



## Citizen Science



Northeastern University students count barnacles in a rocky intertidal zone at Boston Harbor Islands, a National Park area © Jeremy Long.

### Background

The Northeast Temperate Network (NETN) is responsible for monitoring the health of ecosystems in twelve parks in seven northeastern states and along the Appalachian National Scenic Trail, which stretches over 2000 miles from Maine to Georgia. These parks represent a diversity of landforms and habitats, and are home to a variety of plant and animal species.

In order to track the condition of natural resources in these parks, NETN scientists have chosen 24 “vital signs” to serve as indicators of the overall ecological health of parks in the network. Implementation of a monitoring program of this magnitude can only be accomplished with the help of citizen scientists. Engaging citizen scientists enables the NETN to collect large amounts of monitoring data quickly and affordably, and to involve the public in stewardship of the National Park System.

### Highlights and Accomplishments

University, high school, and middle school students, and interested adults contribute over 1,000 hours a year to NETN monitoring programs. Thanks to these dedicated citizens, NETN scientists and park resource managers are learning more about:

- Population dynamics of common eiders at Boston Harbor Islands
- Abundance and diversity of grassland bird species of conservation concern at Saratoga NHP
- How barnacle recruitment in the intertidal zone is impacted by visitor use at Boston Harbor Islands and Acadia NP
- How climate change impacts songbird migration
- Where to target management to control invasive plant and animal species
- Abundance and diversity of forest salamander populations at Marsh-Billings-Rockefeller NHP, Acadia NP, and Roosevelt-Vanderbilt NHS

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## Status and Future

There are currently six NETN vital signs monitoring protocols being implemented by citizen scientist volunteers. Network staff are working to initiate additional projects, including:

- Appalachian Trail exemplary plant communities
- Appalachian Trail water quality
- Appalachian Trail air quality/visibility
- eBird year-round bird monitoring
- Estuarine nutrient enrichment
- Salt marsh vegetation
- Rocky intertidal communities
- Phenology

These projects will strive to actively engage the public as data collectors in the field and will often involve professional scientists to ensure that the data gathered is meaningful and accurate.

Involving citizen scientists is a smart investment in the future of the NETN and national parks. Programs are designed to increase public awareness and understanding of the study system, the importance of science in general and the role science plays in management of National Parks.

Citizen science monitoring programs also give back. Programs provide opportunities for the public to reconnect with nature, build lasting friendships through shared experience, and experience national parks in a unique, special way.

## More Information

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Links & Resources

Northeast Temperate Network: [www.science.nature.nps.gov/im/units/netn/](http://www.science.nature.nps.gov/im/units/netn/)



From left to right:

Middle school students look for salamanders under coverboards at Marsh-Billings-Rockefeller NHP (NPS photo).

A volunteer records data about an invasive plant species (NPS photo).

Volunteer birders scan Boston Harbor for coastal breeding birds during a boat-based survey of this National Park area © Carol Trocki.

