Invasive Weeds

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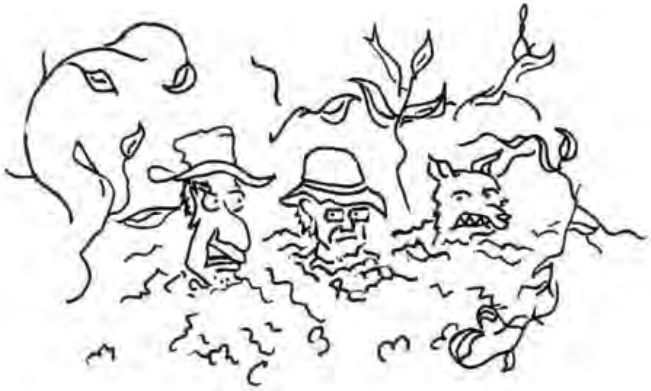
Agenda

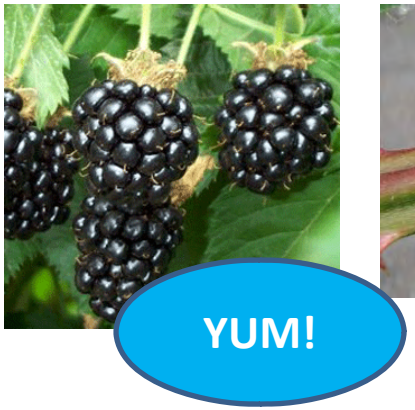
- Definitions
- Impacts of invasive weeds
- What can be done to stop invasive weeds
- A closer look at some local invasive weeds



"Sure Robin, they can't hurt us, it's just a few little weeds!"

What is a Weed?

- A plant growing where it wants to, not where it was planted
- A plant that takes water, food, or habitat from desired plants
- Sometimes weeds can be useful in one place and harmful in another
  - Like blackberry brambles!



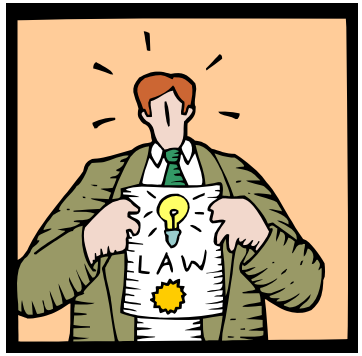
What is an Invasive Weed?

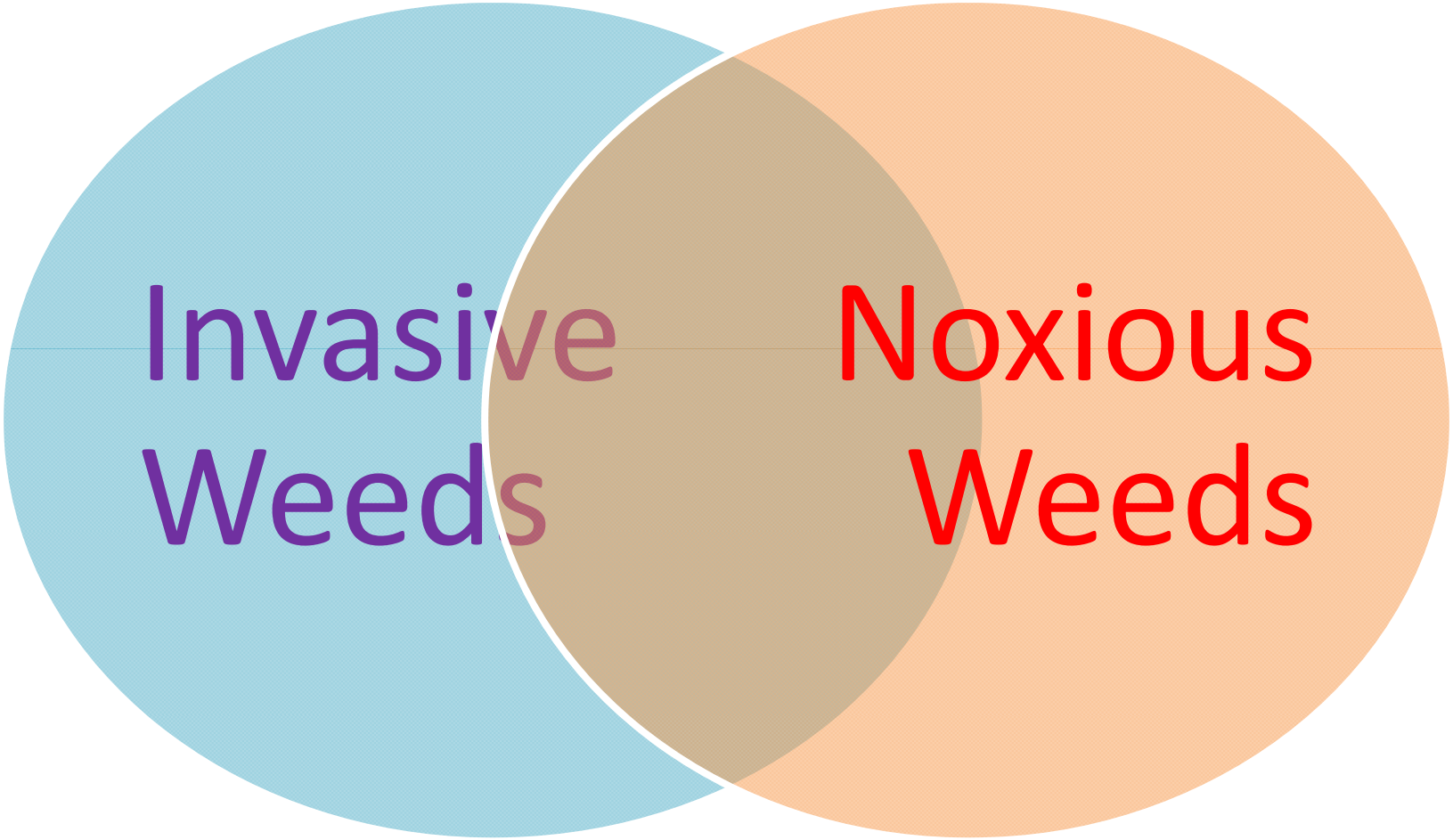
- Successful invader
  - Introduced from elsewhere, non-native
  - Escapes into natural areas
  - Persists and spreads
  - Generally lacks predators and natural controls
- Causes harm
  - Bully plant: out-grows, out-spreads and out-competes native plants
  - Disrupts ecosystems

Invasive plants such as English ivy displace native plants and wildlife and can transform entire ecosystems

What is a Noxious Weed?

- Legal term, defined and regulated by Washington State law (RCW 17.10)
- Non-native plant that impacts agriculture, wildlife, human health, land values or natural resources
- Property owners are required to control selected weeds
  - Goal of law is to prevent spread of new invaders to un-infested areas
  - Weeds are regulated only where eradication is possible because they are not widespread
  - Regulated at the county level; lists and priorities vary by county
- Not all invasive weeds are on the noxious weed list and not all noxious weeds impact natural areas





Ecologically-based concept

Legal, policy-based concept

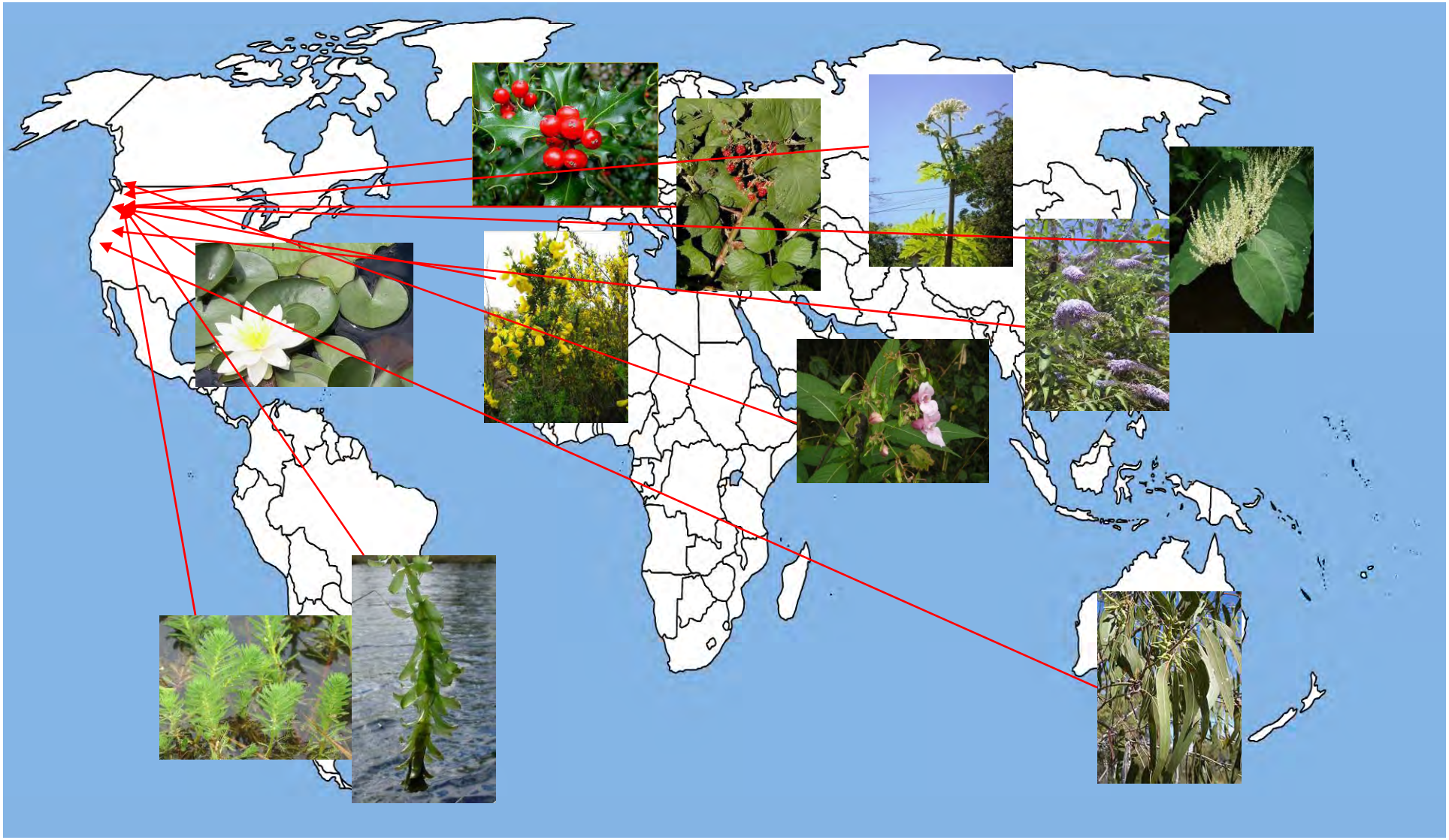
Some of the Ways Invasive Weeds Harm Ecosystems

- Decrease biodiversity
- Crowd out native plants
- Reduce animal habitat and food sources
- Attract pollinators away from native plants
- Clog streams and lakes
- Harm trees
- Increase erosion
- Create fire hazards

Herb Robert infestation

Purple loosestrife infestation

Where Did Our Invasive Weeds Come From?



How Did They Get Here?

- Intentional (accidentally on purpose)
  - Ornamental planting
  - Crops
  - Erosion control
- Accidental
  - Ballast material in ships
  - Contaminated materials
    - Seeds
    - Hay
    - Live plants

Ornamental escapee

Ship ballast and ornamental escapee

Erosion control

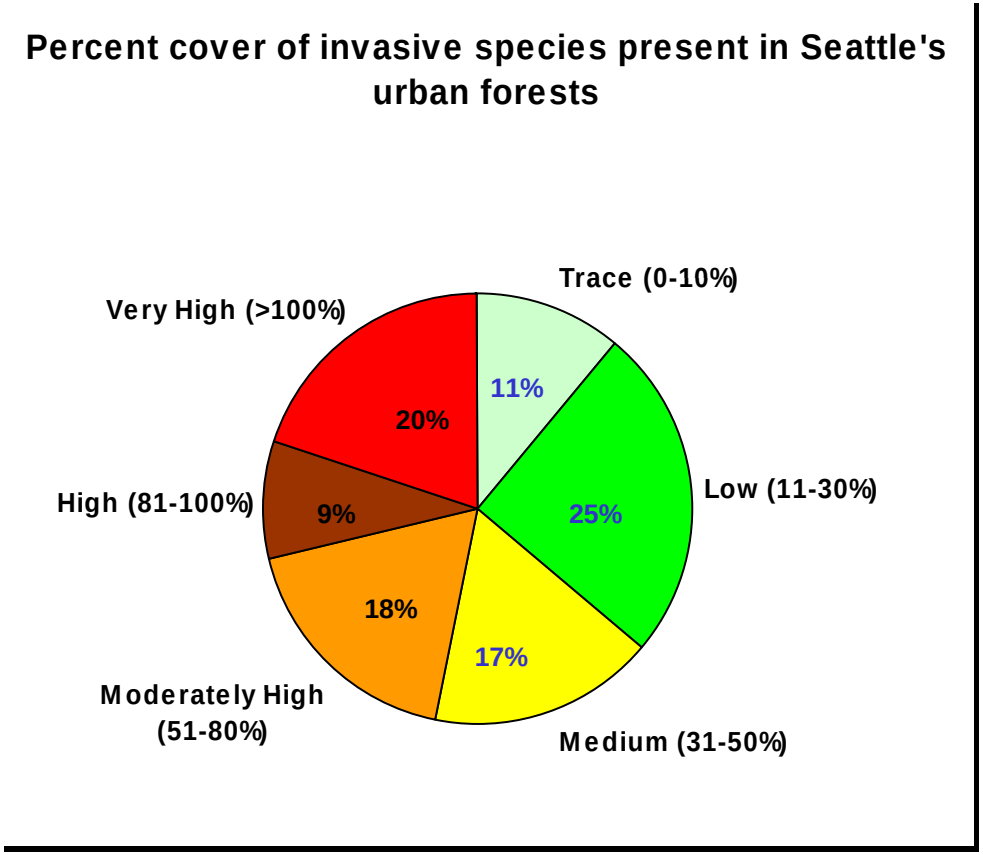
Seed and hay contaminant

How Do Weeds Move?

- Natural Processes
  - Wind
  - Water/flooding
  - Birds and other animals
- Human Causes
  - Hitchhiking on vehicles, bikes, boots, boats, etc
  - Construction/Grading
  - Mowing/Equipment
  - Yard waste dumping
  - Being planted

How Bad is the Problem?

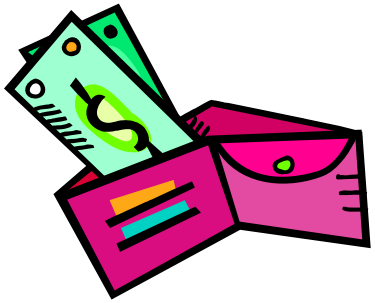
- In a study of Seattle's public forests, it was found that:
  1. Invasive plants are present in 94% of Seattle's public forests
  2. 20% of the city's forested areas are highly invaded
  3. In 47% of Seattle's forests, the majority of plant cover consisted of invasive species



Do we want this to be the future of all of our forests?

Invasive Weeds Cost us Money

- Reduce property value
- Cost money to control
- $34 billion a year in the US in invasive plant damage and control



English ivy causes expensive tree damage and reduces the value of urban and rural forests

Invasive Weeds Harm Forests

Invasive plants such as English ivy displace native forest plants, damage trees, and replace the foods wildlife are used to eating

Invasive Weeds Impact Lakes

Aquatic weeds create swimming and boating hazards, lower water quality and damage fish habitat

Invasive Weeds Impact Rivers

River banks become covered by invasive knotweed, keeping out native trees and shrubs

Knotweed increases erosion

Invasive Weeds Impact Agriculture

Left: Milk Thistle invades dairies in Enumclaw

Top right: Tansy ragwort infests a horse pasture

Both weeds displace desirable forage, can poison animals, and are very difficult to remove once established

And Invasive Weeds Are Just Downright Obnoxious

Fighting Invasive Weeds

What Does the Government Do to Fight Invasive Weeds?

- Prevention and early response for new invaders
  - Watch for new invaders and require control of them through state laws and county weed programs
  - Prohibit sale of invasive weeds through quarantine laws
- Reducing the impact of widespread invasive weeds
  - Hire crews to remove weeds from high quality forests and replant with native species
  - Organize volunteer events and train community stewards
  - Educate homeowners about what not to plant and what to remove

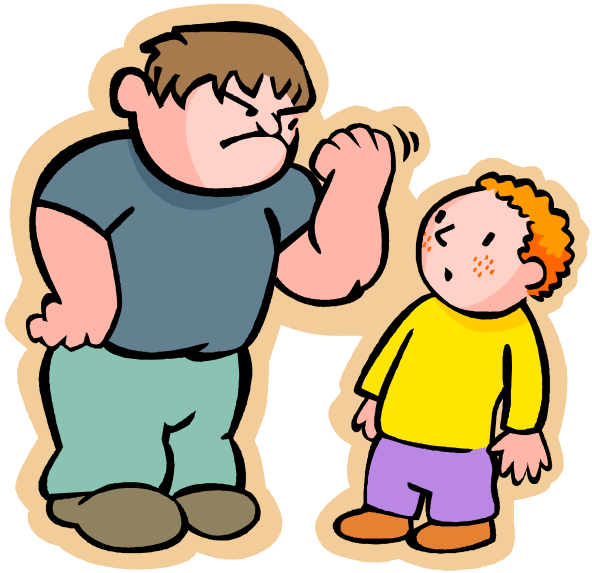
What Can Citizens Do to Help?

- Learn what plants cause problems
- Don’t plant invasive weeds in your yard
- Control weeds before they spread
- Check your clothing, bike, car and boat for noxious weed “hitchhikers”
- Never dump your aquarium into a lake or stream

Fighting Weeds in Your Community

- Watch for and report new plant invaders
- Volunteer at invasive removal work parties and stewardship events
- Organize your friends and neighbors to “adopt” a park or natural area
- Spread the word on neighborhood bullies!

Some Local Invasive Weeds (a.k.a Neighborhood Bullies)



Himalayan Blackberry
(*Rubus armeniacus*)

Himalayan Blackberry (*Rubus armeniacus*)

Evergreen Blackberry (*Rubus laciniatus*)

Good Guy Look-Alike:
Native Trailing Blackberry (*Rubus ursinus*)

Himalayan Blackberry Impacts

- Crowds out other plants
- Reduces habitat diversity
- Creates obstacles to wildlife movement
- Shades out tree seedlings

Controlling Blackberry

- First step, cut canes to the ground
  - Use long-handled loppers or pruners
  - Pile up cut stems
- Next step, dig up root balls
  - Use sturdy shovels and dig deep to get whole root
- Spines are sharp so wear sturdy clothes
  - Long pants/sleeves
  - Sturdy shoes or boots
  - Leather work gloves
- Remove small patches of blackberry first, then big ones
- Avoid harming native plants

English Ivy (*Hedera helix*)

Ivy leaves on vines are evergreen, lobed, dull green, with light veins

English Ivy Impacts

- Adds weight to the tree; creates “sail” effect and makes trees more likely to blow down
- Shades out tree’s leaves
- Increases rot on tree bark
- Smothers understory plants and tree seedlings
- Provides habitat for rats

Ivy Control: “Lifesaver Method”

Kill upper growth by cutting the vines all around the tree at about shoulder height and clearing the trunk. Pull up ivy about 6 ft from base of tree and maintain ivy-free area.

Use a hand saw or clippers to cut vines and then pull vines off trunk

Ivy Control: Hand Pulling/Digging

Pull up ivy by the roots and roll it up into a ball; use rakes or potato forks to help yank out roots and gather stems.

Pulled ivy can be rolled up like a carpet – easiest to do from the top of the hill down!

English Holly (*Ilex aquifolium*)

Don’t Pull this Native Plant by Mistake:

Tall Oregon Grape

English Holly at Lake Youngs Preserve

English Holly Control

- Just cutting down holly is not a good idea
  - holly sprouts from root crowns and stems
- Digging or grubbing out roots is effective but labor-intensive
  - even small plants have extensive, tough roots
- Most effective is to apply herbicide to freshly cut stump or use the hack-and-squirt, girdling or injection methods

Cherry Laurel (*Prunus laurocerasus*)

- Evergreen tree or shrub to 20 ft tall
- Leaves leathery, glossy, 3 to 7 inches
- Flowers white, in elongated clusters and fruit black with large pit
- Grows fast, 25 inches or more per year
- Widely escaped in local natural areas and woodlands
- Control methods are similar to holly

Scotch Broom (*Cytisus scoparius*)

Scotch Broom Infestation

Scotch Broom can be removed
with weed wrenches

Invasive Knotweed

Knotweed spreads as fragments get moved by floods, by mowing, or in soil

Knotweed Control

Digging knotweed up is possible but roots may go down 7 feet deep and extend out 20 feet. Re-sprouting is likely.

Knotweed is often controlled by injecting herbicide directly into the hollow stems.

Yellow Archangel
(*Lamiastrum galeobdolon*)

Small yellow mint-type flowers in leaf axils

Silvery markings on leaves of this popular garden plant make it easy to spot invading into shady forests

Yellow Archangel taking over the understory of a local forest

Yellow Archangel Control – Persistence Required!

- Hand pulling – loosen soil and carefully remove all the roots
- Covering – needs to be very well-covered, no holes and extending out from plants
- Spraying – combinations and repeat treatment
- Never leave stems lying on the ground or in piles – they will form roots and grow
- It can take years to get rid of an infestation

Regrowth after spraying

Seedlings emerging in treated area

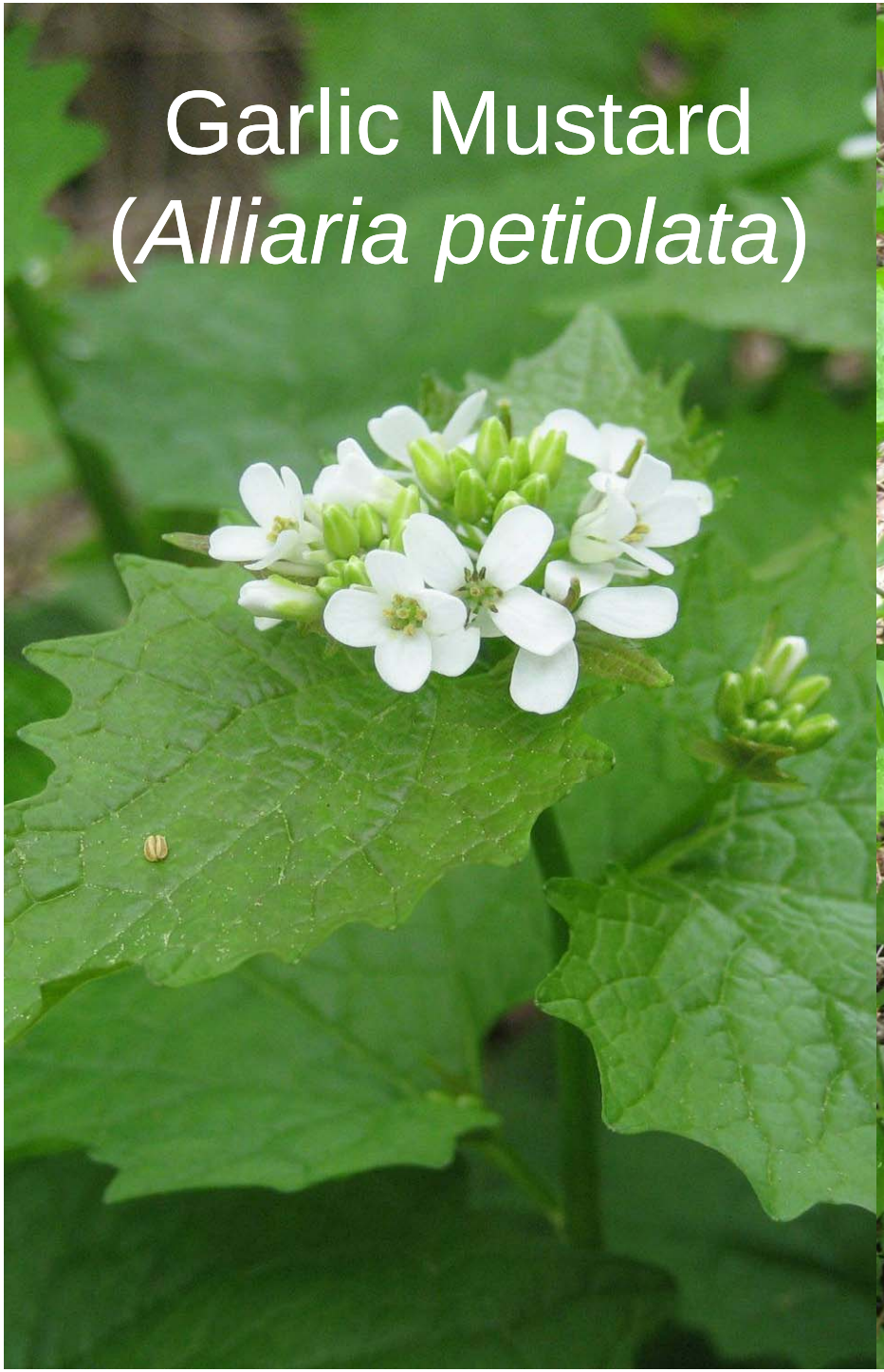
Herb Robert (a.k.a. Stinky Bob)
(*Geranium robertianum*)

Herb Robert (a.k.a. Stinky Bob)

Herb Robert Control

Shallow roots make this plant easy to pull but seeds germinate all season so repeat visits to the same location are needed.

Garlic Mustard
(*Alliaria petiolata*)



Garlic Mustard

Class A Noxious Weed

In forests, garlic mustard spreads up to 120 feet in one year. It inhibits tree growth through negative impacts on beneficial fungi and has no natural enemies in North America.

Now spreading on the Cedar River and Coal Creek area, garlic mustard is on the move in King County

Garlic Mustard Control

Class A
Noxious Weed

Pull it up, bag it up and brush off boots and clothes. Seeds are tiny and spread easily in soil and on boots and clothes.

Class A
Noxious Weed

Giant Hogweed
(*Heracleum mantegazzianum*)

15 feet tall with a stout, purple-blotched stem, large white umbrella-shaped flower clusters, and giant leaves

Giant Hogweed
Class A
Noxious Weed

Giant Hogweed – Use Caution When Handling

Class A Noxious Weed

Wear gloves and long sleeves when cutting or digging. Sap from hogweed causes burns. Dig up the roots.

Poison Hemlock (*Conium maculatum*)

- **Poisonous**
- 8 to 10 feet tall, stems purple-spotted
- Dig up plants when soil is moist
- Cut flowering stems below crown before seeds mature
  - Wear gloves and mow with a face mask

Poison Hemlock Infestation

Class B Noxious Weed

Tansy Ragwort (*Senecio jacobaea*)

Class B Noxious Weed
Tansy Ragwort Infestation in a Pasture
Toxic alkaloids accumulate in animal's liver causing irreversible damage and eventually death

Class B Noxious Weed

Tansy Ragwort Control

Roots of rosettes need to be removed completely or they will re-sprout.

Pull and bag mature tansy ragwort. Do not leave cut or dried plants on ground (toxic when dry and cut flowers can produce viable seed)

Bittersweet Nightshade (*Solanum dulcamara*)

This aggressive woody vine can form dense patches and blanket trees and shrubs along creeks

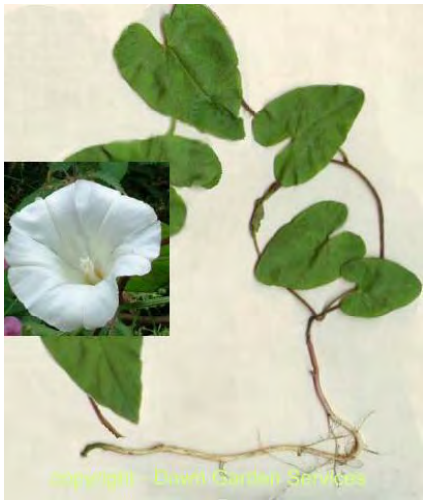
Bittersweet Nightshade Control

- Manual removal of roots can be effective
  - Hand pull the stem close to the ground and pull or dig up the roots, taking care not to break the slender roots
  - This method is most effective with young plants and new infestations
  - Be thorough because stem and root fragments can re-sprout
  - Along streams, need to prevent erosion, contain sediment
- Cutting may improve access to roots but won't control plants
- Chemical treatment: use care to avoid drift, spot spray or wipe on herbicides

Bindweed (Morning Glory)

(*Convolvulus arvensis* and *Calystegia sepium*)

Bindweed Control



- Frequent hand-pulling will eventually control plants
  - Need to pull up as much root as possible
  - Take care not to leave root fragments behind, they make more plants!!
- Covering plants with geotextile fabric/black plastic – at least 3 years of complete coverage
- Early detection/rapid response is crucial after clearing areas of blackberries and other invasives

For More Info on Noxious Weeds in King County:

http://www.kingcounty.gov/weeds

Weed Photo Page:

Search by Weed Name

Click thumbnail picture to get more information and photos

bighead knapweed

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