Reclaiming our land and stopping the spread of weeds requires that we use both our brains and our muscles. Are you ready?

WE NEED MANY WAYS TO FIGHT WEEDS

Without any natural enemies, noxious weeds can easily outcompete native plants and take over whole landscapes. Also, these weeds are tough—they don't give up easily. So we use many different tools to stop the spread of noxious weeds.

Integrated Weed Management – the plan to beat the weeds!

Scientists call this "integrated weed management." That's a fancy way of saying "There is no one way to control weeds—we can stop them only by using many different tools." Stopping weeds is a lot like stopping a wildfire—when a forest burns, we respond by digging trenches in front of the fire.

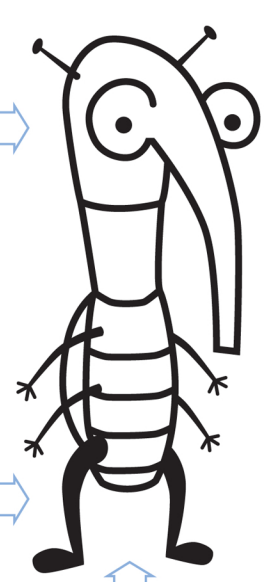
Some weeds can be controlled by mowing them or pulling them out of the ground. But this is hard work, and some weeds have thorns or poisonous sap that can hurt your hands. We can weaken some weeds by spraying chemicals called "herbicides" on them. These chemicals soak into the plant and damage the roots, which is where weeds store their food. Sometimes fields are burned to get rid of weeds. Goats and sheep will eat some weeds, like leafy spurge. Some insects will eat weeds, too, and kids raise these insects at their schools to later let them loose on weeds in farmers' fields.

In most cases, it takes several of these methods to stop weeds in their tracks. The library of materials contains lots more information on the tools used to control weeds. In the following pages, we'll focus on insects (and one fungus) that scientists use to control weeds.

Biocontrol – short for biological control. Bio means "life" (biology is the study of living things, a biography is a book about a person's life). So a biocontrol is a tool to control weeds that uses a living organism, such as an insect, fungus, or germ, to weaken the weed.

Can bugs really make a difference?

The toadflax flower-feeding beetle Brachypterolus pulicarius eats the tips of shoots, and the beetle's larvae feed on the plant's pollen, flower parts, and seeds. On yellow toadflax, the beetle reduces the number of seeds produced by 80 to 90 percent! Even though seed destruction is high, plant populations are not affected.



More than 350 bugs and other biological control agents have been released in 70 countries around the world to control weeds. In the United States, about 50 biocontrol agents are in use to control weeds.

Calling all bugs, Calling all bugs.

Scientists reasoned that the bugs that control these weeds back in their native homes might also work here. So they began testing insects, fungi, and other bio-control agents from the weeds' native homes to see if they could slow or stop the spread of noxious weeds.

Scientists first test the bio-control agents in controlled environments to determine which plants they attack. We don't want to let loose a bug that would eat all our good plants too! Once they're sure the bug or fungus won't have significant impacts on endangered plants, scientists place bio-control agents into quarantine to confirm their identity, get rid of parasites, and check and eliminate disease before they are released. The good news is that some bio-controls work really well–and kids are helping by growing helpful bugs in insectaries. Learn more by watching the DVD inside the back cover.

Wonder and Learn

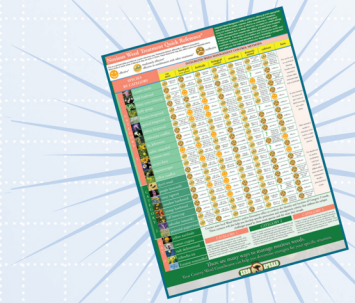
Learn which plants belong here and which plants don't. Learn which plants are good for our environment and those that are unwanted guests on our land.

Education

Your library is full of exciting pamphlets, booklets, and videos about weeds, biocontrols, and other fun stuff naturalists need to know. You'll find a pocket guide with photos for identifying weeds, flashcards on biocontrols, placemats, CDs, and DVDs. You can come back to the library again and again to add to your knowledge about weeds and the natural world.

I.D. and Advice

We can't stop weeds if we don't know what to look for. Learn to identify the noxious weeds that grow in your area. Use the pocket guide and other materials in the library so you can recognize weeds when you go out to play. Then do a weed inventory and map of your favorite places. Also talk to your parents and to weed experts at your local county weed office, extension office, conservation district, or city parks department, to get their help in identifying weed infestations.



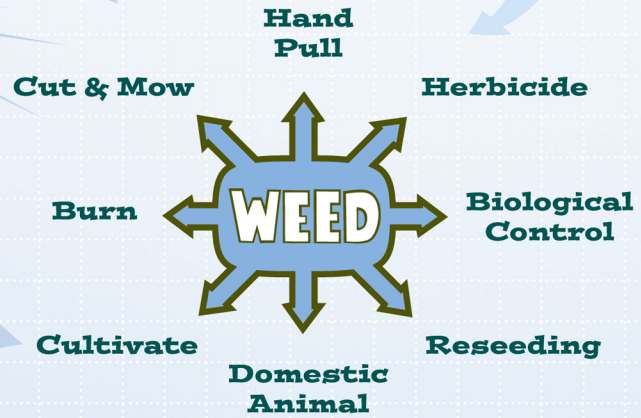
Controlling weeds takes efforts. There is no one solution. It is complex and it is a long term commitment. Look on the poster "Noxious weed treatment quick reference" for ideas where to start.

Prevention

Weeds are spread by things humans do. We accidentally ship them across oceans. We carry their seeds with us on our socks, in our shoe treads, on our dog's furry coats, and even on our boats. We dig up ground to build roads and homes, giving weeds a place to sprout. Learn what you can do to prevent these problems and stop the spread of weeds. Go to the library and read the pamphlets "Hiker's Alert!" "On the Right Trail," "An Exotic Invasion of Elk Country," "Horse Sense," and "Noxious Weeds: A Growing Concern."

What to do

Usually, the best way to control weeds is to use many tools. Ask your county weed coordinator, extension agent, or other land manager what tools are being used to stop the spread of weeds in your area. Volunteer for weed pulls and at a local insectary that raises bugs to control weeds.



Monitoring

Use your journal to keep detailed notes about the actions you took to deal with your weed problem. If something works remember what you did, and when, and do it again. If something doesn't work, make a note so you won't waste effort doing it again. Ask your neighbors what works for them. Join a cooperative local group and work together on community weed problems.

Some livestock like to eat certain weeds. For instance, goats and sheep will eat leafy spurge, and can help clean spurge out of fields.

Go to the Library and pick up the pamphlet, "Why Should I Care?" Find the part that talks about something you do for fun—watching wildlife, hunting, fishing, or hiking. Read that section, and then write in your journal—in your own words—why you should care about stopping weeds.