

# INVASIVE PLANTS

Invasive plants were brought to California by humans for many reasons; food for cattle and horses, decorations for gardens, erosion control, and sometimes even by accident! Invasive plants are not "BAD," they just have not had a chance to co-evolve with the wildlife and ecosystem here over thousands of years the way native plants have. By weeding invasive plants, we are giving native plants a chance to grow and provide habitat to wildlife like black tailed jackrabbits, California Quail, and other animals.

# Poison Hemlock - *Conium maculatum*



Originally brought here as a garden ornamental, *Conium maculatum* has spread to 46 of the 48 contiguous states. It is VERY POISONOUS, please do not put any part of this plant in your mouth. Also: wash your hands after working with it!

It is best removed with a small mattock, getting most of the root out of the ground will prevent it from re-sprouting.



# Yellow Star Thistle - *Centaurea solstitialis*



*Centaurea solstitialis* was brought to California by accident as part of alfalfa seed shipments in the 1600's. Since then, it has taken over approximately 25 million acres of native grassland!

If you grasp the plant at the root, the sharp spines will not poke you. It is usually easy to pull and does not require a tool. Like many invasive plants, it's very important to pull it before it flowers and sets seed.



# Curly Dock - *Rumex crispus*



This plant's common name gives a clue in how to identify it: the leaves are thick, greenish to purple, and curly or wavy around the edges! *Rumex crispus* sends down a thick deep taproot which must be dug out completely, or the plant will re-sprout.

Use a pick or mattock and a lot of force in order to unroot this weed. Pull it before it sets seed, as seeds can stay viable for up to 80 YEARS!

# Knotweed - *Polygonum arenastrum*

This is another plant whose name describes its appearance. *Polygonum arenastrum* sends out many wiry stems from the center taproot, forming a thick mat along the ground. The stems can build up on the top, forming a thick clump or "knot". While at first the plant can be hard to see, if you look closely, you can find it beginning to take over our Bressler Revegetation Area! First introduced from Europe, it can also be found in all 50 states of the US!



Especially once the ground has been watered, knotweed is fairly easy to pull by grasping the center "knot." If the taproot is too deep, loosen the soil with your mattock before pulling.

# Summer Mustard - *Hirschfeldia incana*

Invasive mustards in California were supposedly brought by Spanish missionaries who used the seeds for these yellow flowers as trail markers. Mustard's deep taproot and long lived seeds makes it a notorious pest to natural habitats.

This plant is similar to curly dock in that the root must be taken out in order to prevent it from resprouting. Work on the flowering plants first, to stop those from going to seed!



# How do they do it?

Are these invasive weeds super plants? Do they have secret weapons at their disposal? The answer is no...and yes!

1. **Monoculture:** Because these invasive plants did not evolve here, there are no native competitors to keep them controlled; and few native animals to eat them. They can form thick stands called 'monocultures' where there is only one kind of plant - the invasive - no native plants allowed in!



a. This picture is a monoculture of what plant?

b. Look around the area where you are working today. Do you see any monocultures that exist or are beginning to form?

2. **Allelopathy:** Some invasive plants create chemicals from their roots, or on their leaves that washes off into the rain. These chemicals prevent other kinds of plants from growing around them! The chemical does not harm the invasive, but it prevents native seedlings from being able to live.



c. Do you recognize this allelopath? What plant is it?

d. Look around you - can you see this tree growing anywhere? What else do you know about it besides that it is an allelopath?



3. **Outcompetition:** Because invasive plants evolved in other regions of the world, they are adjusted to different climates than ours. While native California plants often grow slowly and well spaced from one another, invasive plants may shoot up to great heights quickly, or spread out over a large area of ground. They may outshade natives, or send down a deep taproot to get to water before other plants do.



e. What plant is this? What method of outcompetition might it be using?

f. What climate might a plant like this come from? What climate do we have in California?

# Keeping Invasive Plants DOWN

## Hand Pulling and Digging Out

(mattock)



# Spreading Mulch



# Planting Natives

# Removing Weed/Seed Debris



Can you think of any other methods?