



Sustainable Rural Development & Biodiversity Information in Southern Appalachia, USA



Little Pigeon River

Southern Appalachian Region

One of the most biologically diverse areas in the United States, the Southern Appalachian region lies in the eastern United States. It is home to unique natural treasures, including a large number of amphibians, reptiles, flowers, and other animal and herbaceous species. It is also home to a growing human population, whose history is steeped in traditions derived from generations of isolation in the mountains; including a strong work ethic, emphasis on family values, and self-reliance. While small urban centers in the area are expanding to improve economies in this historically economically depressed region, they are encroaching upon the rural landscape. Economic development and biodiversity preservation pose increasingly competing priorities.

The Southern Appalachian Information Node (SAIN), a component of the National Biological Information Infrastructure (NBII), is a consortium of public and private partners who

National Parks

In addition to the Great Smoky Mountains National Park, Shenandoah Park is another important park in Southern Appalachia. It has trails that lead to groves of 300-year-old hemlocks and 400-year-old white oaks. The forest provides habitat for an equally impressive display of wildlife, including black bears, northern flying squirrels, and an uncommon variety of salamanders.

work together to provide web-based access to regional information resources, data, experts, maps, and educational tools. In this way, SAIN tries to ensure that any development or use of the area is approached in a thoughtful and informed way, and does not disrupt the essence of human life in Appalachia or compromise the region's biodiversity. SAIN provides government, businesses, and non-profit organizations "one-stop" access to information which can be used in decisions about management, use, and conservation of resources.

Biodiversity Corridors

The Appalachian mountain chain stretches from Georgia to Maine (over 2000 miles) dissecting areas high in bio-diversity as well as metropolitan areas. Because of unique growing conditions in the varying altitudes of North Carolina and Tennessee, the Great Smoky Mountain National Park contains the highest diversity of plant life that is found in the whole of the Appalachian chain. This beautiful park enjoys its distinction of having the highest visitation rates in the U.S. park system, but its status as the most highly polluted park gives cause for great concern. Views in the park that once stretched across 90 miles have been cut to 15 or 20 miles by haze. This haze and smog threaten

biota, human health, and the continued viability of industries based on recreational activities, cultural learning, and biodiversity. To understand how to balance this degree of biodiversity with growth, SAIN has

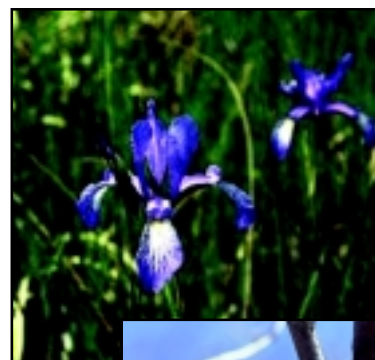
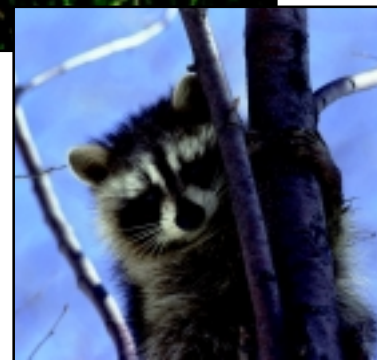


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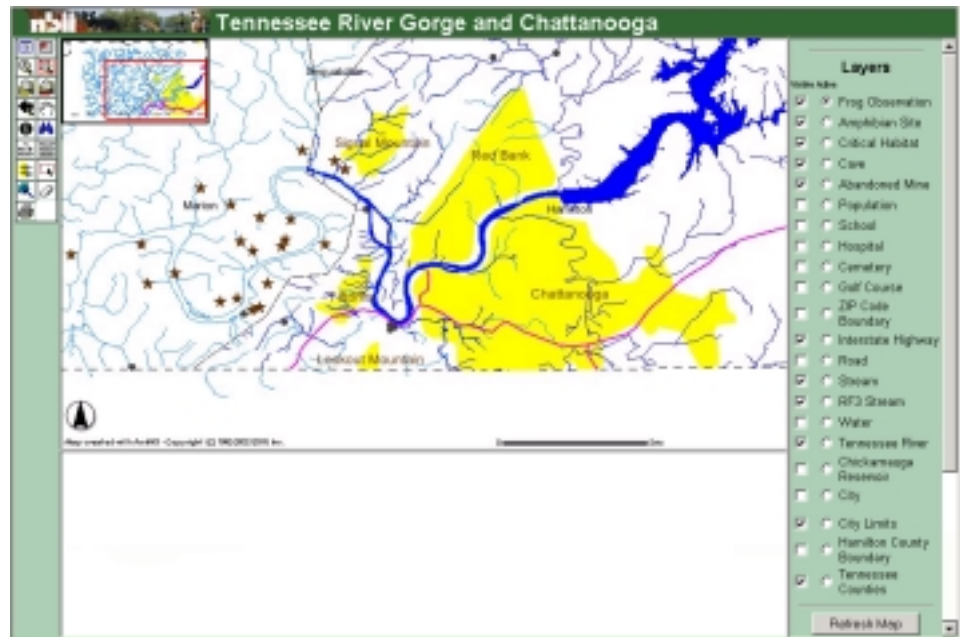


partnered with researchers at the Oak Ridge National Laboratory to study how the landscape and spatial patterns of species movements are related to corridors which are created by natural habitat features and man's impact on the environment.

Encouraging Sustainable Rural Development through Partnerships

The overriding strategy of SAIN is to develop local partnerships with the neighboring national research institute, federal agencies, universities, municipal government, and schools, as well as private and non-profit organizations. The result is that SAIN is a unique distributed information source for integrated scientific information including biological data, socio-economic data, and other relevant information created and coordinated in the region. Partners provide SAIN with information needed to develop clean environment and growth policies that will sustain the southeast's environmental and economic viability. In total, SAIN has more than 25 partners that contribute information and resources, combining multi-agency information and regional resources to improve productivity, resource management, and sustainable development.

Through direct and indirect partnerships, SAIN's reach extends to include a variety of stakeholders. For example, the Southern Appalachian Man and the Biosphere program (SAMAB), with the goal to "promote the achievement of a sustainable balance between the conservation of biological diversity, compatible economic uses, and cultural values across the southern Appalachians," is working with the USDA Resource Conservation and Development Councils—key rural development facilitators in the southern Appalachians—to help rural Tennessee and North Carolina communities collect data about their environment. This data can be used to



SAIN provides an interactive map service (IMS) that allows a user to view, zoom-in and zoom-out of geographically referenced data and download specific information about different map layers within the SAIN region.

plan and guide appropriate development. For example, in a partnership with a rural North Carolina citizens' watershed association, SAIN is delivering watershed health information through its web-based maps. This information includes data collected on fish species and abundance, macro-invertebrates, water quality, and invasive plant species. This information has already been applied to the community's development and growth strategies. In this way, sustainable rural development in Appalachia is approached by individual stakeholders who form a network across the region. Economic, social, and environmental concerns can be addressed together through this network of direct and indirect partnerships.

SAIN Partners

The University of Tennessee at Knoxville and Chattanooga, the Oak Ridge National Laboratory, Southern Appalachian Man and the Biosphere Program, Tennessee River Gorge Trust, Information International Associates, Inc., and more than two dozen other partners are working to develop SAIN for the region.

For More Information

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Find us on the Web at:
<<http://sain.nbii.gov>>.

Economy of Tourism

The region's economic fortunes were based in the past mostly on extraction of natural resources and manufacturing. Currently, the modern economy of the region is gradually diversifying, with a heavier emphasis on services and widespread development of tourism, especially in more remote areas where there is no other viable industry.