Enemies at the Gate: “New” Weeds in the Portland Metro Region

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Bureau of Environmental Services

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Invasive Plant Impacts

Impair water quality/quantity

- Alter hydrology (flow, erosion, interception, turbidity, nutrient cycling, etc.)
- Established populations = more herbicides
- Green infrastructure/facilities

Japanese knotweed along a stream.
Invasive Plant Impacts

• Rate of Spread/Dominance
  • Create monocultures
  • Change successional processes (early seral - “inv. apex”)
• Homogenize structure (above and below ground)
• Limit resources for native species (other plants, salmonids, avian, etc...)
Species we are treating...

- For restoration (widespread)
  - Irish and English ivies
  - Old man’s beard
  - English hawthorn
  - English laurel
  - English holly
  - Reed Canary grass
  - Yellow flag iris
  - Blackberries
  - Many others, small scale
“New” Invasive Plant Species

• Uncertain distribution for these
• Most are (likely) centered in PDX/SeaTac region
• Leaving out better known, locally abundant species (garlic mustard, spurge laurel)
• Coming soon to an area near you?
Species we are treating...

- **“EDRR”**
  - Garlic mustard
  - Purple loosestrife
  - False brome
  - Knotweeds
  - *Centaurea* spp.
  - Common reed
  - Yellow archangel
  - Spurge laurel
  - Milk thistle
  - Giant Hogweed
  - Pokeweed

- **EDRR NEWBIES**
  - Drooping sedge
  - Goatsrue
  - *Impatiens* spp.
  - ‘Coltsfoots’ (coltsfeet?)
  - Japanese angelica tree
  - *Ludwigia* spp.
  - Oblong spurge
  - Hawkweeds
  - Lesser celandine
  - Purpletop vervain
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Ludwigia species

Onagraceae

- *Ludwigia peploides ssp. peploides* (invasive)

- *Ludwigia peploides ssp. montevidensis*: floating primrose willow, marsh purslane (invasive)

- *Ludwigia hexapetela* false loosetrife, water primrose (invasive)

- *Ludwigia palustris* marsh seedbox, marsh primrose-willow (native; no concern)

Do I have Ludwigia?

- Is your wetland, pond, irrigation ditch, etc choked with a showy, yellow-flowered plant with reddish stems?

Is it native or not?

- Leaves opposite = native
- Leaves alternate/showy flowers = not
Ludwigia species

- Fill in slow moving waters
- Riparian zones
- Clog intakes, outflows
- Large amount of roots
- Spreads vegetatively and by seed (less common)
- Sporadic patches in the WV
- Determining distribution of these species is a top priority!
Ludwigia Control

What is my threshold?
• aquatic species difficult to treat, can have drastic impacts on water quality and habitat
• most aquatic systems “open” new material (plant parts, herbicide residues, etc.) can enter and leave
• easy to violate standards
• but... attempts should be made to control

Mechanical
• material should be removed from shorelines, water surface and cleared from outfall areas.
• this should occur when water levels are lowest and seed hasn’t set
• pile on site away from water.
• consider screening outfall
Goatsrue

Fabaceae

(*Galega officinalis* L.)

- Highly invasive
  - Massive perennial root crowns
  - Prolific seeder
- Habitat modifier
- Previously “eradicated” in OR
- Toxic
- Medicinal
- “A” designated OR/Class “A”
  - WA/ Federal Noxious 1981
  - MA, MN, NV, NC, PA, SC, VT
Goatsrue

- From the Middle East
- Cache Co, UT=60+ sq. mi
- Other reports...
- Cropland, fence-lines, pastures, roadsides, water-ways, and grasslands
  - [our most valuable pasture lands]
- Adapted to acid soils but broad tolerance
- Particularly lethal to sheep
- Small long-lived seeds easily dispersed
Goatsrue Identification

--pale pink pea-flowers

--hollow stem
Goatsrue Identification
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--7-15 leaflets with pointy tips; NO tendrils!

--small skinny pods that twist when dry

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Impatiens spp.

Balsaminaceae

- What species do I have and what do I do with it?
- Large genus with many invasives, hybrids
  - Massive annual biomass
  - Prolific seeder (and roots at nodes)
  - “melts away”
- *I. capensis*
- *I. balfourii*
- *I. glandulifera*
- *I. parviflora*
- others? (*I. bicolor*)
Impatiens spp.

- *I. capensis* (NOT native!)
Impatiens spp.

- *I. capensis*  
  
  (NOT native!)

- *I. glandulifera*
Impatiens spp.

- *I. balfourii*

- *I. bicolor*  
  (new to Americas!)
Impatiens spp.

- *I. parviflora* (new to OR)
Impatiens spp.

- *I. parviflora*
Impatiens spp.

• *I. parviflora*
Impatiens spp.

- As these *Impatiens* spp. are annuals, much can be done with smaller, new populations and elbow grease.

- But it is more difficult with larger infestations with large seed banks.

- Research has shown that the seeds of many Impatiens spp. are **not** long-lived.

*NATIVE* *I. noli-tangere* & *I. ecornuta*; courtesy of P. Zika
Coltsfoots (Coltsfeet?)

**Asteraceae**

- AKA “butterburs”
- Four species in the PNW
- Characteristics
  - Bloom first
  - Herbaceous perennials
  - Moist, open disturbed areas
  - Deep rhizomes
  - Seed and vegetative spread
- One native; three highly invasive
  - Petasites frigidus (native)
  - Petasites fragrans
  - Petasites japonicus
  - Tussilago farfara

Native sweet coltsfoot; pictures Jordan Jackson
Coltsfoot

- **Petasites japonicus**
  - Japanese butterbur aka, elephant ear, fuki, bog rhubarb
  - **BIG!**
  - Toxic (as are the others)
  - **Not** on OR or WA state lists

  - Larry1940 “...hardy in Portland, Oregon, mine have survived in pots with temperatures down to 16 F. They can be invasive, I double potted one in the ground, and it still escaped.”

- In Thurston & Skagit Co., WA
- Portland
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Coltsfoot

- **Petasites fragrans**
  - Winter heliotrope
  - One pop, banks of the Willamette in Corvallis
  - **Dense**, rapidly expanding growth
  - No OR, WA listing

- **Tussilago farfara**
  - Similar leaves to *P. fragrans* (but no serrate margin)
  - OR Rank “A”, no WA
  - Present PDX; King, Thur, Sno Co; BC, Vancouver Is.

- “Early successional”: mechanical not recommended; decrease disturbance, don’t allow seeding
Drooping sedge

- **Carex pendula**
  - AKA hanging, pendulous, weeping sedge
  - Looks (unfortunately) like *C. obnupta*
  - Rapidly spreading out and downstream from cultivation
  - Seattle, PDX-similar climates in NZ very problematic
  - Great control 2% gly

Bottom right photo: J C Schou
Drooping sedge

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Bottom left photo: Dave Brigante
Bottom right photo: J C Schou
Japanese angelica tree

- **Aralia elata**
  - Related to English/Irish ivy
  - Massive problem in deciduous woods, NE US
  - Birds spreading fruit
  - Limited in Portland area
Japanese angelica tree

- **Control**
  - “thousands” of seedlings per plant
  - Seed-bank takes years to deplete
  - Oak, ash ecosystems prime target
  - Chemical and mechanical in PA

Pictures, Sean Solomon
Japanese *angelica* tree

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*Pictures, Sean Solomon*
Oblong Spurge

- **Euphorbia oblongata**  
  *(eggleaf spurge)*

- sometimes hairy, sometimes not  
  ("ours" not)
- up to 1m high
- woody, running roots
- milky, caustic sap (toxic)
- "oblong" leaves
- OR "A" ranked
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Pokeweed

Phytolaccaceae

Phytolacca americana
Pokeweed

Smooth, hollow purplish stem

Leaves opposite, simple and entire

10 celled, fleshy berry w/ crimson juice

Up to 10 ft tall

Photo by Dr. John Meade, weed scientist emeritus
Rutgers Cooperative Extension

Robert H. Mohlenbrock. USDA NRCS.
Pokeweed

**Mechanical Control**
- prevent spread - clip flower heads
- pull seedlings in early spring
- dig larger plants out, early spring
- get *all* root fragments
- put ripe seed in trash

**Chemical control**
- only for difficult to reach roots/large infestation
- glyphosate products effective mid/late summer (will need follow-up)
- consider a licensed applicator
Lesser Celandine

- *Ranunculus ficaria*, (R. verna)

- succulent, dark green, shiny kidney- to heart-shaped leaves.
- bright, shiny yellow petals
- underground most of year
Lesser Celandine

• Extremely Difficult to Control
• Rapidly Spreading via Many Pathways

• Emerges earlier
• Dominates/outcompetes
• Leaves bare ground
• Prolific tubers
• Full shade to full sun
Lesser Celandine Lookalikes

Lookalikes
Lesser celandine has been confused with four native species; two of which are related. The two related species do not often occur (anymore) at lower elevations.

Viola sempervirens

Viola glabella

Caltha palustris

No “sepals”

Caltha leptosepela

All pictures Gerry Carr
Thanks!

- Observations and further questions?

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