

OIPC RESEARCH QUESTIONS

(Generated by OIPC Assessment Team prior to public release of first assessments, Dec. 2013)

Lesser Celandine - *Ranunculus ficaria*

- *How reliant is the species on sexual reproduction in Ohio (how often does this occur and what is the seed output rate - Questions #5 and #6)?*

- Axtell et al. 2010 provide average achene sizes but no information is given on mean number of achenes per plant.

- Jung et al. 2008: subsp. *bulbilifer* produces mean of 0.43 seeds per plant per season in Germany, but high variation ranging from 0 to 18 seeds per plant.

- Sell 1994: in Europe, subsp. *bulbilifer* only produces a few seeds but the other subspp. produce "many seeds".

- *What are the effects of this species on native animals (Question #13)?*

- Axtell et al. 2010 suggest: "As this species occupies more of the forest floor, dense carpet-like colonies likely prevent established native species from completing their life cycle. In turn, resident wildlife populations dependent on native species for food and shelter may be negatively impacted (Swearingen 2005), although this effect has not been experimentally tested."

- Axtell et al. 2010: "Protoanemonin present in the fresh leaves is toxic to most mammals. It can cause sickness in livestock but rarely causes death (Taylor and Markham 1978)."

- *Can the species hybridize with other species or are the ornamental cultivars inter-fertile (Question #15)?*

- Axtell et al. 2010: "Marketing by the nursery industry of a wide variety of lesser celandine hybrids has likely contributed to the increase in prevalence and spread."

- *Does the species interfere with natural succession (Question #17)?*

- Although the species has been documented to form dense mats and smother native vegetation, we have not been able to find any studies of its ability to alter successional processes.

Porcelainberry - *Ampelopsis brevipedunculata*

- *What is the typical population density of this species in Ohio (Question #16)?*

- Several references state that species can blanket surrounding vegetation in New England, but no data could be found for Ohio.

- *What role in succession, if any, does porcelainberry play in Ohio (Question #17)?*

- Waggy 2009: Species occurs in natural areas of all phases of succession. Is capable of influencing "succession by killing supportive vegetation and preventing seedling emergence".

Oriental Bittersweet - *Celastrus orbiculatus*

- *What is the average number of seeds per plant under natural conditions (Question #6)?*

- MI State University Extension and PA Dept. of Conservation="prolific" but no # given.

- Greenberg et al. (2001)=seed germination rates are high for this species, in both shade and full sun settings, but no numbers are given.

- *What is the role of oriental bittersweet in succession (Question #17)?*
 - Very little information is known and there are no data from Ohio.

White Mulberry - *Morus alba*

- *Does seed production vary across individuals and years (Question #5 and #6)? When do individual plants reach reproductive maturity (Question #9)?*
 - Several references state that species is fast growing, but average maturation age is not provided.
- *What is the impact of this species (if any) on ecosystem processes (Question #11)?*
- *What is the average density and percent coverage of this species in Ohio (Question #16)?*
 - Anecdotal information for Ohio does indicate small patches of this species, but this needs to be confirmed.
- *What is the role of this species in succession in natural areas in Ohio (Question #17)?*

Common Buckthorn - *Rhamnus cathartica*

- *What is the seed and fruit production in Ohio (Question #6)?*
 - The species reportedly has "prolific" fruit production in Canada with approx. 1-5 (average of 4) seeds per flower and female flowers produced in clusters of 30 flowers (Qaderi et al. 2009).

Common Privet - *Ligustrum vulgare*

- *What is the role of this species (if any) in establishing in healthy and intact natural areas in Ohio (Question #10)?*
 - Most literature describes establishment along forest edges, waste places, etc. but little information about establishment in forest interior.
- *Does common privet impact successional processes in any way (Question #17)?*
 - Species is known to persist in OH but its effect on succession has not been examined.
- *Does the species impact animals or native plants in any way (Questions #13 and #14)?*
 - Plant is known to crowd out native vegetation but this has not been empirically examined in OH.

Mile-a-Minute - *Persicaria perfoliata*

- *Need estimate of seed production in Ohio (Question #6).*
 - Various sources cite either prolific or limited seed production in the native and introduced ranges.
- *What is the impact of this species on native plants in Ohio (Question #14)?*
 - Impacts on some native species in other areas of the range have been quantified but it is still unclear whether impacts on native plants in Ohio classify as "to such an extent that community structure is greatly altered".

Japanese Stiltgrass - *Microstegium vimineum*

- *Is Japanese stiltgrass present in region 4 of Ohio (southeastern part of the state) - Question #2?*

- Rick Gardner has observed species in the Wayne Forest
- *Does stiltgrass negatively impact threatened Running Buffalo Clover or any other rare species (Question #12)?*
 - One of the few locations of Running Buffalo Clover in the state is in SW Ohio where the rare plant only grows in the middle of stiltgrass.

Multiflora Rose - *Rosa multiflora*

- *What is the average generation time (when individuals are sexually reproductive) of this species in Ohio (Question #9)?*

- *It is quite possible that this species impacts rare organisms in Ohio, but empirical data is lacking (Question #12).*

Amur Honeysuckle - *Lonicera maackii*

- *It is quite possible that this species impacts rare organisms in Ohio, but empirical data is lacking (Question #12).*

Japanese Honeysuckle - *Lonicera japonica*

- *What is the seed/fruit production per plant in Ohio infestations (Question #6)?*

- Other sources do not give specific data but just suggest that seed production is highly variable, depending on environmental conditions.

- *Does this species impact successional processes in any way (Question #17)?*