



Pretty  
wildflowers?  
*Think again!*



Invasive plants (noxious weeds) are able to establish easily, grow quickly, and spread to the point of disrupting biological communities or ecosystems.

"Invasive plants are ecological tumors that won't stay in your yard."  
- Dr. Doug Tallamy



Invasive plants transform habitats, are a threat to biodiversity, and can forever alter the landscape.



## Landowner Stewardship Guide

*All land is habitat, and all habitat is critical.*



The Upper Gallatin Watershed is experiencing explosive development and a rapid rise in visitors and recreationalists. In the Big Sky area, habitat fragmentation and loss are fundamental threats to wildlife survival. The threat of invasive plant species to wildlife habitat (forage reduction, changes in water quality and availability, and disruption of seasonal migration patterns) is only increasing as this area continues to grow.

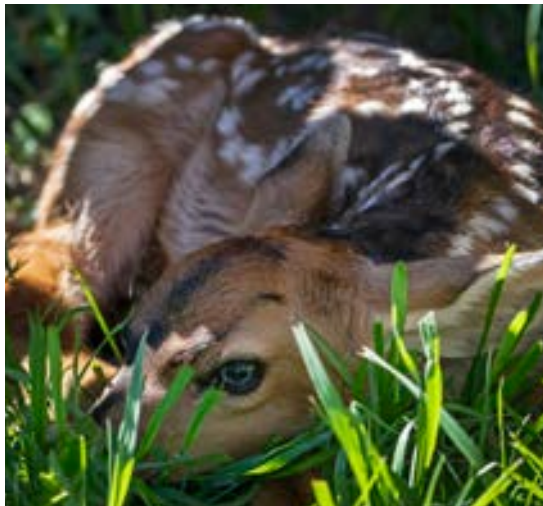
It's time to act.

Join Grow Wild in committing to conservation and adopting a land ethic that recognizes our role in preserving the natural world and the Greater Yellowstone Ecosystem!

*As Montanans...*

We have an ethical and moral responsibility to control noxious weeds. As landowners, we have a legal responsibility to control noxious weeds on our property.

Nature is dynamic, therefore land stewardship must also be active and ongoing.





# Landowner Stewardship

Grow Wild provides landowners with the tools and resources to address invasive plants using ecologically-based best management practices and adaptive strategies.

## Land Management 101

### Commit to the Long-Term

- Sustainable land management and noxious weed control efforts must be planned and implemented for many years to yield results.

### Get Educated & Make a Plan

- Take advantage of free on-site property evaluations and our online resources (see last page).

### Observe, Compare, Adjust

- Remember you are working with a dynamic system that is constantly changing. Take action, keep records, monitor, and modify plans if needed.

**An ounce of prevention is worth a pound of cure!**



## What are invasive species...

### Native Species

A species that has evolved over hundreds or thousands of years in a region or ecosystem.

### Non-Native Species

A species introduced with human help (intentionally or accidentally) to a new place or new type of habitat where it was not previously found.

### Invasive Species

A species that is both non-native and able to establish on many sites, grow quickly, and spread to the point of disrupting indigenous biological communities or ecosystems.

### Noxious Weeds

A noxious weed is any plant designated by federal, state or local government officials as injurious to public health, agriculture, recreation, wildlife or property.



# What's that Growing?

1

Identify the weed species.

Our team is here to help with identification!

- [www.growwildmt.org](http://www.growwildmt.org) - "Weed ID & Control" page.
- Contact us for a site visit.
- Bring plants or pictures of them to the Big Sky Farmers Market for ID
- Pick up a free pocket guide.
- Send us a picture - 406.209.0905 or [info@growwildmt.org](mailto:info@growwildmt.org)

2

Learn how it spreads.



**Seeds:** How do they spread? By wind, by water, or the burs that stick to fur or clothing like velcro.

- Don't let noxious weeds go to seed! Cut, bag, and remove to stop the spread.
- Wear gloves.
- Realize that if you pull/cut a weed with a flower and let it lay on the ground, it could still form a viable seed!
- Keep after it! Dormant seeds will remain viable in the soil (40 years for Oxeye daisy) just waiting for an opportunity.

## Roots

- Taproot: Hand pulling is effective, especially when soil is wet. Bag noxious weeds to ensure seeds don't spread.
- Creeping roots: Small patches can be controlled by digging them up and removing all the roots. Large patches have an extensive root system, making them very difficult to manage. Weeds like Canada thistle are most effectively controlled by a combination of mowing and herbicide, and success comes with depletion of root reserves.



*Creeping roots of Canada thistle*

3

Learn how long it lives.



### Annual

One season for all stages of development. Produces foliage, flowers, seeds, then dies.

- Cheatgrass



### Biennial

Requires two seasons for completion of life cycle. First year: develops roots and low-growing leaves. Second year: flowers, sets seed, and dies.

- Houndstongue



### Perennial

Lives more than two years. Will produce foliage, flowers, and seeds year after year.

- Canada thistle

# Weed Management

①

## Mechanical Control

- Cultivation/tillage.
- Mowing. Do so just prior to flowering.
- Hand-pull, which is particularly effective for tap rooted plants. Always wear gloves & bag the plant.

②

## Biological Control

- Biological control is the use of one organism to suppress another. They are “stressing agents,” not “killers.”
- Slower acting control, many (insects) can't survive in our climate, and sheep or goats can transmit disease to wildlife.
- Most effective when used in combination with other methods.

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## Cultural Control

- Prevent disturbance.
- Maintain healthy native vegetation.
- Use weed free seed, forage, & gravel.
- Revegetate disturbed ground.

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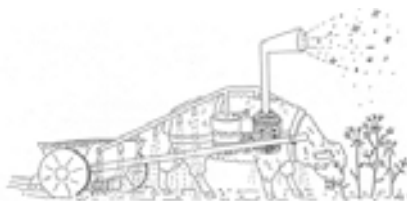
## Chemical Control (herbicides)

- Ensure the herbicide is effective on target weed.
- Always wear protective clothing: eye protection, long sleeve shirt, chemical resistant gloves, long pants, and rubber boots. Avoid cotton.
- Use a surfactant and blue dye (so you know where you spray).
- Be surgical – spot spray!
- Time it right: each weed has a certain time when it's best to spray. The ideal time to treat is when target weed is actively growing with lots of leaf area, but BEFORE it flowers.
- Avoid applying herbicides on any blooming flower to prevent injury to pollinators.

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### When using herbicides, always read & follow product labels!

- The label is the law! Learn about re-entry restrictions, if it has residual control, personal protective equipment recommendations, and more.
- Water warning: many herbicides can't be used near water and some can't be used in areas with high water tables.



### Integrated Weed Management

When planning, consider using one or more of the above strategies to manage weed populations in a manner that is economically and environmentally sound.

Tips

- Spray early in the morning.
- Don't spray if it's windy. Drift can injure nearby trees and shrubs.
- Ideally, spray when temperatures & humidity are moderate (between 65 & 80 degrees F).
- Rain following application can affect how well the herbicide will control the weed.
- Avoid spraying a flowering weed, as it can harm pollinators who visit the flower.
- Use a surfactant to improve efficacy.



# Big Sky's Most Common Noxious Weeds

Visit [growwildmt.org](http://growwildmt.org) - Weed & ID Control page - to access Weed Management Recommendations for control methods. More species listed online.



*Canada thistle*



*Hoary alyssum*



*Houndstongue*



*Musk thistle*



*Oxeye daisy*



*Yellow toadflax*



*Spotted knapweed*



*Poison Hemlock*

Do your part to manage invasive plant species/noxious weeds so that native plants and wildlife thrive!

## Tips

- Map noxious weeds. This helps track changes over time and assess progress.
- Be aware of weed hotspots and disturbed areas such as roadsides, waterways, parking areas, and ditches.
- Create a management plan that takes into account the biology & ecology of your property.
- Remember to observe, compare, and adjust. Adaptive management is key!



*Native plants are the foundation of the terrestrial food web.*







# Resources @ growwildmt.org



[growwildmt.org](http://growwildmt.org)

406-209-0905

[info@growwildmt.org](mailto:info@growwildmt.org)

## Noxious Weeds

- Invasive Species Impacts Page
- Weed ID & Control Page - Species specific fact sheets & management recommendations
- Help Available Page - County Cost Share · Handbook for the do-it-yourselfer · Help for hire list · Pet Safety & more

## Native Plants

- Crail Garden Page - Learn more about our native demonstration garden!
- Wildscapes Page - Find an array of resources to help you add native plants in your landscape.

## Events Page

- Crail Garden Open House · Guided Hikes · Native Plant Sale · Weed Pulls · Big Sky Wildflower Festival & more!

## What else does Grow Wild do?



### Conserve

We work to mitigate habitat loss and degradation via on the ground invasive species management.



### Educate

We educate the community about invasive species, their impact, & ways to protect our lands, water, and wildlife.



### Inspire

We provide free on-site visits to help landowners become stewards of the land.

Crail Garden demonstrates how native plants conserve water, create wildlife habitat, and preserve our historic landscape.



Visit Crail Gardens at the Historic Crail Ranch (2100 Spotted Elk Rd, Big Sky). Open for touring during daylight hours 7 days a week.

