

**Comments on the Proposed Revision of Land Management Plans for the
Nantahala and Pisgah National Forests**

**Submitted by
American Geosciences Institute**

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To the Nantahala and Pisgah Plan Revision Team

April 28, 2014

Thank you for this opportunity to provide the American Geosciences Institute's (AGI) perspective on the proposal to revise the Land Management Plan (LMP) for the Nantahala and Pisgah National Forests. This is an important revision in terms of the conclusions that it may reach and also in terms of the template that it may set for future LMP revisions. We urge you to consider the many attributes of these magnificent National Forest lands that are directly linked to the geology of the area and to explore opportunities for education, outdoor activities, and economic development based on the geological richness of the area.

AGI is a nonprofit federation of 49 geoscientific and professional associations that represent approximately 250,000 geologists, geophysicists, and other earth scientists who work in industry, academia, and government. Founded in 1948, AGI provides information services to geoscientists, serves as a voice of shared interests in our profession, plays a major role in strengthening geoscience education, and strives to increase public awareness of the vital role the geosciences play in society's use of resources, resilience to natural hazards, and the health of the environment.

The topography of the Appalachian Mountains, and thus the scenic wonder of the Nantahala and Pisgah National Forests, is the product of eons of Earth history. Today's landscape gives us the double benefit of spectacular scenery combined with a view into the history of the Earth as revealed in the rocks. The geological character of the area also strongly influences the nature and resilience of local ecosystems. The rocks truly are the backbone of the topography and ecosystems of the Nantahala and Pisgah National Forests.

Geology is an essential component in any holistic appraisal of the area. It is worthy of detailed consideration on its own merits, and also as a vital component of the region's ecological framework, and as a source of physical, economic, and educational well-being. Please ensure that geologic maps are an essential baseline datapoint for your revision of the LMP and that showcasing and explaining the geology and geological history of the National Forests are among the featured outputs from the LMP.

We commend the Supplemental Reports that have been prepared on Geologic Resources, Geologic Hazards Assessment, Energy and Minerals Assessment, and Climate Change. We are concerned, however, with the limited scope of the topics mentioned in the section on "Geology, Minerals, and Energy," items 8-11 in the document "Revising the Nantahala and Pisgah Land Management Plan – Preliminary Need to Change Existing Land Management Plan," dated March 4, 2014.

Items 8-11 address aspects of geologic resources, geologic hazards, Earth resources, transmission lines, and renewable energy production. These issues all require careful consideration. We respectfully suggest that there may be additional, positive facets to the geology and geological resources in the National Forests that should be included in your scoping.

Following decades of ecosystem research, we now appreciate the importance of the chemistry, structure, and mechanical properties of the underlying rocks and soils to biological systems. Biological, human, and Earth systems are inextricably linked. The geological nature of the area must be included in the integrated assessments and debates that inform the LMP.

The geology of the area provides more opportunities for public engagement in the outdoors than recreational metal detecting, mineral collection, and gold panning. We ask you to consider the educational and economic benefits of geological field trips. Exploring Earth's history broadens participants' understanding of the Earth and the interconnections between the structure and composition of the Earth and present-day landscapes and ecology. Field trips also bring the sheer joy and delight of being outdoors and in touch with nature. There is increasing demand for accredited geological field camps and this may be an appropriate use for National Forest land. Geology provides a gateway for educational and recreational appreciation of the National Forests.

Geologic hazards are a cause for concern, most particularly when they result in risk to people, and they must be factored into the LMP. Once the hazards have been mitigated to the extent possible, some features can be turned to advantage. Areas with acid rock drainage can be vulnerable to landslides, as mentioned in the Supplemental Report, but they can also host unique ecosystems including microbial communities that may be of economic as well as ecological interest.

The Energy and Minerals Assessment notes that the National Forests may include resources of minerals that are used in clean energy, defense, and other applications. The list of critical minerals changes constantly in response to changes in technology, supply, demand, and

geopolitics. The LMP should be designed to accommodate changes in the materials that are deemed to be critical to the economy or the nation.

The quality and quantity of water supplies is a concern in many areas. Care should be taken to monitor and preserve the water resources of the Nantahala and Pisgah National Forests.

In conclusion, we suggest that geologic information is a crucial element in the integrated assessments of the Nantahala and Pisgah National Forests that you are undertaking, and that geological resources can be the foundation for increased personal and regional well-being.

Thank you for the opportunity to present these comments to the Revision Team. If you would like any additional information, please contact Maeve Boland at 703-379-2480, ext. 228 voice, 703-379-7563 fax, mboland@agiweb.org, or 4220 King Street, Alexandria VA 22302-1502.