



Kansas Biological Survey

Above, Field Station staff have cut invading red cedars and are burning piles of cut trees in the prairie area being restored.

Why are we cutting trees here? In this area of the Rockefeller Tract, trees and shrubs—most of them native to this region—invaded the prairie landscape. They outcompete prairie plants by shading them, and by taking water and nutrients. Removing trees gives the prairie plants a chance to grow. This is part of our effort to protect restored prairie areas that serve as a buffer to the Rockefeller Native Prairie remnant. These practices help us maintain the prairie landscape; prairies used to cover 95 percent of this area but now are rare (less than 1 percent of the original prairie remains).

There are two practices used to protect and enhance ecosystems:

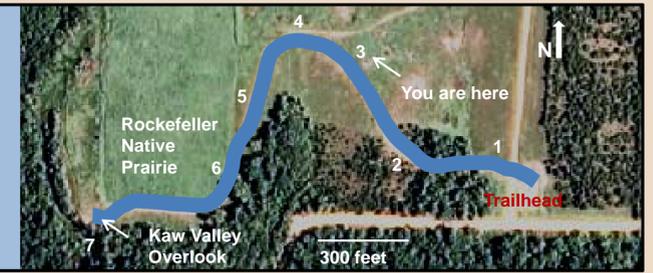
- **conservation**, which seeks to preserve remaining ecosystems;
- **restoration**, which seeks to rehabilitate damaged or destroyed ecosystems.

Are we truly able to “restore” prairies? Not exactly. Some plants are good colonizers. Others are difficult to grow because they require native soil conditions and have complex relationships with other plants, animals and soil microbes. Restoration can take decades, and in some cases, it’s not possible to restore severely damaged systems.

Remember: Conserving and restoring ecosystems requires planning and action.

Rockefeller Prairie Trail stations

- 1 The Rockefeller Prairie experiment
- 2 Red cedar ecology
- 3 Conservation and prairie restoration
- 4 Fire and native communities
- 5 The Rockefeller Native Prairie
- 6 Soil erosion
- 7 The changing landscape



Restoring prairie habitat on the Rockefeller Tract

In this area of the Rockefeller Tract, we are taking major steps toward prairie restoration:

- removing trees that have invaded a prairie area;
- using the Rockefeller Native Prairie as a seed source for re-establishing plants;
- controlling exotic (alien) species;
- managing the habitat through burning and mowing.

The aerial photographs below show the southern part of the site before (2003) and after (2010) tree removal. Note the reduction in tree canopy around the Rockefeller Native Prairie (A) and in the untreated area (B). Trees could not invade in the mowed tract (C).



How does the prairie come back?

1. Seeds. If prairie plants are not present, they must colonize from seed. Seed can come from a nearby source, such as the Rockefeller Native Prairie. Some seeds are windblown and disperse great distances. Others are heavier and transported by other means, such as animals. If there is not a nearby seed source for natural dispersal, seeds can be harvested and planted by people.

2. Control of alien or exotic species. These species are plants or animals not native to an area. They can invade habitats, disrupting ecosystems and causing loss of indigenous species. Notable alien invasives include: European starling, house sparrow, common carp, zebra mussel, Asian beetle, musk thistle and kudzu. Exotic plants of greatest concern in our restoration include two cool-season grasses—smooth brome and fescue—which are both commonly used in agriculture and landscaping. A relatively new pest species here is sericea lespedeza (right), which can become so abundant that it eliminates many prairie plants.

3. Habitat management. Native prairie plants are adapted to fire, so periodic burning is used to encourage prairie plants and kill trees and shrubs. Mowing also helps control trees. Without management, the trees would invade again.



Photos: Kansas Biological Survey