

Outdoor Insights

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JEFFERSON COUNTY OPEN SPACE

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Noxious Weed Management

Using an integrated approach to reducing invasive species

What is a Noxious Weed?

A weed is a plant considered undesirable in a particular situation, or simply stated as a plant in the wrong place. Jeffco Open Space follows the Colorado State Noxious Weed Act definition that a noxious weed is a plant that is exotic and invasive. To find a list of weeds with different levels of required response, see the State of Colorado website www.colorado.gov/pacific/agconservation/noxious-weed-species

Exotic describes species not native to North America that have been brought into the area either as an ornamental plant or through movement of contaminated material from another country.

Invasive describes an introduced species that has a tendency to spread, causing damage to the environment, human economy and/or human health. Invasive weeds take over areas where native species are struggling to thrive or even survive.

Noxious weeds have been designated by the State of Colorado as weeds that are injurious to agricultural or horticultural crops, natural habitats or ecosystems, or humans or livestock.

Weeds Hurt

Weeds can hurt native plants, people and wildlife. Native plants compete with weeds for nutrients, sunlight and water. Noxious weeds have much less competition and few diseases that threaten them, they grow earlier, later and longer than natives and very few animals use them for food. There's only so many plants that can survive. Weeds can affect the soils around them and push out natives. Russian-olive (pictured at right) raises nitrogen levels and Tamarisk, more commonly known as salt cedar, increases



Invasives: above, Dame's Rocket (Hesperis matronalis); below, Russian-olive (Elaeagnus angustifolia)



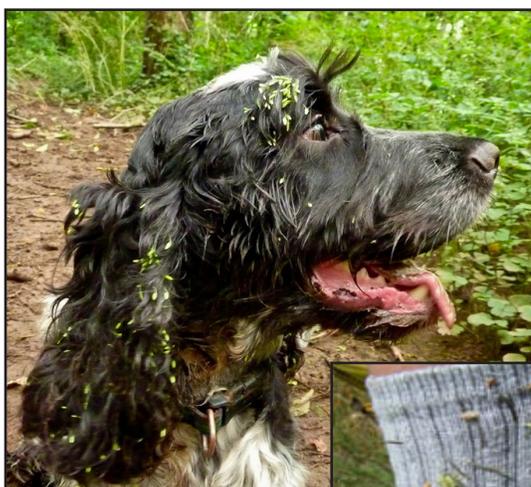
the salinity of the soil, which eliminates desirable vegetation in the under story. Weeds can physically hurt with many producing thorns. Sap from myrtle spurge can burn the skin, and yellow star thistle can create chewing disease in horses.

Weeds Threaten Wildlife

Weeds have little forage value for wildlife and disrupt food sources, creating monocultures where only the weeds such as musk thistle or leafy spurge survive. Bears, deer and elk need diversity in their diet and some wildlife need specific plants. The Pawnee montane skipper, a threatened butterfly, only lays their eggs on blue grama and their main food source is spotted gayfeather. Weeds starve wildlife as well as reduce habitat cover, protection from sun, vertical cover from predators and places to raise young. Within aquatic ecosystems, noxious weeds such as Eurasian watermilfoil grows in still or slow moving water, preventing sunlight from penetrating the water.

Weeds Spread Like Weeds!

Various weeds create hundreds or thousands of seeds and they can last a very long time. Some seeds lay dormant in the soil for years. Seeds may be spread by the wind and by unsuspecting carriers - animals and people. Myrtle spurge seeds can shoot out of the plant up to 15 feet. Whenever soils are disturbed, weeds can take root.



Impact on Jeffco Open Space

Our mission is to preserve open space and parklands, protect the park and natural resources, and provide healthy, nature-based experiences. The landscapes we protect are a visual asset, provide wildlife habitat and contribute to clean air and water. Our weed management activities are conducted to protect the native species that depend on the lands we preserve. Through healthy, nature-based experiences, the people that recreate and support Jeffco Open Space are able to find value in the resources and extend responsible stewardship to assure lands are available for future generations and the wildlife that use these areas. Besides, who wants to ruin a mountain biking excursion with an encounter with puncture vine.

Weeds threaten everything that makes our parks system a crown jewel in Jefferson County. Our response and responsibility is defined legally through the authority of the State of Colorado Department of Agriculture and Jefferson County Board of County Commissioners. We also have an ethical responsibility to manage resources and sustain the lands we protect.

Integrated Management

Jeffco Open Space uses many methods of control, and while herbicides are often our best weapon, a single strategy would be ineffective. Jeffco Open Space uses a combination of preventative, chemical, mechanical, biological and cultural practices. It does not mean completely abandoning chemical weed control, but relying less on it and using other methods as well. Our job is to manage noxious weed populations to accepted levels. It is important to have several tools at our disposal for employing multiple strategies. It is essential to know our target, understand the most effective methods, and time our treatments for the greatest success.

Weed Control Options

Several methods for weed control are employed by Jeffco Open Space. Each method has its own limits and we have identified the advantages and disadvantages to each option. By employing any number of these tools in our tool box, we intend to manage weeds as efficiently and effectively as possible.

CONTROL	ADVANTAGES	DISADVANTAGES
Mechanical cutting, pulling, chopping, mowing	Annual and some biennials are susceptible to mechanical control	Perennial weeds such as Canada thistle and leafy spurge actually increase when pulled.
Biological organisms that feed on weeds	Jeffco Open Space has had some success using beetles on leafy spurge and Diffuse knapweed, particularly in hard to access areas. These beetles work for free and a lot longer than a person.	Bio controls can take many years to establish, and a frost event may kill the agents after release. These controls are only available for a few weeds today.
Cultural irrigation for natives, haying, planting, seeding and rehabilitation	Encouraging natives through plantings and specific controls make it hard for weeds to become established.	Re-vegetation using native grass seed can be expensive and not always an option without sufficient irrigation.
Chemical herbicides	Herbicides work where other things fail. Largely these applications disrupt chemical processes unique to plants. The Environmental Protection Agency (EPA) heavily regulates herbicides and the label is the law. Staff or contractors that apply herbicides must be licensed through the state, take classes and tests for qualification at the highest certification offered. Effective on many weeds, herbicides are cost effective and may be applied by a single staff member with a backpack sprayer or using a small tractor for a larger area. Treatment using herbicides does not pose a significant threat to wildlife that forage after application based on low toxicity and rates of use.	For optimum effectiveness, herbicides require the right weather and timing. They are difficult to apply in remote areas. Application of chemicals may cause concerns for lots of people. Even organic or natural materials can be toxic and are not always effective or safer.

Mechanical - *Purge Your Spurge 2014*



Cultural - *Haying*



Biological - *courtesy Mark Schwarzlander, Univ. of Idaho*



Chemical - *Herbicide application*



Be Part of the Solution

Educate yourself

Take time to learn about weeds, it will benefit your own home and yard as well as the parks and open space areas you enjoy. Only under staff supervision should visitors, acting as authorized volunteers, participate in weed pull events. Park visitors may have the best of intentions but can compound the problem by encouraging growth instead.

Colorado State University Extension in Jefferson County conducts training to nurture native plants and offers services to identify weeds. The County Weed and Pest office provides information through the website and special programs. Once you know, you can educate others and choose to garden or landscape using natives and tap into the resources of the Colorado Department of Agriculture.

Stop the Spread

Each of us can do simple tasks that can help stop the spread of weeds. Bikes and boots, socks too, can be seed carriers, so as you leave a park, clean off your equipment before going to a new area. Equestrians are encouraged to feed their horses certified weed-free hay. Fishing equipment and bait can contaminate waters, so clean your equipment after each use and don't dump bait into recreational waters. Aquatic weeds are very difficult to treat and may take extreme measures such as allowing ponds to dry out before treatment can be effective.

Manage weeds on private property, particularly adjacent to parks and open space. Report infestations found in the parks to our Natural Resources Management crew leader Jerry Bader at 303-271-5921.



Natives: Pawnee montane skipper butterfly (*Herperia leonardus montana*) and its primary nectar source, spotted gayfeather (*Liatris punctata*)

Resources:

Jefferson County Weed Management Plan available through Jefferson County Weed and Pest
www.jeffco.us/weed

Colorado State University Extension
www.extension.colostate.edu/jefferson/

Colorado Department of Agriculture
www.colorado.gov/pacific/agconservation/noxiousweeds

Colorado Weed Management Association
www.cwma.org



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Open Space**
enriching life

A topical newsletter, Outdoor Insights provides information on Colorado's Jefferson County Open Space projects, programs and activities. For more information, contact Communications Manager Thea Rock, trock@jeffco.us or (303) 271-5902. Read past issues on a variety of topics at jeffco.us/parks.