



Managing Exotic Plants



A Barren, trackless waste, extending for hundreds of miles to the Arkansas River on one side and the Missouri on the other - a naked landscape - Francis Parkman, The Oregon Trail

A Miniature Forest

Many people look at the mixed grass prairie and see something boring and monotonous, the “barren, trackless waste” described by Parkman when travelling west of the Mississippi. Those willing to “get down on [their] hands and knees” as one zoologist suggests, discover complexities of landscape, a busy world working within an ocean of grass. The most obvious feature of the prairie is its endless grass. Badlands National Park is home to at least 460 different plant species and features over 60 individual species of grass - names like buffalograss, needle-and-thread, and side oats grama. These grasses, tougher than any High Plains explorer, take on - among other responsibilities - the roles of food source, habitat, and water reservoir for other prairie life. In summer, a visitor in the prairie can hear the sawing of cicadas and the whirr of grasshoppers. Ground squirrel burrows pock the tangled roots of grass on the sides of sod tables. In the Badlands Wilderness, bison and pronghorn graze the short, nutritious grasses of prairie dog towns. Hawks and turkey vultures make swift shadows across the prairie. Badlands National Park preserves this world in the largest tract of protected mixed grass prairie in the United States. Additionally, the Badlands Wilderness Area is the largest prairie wilderness in the country.

The original prairie ecosystem in the U.S. is nearly gone - less than 2% remains - replaced by wheat and cornfields, cities, and ranches. Even in protected places like Badlands, scientists now find over 100 species of invasive plants, nicknamed **alien species** or - more bluntly - weeds. Using a variety of tools and teams, Badlands is fighting this invasion to restore a natural feature that is steeped in American history - native North American prairie.

Photo:
A National Park Service
biotechnician releases
Canada thistle stemweevils
on Canada thistle plants.

An Invasion Ensues

Yes, they are short and green, but they don't have flying saucers. Rather, humans help these aliens travel. Species from other continents have invaded the Badlands prairie. Plants such as yellow sweet clover, bromes, and Canada thistle are snatching the space where native grasses and flowers once grew. Many of the invasive species in Badlands National Park were introduced deliberately or accidentally by humans decades ago. Grasses such as smooth brome were planted in the park to stabilize the roadsides. Other grasses and sweet clover were introduced as forage for cattle and subsequently spread throughout the West. Non-native species continue to hitch rides to the United States in shipment of feed, the ballast of ships, and even on people!

These introductions might not seem like a big deal, but natural ecosystems are as finely tuned as the human body. Imagine if someone added a few extra big toes to your feet. They might trip you up. Similarly, plants and animals have trouble adapting when new species are added to their environment. Food sources may disappear as invasives take over a habitat - or there may be a new aggressive predator to cause worry. Troublesome species often reproduce rapidly and monopolize limited water resources. This silent and often unnoticed threat has brought about a big battle in Badlands National Park.

It Takes Teamwork

Biologists and fire crews work to control and eliminate these aliens in order to maintain and restore the native prairie. Fire is part of the natural prairie ecosystem, restoring nutrients and opening space for growth. Since native prairie plants evolved with wildfire, prescribed burning throughout the park on a 5-10 year rotation is an important tool for controlling some species while reducing fuels and limiting the potential for catastrophic fires. Park visitors may see a combination of techniques employed by park staff and specialized crews as the park attempts to "weed out" non-native species.

The park also employs crews of plant technicians each summer with a focus on exotic plant reduction through mowing, targeted spraying of weeds on foot, ATV, and horseback, and introduction of biocontrol (species specific insects that die after their host plant is no longer available). Current efforts target Canada thistle, Russian knapweed, spotted knapweed, smooth brome, and Japanese brome. Want to see some of these aliens? It's not difficult - they tend to take over in disturbed areas like roadsides, construction sites, and plowed land.

Not In My Backyard

In national parks, visitors expect beauty in every shape and form. Some of these exotic plants are beautiful - rich yellow blooms, sweet perfumed scents, lush vegetation. Just as those pesky dandelions provide sparks of color to our yards, these weeds may add to your sensory experience but over the long term, they are changing the delicate chemical balance in our soils and changing the content of the American landscape. Those plants we work so hard to weed out of our yards also turn up in places like the Badlands, Great Smoky Mountains, and Everglades - the nation's "backyards."