

NAME OF SPECIES: <i>Rosa multiflora</i> Thunb. ex Murray (1)	
Synonyms: <i>Rosa cathayensis</i> (Rehder & E.H.Wilson) L.H.Bailey; <i>Rosa multiflora</i> Thunb. ex Murray var. <i>cathayensis</i> Rehder & E.H.Wilson. (1)	
Common Name: Multiflora rose (1). Also baby rose, Japanese rose, seven-sisters rose (4).	
A. CURRENT STATUS AND DISTRIBUTION	
I. In Wisconsin?	1. YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
	2. <u>Abundance:</u> 44 recorded occurrences in WI (1); however this species is probably under-reported.
	3. <u>Geographic Range:</u> Recorded in 19 counties in southern WI and on the Door peninsula (1).
	4. <u>Habitat Invaded:</u> Old fields, open prairie, disturbed oak forest, white oak savanna, oak savanna, deciduous woods, fencerows, low wet woods and thickets, river banks, stream banks, gravel pits, roadsides, open maple woods, degraded prairie fen. Also recorded from a couple of State Natural Areas or state Wildlife Areas. (1) Disturbed Areas <input checked="" type="checkbox"/> Undisturbed Areas <input checked="" type="checkbox"/>
	5. <u>Historical Status and Rate of Spread in Wisconsin:</u> First recorded from 1957 (1). This proven invasive was distributed by the Wisconsin DNR as well as other agencies.
	6. <u>Proportion of potential range occupied:</u> NA
II. Invasive in Similar Climate Zones	1. YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
	<u>Where (include trends):</u> The present range of multiflora rose in the U.S. and Canada is on the east and west coasts, but not in the Rocky Mountains, the Southeastern Coastal Plains, and the Nevada and California desert areas (5).
III. Invasive in Similar Habitat Types	1. Upland <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Dune <input type="checkbox"/> Prairie <input checked="" type="checkbox"/> Aquatic <input type="checkbox"/> Forest <input checked="" type="checkbox"/> Grassland <input checked="" type="checkbox"/> Bog <input type="checkbox"/> Fen <input checked="" type="checkbox"/> Swamp <input checked="" type="checkbox"/> Marsh <input checked="" type="checkbox"/> Lake <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Other: Early Successional Forest; Open Disturbed Areas; Pastures; Planted Forests; Railroad Right-of-Ways; Roadsides; Utility Right-of-Ways. Rosa multiflora prefers deep, fertile, well drained but moist upland or bottomland habitats with a mild climate. It can be found along roadsides, in pastures, woodlands, prairies, fields and power line corridors. (3) Rosa multiflora grows best on deep, fertile, well-drained but moist uplands or bottomlands, but is capable of enduring a wide range of edaphic and environmental conditions(6).
	IV. Habitat Effected
	1. <u>Soil types favored or tolerated:</u> R. multiflora is tolerant of a wide range of soil and environmental conditions, but is not found in standing water or in extremely dry areas (5).
	2. <u>Conservation significance of threatened habitats:</u> Multiflora rose is known to invade savannas, prairies, glades, and the margins of swamps and marshes. (6). Some of the Savanna and Barrens communities in WI under threat from this species are ranked G1-G2 and S1- S2. Some of the Upland Herbaceous communities in WI under threat from this species are ranked G2 - G3 and S1 - S3. Some of the Wetland Herbaceous communities in WI under threat from this species are ranked S1 - S3. (9).

V. Native Habitat	1. <u>List countries and native habitat types</u> : From northeast Asia, China, Japan, Korea, and Taiwan (4). Found in deciduous-forest podzol areas of eastern Asia (10).
VI. Legal Classification	<p>1. <u>Listed by government entities?</u> Alabama: Class C noxious weed; Connecticut: Invasive, banned; Indiana: Permit required; Iowa: Secondary noxious weed; Kentucky: Noxious weed; Massachusetts: Prohibited; Missouri: Noxious weed; New Hampshire: Prohibited invasive Species; Pennsylvania: Noxious weed; South Dakota: Regulated non-native plant species; West Virginia: Noxious weed; Wisconsin: Nuisance weed. (2)</p> <p>2. <u>Illegal to sell?</u> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p> <p>Notes: Alabama, Connecticut, Indiana, Iowa, Massachusetts, Missouri, New Hampshire, Pennsylvania, and Wisconsin, though some states in this list allow the use of R. multiflora rootstock for horticultural needs. (2)</p>
B. ESTABLISHMENT POTENTIAL AND LIFE HISTORY TRAITS	
I. Life History	<p>1. <u>Type of plant</u>: Annual <input type="checkbox"/> Biennial <input type="checkbox"/> Monocarpic Perennial <input type="checkbox"/> Herbaceous Perennial <input type="checkbox"/> Vine <input checked="" type="checkbox"/> Shrub <input checked="" type="checkbox"/> Tree <input type="checkbox"/></p> <p>2. <u>Time to Maturity</u>: NA</p> <p>3. <u>Length of Seed Viability</u>: Seeds can remain viable for 10-20 years in the seed bank (3).</p> <p>4. <u>Methods of Reproduction</u>: Asexual <input checked="" type="checkbox"/> Sexual <input checked="" type="checkbox"/> <u>Notes</u>: R. multiflora flowers develop into rose hips with many seeds. Stems can root-sucker and layer. (5)</p> <p>5. <u>Hybridization potential</u>: NA</p>
II. Climate	<p>1. <u>Climate restrictions</u>: Expansion into the North limited by sensitivity to severe cold temperatures and expansion into the South limited by the lack of cold temperatures needed to stimulate seed germination. (6)</p> <p>2. <u>Effects of potential climate change</u>: Warmer winters would allow this species to move further north.</p>
III. Dispersal Potential	<p>1. <u>Pathways - Please check all that apply</u>:</p> <p><u>Unintentional</u>: Bird <input checked="" type="checkbox"/> Animal <input checked="" type="checkbox"/> Vehicles/Human <input type="checkbox"/> Wind <input type="checkbox"/> Water <input type="checkbox"/> Other: Rosa multiflora's hips are dispersed by birds, especially the mockingbird, cedar waxwing and American robin (3)</p> <p><u>Intentional</u>: Ornamental <input checked="" type="checkbox"/> Forage/Erosion control <input checked="" type="checkbox"/> Medicine/Food: <input checked="" type="checkbox"/> Other: Introduced into the US in the mid to late 1800s for ornamental purposes. It was also used as rootstock for other rose species. From the 1930s the U.S. Soil Conservation Service promoted multiflora rose for use in erosion control and in the 1950s as living fences to confine livestock. In the 1960s state conservation departments distributed root cuttings to landowners for wildlife cover for pheasant, bobwhite quail, and cottontail rabbit and as food for songbirds. More recently, it has been planted in highway median strips to serve as crash barriers and to reduce automobile headlight glare. (3) (4) (5) (8)</p>

IV. Ability to go Undetected	<p>2. <u>Distinguishing characteristics that aid in its survival and/or inhibit its control:</u> A single plant can produce 500,000 or more seeds (3). Fruits persist on plants into spring, giving birds many opportunities to spread (5).</p> <p>1. HIGH <input type="checkbox"/> MEDIUM <input type="checkbox"/> LOW <input checked="" type="checkbox"/></p>
C. DAMAGE POTENTIAL	
I. Competitive Ability	<p>1. <u>Presence of Natural Enemies:</u> Multiflora rose is highly susceptible to rose rosette disease, which is transmitted by the eriophyid mite <i>Phyllocoptes fructiphilus</i>. In general, smaller plants are killed by the disease within 2-3 years of initial symptoms, while larger, multi-crowned plants may survive for as long as 4-5 years. Plants growing in full sun appear to succumb more rapidly than shaded plants. Another enemy is the rose seed chalcid (<i>Megastigmus aculeatus</i>), a Japanese wasp that has become established in the eastern United States. The rose seed chalcid is probably not a factor in areas that experience severe cold, since the larvae overwinter in multiflora rose hips and are adversely affected. (5)</p> <p>2. <u>Competition with native species:</u> The dense growth of foliage and stems inhibits growth of competing native plants (5). it can crowd out desirable grasses and other species.(6) Dense thickets of multiflora rose exclude most native shrubs and herbs from establishing and may be detrimental to nesting of native birds (7)</p> <p>3. <u>Rate of Spread:</u> -changes in relative dominance over time: -change in acreage over time: HIGH(1-3 yrs) <input type="checkbox"/> MEDIUM (4-6 yrs) <input type="checkbox"/> LOW (7-10 yrs) <input type="checkbox"/> Notes: No info available on spread rates. At a minimum, multiflora rose would be a problem in at least 50% of its range - may actually be over 50% if you consider that it is a problem in the midwest, mid-atlantic, and some sections of New England. The plant does less well in the northern tier of states. (6)</p>
II. Environmental Effects	<p>1. <u>Alteration of ecosystem/community composition?</u> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Notes: When the shrub layer becomes thick multiflora rose can reduce diversity of herbaceous layer, and can become a monoculture. (6)</p> <p>2. <u>Alteration of ecosystem/community structure?</u> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Notes: Multiflora rose grows as a vine, a shrub, and various forms in between, allowing it to impact herbaceous and understory shrub layers. Creates dense, impenetrable thickets. (6)</p>

	<p>3. <u>Alteration of ecosystem/community functions and processes?</u> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Notes: Produces shade and decreases light reaching the ground (6).</p>
	<p>4. <u>Allelopathic properties?</u> YES <input type="checkbox"/> NO <input type="checkbox"/> Notes: NA</p>
D. SOCIO-ECONOMIC Effects	
I. Positive aspects of the species to the economy/society:	Notes: Rose hips are used as a source of vitamin C as a tea (10). Its thornless form is commonly used as an understock for propagating rose cultivars (11).
II. Potential socio-economic effects of requiring controls: Positive: Negative:	Notes: Restriction and removal of this species would lessen the threat to farmlands. Not commercially grown in Wisconsin (12).
III. Direct and indirect socio-economic effects of plant:	Notes: Multiflora rose invades pasture areas, degrades forage quality, reduces grazing area and agricultural productivity and can cause severe eye and skin irritation in cattle. Multiflora rose thickets inhibit recreational access. (5). It has also been shown that multiflora rose hedges lower the crop yields on adjacent fields by competing for nutrients (6). It was never a popular landscape plant in Wisconsin. However, its thornless form is commonly used as an understock for propagating rose cultivars.
IV. Increased cost to sectors caused by the plant:	Notes: Lost pasturage in many states, especially states with hilly terrain and pastures on steep slopes, has resulted in significant reduction in potential beef production. This thorned bramble now infests more than 45 million acres throughout the eastern United States. Multiflora rose was the highest priority agricultural problem in West Virginia. Experimental multiflora control programs in West Virginia during 1980 and 1981 indicated that more than 36,500 hectares were heavily infested and that a ten-year eradication program using herbicides would cost more than \$40 million. Similar burdens and costs were reported from neighboring states. Severe multiflora rose infestations have lowered land values for agriculture, forestry, and recreation. (10)
V. Effects on human health:	Notes: NA
VI. Potential socio-economic effects of restricting use: Positive: Negative:	Notes: None, this species is no longer used as rootstock for ornamental roses (7).
E. CONTROL AND PREVENTION	
I. Costs of Prevention (including education; please be as specific as possible):	Notes: NA
II. Responsiveness to prevention efforts:	Notes: NA
III. Effective Control tactics:	Mechanical <input checked="" type="checkbox"/> Biological <input checked="" type="checkbox"/> Chemical <input checked="" type="checkbox"/>

	<p>Times and uses: 3 to 6 mowings or cuttings per year, repeated for 2 to 4 years. Painting or spraying cut stems with herbicides expedites control by killing root systems and preventing resprouting. Another approach is to follow an initial mowing with foliar applied herbicide once plants have resprouted. Applying herbicides to cut stems can hasten mechanical control by translocating chemicals to root systems and preventing resprouting. Cut-stem treatment is effective late in the growing season (July-Sept.). Foliar spraying is effective throughout the growing season as long as leaves are fully formed. Dormant season application is also effective, in the form of basal bark treatment, applied to the lower 18 to 24 inches (46-61 cm) of the stem and onto the root crown. Plants should be dormant and several weeks from bud break (usually January- March). Another technique is periodic browsing of foliage by goats and sheep, which may effectively control multiflora rose. From Natural Enemies above - rose rosette disease is currently expanding its range in the eastern United States, where multiflora rose is more common. Based on field experiments, rose rosette disease "has the potential to eliminate over 90 % of the multiflora roses in areas of dense stands." (5)</p>
IV. Minimum Effort:	Notes: Because seeds remain viable in soil for many years, and because new seeds may be continually imported by birds and other animals, effective management requires post-treatment monitoring and spot treatment as needed for an indeterminate time to prevent reinvasion (5).
V. Costs of Control:	Notes: NA
VI. Cost of prevention or control vs. Cost of allowing invasion to occur:	Notes: NA
VII. Non-Target Effects of Control:	Notes: Applying chemicals directly to the target plant in this manner reduces damage to surrounding native plants, and presumably reduces off-target effects. Dormant season application reduces nontarget mortality. (5)
VIII. Efficacy of monitoring:	Notes: Because seeds remain viable in soil for many years, and because new seeds may be continually imported by birds and other animals, effective management requires post-treatment monitoring and spot treatment as needed for an indeterminate time to prevent reinvasion (5).
IX. Legal and landowner issues:	Notes: Many owners of horticultural stands of this species, even where adjacent to conservation lands, do not want their plants eradicated. (6)

F. REFERENCES USED:

- UW Herbarium
- WI DNR
- TNC
- Native Plant Conservation Alliance
- IPANE

Number	Reference
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3	IPANE http://www.lib.uconn.edu/webapps/ipane/browsing.cfm?descriptionid=29
4	USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. URL: http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?32108 (30 April 2007)
5	Munger, Gregory T. 2002. <i>Rosa multiflora</i> . In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: http://www.fs.fed.us/database/feis/ [2007, April 30].
6	NatureServe. 2006. NatureServe Explorer: An online encyclopedia of life [web application]. Version 6.1. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer . (Accessed: May 1, 2007).
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8	Czarapata, Elizabeth J. 2005. Invasive Plants of the Upper Midwest: An Illustrated Guide to their Identification and Control. The University of Wisconsin Press, Madison, WI.
9	WDNR Natural Heritage Inventory Working List. http://www.dnr.state.wi.us/org/land/er/wlist/
10	Amrine, Jr., J.W. Multiflora Rose. In: Van Driesche, R., et al., 2002, Biological Control of Invasive Plants in the Eastern United States, USDA Forest Service Publication FHTET-2002-04, 413 p. http://www.invasive.org/eastern/biocontrol/22MultifloraRose.html
11	Ed Hasselkus, UW Emeritus Horticulture Professor. Comments on Invasive Plant Classification 2007.
12	SAG Meeting- 9-17-07

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