

Ohio Invasive Plant Assessment Protocol

Botanical Name: *Rosa multiflora*
 Common Name: Multiflora rose
 Family Name: Rosaceae
 Assessment conducted by: OIPC Team

Step I Outcome: **Invasive**
 Step II Score: **58**
 Step II Outcome: **Invasive**

Score

Notes

References

Step I

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.

X

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?^a
 Yes. Place on invasive plant list, no further investigation needed. **STOP**
 No. Continue on to question 3.

x

8=>Thickets of this species dislocate native species in Ohio, particularly in "pastures, woodlots and noncrop land."
 1,2,8

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

x

See notes for question 2
 1,2,7,8,9

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?^{b,c}
 Yes
 No
 Unknown

x

IN,MI,PA [also in KY but not included here]
 3,4,5,6

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**)

3

1,2,8

2. State Distribution^a

- 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.**)

5

Regions 1,2,3,4,5
 1,2

- 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.)
- Information unknown (U)

5

IN,MI,PA [also in KY but not included here]

3,4,5,6

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.)
- has runners or spreading rhizomes that root easily AND fragments easily and fragments can be easily dispersed (5 pts.)
- Information unknown (U)

3

Arching stems produce roots once they arch to the ground, creating new plants (layering). 7=> molecular analysis revealed several clones present in a site, "spreading via a combination of sexual and clonal reproduction"

7,8,9,10

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)

5

Creates viable seed, but no evidence was found about their regularity. 7=> "spreading via a combination of sexual and clonal reproduction."

7,8,9,10

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)

5

8=>1million seeds/plant/year; 10=>up to 500,000seeds/plant/year

8,10

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)

1

10=> "Flowering occurs from late April through June, depending on location".

10

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.)

5

7=> Dispersed by birds and rodents. 11,13,17=>dispersed by birds. 19=> seeds taken by rodents

7,9,10,13,17,19

Step II

- 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.)
- short juvenile period (<5 years for trees, <3 years for other forms) (3 pts.)
- Information unknown (U)

10. Establishment

- unable to invade natural areas (0 pts.)
- can only colonize certain habitat stages (e.g. early successional habitats) (1 pt.)
- aggressively colonizes and establishes in edge habitats (3 pts.)
- aggressively colonizes and establishes in intact and healthy natural areas (6 pts.)
- Information unknown (U)

taken by rodents.

U

6

Species can aggressively invade open habitats. 20=> in NY: "thorny canes of this plant can rapidly invade both sunny and shade sites of JBWR. Within a year's time, Rosa multiflora is capable of forming a formidable thicket."

8,9,10,20

Step II: Ecological Importance

11. Impact on Ecosystem Processes

- no known effect on ecosystem-level processes (0 pts.)
- 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.)

3

Species can form dense, thorny thickets which can displace native vegetation and alter the structure of a habitat. 12=> native plant species richness decreased as densities of European earthworms and percent cover of multiflora rose. 14=> "generally more rapid decomposition of lower C:N litter [of rose and other invasive species] tends to slow to rates typical of slower decomposing, higher C:N native species."

7,8,9,10,12,14

12. Impact on Rare Organisms

- no known negative impact on Ohio State-listed or federal-listed plants or animals (0 pts.)
- negatively impacts listed species, such as through displacement or interbreeding (3 pts.)

3

21=> impacts Running Buffalo Clover at Boch Hollow.

21

13. Impact on Native Animals

- no known negative impact on animals (0 pts.)
- documented direct or indirect negative effects on animal taxa (3 pts.)

0

13=> rose provides cover for wildlife. 7=> provides winter habitat and food source for birds (gray catbirds, hermit thrushes, American robin, and cedar waxwings). 15=> Cardinal nests in Rosa experienced relatively constant survival rates across the season (contrary to Lonicera maackii). 18=> nest success in rose was good.

7,13,15,18

14. Impact on Native Plants

- no known negative effects on native plants (0 pts.)
- negatively impacts some native plants (increasing their mortality and/or recruitment of certain taxa) (3 pts.)
- impacts native plants to such an extent that community structure is greatly altered (6 pts.)

15. Hybridization

- no known instances of hybridization with other plant species (0 pts.)
- can hybridize with native Ohio plants or commercially-available species, but seeds are inviable (1 pt.)
- can hybridize with native Ohio plants or commercially-available species, producing viable seed (3 pts.)

16. Population Density

- occurs only as small, sporadic populations or individuals (1 pt.)
- typically forms small, monospecific patches (3 pts.)
- is a dominant plant in area where population occurs (absolute cover 15-50%) (4 pts.)
- forms an extensive, monospecific stand (absolute cover >50%) (5 pts.)

17. Role in Succession in Natural Areas

- successional information is unknown (0 pts.)
- 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.)

18. Number of Habitats Invaded

Forestlands: Floodplain forest, hemlock-hardwood forest, mixed mesophytic forest, beech-maple forest, oak-maple forest, oak-hickory forest.

Grasslands: Alvar*, beach-dune community*, bur oak savanna*, slough-grass-bluejoint prairie*, sand barren*, big bluestem prairie, little bluestem prairie

Wetlands: Bog*, fen*, twigrush-wiregrass wet prairie*, marsh, buttonbush swamp, mixed shrub swamp, hemlock-hardwood swamp*, maple-ash-oak

* Considered a rare plant community in Ohio by ODW's Biodiversity Database Program.

+ = xeric limestone prairies or cedar glades and post oak openings are unique to the Interior Low Plateau Region of Adams, Highland and Pike counties,

- not found in any natural habitats in Ohio (0 pts.)
- only found in 1 broad category (1 pt.)
- found in 2 broad categories or 2 rare habitat types (3 pts.)
- found in 3 broad categories or 3 rare habitat types (4 pts.)
- found in 4 or more rare habitat types (5 pts.)

3

Species forms dense, impenetrable thickets which can displace native vegetation

7,8,10

0

No evidence

4

Species forms dense, impenetrable thickets. 9=>species can vary its absolute cover from 0-100%, with an average mean plot cover of 30% in a 28 year old abandoned pasture. 16=> found in 26 of 37 sites in the Wayne Forest in SE Ohio: "Although R. multiflora nearly or completely covered some plots (80-100% coverage), 5-40% was more often observed."

8,9,10,16

4

9=> species' ability to invade mature woodlands should not be considered great, but adds the caveat that large canopy opening events could allow the species to "arrest succession at the shrub stage."

9,10

3

8=>"This plant readily invades open woodlands, forest edges, successional fields, savannas and prairies."; 9=>riparian areas, woodlands, and some mature forests. 20=> in NY, it readily invades wetland and riparian areas.

8,9,10,20

Total Score:

58

Total Points	Assessment Decision
4 or more U	Insufficient Data
0-34	Not Known to be Invasive
35-44	Pending Further Review
45-80	Invasive

Number of Unknowns:

1

Outcome:

Invasive