



Bureau of Planning and Sustainability

Innovation. Collaboration. Practical Solutions.

Urban Forestry Commission Briefing Portland Plant List Update - Nuisance Plants List Candidate Summary April 21, 2016

Plant Name: Sycamore Maple (*Acer pseudo-platanus*)

PPL Nomination Request: Bureau of Environmental Services

Nomination factors:

- Prolifically seeding and spreading in Portland outside of cultivation for the last decade or more.
- Posing threat to natural areas by shading and crowding out native vegetation.
- City staff and partners expending significant resources to control the species.



Citations:

- Cited as, "An extremely aggressive ornamental that invades wetlands and riparian areas." Urbanizing Flora of Portland, Oregon 1806-2008 (Occasional Paper 3 of the Native Plant Society of Oregon, 2009) by J.A. Christy, A. Kimpo, V. Marttala, P.K. Gaddis, and N.L. Christy
- Listed as "Invasive" in City of Lake Oswego Invasive Species List:
https://www.ci.oswego.or.us/sites/default/files/fileattachments/planning/webpage/12530/invasive_tree_species_list_rev07-11-14.pdf?t=1460508441222
- Listed as invasive in Canada and the contiguous U.S. by the USDA:
<http://plants.usda.gov/core/profile?symbol=ACPS> "Aggressive Spreading Plant in Natural Areas", City of Eugene, OR: <https://www.eugene-or.gov/Archive/ViewFile/Item/1531>

Encountered:

- April Hill Park: "~5' on center; >2 acres. 2 years effort....Thousands of trees to 5" dbh" (D. Santner, R. Durocher)
- Lower Macleay: "Hundreds"
- Reed College: "Hotspot", "Thousands in the Canyon". (Zac Perry, Reed College Facilities Manager)
- Oaks Bottom: "Continuing problem....Hundreds" (J. Schiller)
- East Lents: "Several acres" (R. Durocher, D. Coe)
- Heron Lakes Golf Course region: "Significant resources expended on this species over the years" (T. Query)
- Johnson Creek riparian area. "This is clearly an invasive species in floodplains and wetlands." (M. Hughes)



- Brookside Wetland: (R. Durocher)
- Significant issue in the urban matrix, especially SE PDX, Ross Island (Maze).

Recommended PPL Rank: C



**City of Portland
Nuisance Plant Risk Assessment v. 1.0**

**City of Portland
Nuisance Plant Risk Assessment v. 1.0
Reviewer Evaluation Form**

Species: *Acer psuedopplantanus*

Assessor info:

Name: Michelle Delepine

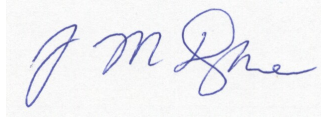
Affiliation: West Multnomah Soil & Water Conservation District

Mailing Address: 2701 NW Vaughn St, Ste 450, Portland, OR 97210

Phone: 503-238-4775, x115

Email: michelle@wmswcd.org

Date assessed: 5/6/15



Signature: _____

City of Portland Nuisance Plant Risk Assessment v. 1.0

Common name: sycamore maple

Scientific name:

Acer psuedoplatanus

Family Sapindaceae

For use with plant species that occur or may occur in Portland to determine their potential to become, or status as, nuisance plants. For each of the following categories, select the number that best applies. Numerical values are weighted to increase the value of important factors over less important ones. Choose the best number that applies, **intermediate scores can be used.**

Total Score: 52

Risk Category:

GEOGRAPHIC INFORMATION

- 1 Invasive in other areas
- 0 Low Not known to be invasive elsewhere.
 - 2 Medium Known to be invasive in climates dissimilar to Portland's current climate.
 - 6 High Known to be invasive in the region or geographically similar areas.**

Comments:

2. Habitat availability: Are there susceptible habitats for this species and how common or widespread are they in Portland?
- 1 Low Habitat is *very* limited or seemingly non-existent.
 - 3 Medium Habitat encompasses is *relatively* uncommon in Portland (i.e., gravel bars).
 - 6 High Habitat covers large regions, or is limited to a few locations of high economic or ecological value (e.g., rare species habitat such as Elk Rock Island).**

Comments:

Moist woodlands and wetlands where *A. psuedoplatanus* thrive are common and widespread throughout greater Portland. These are also the areas of highest habitat value.

3. Proximity to Portland: What is the current distribution of the species?
- 0 Present Occurs within Portland.**

- 1 Distant Occurs only in distant US regions or foreign countries.
- 3 Regional Occurs in Western regions of US but not adjacent to the Coast Range, Willamette Valley, or Cascade Mountain ecoregions.
- 5 Adjacent Weedy populations occur adjacent (<50 miles) to Portland border.

Comments:

4. Current distribution: What is the current distribution of escaped populations in Oregon?

- 0 Not present Not known to occur in Coast Range, Willamette Valley, or Cascade Mountain ecoregions.
- 1 Widespread Throughout much of above ecoregions (e.g., herb robert).
- 5 **Regional Abundant in parts of above ecoregions (e.g., shining geranium)**
- 10 Limited Limited to one or a few infestations in above ecoregions (e.g., goats rue).

Comments:

BIOLOGICAL INFORMATION

5. Environmental factors: do abiotic (non-living) factors in the environment affect establishment and spread of the species? (e.g., precipitation, drought, temperature, nutrient availability, soil type, slope, aspect, soil moisture, standing or moving water).

- 1 Low Severely confined by abiotic factors (e.g., common reed).
- 2 **Medium Moderately confined by environmental factors (e.g., herb Robert, Scots broom).**
- 4 High Highly adapted to a variety of environmental conditions (e.g., slender false brome).

Comments: ***Acer psuedopplantanus* is most invasive in riparian woodland/wetland settings.**

6. Reproductive traits: how does this species reproduce? Traits that may allow rapid population increase or complicate management and control.

- 0 Negligible Not self-fertile, or is dioecious and opposite sex not present.
- 1 Low Reproduction is only by seed, produces few seeds, or seed viability and longevity are low.
- 3 Medium Reproduction is vegetative (e.g., by root fragments, rhizomes, bulbs, stolons).
- 3 Medium Produces many seeds but seeds of short longevity (<5 years).
- 5 **High Produces many seeds and seeds moderately long-lived (>5 years) (e.g., garlic mustard).**
- 6 Very high Have two or more reproductive traits (e.g., seeds are long-lived [>10 years] and spreads by rhizomes).

Comments: ***Acer psuedopplantanus* is a prolific seed producer. Mature plants perennially disperse thousands of seeds. Samaras are easily transported fair distances via wind, as well as alluvial transport.**

7. Biological factors: do biotic (living) factors restrict establishment and spread of the species? [What is the interaction of plant competition, natural enemies, native herbivores, pollinators, and pathogens with species?]

- 1 High Biotic factors highly suppress reproduction or heavily damage plant for an extended period (e.g., biocontrol agents on tansy ragwort).
- 2 Medium Biotic factors partially restrict or moderately impact growth and reproduction, impacts sporadic or short-lived (e.g., biological agents on Canadian thistle).
- 4 **Low Few biotic interactions restrict growth and reproduction. Species expresses full growth and reproductive potential (e.g., reed canary grass).**

Comments:

8. Reproductive potential and spread after establishment - non-human factors: how well can the species spread by natural means?
- | | | |
|---|------------|--|
| 0 | Negligible | Insignificant potential for natural spread in Portland (e.g., ornamental plants outside of climate zone). |
| 2 | Low | Low potential for local spread within a year, has moderate reproductive potential or some mobility of propagules (e.g., mole plant). |
| 3 | Medium | Moderate potential for natural spread with either high reproductive potential or highly mobile propagules (e.g., propagules spread by moving water, or dispersed over longer distances by animals) (e.g., weeping sedge). |
| 5 | High | Potential for rapid natural spread throughout the susceptible range, high reproductive capacity and highly mobile propagules. Seeds are wind dispersed over large areas (e.g., orange hawkweed). |

Comments:

9. Potential of species to be spread by humans: what human activities contribute to spread of species? Examples include: recreation; interstate or international commerce; contaminated commodities; packing materials or products; vehicles, boats, or equipment movement; right of way and parks maintenance; or intentional introductions of ornamental and horticultural species.
- | | | |
|---|--------|---|
| 1 | Low | Potential for introduction or movement minimal (e.g., species not traded or sold, or species not found in commodities, mulch, gravel, seed mixes or other commercial products). |
| 3 | Medium | Potential for introduction or off-site movement moderate (e.g., not widely propagated, not highly popular, with limited market potential; may be a localized contaminant of gravel, landscape products, or other commercial products) (e.g., Canada thistle). |
| 5 | High | Potential to be introduced or moved within the region high (e.g., species widely propagated and sold; propagules common contaminant of agricultural commodities or commercial products; high potential for movement by contaminated vehicles and equipment, or by recreational activities) (e.g., spotted knapweed, water primrose spp). |

Comments:

Used in landscaping, seedlings may be passed through plant trade, etc.

IMPACT INFORMATION

10. Economic impact: What impact does/could the species have on Portland's infrastructure and economy?
- | | | |
|---|------------|---|
| 0 | Negligible | Causes few, if any, economic and/or infrastructural impacts. |
| 2 | Low | Potential to, or causes low economic impact to urban or natural areas (e.g., common vetch, creeping bent grass). |
| 5 | Medium | Potential to, or causes moderate impacts to urban areas, right-of-way maintenance, property values, recreational activities; increases costs and risks to a moderate extent (e.g., English/Irish ivy, Himalayan blackberry). |
| 8 | High | Potential to, or causes high impacts and risks in urban areas and natural areas, (e.g., kudzu, giant hogweed). |

Comments:

Seeds can easily germinate out of pavement cracks in sidewalks, foundations, etc which can cause substantial property damage (including city property/amenities).

11. Environmental Impact: what risks or harm to the environment does this species pose? Plant may cause negative impacts on ecosystem function, structure, and biodiversity of plant or fish and wildlife habitat; may put desired/rare species at risk.
- | | | |
|---|------------|---|
| 0 | Negligible | None of the above impacts probable. |
| 2 | Low | Can or does cause few or minor environmental impacts, or impacts occur in degraded or highly disturbed habitats (e.g., roadsides, vacant lots, etc.). |
| 5 | Medium | Species can or does cause moderate impacts in less critical habitats (e.g., urban parks, Environmental Zone private properties, etc.). |

8 High Species can or does cause significant impacts in several of the above categories. Plant causes severe impacts to priority habitats (e.g., aquatic, riparian corridors, Oregon white oak stands, species of concern sites, etc.).

Comments: *Acer psuedoplatanum* has demonstrated ability to proliferate and inundate high value habitat such as off-channel riparian corridors.

12. Impact on Health: What is the impact of this species on human and animal health? (e.g., poisonous if ingested, contact dermatitis, acute and chronic toxicity to livestock, toxic sap, injurious spines or prickles.

- 0 Negligible Has no impact on human or animal health.
- 2 Low May cause minor health problems of short duration, minor allergy symptoms (e.g., leafy spurge).
- 4 Medium May cause severe allergy problems, death or severe health problems through chronic toxicity, spines or toxic sap may cause significant injury. (e.g., giant hogweed, gorse).
- 7 High Causes death from ingestion of small amounts, acute toxicity (e.g. poison hemlock).

Comments:

CONTROL INFORMATION

13. Probability of detection at point of introduction: How likely is detection of species after introduction and naturalization?

- 1 High Grows where probability of early detection is high, showy and easily recognized by public; access to habitat not restricted. Easily identified by weed professionals, ranchers, botanists; some survey and detection infrastructure in place. General public may not recognize or report species (e.g., gorse).
- 5 Medium Probability of initial detection by weed professionals low. Plant shape and form obscure, not showy for much of growing season, plant resembles common species (e.g., weedy grasses, yellow-flowered hawkweeds).
- 10 Low

Comments: Infestations generally originate from large, ornamental specimens; easily identified from very small/young specimens to mature individuals.

14. Control efficacy: What level of control of this species can be expected with proper timing, herbicides, equipment, and biological control agents?

- 1 High Easily controlled by common, non-chemical control measures (e.g., mowing, pulling, and cutting; biocontrol is very effective at reducing seed production and plant density) (e.g., tansy ragwort). Somewhat difficult to control, generally requires herbicide treatment (e.g., mechanical control measures effective at preventing flowering and but not reducing plant density; herbicide applications provide a high rate of control in a single application; biocontrol provides partial control).
- 2 Medium Treatment options marginally effective or costly. Mechanical control efforts can increase plant density (e.g., rapid regrowth, spread from root fragments). Chemical control is marginally effective. Crop damage occurs or significant non-target impacts result from maximum control rates. Biocontrol agents ineffective or unknown.
- 4 Low No effective treatments known or control costs very expensive. Species may occur in large water bodies or river systems where containment or complete control is not achievable.
- 6 Negligible

Comments: Relatively easy to control, but large specimens may be costly to remove (especially when well-established in sensitive areas, etc)

**City of Portland
Nuisance Plant Risk Assessment v. 1.0**

**City of Portland
Nuisance Plant Risk Assessment v. 1.0
Reviewer Evaluation Form**

Species: *Acer pseudoplatanus* L.

Assessor info:

Name: Jeff Lesh

Affiliation: Clackamas County Soil & Water Conservation District

Mailing Address: 221 Molalla Ave, Suite 102 Oregon City, OR 97045

Phone: 503-210-6010

Email: jlesh@conservationdistrict.org

Date assessed: January 30, 2015

Signature: _____

City of Portland

Nuisance Plant Risk Assessment v. 1.0

Common name: sycamore maple

Scientific name: *Acer pseudoplatanus* L.

Family: Aceraceae

For use with plant species that occur or may occur in Portland to determine their potential to become, or status as, nuisance plants. For each of the following categories, select the number that best applies. Numerical values are weighted to increase the value of important factors over less important ones. Choose the best number that applies, **intermediate scores can be used**.

Total Score:

Risk Category:

GEOGRAPHIC INFORMATION

- | | | |
|---|---|--|
| 1 | 6 | Invasive in other areas |
| | 0 | Low Not known to be invasive elsewhere. |
| | 2 | Medium Known to be invasive in climates dissimilar to Portland's current climate. |
| | 6 | High Known to be invasive in the region or geographically similar areas. |

Comments:

- | | | |
|----|---|---|
| 2. | 5 | Habitat availability: Are there susceptible habitats for this species and how common or widespread are they in Portland? |
| | 1 | Low Habitat is <i>very</i> limited or seemingly non-existent. |
| | 3 | Medium Habitat encompasses is <i>relatively</i> uncommon in Portland (i.e., gravel bars). |
| | 6 | High Habitat covers large regions, or is limited to a few locations of high economic or ecological value (e.g., rare species habitat such as Elk Rock Island). |

Comments:

- | | | |
|----|---|---|
| 3. | 0 | Proximity to Portland: What is the current distribution of the species? |
| | 0 | Present Occurs within Portland. |
| | 1 | Distant Occurs only in distant US regions or foreign countries. |
| | 3 | Regional Occurs in Western regions of US but not adjacent to the Coast Range, Willamette Valley, or Cascade Mountain ecoregions. |
| | 5 | Adjacent Weedy populations occur adjacent (<50 miles) to Portland border. |

Comments:

- | | | |
|----|---|--|
| 4. | 5 | Current distribution: What is the current distribution of escaped populations in Oregon? |
| | 0 | Not present Not known to occur in Coast Range, Willamette Valley, or Cascade Mountain ecoregions. |
| | 1 | Widespread Throughout much of above ecoregions (e.g., herb robert). |

- 5 Regional Abundant in parts of above ecoregions (e.g., shining geranium)
- 10 Limited Limited to one or a few infestations in above ecoregions (e.g., goats rue).

Comments:

BIOLOGICAL INFORMATION

5. 4 Environmental factors: do abiotic (non-living) factors in the environment affect establishment and spread of the species? (e.g., precipitation, drought, temperature, nutrient availability, soil type, slope, aspect, soil moisture, standing or moving water).
- 1 Low Severely confined by abiotic factors (e.g., common reed).
 - 2 Medium Moderately confined by environmental factors (e.g., herb Robert, Scots broom).
 - 4 High Highly adapted to a variety of environmental conditions (e.g., slender false brome).

Comments:

6. 3 Reproductive traits: how does this species reproduce? Traits that may allow rapid population increase or complicate management and control.
- 0 Negligible Not self-fertile, or is dioecious and opposite sex not present.
 - 1 Low Reproduction is only by seed, produces few seeds, or seed viability and longevity are low.
 - 3 Medium Reproduction is vegetative (e.g., by root fragments, rhizomes, bulbs, stolons).
 - 3 Medium Produces many seeds but seeds of short longevity (<5 years).
 - 5 High Produces many seeds and seeds moderately long-lived (>5 years) (e.g., garlic mustard).
 - 6 Very high Have two or more reproductive traits (e.g., seeds are long-lived [>10 years] and spreads by rhizomes).

Comments:

7. 2 Biological factors: do biotic (living) factors restrict establishment and spread of the species? [What is the interaction of plant competition, natural enemies, native herbivores, pollinators, and pathogens with species?]
- 1 High Biotic factors highly suppress reproduction or heavily damage plant for an extended period (e.g., biocontrol agents on tansy ragwort).
 - 2 Medium Biotic factors partially restrict or moderately impact growth and reproduction, impacts sporadic or short-lived (e.g., biological agents on Canadian thistle).
 - 4 Low Few biotic interactions restrict growth and reproduction. Species expresses full growth and reproductive potential (e.g., reed canary grass).

Comments:

8. 3 Reproductive potential and spread after establishment - non-human factors: how well can the species spread by natural means?
- 0 Negligible Insignificant potential for natural spread in Portland (e.g., ornamental plants outside of climate zone).
 - 2 Low Low potential for local spread within a year, has moderate reproductive potential or some mobility of propagules (e.g., mole plant).
 - 3 Medium Moderate potential for natural spread with either high reproductive potential or highly mobile propagules (e.g., propagules spread by moving water, or dispersed over longer distances by animals) (e.g., weeping sedge).

	5	High	Potential for rapid natural spread throughout the susceptible range, high reproductive capacity and highly mobile propagules. Seeds are wind dispersed over large areas (e.g., orange hawkweed).
Comments:			
9.	5		Potential of species to be spread by humans: what human activities contribute to spread of species? Examples include: recreation; interstate or international commerce; contaminated commodities; packing materials or products; vehicles, boats, or equipment movement; right of way and parks maintenance; or intentional introductions of ornamental and horticultural species.
	1	Low	Potential for introduction or movement minimal (e.g., species not traded or sold, or species not found in commodities, mulch, gravel, seed mixes or other commercial products).
	3	Medium	Potential for introduction or off-site movement moderate (e.g., not widely propagated, not highly popular, with limited market potential; may be a localized contaminant of gravel, landscape products, or other commercial products) (e.g., Canada thistle).
	5	High	Potential to be introduced or moved within the region high (e.g., species widely propagated and sold; propagules common contaminant of agricultural commodities or commercial products; high potential for movement by contaminated vehicles and equipment, or by recreational activities) (e.g., spotted knapweed, water primrose spp).
Comments:			

IMPACT INFORMATION

10.	5		Economic impact: What impact does/could the species have on Portland's infrastructure and economy?
	0	Negligible	Causes few, if any, economic and/or infrastructural impacts.
	2	Low	Potential to, or causes low economic impact to urban or natural areas (e.g., common vetch, creeping bent grass).
	5	Medium	Potential to, or causes moderate impacts to urban areas, right-of-way maintenance, property values, recreational activities; increases costs and risks to a moderate extent (e.g., English/Irish ivy, Himalayan blackberry).
	8	High	Potential to, or causes high impacts and risks in urban areas and natural areas, (e.g., kudzu, giant hogweed).
Comments:			
11.	6		Environmental Impact: what risks or harm to the environment does this species pose? Plant may cause negative impacts on ecosystem function, structure, and biodiversity of plant or fish and wildlife habitat; may put desired/rare species at risk.
	0	Negligible	None of the above impacts probable.
	2	Low	Can or does cause few or minor environmental impacts, or impacts occur in degraded or highly disturbed habitats (e.g., roadsides, vacant lots, etc.).
	5	Medium	Species can or does cause moderate impacts in less critical habitats (e.g., urban parks, Environmental Zone private properties, etc.).
	8	High	Species can or does cause significant impacts in several of the above categories. Plant causes severe impacts to priority habitats (e.g., aquatic, riparian corridors, Oregon white oak stands, species of concern sites, etc.).
Comments:			
12.	0		Impact on Health: What is the impact of this species on human and animal health? (e.g., poisonous if ingested, contact dermatitis, acute and chronic toxicity to livestock, toxic sap, injurious spines or prickles.
	0	Negligible	Has no impact on human or animal health.
	2	Low	May cause minor health problems of short duration, minor allergy symptoms (e.g., leafy spurge).

	4	Medium	May cause severe allergy problems, death or severe health problems through chronic toxicity, spines or toxic sap may cause significant injury. (e.g., giant hogweed, gorse).	
	7	High	Causes death from ingestion of small amounts, acute toxicity (e.g. poison hemlock).	
Comments:				
CONTROL INFORMATION				
13.	4	Probability of detection at point of introduction: How likely is detection of species after introduction and naturalization?		
	1	High	Grows where probability of early detection is high, showy and easily recognized by public; access to habitat not restricted.	
	5	Medium	Easily identified by weed professionals, ranchers, botanists; some survey and detection infrastructure in place. General public may not recognize or report species (e.g., gorse).	
	10	Low	Probability of initial detection by weed professionals low. Plant shape and form obscure, not showy for much of growing season, plant resembles common species (e.g., weedy grasses, yellow-flowered hawkweeds).	
Comments:				
14.	2	Control efficacy: What level of control of this species can be expected with proper timing, herbicides, equipment, and biological control agents?		
	1	High	Easily controlled by common, non-chemical control measures (e.g., mowing, pulling, and cutting; biocontrol is very effective at reducing seed production and plant density) (e.g., tansy ragwort).	
	2	Medium	Somewhat difficult to control, generally requires herbicide treatment (e.g., mechanical control measures effective at preventing flowering and but not reducing plant density; herbicide applications provide a high rate of control in a single application; biocontrol provides partial control).	
	4	Low	Treatment options marginally effective or costly. Mechanical control efforts can increase plant density (e.g., rapid regrowth, spread from root fragments). Chemical control is marginally effective. Crop damage occurs or significant non-target impacts result from maximum control rates. Biocontrol agents ineffective or unknown.	
	6	Negligible	No effective treatments known or control costs very expensive. Species may occur in large water bodies or river systems where containment or complete control is not achievable.	
Comments:				
CATEGORY SCORES:				
16	Geographic score (Add scores from 1 – 4)			
17	Biological score (Add scores 5 – 9)			
11	Impact score (Add scores 10 – 12)			
6	Control score (Add scores 13 – 14)			
50	Total Score for species (Scores 1 – 14)			
RISK CATEGORIES:				
	A – Scores of 70-90	B – Scores of 50-70	C – Scores of 40-50	D – Scores of 30-40

This Risk Assessment was modified by the City of Portland from the USDA-APHIS Risk Assessment for the Introduction of New Plant species and the Oregon Department of Agriculture’s Noxious Qualitative Weed Risk Assessment v. 3.6 using [An Invasive Species Assessment Protocol: Evaluating Non-Native Plants for Their Impact on Biodiversity](#). NatureServe, Arlington, Virginia by Morse, Randall, Benton, Hiebert, and Lu. **City of Portland version 1.0 7/25/13**

**City of Portland
Nuisance Plant Risk Assessment v. 1.0**

**City of Portland
Nuisance Plant Risk Assessment v. 1.0
Reviewer Evaluation Form**

Species: *Acer pseudoplatanus*, (Sycamore Maple)

Assessor info:

Name: Samuel Leininger

Affiliation: Clackamas County Soil and Water Conservation District

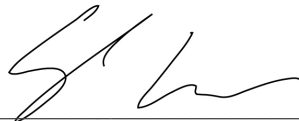
Mailing Address: 221 Molalla Ave. Suite 102 Oregon City, OR 97045

Phone: 503-210-6006

Email: sleininger@conservationdistrict.org

Date assessed: February 25, 2015

Signature: _____



City of Portland

Nuisance Plant Risk Assessment v. 1.0

Common name: Sycamore Maple
Scientific name: *Acer pseudoplatanus*
Family: Aceraceae

For use with plant species that occur or may occur in Portland to determine their potential to become, or status as, nuisance plants. For each of the following categories, select the number that best applies. Numerical values are weighted to increase the value of important factors over less important ones. Choose the best number that applies, **intermediate scores can be used**.

Total Score: 33

Risk Category:

GEOGRAPHIC INFORMATION

1	Invasive in other areas		
	0	Low	Not known to be invasive elsewhere.
5	2	Medium	Known to be invasive in climates dissimilar to Portland's current climate.
	6	High	Known to be invasive in the region or geographically similar areas.
Comments:	Listed as noxious in the Northeastern US. Identified as invasive in UK, Ireland, Chile, and Australia		
2.	Habitat availability: Are there susceptible habitats for this species and how common or widespread are they in Portland?		
	1	Low	Habitat is <i>very</i> limited or seemingly non-existent.
	3	Medium	Habitat encompasses is <i>relatively</i> uncommon in Portland (i.e., gravel bars).
6	6	High	Habitat covers large regions, or is limited to a few locations of high economic or ecological value (e.g., rare species habitat such as Elk Rock Island).
Comments:	Tolerates shade and a diverse set of soils		
3.	Proximity to Portland: What is the current distribution of the species?		
0	0	Present	Occurs within Portland.
	1	Distant	Occurs only in distant US regions or foreign countries.
	3	Regional	Occurs in Western regions of US but not adjacent to the Coast Range, Willamette Valley, or Cascade Mountain ecoregions.
	5	Adjacent	Weedy populations occur adjacent (<50 miles) to Portland border.
Comments:	Present but not well documented in Portland. Omitted from Plants database, Oregon Flora. Urbanizing Flora cites it as occurring occasionally in urban wetlands and shaded riparian areas.		
4.	Current distribution: What is the current distribution of escaped populations in Oregon?		
	0	Not present	Not known to occur in Coast Range, Willamette Valley, or Cascade Mountain ecoregions.
1	1	Widespread	Throughout much of above ecoregions (e.g., herb robert).

	5	Regional	Abundant in parts of above ecoregions (e.g., shining geranium)
	10	Limited	Limited to one or a few infestations in above ecoregions (e.g., goats rue).
Comments:	This has been commercially available locally since 1912, with a number of named cultivars.		
BIOLOGICAL INFORMATION			
5.	Environmental factors: do abiotic (non-living) factors in the environment affect establishment and spread of the species? (e.g., precipitation, drought, temperature, nutrient availability, soil type, slope, aspect, soil moisture, standing or moving water).		
	1	Low	Severely confined by abiotic factors (e.g., common reed).
3	2	Medium	Moderately confined by environmental factors (e.g., herb Robert, Scots broom).
	4	High	Highly adapted to a variety of environmental conditions (e.g., slender false brome).
Comments:	Tolerates dense shade		
6.	Reproductive traits: how does this species reproduce? Traits that may allow rapid population increase or complicate management and control.		
	0	Negligible	Not self-fertile, or is dioecious and opposite sex not present.
	1	Low	Reproduction is only by seed, produces few seeds, or seed viability and longevity are low.
	3	Medium	Reproduction is vegetative (e.g., by root fragments, rhizomes, bulbs, stolons).
3	3	Medium	Produces many seeds but seeds of short longevity (<5 years).
	5	High	Produces many seeds and seeds moderately long-lived (>5 years) (e.g., garlic mustard).
	6	Very high	Have two or more reproductive traits (e.g., seeds are long-lived [>10 years] and spreads by rhizomes).
Comments:	Seed production reported as high in 4 County CWMA plant list, and Urbanizing Flora		
7.	Biological factors: do biotic (living) factors restrict establishment and spread of the species? [What is the interaction of plant competition, natural enemies, native herbivores, pollinators, and pathogens with species?]		
	1	High	Biotic factors highly suppress reproduction or heavily damage plant for an extended period (e.g., biocontrol agents on tansy ragwort).
2	2	Medium	Biotic factors partially restrict or moderately impact growth and reproduction, impacts sporadic or short-lived (e.g., biological agents on Canadian thistle).
	4	Low	Few biotic interactions restrict growth and reproduction. Species expresses full growth and reproductive potential (e.g., reed canary grass).
Comments:	Seems to be associated with wet sites under shaded conditions.		
8.	Reproductive potential and spread after establishment - non-human factors: how well can the species spread by natural means?		
	0	Negligible	Insignificant potential for natural spread in Portland (e.g., ornamental plants outside of climate zone).
	2	Low	Low potential for local spread within a year, has moderate reproductive potential or some mobility of propagules (e.g., mole plant).
3	3	Medium	Moderate potential for natural spread with either high reproductive potential or highly mobile propagules (e.g., propagules spread by moving water, or dispersed over longer distances by animals) (e.g., weeping sedge).

	5	High	Potential for rapid natural spread throughout the susceptible range, high reproductive capacity and highly mobile propagules. Seeds are wind dispersed over large areas (e.g., orange hawkweed).
Comments:	Seed is wind dispersed, with potential for secondary dispersal by water.		
9.	Potential of species to be spread by humans: what human activities contribute to spread of species? Examples include: recreation; interstate or international commerce; contaminated commodities; packing materials or products; vehicles, boats, or equipment movement; right of way and parks maintenance; or intentional introductions of ornamental and horticultural species.		
	1	Low	Potential for introduction or movement minimal (e.g., species not traded or sold, or species not found in commodities, mulch, gravel, seed mixes or other commercial products).
	3	Medium	Potential for introduction or off-site movement moderate (e.g., not widely propagated, not highly popular, with limited market potential; may be a localized contaminant of gravel, landscape products, or other commercial products) (e.g., Canada thistle).
5	5	High	Potential to be introduced or moved within the region high (e.g., species widely propagated and sold; propagules common contaminant of agricultural commodities or commercial products; high potential for movement by contaminated vehicles and equipment, or by recreational activities) (e.g., spotted knapweed, water primrose spp).
Comments:	This species is commercially sold with a number of vendors. Multiple named cultivars present.		

IMPACT INFORMATION

10.	Economic impact: What impact does/could the species have on Portland's infrastructure and economy?		
	0	Negligible	Causes few, if any, economic and/or infrastructural impacts.
2	2	Low	Potential to, or causes low economic impact to urban or natural areas (e.g., common vetch, creeping bent grass).
	5	Medium	Potential to, or causes moderate impacts to urban areas, right-of-way maintenance, property values, recreational activities; increases costs and risks to a moderate extent (e.g., English/Irish ivy, Himalayan blackberry).
	8	High	Potential to, or causes high impacts and risks in urban areas and natural areas, (e.g., kudzu, giant hogweed).
Comments:	Some potential impact to sidewalk maintenance, increased leaf and litter fall		
11.	Environmental Impact: what risks or harm to the environment does this species pose? Plant may cause negative impacts on ecosystem function, structure, and biodiversity of plant or fish and wildlife habitat; may put desired/rare species at risk.		
	0	Negligible	None of the above impacts probable.
	2	Low	Can or does cause few or minor environmental impacts, or impacts occur in degraded or highly disturbed habitats (e.g., roadsides, vacant lots, etc.).
4	5	Medium	Species can or does cause moderate impacts in less critical habitats (e.g., urban parks, Environmental Zone private properties, etc.).
	8	High	Species can or does cause significant impacts in several of the above categories. Plant causes severe impacts to priority habitats (e.g., aquatic, riparian corridors, Oregon white oak stands, species of concern sites, etc.).
Comments:	Would displace vegetation, with potential for invasion into forest understory		
12.	Impact on Health: What is the impact of this species on human and animal health? (e.g., poisonous if ingested, contact dermatitis, acute and chronic toxicity to livestock, toxic sap, injurious spines or prickles.		
0	0	Negligible	Has no impact on human or animal health.
	2	Low	May cause minor health problems of short duration, minor allergy symptoms (e.g., leafy spurge).

	4	Medium	May cause severe allergy problems, death or severe health problems through chronic toxicity, spines or toxic sap may cause significant injury. (e.g., giant hogweed, gorse).
	7	High	Causes death from ingestion of small amounts, acute toxicity (e.g. poison hemlock).
Comments:	No documented threat to human health.		
CONTROL INFORMATION			
13.	Probability of detection at point of introduction: How likely is detection of species after introduction and naturalization?		
5	1	High	Grows where probability of early detection is high, showy and easily recognized by public; access to habitat not restricted.
	5	Medium	Easily identified by weed professionals, ranchers, botanists; some survey and detection infrastructure in place. General public may not recognize or report species (e.g., gorse).
	10	Low	Probability of initial detection by weed professionals low. Plant shape and form obscure, not showy for much of growing season, plant resembles common species (e.g., weedy grasses, yellow-flowered hawkweeds).
Comments:	Could be confused with other co-occurring maple species. Cultivars may confuse identification		
14.	Control efficacy: What level of control of this species can be expected with proper timing, herbicides, equipment, and biological control agents?		
3	1	High	Easily controlled by common, non-chemical control measures (e.g., mowing, pulling, and cutting; biocontrol is very effective at reducing seed production and plant density) (e.g., tansy ragwort).
	2	Medium	Somewhat difficult to control, generally requires herbicide treatment (e.g., mechanical control measures effective at preventing flowering and but not reducing plant density; herbicide applications provide a high rate of control in a single application; biocontrol provides partial control).
	4	Low	Treatment options marginally effective or costly. Mechanical control efforts can increase plant density (e.g., rapid regrowth, spread from root fragments). Chemical control is marginally effective. Crop damage occurs or significant non-target impacts result from maximum control rates. Biocontrol agents ineffective or unknown.
	6	Negligible	No effective treatments known or control costs very expensive. Species may occur in large water bodies or river systems where containment or complete control is not achievable.
Comments:	Control is effective, without considerable follow up. Exhaustion of seed bank may be required.		