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United States Department of the Interior

NATIONAL PARK SERVICE
Northeast Regional Office
1234 Market Street, 20th Floor
Philadelphia, PA 19107



Request for Letters of Research Interest (LOI)

Project Title: Natural Resource Condition Assessment for Katahdin Woods and Waters National Monument

Background

This project will provide the National Park Service (NPS) with a Natural Resource Condition Assessment (NRCA) of Katahdin Woods and Waters National Monument (KAWW; Attachment 1). NRCAs rely on existing data and expertise from a variety of NPS and non-NPS sources to provide a snapshot-in-time evaluation of resource conditions for a subset of important park natural resources and indicators. As with all other NPS NRCAs, the current project will be multidisciplinary (ecological) in scope, employ hierarchical indicator frameworks, identify or develop logical reference conditions/values to compare current condition data against, emphasize spatial evaluation of conditions and geospatial map products, summarize key findings at the park or park area (e.g., watershed boundary) levels, and follow national NRCA guidelines and standards for study design and reporting products. NRCA project guidelines and standards are posted at: https://www.nps.gov/subjects/science/upload/NRCA-Development-Guide_2023.docx. Additional information about the program, including past NRCA projects are available at: <https://www.nps.gov/subjects/science/nrca.htm>. The [Fort Pulaski NRCA](#) is a good example of a recent project that was completed using the current guidance.

NRCA deliverables will include a written report and geographic information system (GIS) data layers in park-specific geodatabase format. Reports will be published in the Resource Report (RR) series. Note that the NRCA project guidelines refer to an older Natural Resource Report series that is being phased out; this project will use the new Resource Report series. The author template for the report series is posted on the NPS DataStore: <https://irma.nps.gov/DataStore/Reference/Profile/2301194>. The KAWW superintendent and resource manager are the primary target audience for the assessment report. Technical experts are the targeted audience for supporting documentation in report appendices and supplementary datasets and databases.

Objectives and Tasks

Using existing data, NRCAs evaluate and report on current conditions, condition trends, critical data gaps, and selected resource condition influences for a subset of the park's most important natural resources. The project will deliver credible science-based information that is relevant and useful to park managers for strategic planning and decision-making purposes. Project findings will also help parks report to government 'resource condition status' accountability measures.

Based on the Study Plan to be developed at the start of the project, the Principal Investigator (PI) shall follow the [NRCA project guidelines](#) and:

- 1) Identify and review existing sources of scientific data and information useful for evaluating resource condition status and resource condition influences (threats, stressors) as they pertain to natural resources in park-managed watersheds and habitats (both terrestrial and aquatic resource environments). The park has tentatively identified the bird community, forest vegetation, stream water quality, and T&E species as the highest priority resources to include in the NRCA. The NPS does not have long-term monitoring implemented at the park, but there have been several research projects in the park since establishment and park staff have compiled an initial list of potential data sources. The PI will build upon what has already been accomplished and identify and compile any new or other undocumented sources of data. This project will not have a field data collection component, though there will be a considerable data mining component.
- 2) In collaboration with NPS, determine the subset of NPS-identified and PI-identified data and information sources that will be most pertinent and useful to the project, and compile those materials into the formats needed for project-related analyses.
- 3) In collaboration with NPS, identify a suite of measures that can be used to assess natural resource conditions (and stressors that might affect those conditions), summarize existing data for those measures, and determine or identify scientifically valid and repeatable reference conditions or assessment thresholds.
- 4) Provide a multi-disciplinary (integrative) synthesis of the resource data and information to inform NPS about scientific significance, functional status, and current and emerging challenges associated with park-managed watershed resources and habitats. The synthesis must incorporate a strong geospatial component and result in both a written report and geospatial database for the park. During the course of the project, the PI and NPS will participate in periodic in-person and teleconference meetings to get NPS input and review for PI-developed draft products and findings, and to communicate study progress to the regional NRCA program coordinator and park resource manager.

Project Timeline

The deadline for responding to this request for LOI is January 19, 2024. The funding decision for a start in late summer 2024 will be announced by February 16, 2024. A cooperative agreement will be put in place by September 13, 2024. The project is expected to take two years to complete.

Funds Available

NPS has \$50,000 – \$75,000 available for this project; this includes the CESU overhead rate of 17.5%. Non-federal partners within the CESU system with a current NPS master cooperative agreement are eligible to apply.

Materials Requested for Letters of Interest

Letters of interest (limit 4 pages) must include:

1. Name, Organization and Contact Information

2. Description of the proposed approach for conducting the project
3. Draft budget
4. Brief Statement of Qualifications (including):
 - a. Biographical Sketch(s) for key personnel (faculty, staff), including a description of discipline(s) of expertise. Curricula vitae can be submitted as an attachment (not subject to the page limit).
 - b. Relevant past research projects

Evaluation Letters of Interest

Based on a review of the Letters of Interest received, and contingent on funding, an investigator will be invited to prepare a full study proposal, schedule, and detailed budget. Because of the broad scope of this project, an interdisciplinary approach is necessary. Letters will be evaluated by a panel of three NPS staff based on the following criteria and scoring:

1. Soundness and validity of the proposed approach for meeting project objectives (15 points maximum)
2. Experience with natural resource condition assessment (10 points maximum)
3. Experience extracting and interpreting data from diverse databases (10 points maximum)
4. Experience with Geographic Information Systems (GIS; 10 points maximum)
5. Ability to produce technical reports within schedule and budget and demonstrated record of professional publications (5 points maximum)

Contact

Direct questions and letters of interest to Brian Mitchell, brian_mitchell@nps.gov. The deadline for responding to this request for LOI is January 19, 2024.

Attachment 1: Katahdin Woods and Waters National Monument

The Katahdin Woods and Waters National Monument (KAWW) encompasses 87,500 acres in Penobscot County, Maine. The park contains a significant piece of Maine's North Woods: the mountains, woods, and waters east of Baxter State Park (home of Katahdin¹, the northern terminus of the Appalachian Trail). Important waterways through KAWW include the East Branch of the Penobscot River and its tributaries, including the Wassataquoik Stream and the Seboeis River. Since the glaciers retreated 12,000 years ago, these waterways and associated resources – the scenery, geology, flora and fauna, night skies, and more – have attracted people to this area.

The significant biodiversity of KAWW spans three ecoregions that display the transition between northern boreal and southern broadleaf deciduous forests, providing a unique opportunity for scientific investigation of the effects of climate change across ecotones. The forests include mixed hardwoods like sugar maple, beech, and yellow birch; mixed forests with hardwoods, hemlock, and white pine; and spruce-fir forests with balsam fir, red spruce, and birches. In wetland areas, black spruce, white spruce, red maple, and tamarack co-dominate.

The expanse of KAWW, augmented by its location next to other large conservation properties including Baxter State Park and State of Maine managed reservations, supports many wide-ranging wildlife species, including ruffed grouse, moose, black bear, white-tailed deer, snowshoe hare, American marten, bobcat, bald eagle, northern goshawk, and the federally threatened Canada lynx. The federally endangered northern long-eared bat and proposed (for listing as endangered) tri-colored bat inhabit KAWW. In addition, seventy-eight bird species are known to breed in the area, with some uncommon boreal species, like the boreal chickadee and the black backed woodpecker.

Although over 90% of KAWW has been logged in the past 15-25 years, the regenerating forests retain connectivity and contain significant biodiversity among plant and animal communities, demonstrating their ecological resilience. Additional work is focused on improving aquatic connectivity of the Penobscot River within and downstream of the park. This river restoration effort continues to enhance the integrity of the Penobscot East Branch river system, and allow federally endangered Atlantic salmon to return to the upper reaches of the river known in the Penobscot language as “Wassetegweweck,” or “the place where they spear fish.” Atlantic salmon restoration efforts include ongoing bridge and culvert replacements to improve salmon passage into tributaries of the river system. This work is complimentary to the exceptional native brook trout fishery for which KAWW is known for.

¹ Katahdin, in the language of the Penobscot Nation, is translated as “Greatest Mountain”