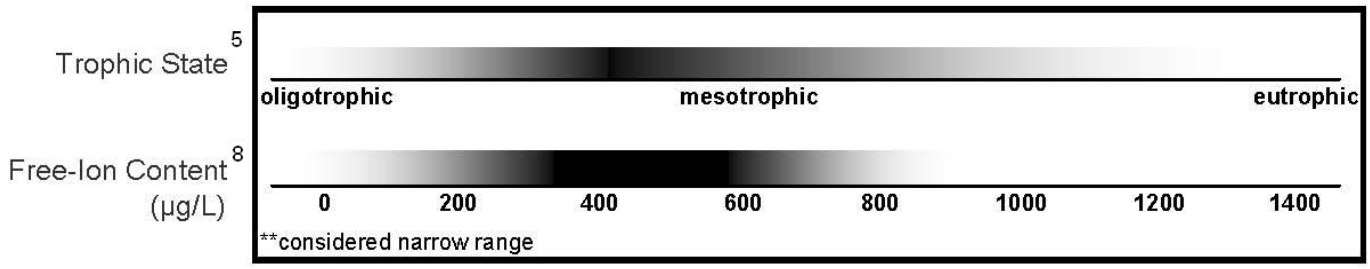
Aquatic Plant		Water soldiers
I. Current Status and Distribution		***Stratiotes aloides***
a. Range	**Global/Continental**	**Wisconsin**
Native Range Temperate Asia, Europe[1]	Recently reported in Ontario, Canada[2]	Not recorded in Wisconsin[3]
Abundance/Range Widespread: Locally Abundant: Sparse:	 Undocumented Trent Severn Waterway, Ontario Canada[2] Undocumented	 Not applicable Not applicable Not applicable
Range Expansion Date Introduced: Rate of Spread:	 First discovered in September 2008 (2) Little active expansion in native range[4]; declining in many areas[5,6]; not considered a noxious weed within its current range[7]	 Not applicable Not applicable
Density Risk of Monoculture: Facilitated By:	 Often grows in dense stands[5] Undocumented	 Undocumented Undocumented
b. Habitat	Sheltered bays, backwaters, ditches, canals, shallow, slow moving waters, rivers[5]	
Tolerance	Chart of tolerances: Increasingly dark color indicates increasingly optimal range	
		
Preferences	High dissolved inorganic carbon; high free CO_2 [9]; high to moderate alkalinity[5,8,10]; moderate pH[9;] peaty sediments[8]; sulphide and iron toxicity[5]; eutrophication and impact-intolerant[5]	
c. Regulation		
Noxious/Regulated[11]:	Previously incorrectly listed as a Federal Noxious Weed, this error was retracted[7]; AL, FL	
Minnesota Regulations:	*Prohibited*; One may not possess, import, purchase, propagate, or transport	
Michigan Regulations:	*Not regulated*	
Washington Regulations:	*Not regulated*	
II. Establishment Potential and Life History Traits		
a. Life History	Floating (summer)[8] or submerged (winter)[5] dioecious[12] perennial monocot	
Fecundity	Medium	

Reproduction	Sexual; Asexual
Importance of Seeds:	Only for dispersal; seed-set can be substantial, but recruitment from seed is limited[10]
Vegetative:	Important; extensive clonal growth, but only 1-2 turions/year produced[12,13]
Hybridization	Undocumented
Overwintering	
Winter Tolerance:	High: freezing *in situ* is frequent, turions are frost-hardy[13]; able to over-winter in Ontario, Canada[2]
Phenology:	Undocumented
b. Establishment	
Climate	
Weather:	Disturbance to soil (e.g. storms) will increase recruitment from seed[10]; hardy up to zone 5[14]
Wisconsin-Adapted:	Yes
Climate Change:	Likely to facilitate growth and distribution
Taxonomic Similarity	
Wisconsin Natives:	Medium; family Hydrocharitaceae
Other US Exotics:	Medium; family Hydrocharitaceae
Competition	
Natural Predators:	Undocumented
Natural Pathogens:	Undocumented
Competitive Strategy:	Undocumented
Known Interactions:	Undocumented
Reproduction	
Rate of Spread:	Undocumented
Adaptive Strategies:	Germination requires neither light, oxygen, nor vernalization: coat-dependant germination[12]
Timeframe	Undocumented
c. Dispersal	
Intentional:	Aquarium/water garden industry[2]
Unintentional:	Escape from cultivation; water currents
Propagule Pressure:	Undocumented

Figure 1: Courtesy of R.A. Howard, USDA Plants[15]
Figure 2: Courtesy of Wikimedia Commons[16]

III. Damage Potential	
a. Ecosystem Impacts	
Composition	Undocumented
Structure	Undocumented
Function	Undocumented
Allelopathic Effects	Inhibits and stimulates phytoplankton; inhibits certain cyanobacteria[17,18]
Keystone Species	Keystone species in the hydrosere[5]
Ecosystem Engineer	Potentially, if matting is thick enough
Sustainability	Undocumented
Biodiversity	Integral to the survival of an endangered dragonfly, *Aeshna viridis*, in Europe[19,20,21]
Biotic Effects	Undocumented
Abiotic Effects	Undocumented
Benefits	Inhibits algae (increase in clarity); provides habitat for invertebrates
b. Socio-Economic Effects	
Benefits Caveats	Reported but unconfirmed medicinal value Risk of release and population expansion outweighs benefits of use
Impacts of Restriction	Increase in monitoring, education, and research costs
Negatives	May present problems if growth reaches nuisance levels
Expectations	Undocumented
Cost of Impacts	Undocumented
"Eradication" Cost	Undocumented
IV. Control and Prevention	
a. Detection	
Crypsis: Benefits of Early Response:	Low Undocumented
b. Control	Undocumented

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