

*This developing plan content is under construction and is being shared as a snapshot of thinking. Additional changes based on Forest Service and public input are expected.*

## Mineral and Energy Resources

### Background

*The use of mineral and energy resources obtained from the forest is a provisioning ecosystem service, and is part of the Forest Service's multiple use mission.*

*The Forest Service has the authority and responsibility to manage federal mineral materials. Mineral materials include aggregate, rip rap, gabion rock, building stone, landscaping rock, and other rock or earthen construction materials. The Forest uses mineral materials to construct and maintain roads, develop recreation sites, trailheads, aquatic passages, watershed protection, and restoration projects. The Forest's mineral materials resources are also in demand for public work projects and rural economic development. The Forest can provide mineral materials to the public for non-commercial use.*

*Federal leasable minerals on acquired lands include hardrock minerals (such as precious metals, base metals, and non-metallic minerals) and energy resources (such as geothermal, natural gas, and oil). The Forest's primary potential is for hardrock minerals. The Forest has a Bureau of Land Management (BLM) hardrock mineral lease for olivine in Clay County. Among National Forests east of the Mississippi, the Nantahala and Pisgah are endowed with a unique and rich diversity of mineral occurrences unmatched by other eastern National Forests. The Forest's mineral potential includes rare earth elements and other minerals required for climate change mitigation.*

### Desired Conditions

- The Forest's mineral materials resources (e.g. aggregate, rip rap, gabion rock, building stone, landscaping rock) support building and maintaining trails, roads, campgrounds, and watershed improvement projects; controlling erosion and sedimentation; restoring riparian and aquatic habitat; preventing or repairing flood damage; sustaining Forest infrastructure; and meeting public use demand and other governmental agency needs.
- Opportunities are provided for minerals and energy production in an environmentally sound manner to meet current and future needs.
- Reclamation maintains or enhances other forest resources.
- Abandoned mine lands are reclaimed to provide for public safety and to minimize impacts to cultural and natural resources.
- Opportunities for rockhounding and other types of non-commercial mineral collecting (e.g. for recreational, scientific, or educational purposes) are available and managed to protect natural resources and public health and safety.
- Renewable energy opportunities are considered, such as biomass, firewood, hydropower, geothermal, wind, solar.

**Standards: Federal leasable minerals**

- When providing consent to BLM for leasable mineral exploration or development, the consent shall include any requirements for environmental protection.
- Staged reclamation shall be accomplished at each stage of mineral activity.
- Commercial removal of leasable minerals on acquired lands requires a mineral lease from the Bureau of Land Management. All federal lands on the Nantahala & Pisgah National Forests are acquired lands.
- Consider federal leasable mineral management when developing FS surface resource management activities (including projects, designations, grants and agreements, special uses, recovery plans, restoration plans, research projects, and interagency agreements), and coordinate with BLM where needed.

**Standards: Forest Service managed mineral materials**

- The selection, design and development of Forest aggregate sources and the use of aggregate from Forest and private sources on Forest roads should meet federal standards for airborne asbestos.

**Standards: Rockhounding and other non-commercial mineral collection**

- See Recreation: Opportunities.

**Standards: Reserved and Outstanding Mineral Rights**

- The location of proposed management activities shall be screened for the presence of reserved or outstanding mineral rights.

**Management Approaches**

- Plans of operations and reclamation should include a schedule of activities; an estimate of the amount of material to be removed; measures for stabilizing soil, protecting water quality, restoring vegetation, protecting visual quality, and protecting Native American sites and other cultural resources.
- A pit development plan should be prepared for large or multiple-entry aggregate sources to insure efficient use of aggregate resources and avoid adverse environmental effects.