

## Research

The Upper Greenbrier Watershed has two areas with a strong connection to past or potential forest research. Both have 8.5 Special Area management direction in the Forest Plan. These areas are the Loop Road Research Area (800 acres), and the Red Spruce Candidate Research Natural Area (60 acres). They are described below.

### Loop Road Research Area

#### Reference and Current Conditions

The Loop Road Research Area is an area that has been historically managed by the Fernow Experimental Forest. This 800-acre area on the Greenbrier Ranger District on Middle Mountain is managed by the Experimental Forest staff for conducting research studies related to the management of Appalachian timber types, specifically growth and yield studies of managed and unmanaged stands. A study started in 1981, for example, is designed to test different levels of thinning on stand development. Another study begun in 1997 is investigating the effects of harvest and acid deposition on hardwood forests. The current management strategy in this area is to have the Fernow continue its long-term studies without any additional Forest-related disturbance. Additional research studies may be appropriate, but would be coordinated through and conducted by the Experimental Forest staff.

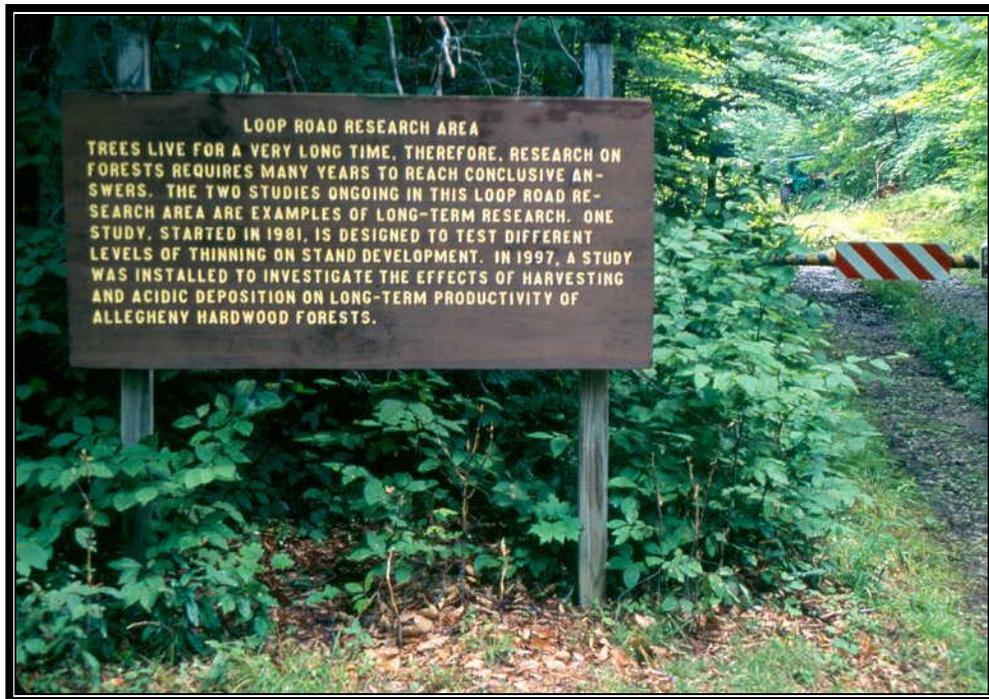


Figure RS-1. Loop Road Research Area

## **Desired Conditions**

The Fernow Experimental Forest supports an active research program that includes both long-term and short-term experiments, and research that is manipulative as well as observational in nature. The research program addresses research needs of a wide variety of clients. Ongoing, long-term research is continued and opportunities for new research are available (Forest Plan, p. III-64).

## **Red Spruce Candidate Research Natural Area**

### **Reference and Current Conditions**

Roughly 20 acres of this 60-acre Candidate Research Natural Area (CNRA) lie within the Upper Greenbrier Watershed, in the West Fork Greenbrier River subwatershed. The remaining acreage drains into the Shavers Fork of the Cheat River. The area is at 4000 to 4200 feet in elevation. It was logged in the early 1900s, and it has since returned to a predominantly red spruce forest. Portions of the area also have yellow birch, beech, and sugar maple, with mountain holly, shield fern, mountain laurel, and mosses in the understory. The area is habitat for the endangered West Virginia northern flying squirrel (proposed for de-listing), and the federally listed Cheat Mountain salamander may be found here as well.

The Monongahela National Forest recommended this area as a Research Natural Area in 1987 in order to preserve the red spruce forest cover type (SAF 32). The Forest protected the area with an 8.0 CRNA Management Prescription in the 1986 Forest Plan. This status was carried forward into the revised 2006 Forest Plan as an 8.5 CRNA.

Ecologically, this area appears to be slowly moving toward conditions that will likely be similar to presettlement: stands dominated by red spruce, with northern hardwood inclusions and an increasing uneven-aged structure featuring large trees, large down wood, gaps, and patches of regeneration. Therefore, there is no identified need for management at this time.

### **Desired Conditions**

As an 8.0 Special Area, the plantation has the following general desired conditions (Forest Plan, p. III-49): “Special Areas retain the values and qualities for which they were originally designated. Areas contribute to the diversity of the Forest by preserving rare species, communities, habitats, and features. These areas also provide opportunities for scientific research and public enjoyment.”

As an 8.5 Candidate Research Natural Area, the plantation also has the following management goal (Forest Plan, p. III-62): “Maintain designated cover types for research purposes.”