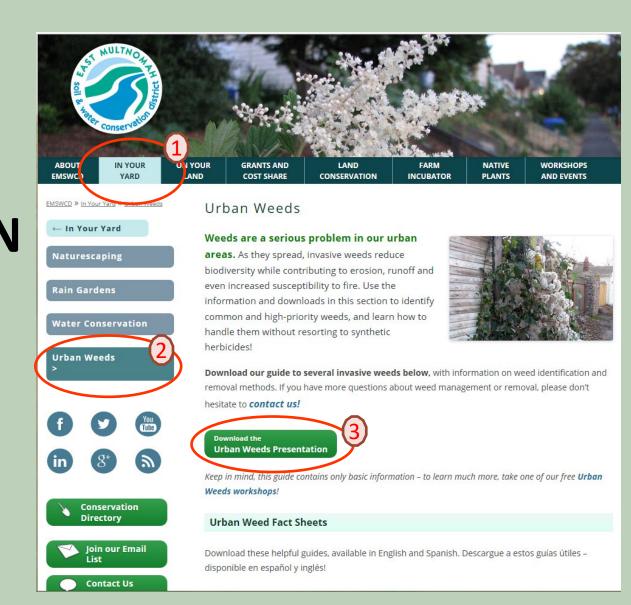


You're on indigenous land of the Cowlitz, Kathlamet, Clackamas, Atfalati, and Kalapuya.

https://native-land.ca/

THIS PRESENTATION IS AVAILABLE ON OUR WEBSITE!



Workshop Outline

What is a weed?

Why should we care?

Strategies in Weed Control

A Short Break

Urban Weeds

(Backyard, Waterways, Into Natural Areas, High Alert)

Q & A

Evaluations

What is a WEED?

- A) A plant that spreads rapidly
- B) A plant that isn't where it's wanted
- **C)** A plant that poses a considerable hazard
- D) A combination of the above

What is a WEED?

- A plant that is considered a nuisance, or troublesome that grows where it is not wanted and often spreads fast, taking the place of desired plants.
- A plant that is considered a hazard or that causes injury to people, animals, or a desired ecosystem or crop.
- This is the overarching term—most broad

Some Terminology to Know

Non-Native: "Exotic", "alien", and "non-indigenous" to the Willamette Valley (also: Ornamental)

Aggressive: fast moving/spreading plant.

Invasive: Those that spread into areas where they are not native and cause ecosystem level damage.

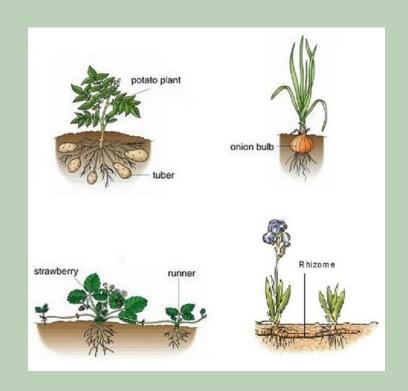
Noxious: Species (or groups of species) that have been legally designated as pests, for example by a county, state or federal agency.



Growth & Spread Terminology

Vegetative (roots, stems, rhizomes)

Reproductive (Seeds)







Impacts from Weeds

Economic



Habitat & Native Species



Ecosystem-level



What is the annual estimated impact of invasive species in the United States?

- **A)** \$13 billion
- **B)** \$72 billion
- **C)** \$143 billion
- **D)** \$206 billion

Economic Impacts

Invasive species cost the United States an estimated

\$143 billion ... per year!



\$84M per year (\$80M from just TWO species)

Impacts on Habitat & Native Species

Invasive species are a major threat to native species and habitats.



(1st or 2nd cause of extinction)

Ecosystem Level Impacts

Disturbance Regimes



Geomorphological Processes (*Erosion, Sedimentation*)



Hydrology

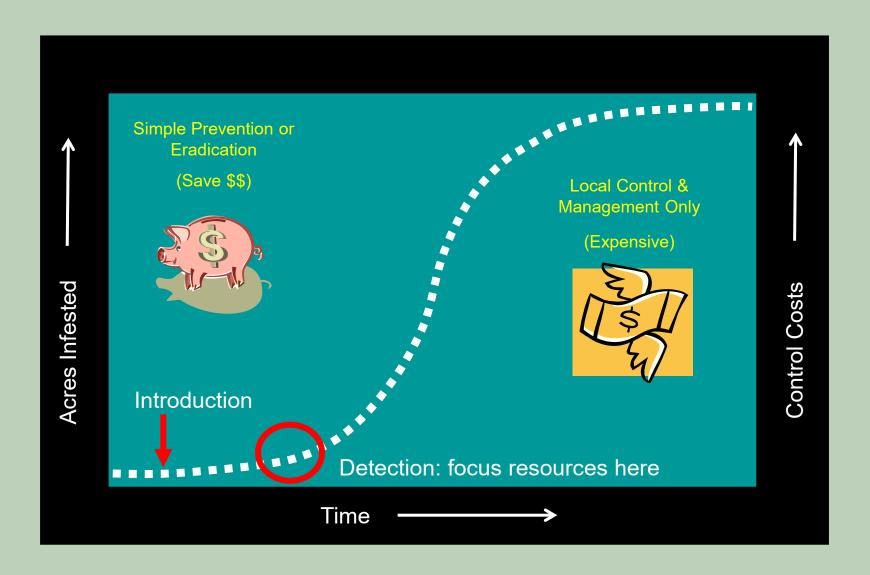


Soil Chemistry





Strategies in Invasive Plant Control



How can we help control weeds?

Your Role in Weed Control

- 1. Avoid purchasing potential weeds
- Control/remove the weeds on your property
- 3. Minimize the spread of weeds
- **4. Volunteer** to help clear out invasives from your favorite natural area



5. Attend a Naturescaping class or other similar class to learn more about how you can use native plants to transform your landscape into a healthy contributor to this ecosystem!

1. Avoid Purchasing Potential Weeds

 Take a weeds list with you when going to purchase plants

 Check contents when buying wildflower mixes. Many contain aggressive or invasive non-native species

1. Avoid Purchasing Potential Weeds

If there is a particular non-native plant you are interested in, be wary if it:

- Produces large amounts of seeds
- Provides berries for wildlife
- Spreads quickly by runners, underground roots or plant fragments
- Is unusually pest- and weather-resistant

2. Control Weeds on Your Property

The first step is identification:

- Inventory the plants on your property
- Take frequent walks around your yard making note of new growth and appearance of seedlings
- Make note of any plants spreading quickly or spontaneously coming up where you've not planted them

Control Methods

Mechanical

Mowing, hand pulling, cutting, burning

Cultural

Shading, plant appropriate competitive vegetation

Biological

Parasites, predators, and pathogens; typically a slow process

Chemical

Spraying, painting, usually most effective in fall; FOLLOW THE LABEL









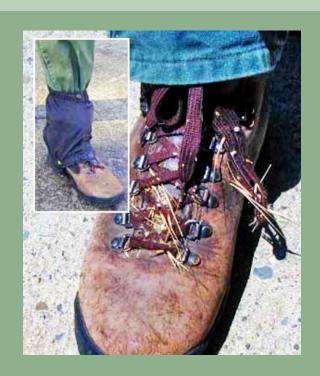
What's your favorite non-chemical way to control weeds?

- **A)** Mechanical (mowing, hand pulling, burning)
- **B)** Cultural (shading, planting competitive species
- **C)** Biological (parasites, predators, pathogens)

3. Minimize the Spread of Weeds

Weeds are spread by:

- Humans & Other Animals
- Machinery & Equipment
- Nature (wind, water, etc.)





3. Minimize the Spread of Weeds

Minimize your impact by:

- Leaving wildflowers in the wild
- Clean the seeds from your boots, bike tires, car tires and from your dog's fur before and after going into a natural area – leaving seeds where they may have originated
- Empty the bilge water from your boat and check the external portion of your boat to avoid spreading aquatic pests from one waterway to another.



And now for a short break!

Urban Weeds: Backyard Invaders









Hairy Bittercress

Cardamine hirsuta

Look for:

- Small round clumps in damp, recently disturbed soil
- Wiry green stems with small white flowers

Spreads:

- Growth via taproot in small clumps
- Birds, wind & rain

Removal:

- Hand pull or use small tool
- Early to mid-February

Other:

Pull these before the flowers go to seed





Dandelions

Taraxacum spp.

- Control dandelions when young and before they set seed
- Many new tools for home use available
- Although, dandelions are good for lawn!



Mosses

Common causes of moss in lawn:

- Lack of fertility
- Soil compaction
- Poor drainage
- Too much shade
- Poor soil aeration
- Low pH

Moss can tolerate more shade than grass, so it moves in as the grass thins out.





Creeping Jenny

Lysimachia nummularia

Look for:

Creeping/vining groundcover

Spreads:

Vegetatively

Removal:

- Hand pull where practical
- Remove all stems and fragments to prevent re-rooting
- Burn in spring or fall when green and other natives are dormant





Periwinkle

Vinca major

Look for:

Trailing vine with purple flowers

Spreads:

 Spreads along the ground, roots at the stems to form a dense mat

Removal:

- Raise the runners with a rake and dig out by hand
- You can also mow close to ground

Other:

 Round-up is ineffective due to waxiness of the leaves



Herb Robert

Geranium robertianum

Look for:

- Fuzzy red stems from a central rosette
- Similar foliage to Bleeding Heart.
- Notice flower with 5 petals is different than the bleeding "heart"

Spreads:

 Entirely by seeds capable of being ejected up to 20'

Removal:

Hand pull before it flowers and seeds

Other:

 Leaves smell awful when crushed





Comparison

Invasive Herb Robert

Native Bleeding Heart





Shining Geranium

Geranium lucidum

Look for:

- Red stems
- Shiny rounded, lobed leaves turn red near end of summer
- Tiny pink-purple flower
- Pointed "beak" at top of fruit pod

Spreads:

 Entirely by seeds capable of being ejected up to 20'

Removal:

Hand pull





Pokeweed

Phytolacca americana

Look for:

 Green or red stems with large, simple leaves and purple/black berries

Spreads:

 Seeds dispersed by birds eating berries and depositing offsite

Removal:

- Pull up young shoots making sure to get taproot
- Cut before it flowers & produces seed
- Dig out taproot of larger specimens

Other: plant and berries are toxic



Bishop's Weed

Aegopodium podagraria

Look for:

 Light blue-ish-green delicate foliage that is often, but not always, variagated.

Spreads:

 Rhizomes – creeping underground stems and roots

Removal:

- Dig up entire plant including underground roots. Dispose of soil.
- Be careful to get all fragments as they re-sprout.
- Monitor

Other:

 Keep monitoring for re-growth and maintain





Lesser Celandine

Ranunculus ficaria

Look for:

- Dark green, shiny leaves
- Yellow flowers with 8 petals
- Pale colored bulblet on stem
- February- May

Spreads:

Rhizomes, bulblets

Removal:

 Remove plant and surrounding soil when blooming in early spring





Bamboo

Look for:

Grass-like sprouts and rounded, tough stems

Spreads:

Rhizome – underground

Removal:

- Cut it off
- Cut it down
- Water the area
- Cut it down again

Other:

- If it spread from another stand, cut the roots that connect it.
- Don't use pesticides if connected to neighbors clump







Which of the following is just beginning to flower in the Portland area?

- A) Lesser celandine
- B) Yellow archangel
- C) Scotch broom

Urban Weeds: Along Waterways

- Research first!
 Many commonly used aquatics are invasive
- Always wash new plant introductions (think snails)
- Keep water garden separate from waterways
- Never dump water garden materials (or water) into local waterways



Purple Loosestrife

Lythrum salicaria

Look for:

- Square, woody stem with downy hair
- Magenta-colored flower spikes throughout much of the summer

Spreads:

- Underground rhizomes
- Prolific seeding

Removal:

Dig out entire root crown & remove all fragments



Yellow Flag Iris

Iris pseudacorus

Look for:

- Bright yellow flowers in typical iris form
- 3-sided, shiny green fruit
- Sword-like leaves in a fan-like pattern

Spreads:

- Vegetatively rhizomes
- Seed pods

Removal:

- Remove before it goes to seed
- Must dig out all root fragments

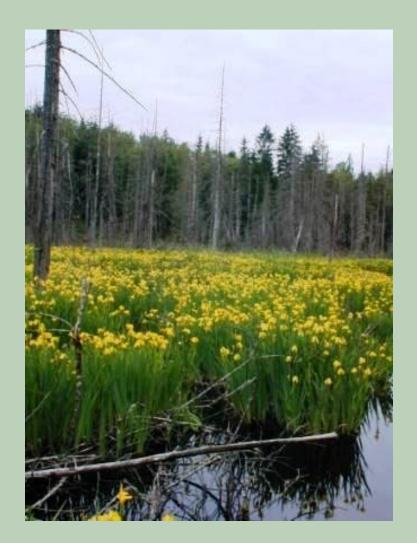


Yellow Flag Iris

Iris pseudacorus







Urban Weeds: Natural Areas











Butterfly Bush

Buddleia davidii

Look for:

- Pink, violet or blue flower spikes
- Velvety, lance-shaped, leaves green on top, fuzzy white on bottom

Spreads:

- Prolific seeding 3 Million(wind dispersal)
- Sterile varieties 2% viable (60,000 seeds)

Removal:

- Seedlings: Hand pick (be sure to get roots), then plant a native a ground cover
- Cut back repeatedly. (Grows back more vigorously when cut.)

Other:

• Disturbance from digging up encourages seedling growth and should be avoided if possible.





Tree of Heaven/ Stinking Sumac

Ailanthus altissima

Look for:

- Suckers coming from base of tree
- Large alternately arranged leaves with leaflets in pairs
- Smells of rancid peanut butter

Spreads:

- Spreads vegetatively, sprouting from stump and root portions
- Prolific seeding

Removal:

- Hand pull small seedlings before seeds
- Use weed wrench for saplings

Other:

Root system is aggressive enough to cause damage to sewers and foundations.





Weed Wrench!





Tree of Heaven/Stinking Sumac







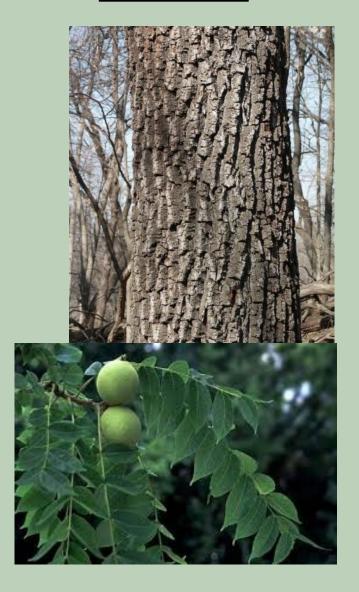


Comparison

Tree of Heaven



Black Walnut



English Holly

Ilex aquifolium

Look for:

- Evergreen shrub/tree with waxy, pointy leaves and red berries
- Grows up to 50' tall, 15'wide

Spreads:

- Seed Primarily dispersal by birds
- Vegetative suckers

Removal:

- Hand pull small seedlings
- Weed Wrench
- Cut and stump-treat/grind large ones





English Ivy

Hedera Helix

Look for:

- Vigorous woody vine
- Small white flowers in tight clusters

Spreads:

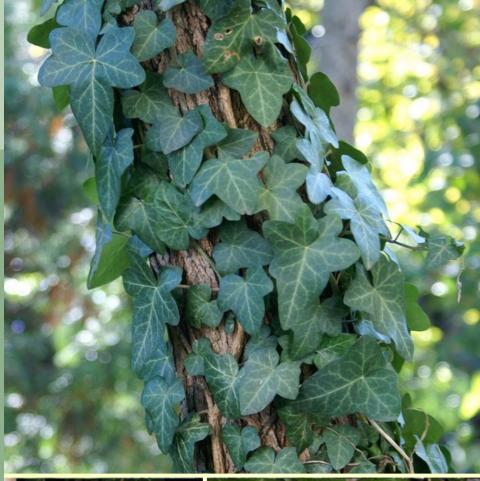
- Vegetatively by stem fragments
- Seed dispersal by birds

Removal:

- Cut from base of trees (or other structure) and dig out roots
- Cut flowers to prevent fruiting

Other:

Wear gloves – sap can cause dermatitis







English Ivy

Hedera Helix







Traveler's Joy

Clematis vitalba

Look for:

- Deciduous woody vine, 5 leaflets, white puffy seed tails
- Blankets other vegetation

Spreads:

- Vegetatively
- Seed dispersal by animals & rain

Removal:

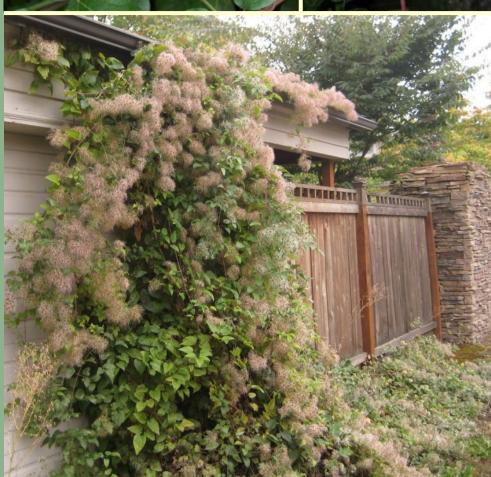
- Cut vine at base, dig out root if able
- Vines break easily at joints make several small tugs to remove from bushes

Other:

Retrieve as many seeds as possible & dispose in fire or trash







Traveler's Joy/Old Man's Beard

Clematis vitalba





Himalayan Blackberry

Rubus discolor

Look for:

- Thick, red arching canes
- Large, round, toothed leaves with 5 leaflets

Spreads:

- By stem fragments & rhizomes
- Seed dispersal by birds

Removal:

- Cut canes to 1ft, find "crown" & dig up
- Plant overstory plants to shade out
- Check monthly and continually cut back

Other:

Leather gloves are very helpful







And now for a short break!

What's an example of cultural control for Himalayan blackberry?

- **A)** Spray with systemic herbicide in the fall
- **B)** Cut canes at the ground and dig out the root mass
- **C)** Plant a dense grove of conifers to shade out the blackberries

Native (non-invasive)

Trailing blackberry – Rubus ursinus

How to tell it from the invasive blackberry



Glaucus (bluish-gray) "film" on canes.



Trailing (non arching – unless it's climbing something)

Generally 3-leaflets

Urban Weeds: High Alert New Invasives







Spurge Laurel

Daphne laureola

Look for:

- Dark green leaves are shiny on top, lighter on underside. Spirally arranged leaves cluster at shoot tips
- Yellow/green, bell shaped flowers emit a honey-like fragrance.
- Berries unripe are green, turn black when ripe

Spreads:

- Seeds dispersed by birds & rodents
- Vegetatively through root sprouts

Removal:

- Hand pull (with gloves) for small patch Larger shrubs must be dug out Weed Wrench

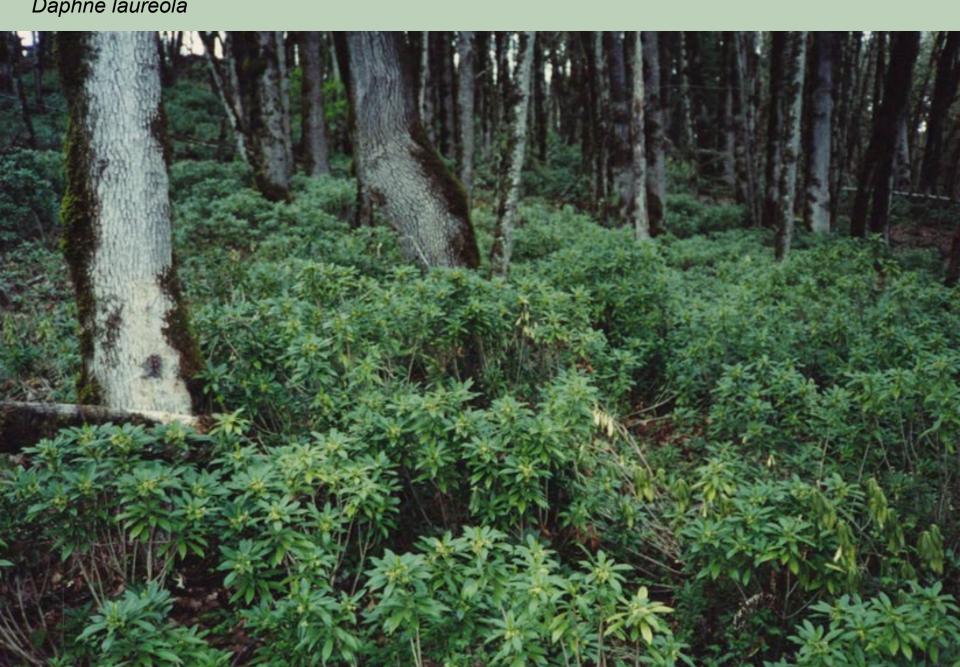
Other:

CAUTION: Toxic!





Spurge Laurel Daphne laureola



Yellow Archangel

Lamiastrum galeobdolon

Look for:

- Variegated leaves are opposite, oval and hairy with coarsely toothed edges
- Small, yellow hooded flowers grow in clusters at stem

Spreads:

 Spreads vegetatively by stem fragments. Also spreads by seed.

Removal:

- Dig up entire plant.
- Sheet mulch if infestation is large
- Monitor

Other:

Stems & roots tend to break off when pulled





Scotch Broom

Cytisus scoparius

Look for:

- Woody shrub with showy yellow flowers, grows to 10' tall
- Rigid bark, small leaves
- Seeds in pods that burst & scatter

Spreads:

Seeds projected from pod and remain viable

Removal:

- Pull small plants (and roots!) by hand
- Larger plants use weed wrench
- Over 2" in diameter & not green at base, cut as low as possible

Other: Allelopathic





Garlic Mustard

Alliaria petiolata

Look for:

- Year 1: small rosette of round, kidneyshaped leaves w/ scalloped edges
- Year 2: elongated flower stalk appears

Spreads:

Spread by people, animals, equipment

Removal:

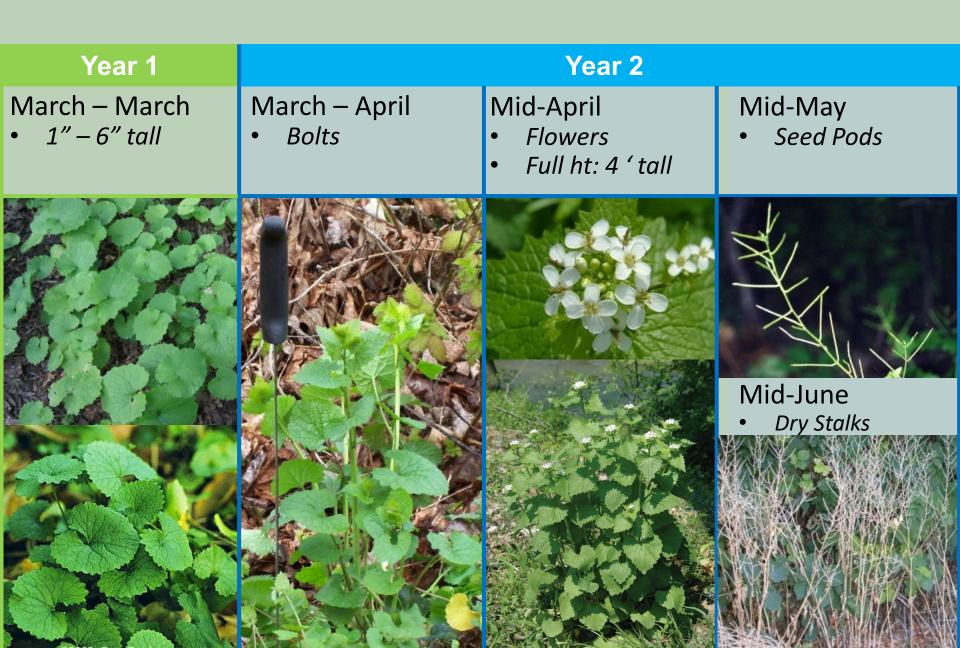
Hand-pull, dispose of in bag, in trash

Other:

Allelopathic



Garlic Mustard Biennial Life Cycle



Giant Hogweed

Heracleum mantegazzianum

Look for:

- Very tall plant (15-20')
- Large umbrella shaped flowers (May July)
- Hollow stalks with red-purple blotches
- Large (2-3' wide!) deeply incised leaves

Spreads:

Seeds

Removal:

Call Oregon Dept. of Ag –
 1-800-INVADER

Other:

TOXIC!



Giant Hogweed (Heracleum mantegazzianum)











Giant Hogweed Look-a-Likes

Cow Parsnip

Heracleum lanatum



Angelica

Angelica atropurpurea



Poison Hemlock Conium maculatum



Japanese Knotweed

Polygonum cuspidatum

Look for:

Large leaves, hollow reddish stems

Spreads:

 Vegetatively – root fragments get transported via humans, machinery

Removal:

- Cut back canes repeatedly
- Dig out EXTENSIVE root system only if you can remove ALL root fragments
- Package up and remove from site

Other:

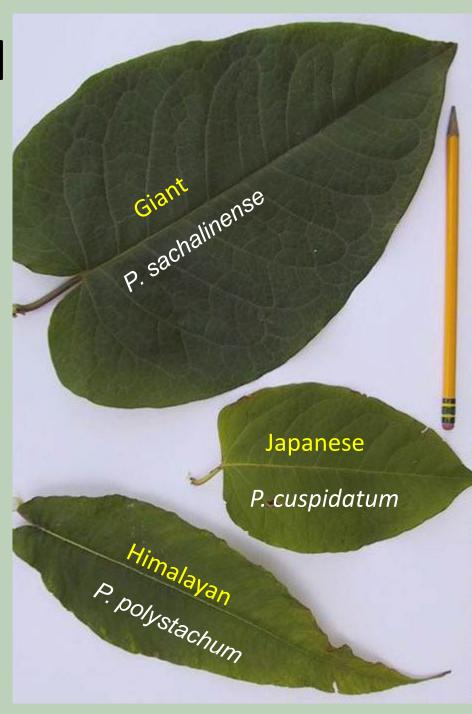
 Contact your county weed agency for help in controlling this extremely invasive weed

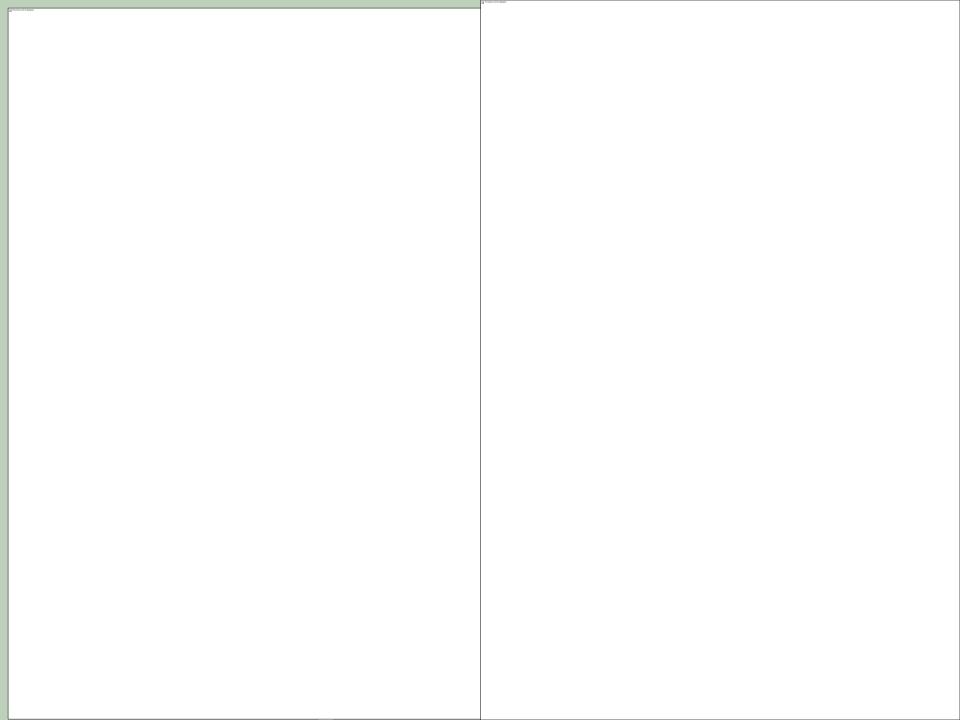


Japanese Knotweed

Polygonum cuspidatum







Kudzu

Pueraria lobata

Look for:

 Three Leaflets. Purple/pink pea-like flowers, pea-like seadpods

Spreads:

 Spread by runners and rhizomes and by vines that root at the nodes to form new plants & rarely by seed.

Removal: Call 1-800-INVADER

- Mow every month for two growing season.
- Removal of EXTENSIVE root crown any plant parts must be placed in plastic bag and sent to landfill or can be fed to cattle

Other:

Leguminous





Learn More

Portland Plant List – at the end of the document is the best weeds list to take to the nursery with you:

https://www.portlandoregon.gov/citycode/article/322280

Invasive Plant fact sheets:

http://www.invasive.org/species/weeds.cfm

If you spot Kudzu or other HOT Species contact ODA:

Invasive Species Council 1-800-INVADER (1-800-468-2337)

invasives-info@oda.state.or.us













INCORPORATE EDIBLES



INTRO TO NATURESCAPING



MANAGE WEEDS & PESTS



OUTDOOR WATER CONSERVATION