### Step I: Invasion Status

**Directions:** Place an "X" in the Score column next to the selected answer to each of the four questions.

1. **Is this plant known to occur in the state and listed as "noxious" on any federal or Ohio Department of Agriculture plant list?**
   - Yes. Place on invasive plant list, no further investigation needed. **STOP**
   - No. Continue on to question 2.

2. **Has this plant demonstrated widespread dispersion and establishment (i.e. high numbers of individuals forming dense stands) in natural areas across two or more regions in Ohio?**
   - Yes. Place on invasive plant list, no further investigation needed. **STOP**
   - No. Continue on to question 3.
   - Unknown

3. **Does this plant form self-replicating populations outside of cultivation in Ohio and is it documented to alter the composition, structure, or normal processes or functions of a natural ecosystem?**
   - Yes
   - No
   - Unknown

4. **Is the plant listed as invasive in an adjoining state or a nearby state east of the Mississippi within the USDA Plant Hardiness zones 5-6?**
   - Yes
   - No
   - Unknown

If the answer was yes for both questions 3 and 4, the plant is placed on the invasive plant list and no further research is needed. **STOP** Here. If the answer is no for both questions 3 and 4, the plant is not considered invasive and no further investigation is warranted. Otherwise, proceed to Step II.

### Step II: Invasion Status

**Directions:** Place the appropriate numerical score (or "U") in the Score column next to the selected answer to each of these 18 questions.

1. **Current Invasion in Ohio**
   - Plant is not found in natural areas (0 pts.)
   - Plant is found in natural areas but only because it persist from previous planting in that location (e.g. old home sites) (0 pts.)
   - Plant is only expanding from sites of previous planting (1 pt.)
   - Plant occurs in natural areas away from site of planting (3 pts.)
   - Information unknown (U)

2. **State Distribution**
   - Plant is not naturalized in any region of Ohio (0 pts.)
   - Plant is naturalized in only one region in Ohio (1 pt.)
   - Plant is naturalized in two regions in Ohio (2 pts.)
   - Plant is naturalized in three regions in Ohio (3 pts.)
   - Plant is naturalized in four regions in Ohio (4 pts.)
   - Plant is naturalized in five regions in Ohio (5 pts.)
   - Information unknown (U)

3. **Regional/US Distribution**
   - Plant is not considered to be a problem in any other state (0 pts.)
   - Plant has been reported as a widespread problem in another non-neighboring state within the USDA Plant Hardiness Zones 5-6 (1 pt.)
   - Plant has been reported to be a widespread problem in 1-2 adjoining states (3 pts.)
   - Plant has been reported to be a widespread problem in 3 or more adjoining states (5 pts.)
   - Plant has been reported to be a widespread problem in similar habitat outside the US (1 pt.)

Score | Notes | References
--- | --- | ---
5 | PA, IN, MI, WV, CT, MA | 1,2,3,4,5,6
3 | Expansion from old home sites is certainly a factor in the current invasion of species, but species is now found in natural areas away from site of planting. | 10, 11
5 | | 1
### Step II: Biological Characters

#### 4. Vegetative Reproduction
- no vegetative reproduction (0 pts.)
- reproduces readily within the original site (1 pt.)
- has runners or spreading rhizomes that root easily (3 pts.)
- fragments easily and fragments can be easily dispersed (4 pts.)
- information unknown (U)

#### 5. Sexual Reproduction
- no sexual reproduction (0 pts.)
- infrequent sexual reproduction (1 pt.)
- frequent sexual reproduction, but high variation among years in seed production (3 pts.)
- frequent sexual reproduction (one or more events per year) (5 pts.)
- information unknown (U)

#### 6. Number of Viable Seeds or Propagules Per Plant
- few (0-10) (1 pt.)
- moderate (11-1,000) (3 pts.)
- prolific (>1,000) (5 pts.)
- information unknown (U)

#### 7. Flowering Period
- one month or less per year (0 pts.)
- two months (1 pt.)
- three to five months (2 pts.)
- longer than five months (3 pts.)
- information unknown (U)

#### 8. Dispersal Ability
- low potential for long-distance seed/propagule dispersal (>1km) (0 pts.)
- medium potential for long-distance seed/propagule dispersal (3 pts.)
- high potential for long-distance seed/propagule dispersal (5 pts.)
- information unknown (U)

#### 9. Generation Time
- long juvenile period (>5 or more years for trees, 3 or more years for other growth forms) (0 pts.)

#### References
1, 2, 3, 4, 5, 6
8, 9, 11, 14
10, 11, 13
7, 14
### Step I
- **Establishment**
  - Information unknown (UI)

### Step II
- **Ecological Importance**
  - Moderate effects on ecosystem-level processes (e.g., changes in nutrient cycling) (3 pts.)
  - Causes long-term, substantial alterations in the ecosystem (e.g., changing fire regime of an area, changing hydrology of wetlands) (6 pts.)

### Steps
- **Step II: Outcome**
  - Continue (45 pts.)

### Score
- **Step I Outcome:**
  - Continue
- **Step II Score:**
  - 45
- **Step II Outcome:**
  - Invasive

### Information
- **U**
  - Information unknown (UI)

### References
- 8, 9, 11, 14
- 8, 10, 11
- 8, 9, 12, 13, 14
- 8, 9, 10, 11, 7, 9, 11

### Notes
- Information is lacking.
- Specie can out-compete native species in high- and low-light habitats.
- Removal of these species leads to increased cover of *Rosa multiflora* and *Euonymus alatus*.
- Species demonstrated a clear negative effect on native plant species.
- In competition with garlic mustard, dame’s rocket is not outcompeted.

### Common Name
- Dame's rocket

### Botanical Name
- *Hesperis matronalis*

### Family Name
- Brassicaceae

### Posted Date
- 7/20/16

### Ohio Invasive Plant Assessment Protocol

<table>
<thead>
<tr>
<th>Score</th>
<th>Notes</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td></td>
<td>14: Species is a biennial that can sometimes survive a second winter as a short-lived annual.</td>
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<tr>
<td>6</td>
<td></td>
<td>11: “In Ontario, <em>H. matronalis</em> dominates open forest understorey and meadows, and is ranked among invasive exotic species “that can dominate a site to exclude all other species and remain dominant on a site indefinitely”</td>
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<tr>
<td>0</td>
<td></td>
<td>Information is lacking.</td>
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<tr>
<td>0</td>
<td></td>
<td>8, 9, 10, 11, 7, 9, 11</td>
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<tr>
<td>3</td>
<td></td>
<td>8, 9, 10, 12, 13, 14</td>
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<tr>
<td>0</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>Can form large and continuous</td>
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### Ohio Invasive Plant Assessment Protocol

<table>
<thead>
<tr>
<th>Botanical Name:</th>
<th>Hesperis matronalis</th>
<th>Common Name:</th>
<th>Dame’s rocket</th>
<th>Family Name:</th>
<th>Brassicaceae</th>
<th>Score:</th>
<th>Notes</th>
<th>References</th>
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<tr>
<td>Initial assessment conducted by:</td>
<td>Allison Mastalerz</td>
<td>Score:</td>
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<td>Invasive</td>
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<td></td>
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</tbody>
</table>

**Step I Outcome:**

- is a dominant plant in an area where population occurs (absolute cover 15-50%) (4 pts.)
- forms an extensive, monospecific stand (absolute cover >50%) (5 pts.)

**Step II Outcome:**

- is an early successional species that temporarily invades a disturbed site but does not persist as the site matures (0 pts.)
- readily invades disturbed sites and persists, but does not interfere with succession (1 pt.)
- readily invades disturbed sites, persists and interferes with succession of native plants (4 pts.)

**Notes:**

8: Suggests the specie’s ability to persist and out-compete native species in closed canopy forest habitats could lead to a change in local successional trajectories.

**Step I Total Points**

<table>
<thead>
<tr>
<th>Total Points</th>
<th>Assessment Decision</th>
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<tbody>
<tr>
<td>4 or more U</td>
<td>Insufficient Data</td>
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<tr>
<td>0-34</td>
<td>Not Known to be Invasive</td>
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<tr>
<td>35-44</td>
<td>Pending Further Review</td>
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<tr>
<td>45-80</td>
<td>Invasive</td>
</tr>
</tbody>
</table>

8, 11: Can form monotypic stands in meadows, orchards, forest edges, bottomland woods, stream banks, riparian or wetland habitats, open woods. 14: is most common in open woods, mesic bottomlands, and roadides.