

Interjurisdictional Project: Regional Invasive Aquatic Plant Control Prioritization and Needs Assessment update

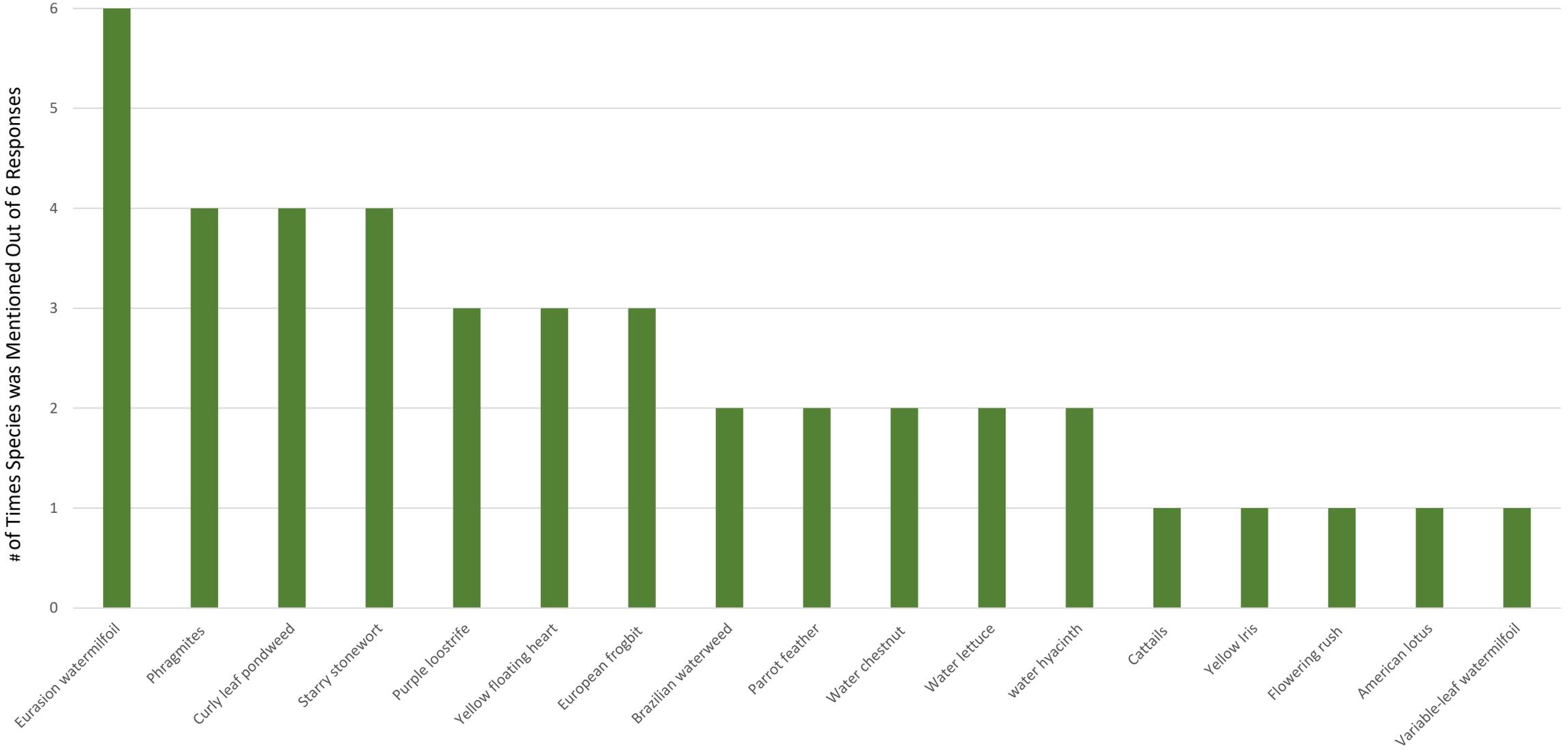
GLP Panel meeting

June 1, 2022

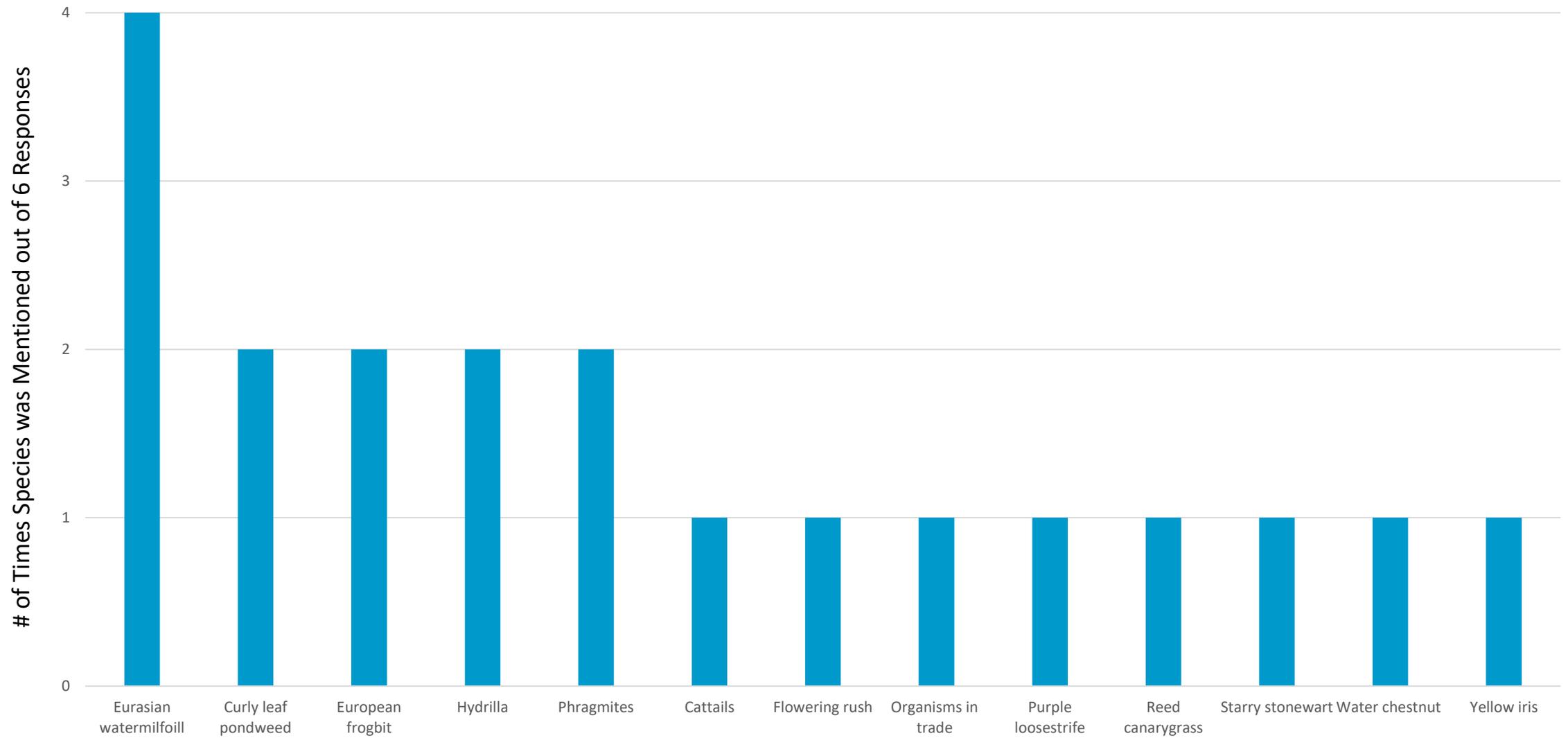
Actions since the fall GLP meeting

- Surveys were distributed to AIS managers across the Great Lakes basin
- Surveys consisted of two-parts
 - 1) a fillable PDF with open-ended questions regarding the general management of AIS
 - 2) a spreadsheet to select management challenges from a pre-determined list of options for each species in a list of 20 priority IAP and describe the amount of management attention spent on each of those species.
- Responses: Indiana, Michigan, Minnesota, Ohio, Pennsylvania, Wisconsin, and the Fond du Lac Band of Lake Superior Chippewa

"Highest Species of Concern"



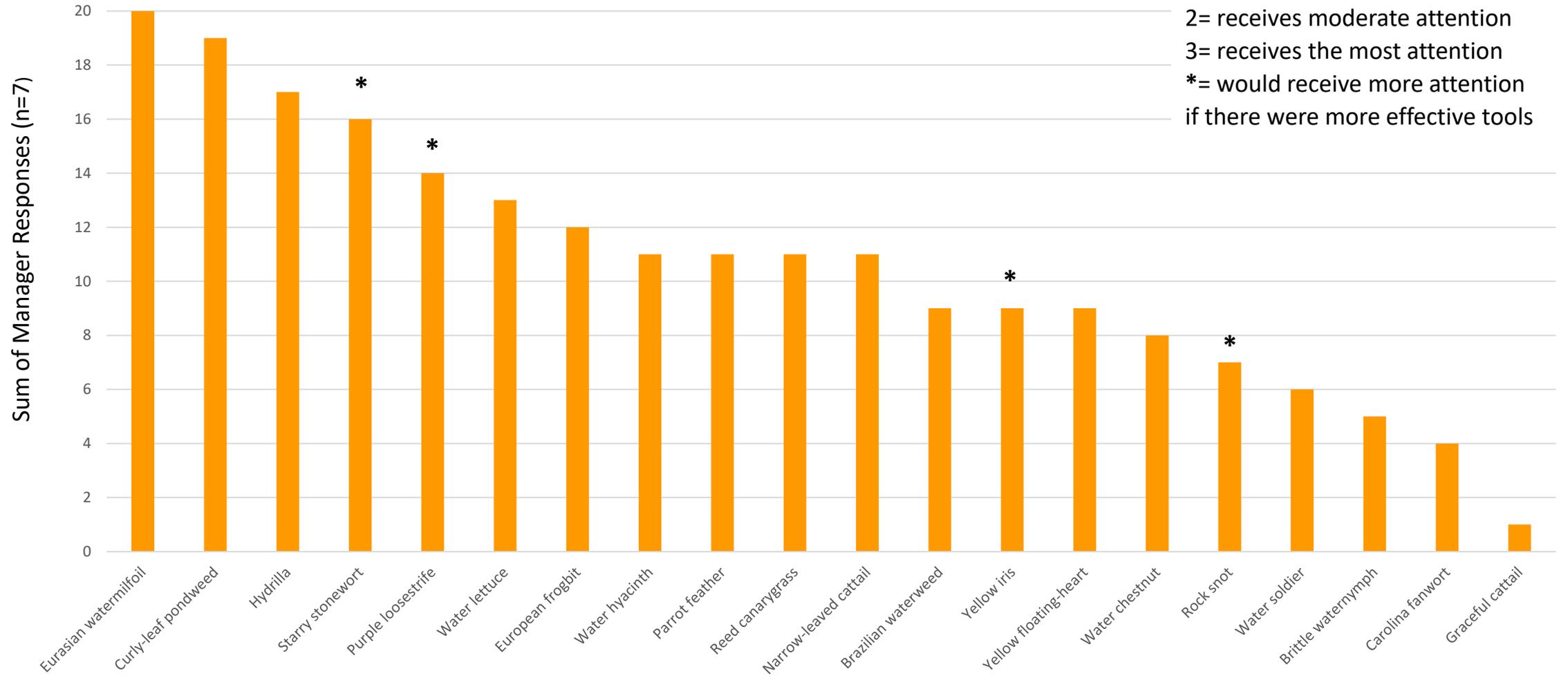
"Which species would you increase management efforts if you had unlimited time and resources?"



Management Attention

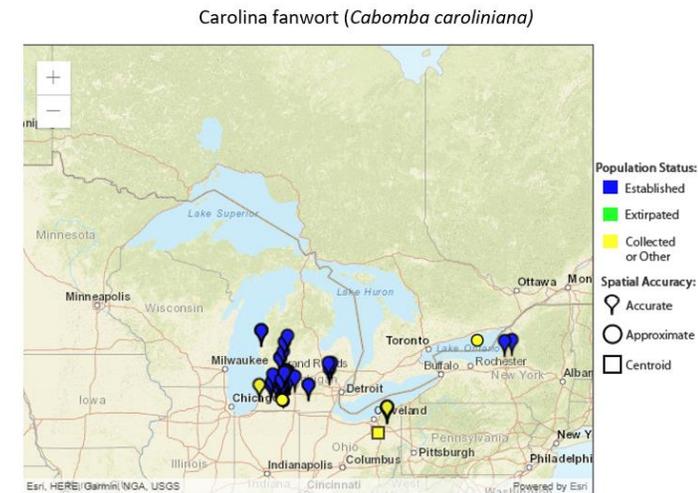
KEY

- 0= receives no attention
- 1= receives some attention
- 2= receives moderate attention
- 3= receives the most attention
- *= would receive more attention if there were more effective tools



What's next

- Results from these survey will help drive discussion for the IAP workshop this fall
 - Will be discussed further at the Research Committee meeting (this Thursday at 1:30 EST)
- Summary Report coming soon



Management: Prohibited in Wisconsin, Illinois, and Michigan

The native range of Carolina fanwort is uncertain, making it difficult to manage if it falls within one of the geographic areas of ambiguity. The species is not regulated in many Great Lakes jurisdictions, making it difficult to take certain management actions that are reserved for regulated species.

Priority plant species – initial conclusions

Species	Common Name	Gaps/challenges to management and control
<i>Cabomba caroliniana</i>	Carolina fanwort	Effectiveness of other herbicides; improved methods for mechanical harvesting, drawdowns, and benthic barriers
<i>Didymosphenia geminata</i>	rock snot	No effective control strategies available; determine native status and whether/how management will occur
<i>Egeria densa</i>	Brazilian waterweed	Effective control strategies available; no significant gaps identified
<i>Eichhornia crassipes</i>	water hyacinth	Need to learn more about effective control strategies in Great Lakes (e.g., ProcellaCOR); determine over-wintering potential
<i>Hydrilla verticillata</i> (include mono/di biotypes)	Hydrilla	Determine efficacy of ProcellaCOR in Great Lake monoecious populations; better understanding of reproductive propagules
<i>Hydrocharis morsus-ranae</i>	European frogbit	Better understanding of effect of chemical treatment on reproductive propagules; continued herbicide research
<i>Iris pseudacorus</i>	yellow iris	Absence of regulation one of main management challenges
<i>Lythrum salicaria</i>	purple loosestrife	Biocontrol provides moderate long-term control, appears sufficient to mitigate impacts.
<i>Myriophyllum aquaticum</i>	Parrot feather	Determine efficacy of ProcellaCOR
<i>Myriophyllum spicatum</i> (include hybrids)	Eurasian watermilfoil	Determine efficacy of ProcellaCOR; address lack of long-term efficacy of many herbicides and non-target impacts (e.g., 2,4-D)

Priority plant species – initial conclusions cont.

Species	Common Name	Gaps/challenges to management and control
<i>Najas minor</i>	brittle waternymph	Not a priority plant for management; little control literature found
<i>Nitellopsis obtusa</i>	starry stonewort	No effective control strategies known; a high-priority plant for management research
<i>Nymphoides peltata</i>	yellow floating-heart	Better understanding of flooding/drawdown methods, and of ProcellaCOR on seed viability
<i>Phalaris arundinacea</i>	reed canarygrass	Better understanding of native status; shifting to system dynamics approach will increase effectiveness
<i>Pistia stratiotes</i>	water lettuce	Need to learn more about effective (herbicide) control strategies in Great Lakes; determine over-wintering and seed-set potential
<i>Potamogeton crispus</i>	curly-leaf pondweed	Few effective control strategies available
<i>Stratiotes aloides</i>	water soldier	Diquat limited effectiveness, need to test additional herbicides (e.g., ProcellaCOR)
<i>Trapa natans</i>	water chestnut	Manual removal effective (no vegetative spread)
<i>Typha angustifolia</i> (include hybrids)	narrow-leaved cattail	A shift to a system dynamics approach will increase effectiveness
<i>Typha laxmanii</i>	Graceful cattail	Not a priority plant for management; little control literature found though could likely apply <i>T. angustifolia</i> methods

Literature review: areas needing feedback

- Great Lakes case studies for yellow flag iris, didymo, *Typha angustifolia*.
- Expert review of case studies by experience/interest
- Treatment Summary document

Questions?

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List parameters

- Updated list based on committee feedback:
- Impact score of 4, 5, 6 (Total impact scores can be 0-6). Also included those that score 3 and are "high" in env or soc/cult (this is purple loosestrife and *Typha angustifolia*; also include yellow floating heart as score of 3 is being re-assessed by GLANSIS and important to managers)
- All watchlist species, as these represent species that are in unique spots in the invasion timeline to potentially eradicate. All are 5s anyways, except for graceful cattail (*Typha laxmanii*), which is a 2.
- Exclude Enteromorpha (not established), Phrag (enough being done by others)
- *Conium maculatum*, *Echinochloa crus-galli*, *Persicaria maculosa*, *Solanum dulcamara* excluded due to terrestrial impacts
- Added water soldier (established in Canada)

Literature review components

- Lead researchers/experts in GL:
- Impact score (GLANSIS):
- Jurisdictions regulated:
- Jurisdictions present: e.g., MI (**Great Lakes** basin), OH (**Great Lakes** and Ohio River basin), NY (**Great Lakes** and Mid-Atlantic basins), ONT (**Great Lakes** basin), PA (Ohio and Mid-Atlantic basins)
- General control strategies: chemical, manual/mechanical, physical, biological
- Mgmt/control case studies from the Great Lakes
- Mgmt/control case studies from outside the Great Lakes
- Novel/notable laboratory or in situ research
- Management gaps/challenges