flushing of coastal areas. Therefore, gaining a better understanding of the occurrence, distribution, as well as the physical and chemical parameters influencing the productivity of *Pilayella littoralis* will greatly benefit our understanding of the interactions between the alga and bacteria and aide us in better management of our beaches and protecting the health of our patrons.

Through this program we are seeking self-directed qualified individuals whose work will contribute to our knowledge of natural and cultural resources within the Seashore and their relationships with the local communities in which they are found.

Eligibility: Successful participant(s) will be affiliated with a recognized research or academic institution and will possess the enthusiasm and qualification to carry out the proposed work with minimal involvement of Seashore staff.

Terms: Proposal due by March 1, 2005.
Stipend up to \$3,500.
Seasonal housing available.
Laboratory space may be available.
Report due within one year.

Application page follows. Print and complete and send to:

Nancy Finley, Chief Natural Resources
Cape Cod National Seashore
99 Marconi Site Road
Wellfleet, MA 02667
508-349-3785, ext 216
e-mail: *nancy_finley@nps.gov*

**Cape Cod National Seashore
Advisory Commission
99 Marconi Site Road
Wellfleet, MA 02667**

**JOSHUA A. NICKERSON CONSERVATION FELLOWSHIP
Application**

Name:

Date:

Address:

Phone:

Fax:

e-mail:

Please describe your interests in this fellowship opportunity, including the following information:

- a brief proposal for your project/research, methods, and relevance to the management of Seashore resources (3-5 pages)
- if student, a letter of support from faculty member/advisor
- your background and experience, setting forth your qualifications (resume?)
- equipment, materials, space and/or other requests
- budget (detailing expenditure of \$3500)
- season during which you prefer to work

Send to: Nancy Finley, Chief Natural Resources
Cape Cod National Seashore
99 Marconi Site Road
Wellfleet, MA 02667