



KASKASKIA EXPERIMENTAL FOREST

Golconda, Illinois



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The 1,150 acre (466 ha) Kaskaskia Experimental Forest in southern Illinois was originally established on the Shawnee National Forest in 1942. In 1948, forty compartments were established on mixed-hardwood and oak-hickory sites to study long-term impacts of commercial-type forest management practices under uneven-age silviculture. These compartments have remained undisturbed since 1972 when active management ended. More than 30 research studies have been conducted within the Kaskaskia including a systematic comparison of harvesting and regeneration methods for central hardwood forests. Only 2 studies remain active, one documenting long-term changes in an old-growth natural area and the other documenting forest regeneration in group openings of differing sizes.



Assets:

Scientists: 3 Northern Research Station scientists are currently maintaining the old-growth study on the Kaskaskia and data from the experimental forest supports research for other Northern Research Station scientists and university collaborators.

Scientific support: 2 full-time technicians and 2 seasonal technicians shared with the Sinkin and Paoli Experimental Forests support the work of these scientists.

Cooperators: Southern Illinois University, Shawnee National Forest, Illinois Department of Natural Resources, University of Arkansas-Fayetteville, Auburn University.

Needs:

Annual operating costs: \$142,000 shared with the Sinkin (MO) and Paoli (IN) Experimental Forests.

Long-term needs:

- Additional technician for data collection and a data manager shared with the Sinkin and the Paoli Experimental Forests - \$90,000/yr
- Operating funding to facilitate cooperative research - \$50,000

The Kaskaskia Experimental Forest is administered by:

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202 Natural Resources Building, University of Missouri
Columbia, Missouri 65211
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Key Contact:

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More About the Kaskaskia Experimental Forest

Location: Lat. 37°32' N, long. 88°21' W

The nearest town is Golconda, IL. Neighboring towns include Glendale, Simpson, Robbs, and Elizabethtown.

Vegetation: About 40 percent of the Kaskaskia Experimental Forest is composed of mixed-hardwood forests found on the lower and middle north and east slopes. Coves and stream bottoms are dominated by yellow-poplar, northern red oak, white oak, black oak, several hickory species, black gum, elm, American beech, and maples. About 50 percent of the area is of the oak-hickory type found along south- and upper north-facing slopes and on the ridge tops dominated by black, white, post, scarlet, southern red, and black jack oak, and a mix of hickories. There is also a small disjunct stand of chestnut oak.

Climate: The average length of the growing season (frost-free period) is 190 days. Annual average temperature is 55 °F (13 °C) and regional annual rainfall is 44 inches (1,098 mm) distributed equally throughout the year. However, prolonged dry periods during the growing seasons are not unusual. Average annual snowfall is 10 inches (25 cm). On average, winter minimum temperature is 39 °F (4 °C), and winter maximum temperature is 45° F (7 °C). Summer average minimum temperature is 64°F (18 °C) and maximum summer temperature is 86 °F (30 °C).

Research—past and present: Past studies on the Kaskaskia EF include a compartment study with 40 plots treated with various cutting methods, cutting cycles, rotation lengths, and management intensities using uneven-age silviculture. Additional research has been conducted on conversion of farm woodlands to managed forests, chestnut, and cottonwood provenance progeny tests, regeneration and growth following small group-selection cutting, and documenting natural succession on upland oak-hickory forests. Of the 2 studies that remain active, one documents long-term changes in a 20-acre (8-ha) old-growth natural area (Kaskaskia Woods). The other active study documents forest regeneration in group openings of differing sizes.

Research opportunities: The compartment study provides an opportunity to evaluate long-term changes in vegetation subjected to a range of cutting methods and cycles to implement an uneven-age silvicultural system. Most areas on the Kaskaskia are available for cooperative research, subject to approval by the Northern Research Station and the Shawnee National Forest.

Facilities: No buildings are being maintained on the Kaskaskia.

More information can be found at: <http://www.nrs.fs.fed.us/ef/locations/il/kaskaskia/>

