

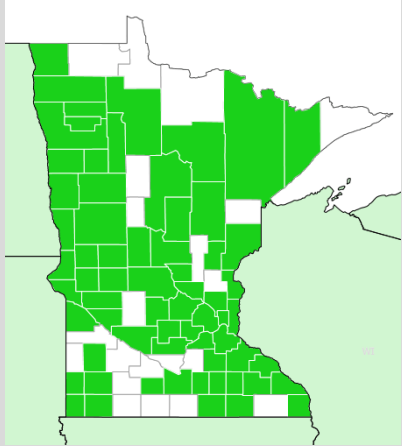


MN NWAC Risk Assessment Worksheet (04-2011) 	Common Name Tatarian honeysuckle	Latin Name <i>Lonicera tatarica L.</i>
	Reviewer Laura Van Riper Tim Power	Affiliation/Organization Minnesota Department of Natural Resources Minnesota Nursery and Landscape Association

Box	Question	Answer	Outcome
1	Is the plant species or genotype non-native?	Yes. Native to Eurasia (western and central Russia) (Barnes 1974).	Go to Box 3.

Box	Question	Answer	Outcome
3	Is the plant species, or a related species, documented as being a problem elsewhere?	<p>Yes. Naturalized in states in the eastern and midwest United States (Drummond 2005, Wisconsin Department of Natural Resources 2007, Woods 1993), including Minnesota (Schulte et al. 2011).</p>  <p>Regulated as noxious/invasive in CT, MA, NH, and VT. USDA Plants accessed 3-26-14. http://plants.usda.gov/core/profile?symbol=LOTA Restricted in Wisconsin NR40.</p>	Go to Box 6.
6	Does the plant species have the capacity to establish and survive in Minnesota?		

Box	Question	Answer	Outcome
	A. Is the plant, or a close relative, currently established in Minnesota?	<p>Yes.</p>  <p>Tatarian honeysuckle has been found in many counties in Minnesota (EDDMaps 2014).</p>	Go to Box 7
7	Does the plant species have the potential to reproduce and spread in Minnesota?	Yes.	
	A. Does the plant reproduce by asexual/vegetative means?	<p>“Research on asexual reproduction for the bush honeysuckles is sparse. In the commercial trade greenwood and hardwood cuttings are used to propagate stocks of bush honeysuckles.” from Wisconsin DNR 2007.</p> <p>Two Minnesota nurseries produce Tatarian honeysuckle hybrids and cultivars from hardwood cuttings (personal communication, Tim Power, 6-30-14)</p>	Go to 7B
	B. Are the asexual propagules effectively dispersed to new areas?	Not likely. The main method of spread to new sites is likely through seeds.	Go to 7C
	C. Does the plant produce large amounts of viable, cold-hardy seeds?	<p>Yes.</p> <p>“Not well researched, but some bush honeysuckles have been found to produce seeds in the 10,000's of thousands per plant. Seed production of non-native Lonicera in the United States is equivalent or greater than in their native ranges in Asia due to horticultural breeding or hybridization.” from Wisconsin DNR 2007.</p>	Go to 7F

Box	Question	Answer	Outcome
	D. If this species produces low numbers of viable seeds, does it have a high level of seed/seedling vigor or do the seeds remain viable for an extended period?		
	E. Is this species self-fertile?	<i>Tatarian honeysuckle flowers are perfect (Stephens 1973), although this doesn't mean they are necessarily self-fertile.</i>	<i>Blue text is provided as additional information not directed through the decision tree process for this particular risk assessment.</i>
	F. Are sexual propagules – viable seeds – effectively dispersed to new areas?	Yes. Birds can vector honeysuckle fruits and seeds (Drummond 2005, McCusker et al. 2010).	Go to 7I
	G. Can the species hybridize with native species (or other introduced species) and produce viable seed and fertile offspring in the absence of human intervention?	<i>Yes. L. tatarica has hybridized with the non-native L. morrowii to form the hybrid L. x bella which is widely distributed in Minnesota. Other hybrids have been formed although they are not widely escaped. Lonicera × notha Zabel (Rutarian honeysuckle), a cross between L. ruprechtiana and L. tatarica. Lonicera × xylosteoides Tausch (Vienna honeysuckle), a cross between L. tatarica and L. xylosteum (Munger 2005)</i>	<i>Blue text is provided as additional information not directed through the decision tree process for this particular risk assessment.</i>
	H. If the species is a woody (trees, shrubs, and woody vines) is the juvenile period less than or equal to 5 years for tree species or 3 years for shrubs and vines?		

Box	Question	Answer	Outcome
	I. Do natural controls exist, species native to Minnesota, that are documented to effectively prevent the spread of the plant in question?	No controls native to Minnesota exist. "Although not purposely introduced for the purposes of biological control, <i>Hyadaphis tataricae</i> is a nonnative aphid that feeds on a variety of bush honeysuckles in North America (for an analysis of taxa-specific susceptibility see Herman and Chaput [72]) [183,184]. <i>H. tataricae</i> feeding results in dwarfing and folding of terminal leaves, stunted terminal growth, and development of "witches brooms" [23,24,107,183]. This lowers plant vigor and may prevent flowering and fruit development [23,24,184]. Voegtlin and Stoetzel [184] indicate that it is not expected to provide widespread, effective control of bush honeysuckles. However, according to U.S. Geological Survey Northern Prairie Wildlife Research Center [23,24], <i>H. tataricae</i> is still expanding its North American range and "may eventually reach levels that will provide control." from Munger 2005. There is a honeysuckle leaf blight that has been observed on Tatarian honeysuckle in Iowa, Maine, Michigan, New York, Ohio, and Pennsylvania (Boyce et. al 2014).	Go to Box 8
8	Does the plant species pose significant human or livestock concerns or has the potential to significantly harm agricultural production, native ecosystems, or managed landscapes?		
	A. Does the plant have toxic qualities, or other detrimental qualities, that pose a significant risk to livestock, wildlife, or people?	Not known. Dense infestations of the related Amur honeysuckle can increase the incidence of tick borne diseases to humans (Allan et al. 2005).	Go to 8B
	B. Does, or could, the plant cause significant financial losses associated with decreased yields, reduced crop quality, or increased production costs?	May constrain oak regeneration which could have negative financial impacts for the timber industry (Schulte et al. 2011).	Go to Box 9.

Box	Question	Answer	Outcome
	C. Can the plant aggressively displace native species through competition (including allelopathic effects)?	<i>Woods (1993) found that in “mesic stands with relatively rich soil, total herbaceous cover, herb species richness and density of tree seedlings were substantially depressed when L. tatarica cover exceeded ca. 30%, a relationship not observed at a dry poor site”. There are other reports of dense stands of non-native honeysuckles forming monocultures in forest understories (Batcher and Stiles 2000, Munger 2005, Webster et al. 2006, Wisconsin DNR 2007, NatureServe 2014).</i>	<i>Blue text is provided as additional information not directed through the decision tree process for this particular risk assessment.</i>
	D. Can the plant hybridize with native species resulting in a modified gene pool and potentially negative impacts on native populations?	<i>No hybridization with native species known.</i>	<i>Blue text is provided as additional information not directed through the decision tree process for this particular risk assessment.</i>
	E. Does the plant have the potential to change native ecosystems (adds a vegetative layer, affects ground or surface water levels, etc.)?	<i>Adds a shrub layer (Munger 2005).</i>	<i>Blue text is provided as additional information not directed through the decision tree process for this particular risk assessment.</i>
	F. Does the plant have the potential to introduce or harbor another pest or serve as an alternate host?	<i>No evidence of this.</i>	<i>Blue text is provided as additional information not directed through the decision tree process for this particular risk assessment.</i>
9	Does the plant species have clearly defined benefits that outweigh associated negative impacts?		

Box	Question	Answer	Outcome
	A. Is the plant currently being used or produced and/or sold in Minnesota or native to Minnesota?	<p>Yes.</p> <p>Cultivars of Tatarian honeysuckle are grown and sold in Minnesota at a few nurseries. The cultivars Honeyrose and Freedom are complex hybrids that include Tatarian honeysuckle as a parent. Arnold Red and Hawkeye honeysuckle are cultivars of Tatarian honeysuckle.</p> <p>For one producer, the wholesale value of Honeyrose and Freedom is estimated at \$20,000. The cultivar <i>Lonicera tatarica</i> ‘Arnold Red’ has an estimated wholesale value of \$25,000.</p> <p>A second, small producer produces small amounts of Arnold Red, Hawkeye, and Honeyrose Honeysuckle. They produce a larger number of Freedom Honeysuckle that has a larger economic impact on their business. (pers. comm. Tim Power, MNLA, 5-12-14)</p> <p>Herman and Davidson (1997) note:</p> <ul style="list-style-type: none"> • <i>Lonicera</i> ‘Honeyrose’ is a cross between <i>L. tatarica</i> ‘Arnold Red’ and <i>L. tatarica</i> ‘Zabelii’, which some describe as a <i>L. korolkowii</i>. <i>Lonicera</i> ‘Honeyrose’ is aphid resistant. • <i>Lonicera</i> ‘Freedom’ is <i>L. x amoena</i> (<i>korolkowii</i> x <i>tatarica</i>) • <i>Lonicera tatarica</i> ‘Arnold Red’ showed significant aphid resistance 	Go to Box 9B
	B. Is the plant an introduced species and can its spread be effectively and easily prevented or controlled, or its negative impacts minimized through carefully designed and executed management practices?	<p>No.</p> <p>The plant is an introduced species, but its spread cannot be easily prevented or controlled.</p>	Go to Box 9C.
	C. Is the plant native to Minnesota?	No.	Go to Box 9D.

Box	Question	Answer	Outcome
	D. Is a non-invasive, alternative plant material commercially available that could serve the same purpose as the plant of concern?	<p>Yes.</p> <p>There are native honeysuckles than can be alternatives: <i>Diervilla lonicera</i> [dwarf bush honeysuckle; note this is not a true honeysuckle (<i>Lonicera</i>)], <i>Lonicera canadensis</i> (fly honeysuckle), <i>L. oblongifolia</i> (swamp fly honeysuckle), <i>L. villosa</i> (mountain fly honeysuckle); the three true honeysuckles (<i>Lonicera</i> sp.) are not commonly grown commercially.</p> <p>There are ornamental non-native honeysuckles (<i>Lonicera xylosteum</i> cultivars) sold that have not had their invasive potential assessed.</p> <p>Alternatives listed in MIPN Landscape Alternatives brochure (note that not all are hardy in Minnesota) (http://mipn.org/MIPN%20Landscape%20Alternatives%202013.pdf): <i>Amelanchier</i> spp. (serviceberry), <i>Heptacodium miconioides</i> (seven son flower), <i>Kolkwitzia amabilis</i> (beautybush), <i>Calycanthus floridus</i> (Carolina allspice), <i>Sambucus canadensis</i> (American elderberry), <i>Sambucus pubens</i> (American red elderberry), <i>Lonicera dioica</i> (red honeysuckle), <i>Lonicera involucrata</i> (twinberry), <i>Stephanandra incise</i> (cultleaf stephanandra)</p> <p>Viburnums (<i>Viburnum</i> spp. – <i>V. acerifolium</i>, <i>V. lentago</i>, <i>V. rafinesquianum</i>, <i>V. trilobum</i>), the ninebarks (<i>Physocarpus opulifolius</i>), and the dogwoods (<i>Cornus</i> spp. – <i>C. alternifolia</i>, <i>C. racemosa</i>, <i>C. sericea</i>) can also be alternatives.</p>	Go to Box 10.
	E. Does the plant benefit Minnesota to a greater extent than the negative impacts identified at Box #8?		
10	Should the plant species be enforced as a noxious weed to prevent introduction &/or dispersal; designate as prohibited or restricted?		
	A. Is the plant currently established in Minnesota?	Yes.	Go to Box 10B.

Box	Question	Answer	Outcome
	B. Does the plant pose a serious human health threat?	No.	Go to Box 10C.
	C. Can the plant be reliably eradicated (entire plant) or controlled (top growth only to prevent pollen dispersal and seed production as appropriate) on a statewide basis using existing practices and available resources?	No. The plant is a widespread woody species which is expensive and labor-intensive to control. It likely cannot be controlled on a statewide basis.	List as a Restricted Noxious Weed.
11	Should the plant species be allowed in Minnesota via a species-specific management plan; designate as specially regulated?		
Final Results of Risk Assessment			
	Review Entity	Comments	Outcome
	NWAC Listing Subcommittee	Subcommittee agreed with the risk assessment that <i>L. tatarica</i> should be listed as a restricted noxious weed.	List as a Restricted Noxious Weed.
	NWAC Full-group		Restricted Noxious Weed
	MDA Commissioner	Approved NWAC Recommendation	Restricted Noxious Weed
	File #: MDARA00043TAHS_8_06_2014		

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(List any literature, websites, and other publications)

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