

Ohio Invasive Plant Assessment Protocol - 2015

Botanical Name: *Acer campestre*
 Common Name: Hedge Maple Step I Outcome: **Continue**
 Family Name: Aceraceae Step II Score: **11**
 Assessment conducted by: Allison Mastalerz, Theresa Mastalerz Step II Outcome: **Not Known to be Invasive**

Score

Notes

References

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

Step I

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

Present in low numbers in 2 counties (in 2 different regions of Ohio)

1,2

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

Is considered to have allelopathic properties

8

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

3,4,5,6

Not in IN, MI, or PA

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 persists 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**)

0

Species has been observed in natural areas, but it is unclear how it got there (cannot discount previous plantings). More information is needed.

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.**)
- plant is naturalized in four regions in Ohio (**4 pts.**)
- plant is naturalized in five regions in Ohio (**5 pts.**)
- Information unknown (**U**)

0

2

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**)

0

Step II: Biological Characters

4. Vegetative Reproduction

- no vegetative reproduction (**0 pts.**)
- reproduces readily within the original site (**1 pt.**)

Plant can be propagated vegetatively, but it is doubtful it reproduces this way in the wild. Ref 11

- 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)

0
 11
 11: states that "feeble suckers are occasionally formed but are of no importance as a means of propagation" in the native range.

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.)

3
 9,10,11
 9: One event per year; 10: produces hermaphroditic flowers but individuals usually show temporal patterns of sex expression during the season AND individuals trees are capable of self-pollination (species is wind-pollinated). 11: pollination in the native range is usually by small bees.

- 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.)

3
 9,11
 9: species produces viable seeds. 11: in its native range, good seed production per tree is sporadic although most trees produce seeds each year. Trees have been observed to produce seeds "heavily" in the native range. Average tree produces up to 12 fruit per inflorescence, each fruit of 2 seeds. Ref 11 also mentions that in the native range, only 5-10% of seed germinate right away and the rest need a dormant period (resulting in up to 74% germination). [Note: the 3 pts answer here is most likely conservative]

- 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)

0
 9,11
 9: May. 11: in the native range, flowering occurs in May and extends "over nearly a month".

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)

3
 9,10,11
 9,10: fruit is a samara and is wind dispersed. Ref 10 mentions that samaras in the native range are dispersed in autumn and in forests, dispersal is likely restricted to the neighborhood of the tree, although in open areas, seeds may be dispersed much further and

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.)

0
 9
 9: species is slow growing, but specific generation times are not provided. 11: Typical assumption is that trees begin fruiting at 25 years of age in native range, but it has been observed in 16-20 year old trees.

- 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)

U
 11
 11: In the native range, it "is not a pioneer species in the invasion of grassland, etc."

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.)

0
 No evidence

12. Impact on Rare Organisms

- no known negative impact on Ohio State-listed or federal-listed plants or animals (0 pts.)

0
 No evidence

- negatively impacts listed species, such as through displacement or interbreeding (3 pts.)

0

NO EVIDENCE

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

No evidence

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.)

0

No evidence

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.)

0

8: Maples can often hybridize with others within their taxonomical section, but not specifics were given for this species. 11: The species can hybridize with *A. opalus* in its native range. [This answer may change with more information for Ohio.]

8,11

- 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.)

1

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.)

0

No evidence

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 (xeric limestone prairie*+), post oak opening*+

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

* 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, and are not included in Schneider and Cochrane (1997).

- 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.)

1

10: within its native range, it is found in dry to wet areas (fairly resistant to drought but appears to be limited by frequency of late frost). Ref 11 mentions though that it is not sensitive to frost in its native range.

9,10,11

Total Score:

11

Number of Unknowns:

1

Outcome:

Not Known to be Invasive

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