

## **Briefing Statement**

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**Bureau:** National Park Service  
**Issue:** All Taxa Biodiversity Inventory  
**Park Site:** Great Smoky Mountains National Park  
**Date:** January 25, 2005

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### **Background:**

Containing an estimated 100,000 species, Great Smoky Mountains National Park is America's most biologically diverse national park area and one of the most diverse areas of its size in the temperate zone. However, despite nearly 75 years of NPS management, only about 8,000 of these species had been inventoried and very little is known about the remaining 90,000 species. This leaves many management questions unanswered about the Park's 1) species, 2) habitats, and 3) ecological processes which are critical for its protection. In addition to this information void, a variety of threats, including a series of exotic invaders such as the Hemlock Woolly Adelgid and the worst air quality in the National Park System, makes the Smokies ecosystem one of the nation's most threatened. In December 1997 the Park initiated the world's first All Taxa Biodiversity Inventory (ATBI). In essence, an ATBI is an intensive effort to inventory all species in a defined geographic area in a short period of time. This type of project takes advantage of efficiencies by concurrently sampling many groups of organisms, unites teams of taxonomists by using common protocols, and utilizes educational groups and citizen volunteers by integrating them into both field and laboratory projects. Also, an ATBI involves presenting many types of data for each species, including cartographic and photographic, to the widest possible audience via the World Wide Web. The focus of an ATBI is:

- 1) reserve protection and science-based management;
- 2) achieving previously unattainable levels of scientific understanding in ecology, taxonomy and conservation biology;
- 3) providing educational experiences that contribute to *real* science, including a "ladder" of progressive involvement of youth with a serious career interest in field science.

Through 2004, a total of 3,353 species have been identified for the first time in the Smokies and an additional 539 species have been found that have never before been identified by scientists.

### **Current Status:**

One of the most pressing needs for the ATBI – more and better facilities - is currently being addressed. The new Appalachian Highlands Science Learning Center is currently undergoing renovation and the construction of a new main science lab at Twin Creeks is in the final planning stage. These facilities will go far to provide critically needed work and lodging space for visiting scientists – most of whom are unpaid and do not even get reimbursed. The main

lab will also house crucial curatorial space for the reference collections of specimens, and unified data management facilities.

From an operational standpoint virtually all of the approximately \$150,000 annual budget to cover coordination expenses and the cost of mini-grants to get the various scientists to the Smokies has come from donations from the Friends of the Smokies and from the park's cooperating association. In FY 2005 a \$200,000 base increase became available to help expand each year's research and speed progress towards completion of the Inventory.

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