

A Burned-Area IWM Plan

Fire-produced disturbances directly favor colonization of new and existing noxious weeds. To prevent or reduce establishment of noxious weeds, burned and adjacent areas should be managed under a burned-area integrated weed management (IWM) plan.

When desired plant cover is inadequate, the first step of many burned-area IWM plans is revegetation. Revegetation, when needed, can decrease noxious weed invasion by introducing desired plants that compete with noxious weeds for resources.

An IWM plan identifies high-quality areas (that is, areas with high desired plant cover) and protects them from noxious weed invasion and establishment. For small patches of weeds:

- prioritize your management efforts,
- map isolated weed populations, and
- determine the size and density of weed patches. Low-density patches respond more quickly to eradication than large high-density patches.

Large infestations are very difficult and expensive to manage. If infestations have developed, managers should work toward:

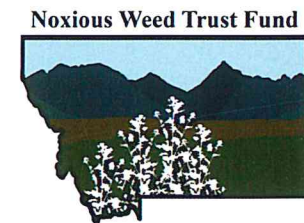
- reestablishing healthy plant communities by reducing the competitive vigor of the infestation through combinations of mechanical, chemical, cultural (including revegetation) or biological methods — or all these methods together.

Frequent monitoring of the site and annual evaluations will determine the success of the plan. Comparing one year to the next allow the manager to identify and make changes needed to attain land management goals.

Brochure information from: Goodwin, K., Sheley R., Clark J. *Integrated Noxious Weed Management After Wildfires*. Bozeman: MSU Extension Services, 2002. Print.

Landowner Resources

- **Local County Weed District**
mtweed.org/weeds/weed-districts
- **Local County MSU Extension**
msuextension.org
- **Local County Conservation District**
dnrc.mt.gov/divisions/cadd
- **Local County Natural Resources Conservation Service (NRCS)**
nrcs.usda.gov click on "Contact Us"
- **EDDMapSWest**: mapping made easy and no knowledge of GIS required
eddmappings.org/west
- **Need to find Noxious Weed Seed Free Forage?** visit agr.mt.gov or call 406-444-7819
- **Funding Opportunities** — Financial assistance in treatment, education, and research of noxious weeds: visit agr.mt.gov or call 406-444-7882



Quick

Guide for
Landowners
to Manage their
Noxious Weeds
After Fire

Evaluating the Potential for Natural Recovery

Before formulating a burned-area weed management plan, determine the degree of burn severity and estimate the degree of noxious weed cover on the area before it burned. These facts will allow you to assess the potential for natural recovery of the plant community and whether to revegetate or to allow for natural regeneration.

Plant survival is largely determined by burn severity. Low-severity fires favor plant survival over high-severity fires. However, survival can also be influenced by a plant's reproductive and structural characteristics.

As a rule, plants that can sprout from roots, from soil surface crowns, and from rhizomes survive fire better than plants that reproduce strictly from seed. However, seeds produced by plants that evolved with frequent fires, such as lodgepole pine, are tolerant of higher fire temperatures and actually require heat to germinate.

Many noxious weeds can reproduce vegetatively from rhizomes. These weeds have extensive root systems that can grow quite deep. The roots of leafy spurge and Canada thistle can extend to depths of 26 feet and 22 feet respectfully. Because even the most severe fires typically damage roots only to four inches below the soil, these noxious weeds have an excellent chance of surviving even very severe fires.



Monitoring & Evaluation

Monitoring is helpful in evaluating the effectiveness of grazing and weed management control efforts. The following monitoring components should be included to properly evaluate the effectiveness of an integrated weed management plan:

- ⇒ **Annually monitor** areas like fire breaks (dozer lines), equipment staging areas, livestock feeding grounds, and other high disturbance areas, which are most likely to have weeds show up post-fire,
- ⇒ **Evaluate** activities that minimize weed invasions, such as defer moving livestock through an area with a new weed species until it is removed or contained,
- ⇒ **Measure** the size and density of weed infestations, and
- ⇒ **Record** information on past and current weed management.

To start mapping your weeds or invasive species use the Early Detection and Distribution Mapping System (EDDMapS). The free app can be downloaded to any smartphone.

Integrated Weed Management

Integrated weed management (IWM) is an ecological approach to preventing and managing weeds. An IWM plan is both practical and holistic; it typically incorporates a combination of prevention and management techniques that promote a healthy ecosystem.

Prevention & Early Detection

Preventing noxious weeds from establishing in the first place is the most effective and least costly method of weed management. Preventing noxious weed establishment can be accomplished by:

- Using noxious weed seed free forage,
- Detecting and eradicating weeds early when infestations are small, and
- Revegetating when necessary.

Eradicating Small Weed Patches

Eradicating small patches helps prevent or greatly reduces seed dispersal and prevents the development of large infestations. Eradication is most effective on newly established weed populations or those smaller than 100 square feet. Weeds must be removed and steadily replaced with desired plants through natural recovery or revegetation.

Containing Large Infestations

No method or combination of methods can achieve eradication for large weed infestations. However, containment (managing infestation perimeters) or control (managing entire populations) are effective in preventing or greatly reducing seed dispersal into adjacent burned or weed free areas.



Photo credit: Brian Ostwald