



*Running buffalo clover once grew on the edge between forest and prairie.*



Photo by U.S. Fish & Wildlife Service; Sarena Selbo

## Running buffalo clover

### *Trifolium stoloniferum*

Running buffalo clover is a federally *endangered species*. Endangered species are animals and plants that are in danger of becoming extinct. *Threatened species* are animals and plants that are likely to become endangered in the foreseeable future. Identifying, protecting, and restoring endangered and threatened species is the primary objective of the U.S. Fish and Wildlife Service's endangered species program.

**Appearance** - Running buffalo clover is a perennial species with leaves divided into three leaflets. It is called *running* buffalo clover because it produces *runners* (i.e., stolons) that extend from the base of erect stems and run along the surface of the ground. These *runners* are capable of rooting at nodes and expanding the size of small clumps of clover into larger ones. The flower heads are about 1-inch wide, white, and grow on stems that are 2 to 8 inches long. Each flower head has two large opposite leaves below it on the flowering stem. Running buffalo clover flowers from late spring to early summer.

**Range** - Running buffalo clover is found in Indiana, Kentucky, Missouri, Ohio, and West Virginia. It has been extirpated from Arkansas, Illinois, and Kansas.

**Habitat** - Running buffalo requires periodic disturbance and a somewhat open habitat to successfully flourish, but it cannot tolerate full-sun, full-shade, or severe disturbance. Historically running buffalo clover was found in rich soils in the ecotone between open forest and prairie. Those

### What is running buffalo clover?

areas were probably maintained by the disturbance caused by bison. Today, the species is found in partially shaded woodlots, mowed areas (lawns, parks, cemeteries), and along streams and trails.

## Why is running buffalo clover endangered?

**Bison** - Running buffalo clover may have depended on bison to periodically disturb areas and create habitat, as well as to disperse its seeds. As bison were eliminated, vital habitat and a means of seed dispersal were lost.

**Habitat loss** - Clearing land for agriculture and development has led to elimination of populations, loss of habitat, and fragmentation of the clover populations that remain. Small, isolated populations of running buffalo clover are prone to extinction from herbivory, disease, and inbreeding.

**Non-native plants** - Invasive non-native species, such as white clover, garlic mustard, and Japanese honeysuckle out-compete running buffalo clover for moisture, nutrients, space, and sunlight. Non-native clovers are believed to have introduced diseases and insect predators.

**Unfavorable land management** - Natural succession has resulted in a loss of open woodlands and a reduction in running buffalo clover habitat. Excessive grazing directly kills plants through herbivory or trampling and can indirectly kill plants by degrading the habitat. Mowing may remove seed heads before seeds are mature but may help the clover by controlling competing vegetation.

## What is being done to prevent extinction of running buffalo clover?

**Listing** - Running buffalo clover was added to the U.S. List of Endangered and Threatened Wildlife and Plants on July 6, 1987.

**Recovery Plan** - The U.S. Fish and Wildlife Service prepared a recovery plan that identifies and prioritizes actions needed to conserve and recover this species.

**Land Management** - Strategies to improve and maintain habitat for the running buffalo clover have been developed. Efforts are underway to carry out those management strategies on public and private lands that support running buffalo clover.

**Surveying and Monitoring** - After listing as endangered, additional surveys were conducted to find existing populations. Monitoring those populations has increased our understanding of this species habitat requirements.

## What can I do to help prevent the extinction of species?

**Learn** - Learn more about running buffalo clover and other threatened and endangered species. Understand how the destruction of habitat leads to loss of endangered and threatened plants and animals and our nation's biological diversity. Tell others about what you have learned.

**Join and Volunteer** - Join a conservation group; many have local chapters. Volunteer at a local nature center, zoo, or national wildlife refuge.

**Plant Natives** - Use native plants in landscaping and gardening and avoid the use of invasive plants that have been imported from other countries, such as wintercreeper, periwinkle, and Japanese and bush honeysuckles.