NAME OF SPECIES: *Lysimachia vulgaris* L.	
Synonyms: None (1)	
Common Name: Garden yellow Loosestrife, garden loosestrife, Willowweed, and Willowwort	**Cultivars?** YES ☐ NO ☒
A. CURRENT STATUS AND DISTRIBUTION	
I. In Wisconsin?	1. YES ☒ NO ☐
	2. Abundance: Low (1)
	3. Geographic Range: Oconto, Dane, Milwaukee, Racine, Walworth, and Kenosha counties (1)
	4. Habitat Invaded: Disturbed Areas ☒ Undisturbed Areas ☒
	5. Historical Status and Rate of Spread in Wisconsin: No natural communities have been reported (2)
	6. Proportion of potential range occupied: Low (1)
II. Invasive in Similar Climate Zones	1. YES ☒ NO ☐ Where (include trends): CO, CT, IL, IN, KY, MA, MD, ME, MI, MN, MT, NH, NJ, NY, OH, OR, PA, RI, VT, WA, WI, WV (1)
III. Invasive in Which Habitat Types	1. Upland ☐ Wetland ☒ Dune ☐ Prairie ☐ Aquatic ☐ Forest ☐ Grassland ☐ Bog ☐ Fen ☒ Swamp ☐ Marsh ☒ Lake ☒ Stream ☒ Other: Shorelines, roadsides
IV. Habitat Affected	1. Soil types favored or tolerated: Tolerates mesic to saturated soils with pH values from 5.6 to 6.0 (acidic), 6.1 to 6.5 (mildly acidic), 6.6 to 7.5 (neutral), 7.6 to 7.8 (mildly alkaline), or 7.9 to 8.5 (alkaline) (3)
	2. Conservation significance of threatened habitats:
V. Native Range and Habitat	List countries and native habitat types: Eurasia (6)
VI. Legal Classification	1. Listed by government entities? CT- Potentially invasive, banned and WA- Class B noxious weed, wetland and aquatic weed quarantine. (1)
	2. Illegal to sell? YES ☒ NO ☐ Notes: CT, WA
B. ESTABLISHMENT POTENTIAL AND LIFE HISTORY TRAITS	
I. Life History	1. Type of plant: Annual ☐ Biennial ☐ Monocarpic Perennial ☐ Herbaceous Perennial ☒ Vine ☐ Shrub ☐ Tree ☐
	2. Time to Maturity: Blooms mid to late summer or early fall (3)
	3. Length of Seed Viability: One European study found viable seeds in seed bank after 20 years. (4)
	4. Methods of Reproduction: Asexual ☒ Sexual ☒ Notes: Limited seed production but abundant vegetative asexual spread. (4)
	5. Hybridization potential: N/a
II. Climate	1. Climate restrictions: Tolerates USDA Zones 5a-9b, requires full sun or sun to partial shade (3)
	2. Effects of potential climate change: N/a

III. Dispersal Potential	1. Pathways - Please check all that apply: Unintentional: Bird ☐ Animal ☐ Vehicles/Human ☒ Wind ☐ Water ☒ Other: Seeds are dispersed by water (9) reported that the primary mode of dispersal is by the rhizomes (4) Rhizomes could be inadvertently distributed by boats, etc., although plant is generally rooted.(4) Intentional: Ornamental ☒ Forage/Erosion control ☐ Medicine/Food: Chinese folk medicine Other: Sold as an ornamental plant; might be confused with L. punctata, which is widely sold. (4)
	2. Distinguishing characteristics that aid in its survival and/or inhibit its control: Perennial. It is able to tolerate soils which are saturated for most of the year as aerenchyma tissue is produced in the stems. There are suggestions that this species is even outcompeting Lythrum salicaria in Washington state. (4)
IV. Ability to go Undetected	1. HIGH ☐ MEDIUM ☒ LOW ☐ Low when in flower, higher when not in flower.
C. DAMAGE POTENTIAL	
I. Competitive Ability	1. Presence of Natural Enemies: N/a
	2. Competition with native species: Can dominate areas causing significant reduction in populations of native species; evidence lacking that it causes extirpation of native species (9).
	2. Rate of Spread: -changes in relative dominance over time: -change in acreage over time: HIGH(1-3 yrs) ☐ MEDIUM (4-6 yrs) ☒ LOW (7-10 yrs) ☐ Notes: Limited seed production but abundant vegetative asexual spread. (4)
II. Environmental Effects	1. Alteration of ecosystem/community composition? YES ☒ NO ☐ Notes: Significantly- Can dominate areas causing significant reduction in populations of native species; evidence lacking that it causes extirpation of native species.(9): "Lysimachia vulgaris presents a similar threat as the serious invasive Lythrum salicaria (purple loosestrife). At one site in SE WI (11) and in Washington state it has been reported as possibly outcompeting Lythrum salicaria in wetland habitats. The rhizomes spread readily. Though its populations have not yet reached the numbers of Lythrum salicaria populations, it may have the potential to do so. In NY it has escaped cultivation but so far is not known to have established large infestations (4)
	2. Alteration of ecosystem/community structure? YES ☐ NO ☐ Notes: Can significantly increase the density of its layer (4).
	3. Alteration of ecosystem/community functions and processes? YES ☐ NO ☐ Notes: One study shows the species increases the redox potential in surrounding soil. However, the actual impacts of this on the ecosystem not investigated (4) Studies needed on whether non-native Lysimachias are interfering with the pollination of native Lysimachia species (4).

	4. Allelopathic properties? YES ☐ NO ☐ Notes: One study shows the species increases the redox potential in surrounding soil. However, the actual impacts of this on the ecosystem not investigated (4)
D. SOCIO-ECONOMIC EFFECTS	
I. Positive aspects of the species to the economy/society:	Notes: It is grown and sold as an ornamental. It has been used medicinally in Asia for high blood pressure. (5) Based on the 2011 WNA Economic Impact Survey, the following information was reported for this plant. Out of the 204 nurseries responding, 4 reported selling this plant. 3 reported it comprised <1% of their gross plant sales. 0 reported it comprised 1 – 2.9% of their gross plant sales. The estimated total dollar amount contributed to Wisconsin's economy by this plant is $9,813. It ranks 43rd among the 63 taxa surveyed. The estimated wholesale value of plants in production is $1,500. The majority of respondents said it took <6 months to produce this plant. The trend for the 2011 season was to remain unchanged (12).
II. Potential Socio-Economic Effects of Requiring Controls:	Positive: Negative:
III. Direct and indirect Socio-Economic Effects of Plant :	Notes:
IV. Increased Costs to Sectors Caused by the Plant::	Notes:
V. Effects on human health:	Notes: Used for treatment of diarrhea, Vitamin C-deficiency (scurvy), wounds, and excessive bleeding (hemorrhage) including nose bleeds and heavy menstrual flow. (8)
VI. Potential socio-economic effects of restricting use:	Positive: Negative:
E. CONTROL AND PREVENTION	
I. Costs of Prevention	Notes:
II. Responsiveness to prevention:	Notes:
III. Effective Control tactics:	Mechanical ☐ Biological ☐ Chemical ☐ Times and uses: Herbicide and other methods are currently under investigation. (4)"Control of this species will be complicated by two factors: 1) the species is a rhizomatous (stoloniferous) perennial, and 2) it inhabits environmentally sensitive wetland sites. Therefore, from an economic and environmental perspective, it is advisable to prevent the expansion of garden loosestrife in the state." (10) The long-lived seed bank will also make control difficult.(4) Cultural: Garden loosestrife has been covered with black plastic at least one site on Lake Sammamish. This may be effective on very small populations or serve as a suppression tool where herbicides are not desired. Other alternatives have not been studied. Since the species has extensive rhizomes, hand-pulling or digging would be limited to very small infestations. General control methods: Control of this species is complicated because the species is a rhizomatous perennial, and it inhabits environmentally sensitive wetland sites. (7)
IV. Costs of Control:	Notes:
V. Cost of prevention vs. Cost of	Notes:

allowing invasion to occur:	
VI. Non-Target Control Effects:	Notes:
VII. Efficacy of monitoring:	Notes:
VIII. Legal and landowner issues:	Notes:
F. HYBRIDS AND CULTIVARS	
I. Known hybrids? YES ☐ NO ☒	Name of hybrid: Names of hybrid cultivars:
II. Species cultivars or varieties	Names of cultivars or varieties and any information about the invasive behaviors of each: Two of three growers responding to the nursery survey provided species and cultivar information. One reported growing only the species, and one reported growing Alexander, Cilata, and Gooseneck. None commented on the plant's invasiveness. (12)
	Notes:

G. REFERENCES USED:

☒ UW Herbarium
☐ WI DNR
☐ TNC
☐ Native Plant Conservation Alliance
☒ IPANE
☒ USDA Plants

Number	Reference
1	http://plants.usda.gov/java/profile?symbol=LYVU
2	http://wisplants.uwsp.edu/scripts/habitats.asp?spCode=LYSVUL
3	http://davesgarden.com/guides/pf/go/32079/
4	Jordan, M.J., G. Moore and T.W. Weldy. 2008. Invasiveness ranking system for non-native plants of New York. Unpublished. The Nature Conservancy, Cold Spring Harbor, NY; Brooklyn Botanic Garden, Brooklyn, NY; The Nature Conservancy, Albany, NY. http://newyorkinvasivespecies.org/PlantAssessments/Lysimachia.vulgaris.NYS.pdf
5	http://www.ecy.wa.gov/programs/wq/plants/plantid2/descriptions/lysthy.html
6	http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?23018
7	http://www.nwcb.wa.gov/weed_info/Lysimachia_vulgaris.html
8	http://www.webmd.com/vitamins-supplements/ingredientmono-553-Lysimachia+vulgaris+LOOSESTRIFE.aspx?activeIngredientId=553&activeIngredientName=Lysimachia+vulgaris+(LOOSESTRIFE)&source=2
9	Mehrhoff, L. J., J. A. Silander, Jr., S. A. Leicht, E. S. Mosher and N. M. Tabak. 2003. IPANE: Invasive Plant Atlas of New England. Department of Ecology & Evolutionary Biology, University of Connecticut, Storrs, CT, USA. <www.ipane.org>. [Accessed on October 12, 2008.]
10	Washington State Dept. of Ecology. 2008. Non-native fresh water plants, garden loosestrife. <www.ecy.wa.gov/programs/wq/plants/weeds/aqua007.html> [accessed April 14, 2008].
11	Reed, Don., SE Wisconsin Regional Planning Commission. 2009 Personal communications
12	Wiegrefe, Susan. 2011. Wisconsin Nursery Association Survey of the Economic impact of potentially invasive species in Wisconsin

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