



# The Appalachian Trail MEGA-Transect

## AT MEGA-Transect Goals:

### Monitor:

Collect and analyze new and existing data on key indicators of environmental health from agencies, organizations, researchers, and citizen scientists.

### Understand:

Transform data into status reports and track trends through analysis, synthesis, and modeling.

### Inform and Engage:

Inform and engage the American public, decision-makers and stakeholder organizations to manage and protect the AT environment, attain the goals of existing natural resources and environmental legislation, and to make sound decisions for positive change.

### Citizen Science:

The AT has been grounded in volunteerism from its founding. Volunteer Trail Clubs collectively contribute nearly 200,000 hours of labor each year maintaining the AT. Additionally, without the help of knowledgeable and enthusiastic volunteers, scientists could never hope to fully investigate and understand the environmental indicators on the Trail's continental scale. Involving volunteers in gathering data for real and meaningful scientific endeavors not only helps to build awareness and outreach, it also provides a means to quickly collect large amounts of data at limited costs.

### Cooperators:

- Fred Dieffenbach, Environmental Monitoring Coordinator, Appalachian National Scenic Trail/Northeast Temperate Network;
- Laura Belleville, Regional Director, Appalachian Trail Conservancy; and
- Don Owen, Environmental Protection Specialist, Appalachian National Scenic Trail.
- Additional cooperators include representatives from U.S. Geological Service, U.S. Forest Service, Cornell University, University of Tennessee and Foundations for Success.

## AT Vital Signs:

### Forest Health:

Tracking trends in the increase or decrease of forested lands is important because of the scenic and ecological services these forests provide, and because of the economic importance of forests for communities.

### Invasive Plants:

The impacts of invasive species are significant and growing. Each year existing infestations become larger, new infestations are discovered, and new invasive exotic species enter the Appalachian region. In New England alone, more than 100 plant species are listed as potentially invasive by the Invasive Plant Atlas of New England.

### Rare, Threatened & Endangered Species:

A.T. lands support populations of nine federally-listed and 360 state-listed species of plants and animals. Perhaps most impressively, the A.T. also harbors more than 80 globally rare species.

### Water:

Monitoring AT headwaters will allow for the assessment of water quality before it moves down through the watershed. This will provide a clearer picture of the impacts of air pollution on water resources than possible by monitoring lower in the watersheds.

### Air:

In addition to reducing the visibility of AT vistas, the air-borne pollutants associated with bad air quality are impacting various species of trees and plants, acidifying streams and lakes, and leaching nutrients out of the soil.

