



A Road Map for Kansas Forests, Woodlands, and Windbreaks



Kansas Forest Action Plan

Kansas forests are critical to public health and well-being. They provide clean air and water. Woodlands and windbreaks are peaceful places to recreate where families can enjoy wildlife and nature.

Kansas forests, woodlands, and windbreaks are under threat and need protection from insects, disease, and development. The *Kansas Forest Action Plan* identifies priority issues, landscapes, and strategies that protect forests, woodlands, and windbreaks. The plan addresses problems before they arrive and reflects experts' best thinking. The *Kansas Forest Action Plan* targets resources efficiently by setting out a clear plan to cooperating organizations and funding agencies.

Broad public input was used to identify the following key issues facing Kansas forests:

- Lessen threats to forest health
- Minimizing wildfire risk
- Reducing loss of forestland
- Increasing water quality and quantity
- Improving biodiversity and wildlife habitat
- Sustaining forest and agroforestry ecosystems
- Creating jobs and promoting economic benefits of woodlands

Kansas Forest Resources

Kansas forests form the western boundary of the central hardwood forests of the United States. Trees cover 5.5 million acres of Kansas, about 10 percent of the land area. Oak-hickory is the predominant forest type followed by elm/ash/cottonwood.

Ninety-five percent of Kansas forests are privately owned and are as important to our state infrastructure as roads and bridges. Kansas windbreaks and shelterbelts are an important part of the 2.9 million acres of agroforestry resources. Offering protection to 1.2 million acres of crop and grassland, if placed end to end, these windbreaks would stretch 43,436 miles. Streamside forests also are an important component of Kansas agroforestry resources providing natural buffers between crop fields and streams. An economic analysis in the Tuttle Creek Reservoir Watershed suggests that stream bank stabilization with riparian forest buffers can save \$42 million in annual dredging costs and prolong water supplies from federal reservoirs.

Kansas urban forests include more than 33 million trees, which provide canopy cover to 14 percent of the area of our towns and cities. These trees store 16.3 million tons of carbon dioxide with a value of \$91.9 million and reduce energy costs by \$19.7 million annually.

Type of Forest	Coverage in Kansas	Description
Forestland (USFS Forest Inventory and Analysis)	2.5 million acres	Groupings of trees located in rural areas greater than an acre in size and wider than 120 feet with stocking coverage greater than 10 percent.
Agroforestry (windbreaks and stream side forests)	2.9 million acres	Windbreaks, shelterbelts, streamside forests, and isolated trees located in rural areas that are either less than 120 feet wide, less than an acre in size, or less than 10 percent stocking coverage.
Urban and Community Forests	33,141,000 trees providing cover to 14 percent of the total area of Kansas communities	Trees, both within and outside forested stands, which occur within urban and community areas.

Kansas Forest Action Plan

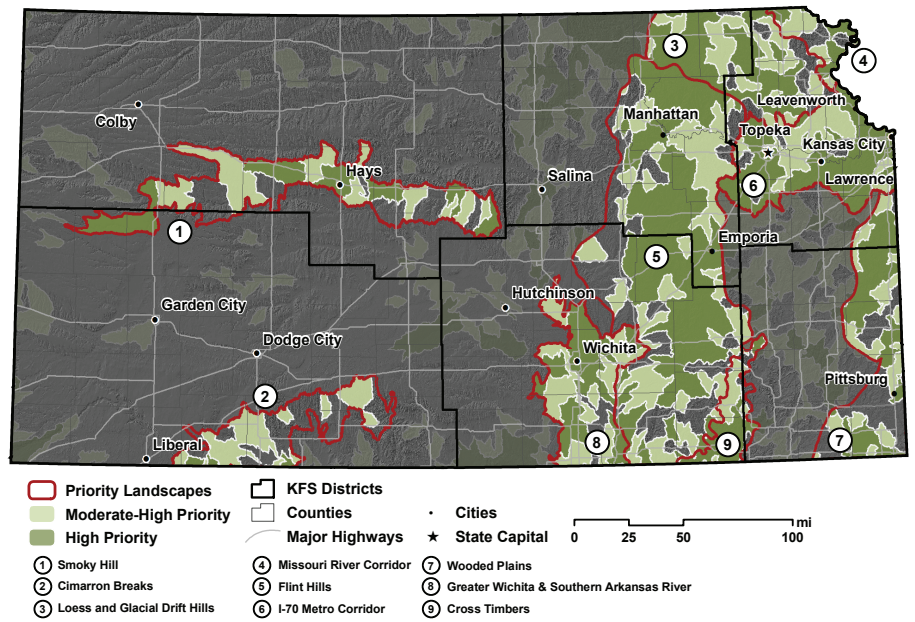
Issues	Concerns	Strategies
Lessen Threats to Forest Health	Climate change. Emerald ash borer, thousand cankers, and pine wilt. Invasive species.	Work with the Kansas Department of Agriculture to dispose of infected trees in quarantined areas. Update emerald ash borer readiness plans. Inventory pine, walnut, and ash to help communities assess potential removal and replacement costs. Establish a pest detectors program. Continue public and professional education. Continue trapping emerald ash borer and monitoring black walnut. Control tamarisk, Russian olive, and amur honeysuckle. Appoint a woody invasive species committee.
Minimizing Wildfire Risk	Woody encroachment into grasslands. Overgrowth of eastern redcedar where urban and rural areas meet. Lack of data about fires. Fire fighting response times.	Identify areas with increases in eastern redcedar and other woody species. Encourage the adoption of Community Wildfire Protection Plans and Firewise. Develop firefighting educational programs. Use prescribed fire for prairie management and wildfire prevention. Work with rural fire departments and Kansas State Fire Marshal to improve fire occurrence data. Improve prescribed fire weather alert network.
Reducing Loss of Forestland	Conversion to urban or agricultural uses. Loss of stream side and other forestlands. Water quality.	Communicate the value of Kansas forests and identify priority forest areas. Integrate tree ordinances and green infrastructure strategies into land use, parks, transportation, and watershed plans. Integrate trees into watershed management, erosion control, and energy conservation. Develop a wetland and riparian area protection program using conservation easements.
Increasing Water Quality and Quantity	Reduced water supply associated with sedimentation of federal reservoirs. Reducing cropland runoff and stream bank erosion. Compliance with governmental pollution regulations.	Use Watershed Restoration and Protection Strategy (WRAPS) groups in priority watersheds to guide protection, management, and establishment of riparian forests. Classify riparian forest conditions with remote sensing, GIS, and forest inventory. Implement Best Management Practices (BMPs) in targeted watersheds. Protect and establish stream side forests to address reservoir sedimentation.
Improving Biodiversity and Wildlife Habitat	Loss of habitat for species in need of conservation. Loss of biodiversity to invasive species.	Conserve riparian forest and shrub habitat for priority species (eastern spotted skunk, spring peeper, red bellied snake, broadhead skink) in priority areas. Actively manage forests in priority areas to sustain or increase populations of rare, threatened, or endangered birds, mammals, reptiles, amphibians, and insects.
Sustaining Forest and Agroforestry Ecosystems	Lack of active management. Declining function and health of windbreaks, community forests, and forestlands.	Promote the adoption and renovation of windbreaks. Inventory urban and community forests to target hazardous trees for removal, mitigate future hazards, and identify planting priorities. Train new urban and rural forestry professionals. Develop new biomass markets for nonmarketable material. Target areas for cottonwood and oak regeneration.
Creating Jobs and Economic Benefits of Woodlands	Lack of infrastructure to sell, supply, and process local wood. Lack of markets for lower-quality species.	Target public boiler systems 40 years old or older for conversion to woody biomass. Increase the quality of inventory data to provide information necessary to attract forest industry. Increase governmental and business support for utilization of eastern redcedar biomass.

Kansas Forest Action Plan Priority Landscapes

After identifying seven key issues facing Kansas forests, woodlands, and windbreaks, it was necessary to determine where to focus strategies and best use resources. This was accomplished by collecting information from more than 36 different categories associated with the issues.

Each issue includes a composite of multiple sources of information. For example, the issue of water quality and quantity included locations of watersheds, reservoirs, streams, and rivers with the highest levels of pollution and sediment.

Each issue was prioritized by stakeholders. To create the priority landscape map, information about each issue was consolidated into a map identifying high-priority and moderately



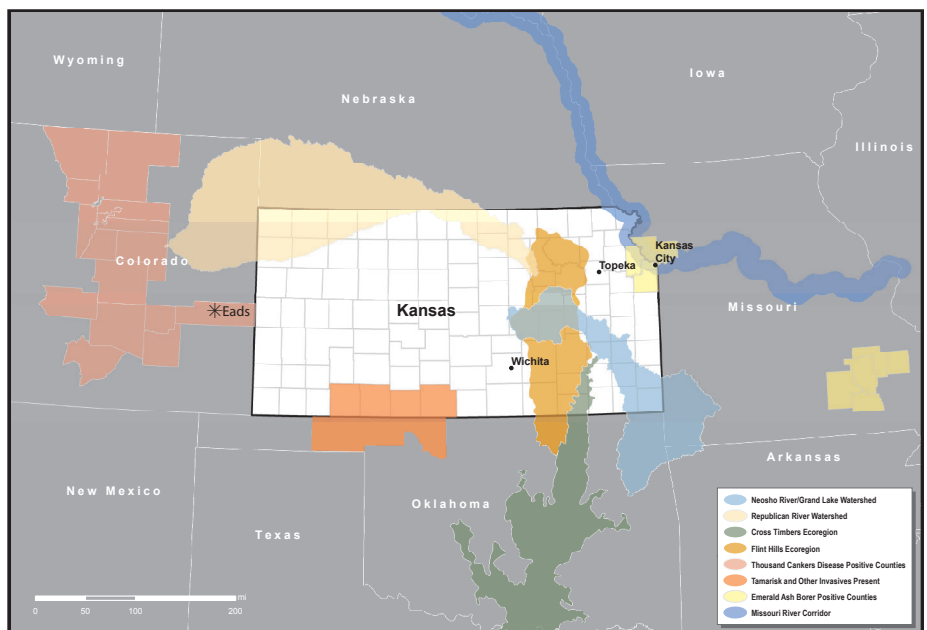
high priority areas included in nine priority landscapes. These priority landscapes are the focus of technical services and financial assistance.

Multi-state or Regional Issues Identified by the Kansas Forest Service

Natural resource issues are not confined to jurisdictional boundaries. It is efficient and effective to collaborate on shared, multistate issues.

With assistance from stakeholders, seven multistate and regional issues and priority areas were identified. For example, the Flint Hills priority area has the potential to create strong partnerships across Kansas and Oklahoma to minimize wildfire risk, reduce woody encroachment, and improve habitat for rare upland game birds whose populations have declined.

Potential for the development of prescribed fire cooperatives, smoke management strategies, and other initiatives can be accomplished through regional planning.



Key Messages about Kansas Forests, Woodlands, and Windbreaks

- 1. Kansas Forests, woodlands, and windbreaks are critical to public health and well-being.**
 - a. They filter air and water.
 - b. Forests, woodlands, and windbreaks near homes are peaceful places for recreation, which families can enjoy now and in the future.
 - c. They are places our children and grandchildren can enjoy nature.
- 2. Forests, Woodlands, and Windbreaks are under threat and need our protection.**
 - a. Insects, disease, and risk of fire threaten 5.5 million acres of forests, woodlands, and windbreaks. If we do not act soon to protect forests, they could be damaged forever.
 - b. Healthy forests, woodlands, and windbreaks are as important to our infrastructure as roads and bridges. The jobs and products they produce are worth protecting.
 - c. Most forests, woodlands, and windbreaks are owned by families (95 percent in Kansas) not the government. They are at risk of development and landowners need help from forestry professionals.
- 3. The Kansas Forest Service at Kansas State University provides the right solutions to these critical problems.**
 - a. Through the Kansas Forest Action Plan (www.kansasforests.org/about/about.shtml) the Kansas Forest Service addresses problems before they arise based on broad public input and experts' best thinking. The plan targets resources efficiently, especially in these tough economic times.
 - b. Since 1887 the Kansas Forest Service has been carrying out the legislative mandate to protect and manage the forest, woodlands, and windbreak resources of Kansas and the prevention and suppression of wildfires.
- 4. The Kansas Forest Service at Kansas State University does not have adequate state financial support to carry out its mission.**
 - a. In 2015, total state funding was \$365,560, which was 13 percent of its total budget, the most poorly funded and staffed state forestry agency in the nation.
 - b. Federal sources fund 74 percent of the agency's total budget; the U.S. Forest Service alone provides 63 percent.
 - c. The mission and existence of the Kansas Forest Service is extremely vulnerable to federal priorities and funding.

A copy of the *Kansas Forest Action Plan* is available at www.kansasforests.org/about/about.shtml. A hard copy of the plan, GIS data, or additional information may be obtained by contacting Robert L. Atchison, 785-532-3310 or by e-mail at atchison@ksu.edu.



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