NAME OF SPECIES: *Lysimachia nummularia* L.	
Synonyms: None	
Common Name: Moneywort, Creeping Jenny, Creeping Joan, Running Jenny, Wandering Jenny, Wandering Sailor	**Cultivars?** YES ☒ NO
A. CURRENT STATUS AND DISTRIBUTION	
I. In Wisconsin?	1. YES ☒ NO ☐
	2. Abundance: Low/Medium (1)
	3. Geographic Range: Pierce, Buffalo, Trempealeau, Jackson, La Crosse, Vernon, Crawford, Richland, Grant, Iowa, Lafayette, Juneau, Sauk, Columbia, Dane, Green, Dodge, Jefferson, Rock, Walworth, Waukesha, Racine, Kenosha, Milwaukee, Winnebago, Waushara, Waupaca, Outagamie, Brown, and Oconto counties. (1)
	4. Habitat Invaded: Floodplains and shores. Disturbed Areas ☒ Undisturbed Areas ☐
	5. Historical Status and Rate of Spread in Wisconsin: The first report was in June of 1948 in Grant county along a roadside in the shade. The next report was 7/7/1977 in Platteville, Grant county on a boat landing. The next was in Buffalo county 9/9/1978 in an open bay near backwater from a floodplain. The next was on 6/19/1980 in Crawford county in swampy woods. The next was on 6/24/1980 in Grant county in a boat landing. (2) Multiple additional populations have since been reported.
	6. Proportion of potential range occupied: Low (1)
II. Invasive in Similar Climate Zones	1. YES ☒ NO ☐ Where (include trends): AL, AR, CA, CO, CT, DC, DE, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NV, NY, OH, OR, PA, RI, SC, TN, VA, VT, WA, WV, and CAN (1)
III. Invasive in Which Habitat Types	1. Upland ☐ Wetland ☒ Dune ☐ Prairie ☐ Aquatic ☐ Forest ☐ Grassland ☐ Bog ☐ Fen ☒ Swamp ☐ Marsh ☐ Lake ☐ Stream ☒ Other: floodplains, shorelines, Moist areas of black soil prairies (4)
IV. Habitat Affected	1. Soil types favored or tolerated: Survives pH values from 6.1 to 6.5 (mildly acidic), 6.6 to 7.5 (neutral), or 7.6 to 7.8 (mildly alkaline). Needs consistently moist soil. (3) Will grow in light to heavy soil, can grow in heavy clay soil. (4) Soils must be moist. Can grow directly in water.
	2. Conservation significance of threatened habitats:
V. Native Range and Habitat	1. List countries and native habitat types: Europe and SWAsia (6)
VI. Legal Classification	1. Listed by government entities? CT: Potentially invasive, not banned; MA: prohibited. (1)
	2. Illegal to sell? YES ☒ NO ☐ Sales restricted only in MA. Listed as potentially invasive in CT
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 late spring/ early summer (3) Plants reach maturity in 2-3 years.
	3. Length of Seed Viability: Indications that seeds that set are largely inviable and those that are viable are short-lived, with

	"transient to short term persistence" (4)
	4. Methods of Reproduction: Asexual ☒ Sexual ☒ Notes: The flowers are hermaphrodite (have both male and female organs) and are pollinated by bees and flies. The plant is self-fertile. (4) Primarily spreads by above-ground spread through rooting at the nodes and through fragmentation.
	5. Hybridization potential:
II. Climate	1. Climate restrictions: Survives USDA climate zones 3a-8b, tolerates sun to partial shade, needs constant moisture.(3) It can grow in semi-shade (light woodland) or no shade, elevation between 0-3280 feet prefered. (4)
	2. Effects of potential climate change:
III. Dispersal Potential	1. Pathways - Please check all that apply: Unintentional: Bird ☐ Animal ☐ Vehicles/Human ☒ Wind ☐ Water ☒ Other: Intentional: Ornamental ☒ Forage/Erosion control ☐ Medicine/Food: Tea is made from the leaves and flowers.(4) Other:
	2. Distinguishing characteristics that aid in its survival and/or inhibit its control: Thrives in damp soils which will often kill off other types of ground covers.(4)
IV. Ability to go Undetected	1. HIGH ☐ MEDIUM ☒ LOW ☐
C. DAMAGE POTENTIAL	
I. Competitive Ability	1. Presence of Natural Enemies: N/a
	2. Competition with native species: Perennial, shade tolerant, and fast growing, Forms dense low-growing mats (5) It has been known to choke small springs and seeps in rich woods (6)
	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: Vigorous vegetative spread. Often high degree of seed sterility reported, although one study did find some germinating seeds of L. nummularia from flood debris samples. (5)
II. Environmental Effects	1. Alteration of ecosystem/community composition? YES ☐ NO ☒ Notes: However, yes to a MINOR degree. May reduce population size of some native species in herb layer; evidence lacking of significant reduction or extirpation of native species. (5)
	2. Alteration of ecosystem/community structure? YES ☒ NO ☐ Notes: Significantly increases the density of the herb layer, and may create a layer where none had existed. (5)
	3. Alteration of ecosystem/community functions and processes? YES ☐ NO ☒ Notes: However yes to a MINOR degree. Can disrupt water flow of springs and seeps (8). One study found increased rate of redox reactions in soil (9) but impacts on soil chemistry (e.g. nutrients, pH etc.) unclear. Another study (10) found in study of groundcover

	plants that the mats of Lysimachia nummularia 'aurea' reduce light hitting the soil surface by over 80%. SRC noted that the species has been in New England "...at least as early as the 1870s" (8) but there is no evidence of major impacts on ecosystem processes. (5)
	4. Allelopathic properties? YES ☐ NO ☒ Notes:
D. SOCIO-ECONOMIC EFFECTS	
I. Positive aspects of the species to the economy/society:	Notes: Offered for sale since the 1800s and currently widely sold. Recently tested for weed suppressive groundcovers for use along roadsides and landscapes in Suffolk and Tompkins Cos. (8) Best for ground cover, particularly for moist sunny sites such as the banks of ornamental ponds (6) Based on the 2011 WNA Economic Impact Survey, the following information was reported for this plant. Out of the 204 nurseries responding, 25 reported selling this plant. 21 reported it comprised <1% of their gross plant sales. 3 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 $68,948. It ranks 19th among the 63 taxa surveyed. The estimated wholesale value of plants in production is $12,000. 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: Pollen may cause allergic reaction (3)
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: Mechanical- The plant can be hand pulled where practical. All stems and stem fragments should be removed from the area to prevent the stems from rooting again in the soil. Prolonged submergence will kill moneywort. At restoration sites, moneywort can be controlled by establishing native grasses to shade it out. Mowing is not effective since moneywort adheres closely to the ground due to its many rooting nodes. (7) Chemical- Several herbicides are effective in controlling moneywort. Because moneywort usually grows in or near wetlands, be sure that the herbicide is approved for use in wetlands. Rodeo is one such herbicide product that may be effective. (7)
IV. Costs of Control:	Notes:
V. Cost of prevention vs. Cost of allowing invasion to occur:	Notes:

VI. Non-Target Effects of Control:	Notes:
VII. Efficacy of monitoring:	Notes:
VIII. Legal and landowner issues:	Notes:
F. HYBRIDS AND CULTIVARS AND VARIETIES	
I. Known hybrids? YES ☐ NO ☒	Name of hybrid:
	Names of hybrid cultivars:
II. Species cultivars	Names of cultivars, varieties and any information about the invasive behaviors of each: Yellow leaved cultivar – "Aurea" Of 25 growers surveyed, 11 provided cultivar information. Four are growing Aurea, three are growing Goldilocks, one is growing Jenny, and four are growing the straight species. Two commented the plant runs, another stated that it doesn't invade ponds (11)
	Notes:

G. REFERENCES USED:

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

Number	Reference
1	United states Department of Agriculture. Natural Resources Conservation Service. Plants Database. <http://plants.usda.gov/java/profile?symbol=LYNU>
2	Robert W. Freckmann Herbarium. University of Wisconsin - Stevens Point. <http://wisplants.uwsp.edu/scripts/detail.asp?SpCode=LYSNUM>
3	Dave's Gardens. Guides and Information. <http://davesgarden.com/guides/pf/go/677/>
4	United States Geological Survey. Nonindigenous Aquatic Species. <http://nas.er.usgs.gov/queries/FactSheet.aspx?SpeciesID=2680>
5	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.nummularia.NYS_2011-02-09.pdf
6	Invasive Plant Atlas of New England. Catalog of Species Search. <http://nbii-nin.ciesin.columbia.edu/ipane/icat/browse.do?specieId=106>
7	USDA Forest Service. Northern Area. <http://na.fs.fed.us/fhp/invasive_plants/weeds/monewart.pdf>
8	Mehrhoff, L.J., J.A. Silander, Jr., S.A. Leicht and E. Mosher. 2004. IPANE: Invasive Plant Atlas of New England. Department of Ecology and Evolutionary Biology, University of Connecticut, Storrs, CT. <invasives.eeb.uconn.edu/ipane>. [Accessed October 2, 2008.]
9	Justin, S. H. F. W. & W. Armstrong. 1987. The anatomical characteristics of roots and plant response to soil flooding. New Phytologist 106: 465-495.
10	Eom, S. H. et al. 2005. Evaluation of herbaceous perennials as weed suppressive groundcovers for use along roadsides or in landscapes. J. Environ. Hort. 23: 198-203.
11	Wiegrefe, Susan. 2011. Wisconsin Nursery Association Survey of the Economic impact of potentially invasive species in Wisconsin

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