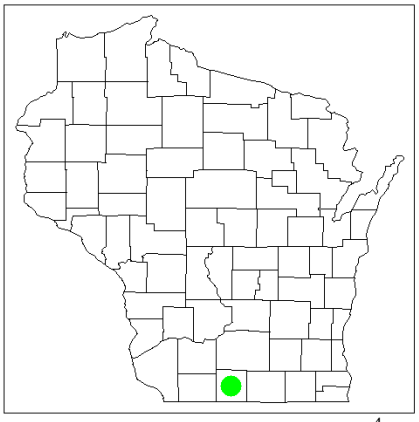
Aquatic Plant	Vietnamese parsley; Water dropwort; Water celery
I. Current Status and Distribution	***Oenanthe javanica***

a. Range	**Global/Continental**	**Wisconsin**
Native Range Asia, Australia[1,2]	 *Figure 1: U.S and Canada Distribution Map*[3]	 *Figure 2: WI Distribution Map*[4]
Abundance/Range Widespread: Locally Abundant: Sparse:	 Undocumented Missouri[3]; Fairfax Co., Virginia[5] Cultivated in Hawaii and Florida[1]	 Undocumented Sugar River (Green County, Broadhead, WI)[4] Undocumented
Range Expansion Date Introduced: Rate of Spread:	 Undocumented Undocumented	 Introduced 2 years ago (2009)[4] Densely covers an area approximately 100 ft long[4]
Density Risk of Monoculture: Facilitated By:	 Has invasive tendencies; reported as potentially invasive on many horticultural websites Undocumented	 Can be high[4,6] Undocumented

b. Habitat	Freshwater marshes, swampy fields, streams, rivers, riverbanks, canals, ditches, ponds, lakeshores, terrestrial shorelines[1,4,7]
Tolerance	Environmental tolerances undocumented
Preferences	Optimal range of flow velocity for water celery is 0.05-0.30 m/s [(8)]
c. Regulation	
Noxious/Regulated:	*Not regulated*
Minnesota Regulations:	*Not regulated*
Michigan Regulations:	*Not regulated*
Washington Regulations:	*Not regulated*
II. Establishment Potential and Life History Traits	
a. Life History	Creeping perennial stoloniferous aquatic plant[1]
Fecundity	Undocumented
Reproduction Importance of Seeds: Vegetative:	 May be important[9] Broken fragments can form advantageous roots[6]
Hybridization	Popular 'Flamingo' cultivar[7]; many other cultivars[10]

Overwintering	
Winter Tolerance:	Overwinters in Virginia[5]; in China, grows well in winter[11,12,13,14]
Phenology:	Flowers from June to August, seeds ripen from August to October[7]
b. Establishment	
Climate	
Weather:	Undocumented
Wisconsin-Adapted:	Has overwintered in southern Wisconsin[6]
Climate Change:	Undocumented
Taxonomic Similarity	
Wisconsin Natives:	Medium; family Apiaceae[3]
Other US Exotics:	High; *O. aquatica* and *O. pimpinelloides*[3]
Competition	
Natural Predators:	Almost no pests observed in Florida cultivations[1]
Natural Pathogens:	Undocumented
Competitive Strategy:	Undocumented
Known Interactions:	Undocumented
Reproduction	
Rate of Spread:	Can spread rapidly[7]
Adaptive Strategies:	Broken fragments can form advantageous roots[6]
Timeframe	Undocumented
c. Dispersal	
Intentional:	Cultivated food source[1,7,9, 15,16]; ornamental[4,6]
Unintentional:	Flooding[4,6]
Propagule Pressure:	High; fragments relatively easily accidentally introduced

Figures 3 and 4: Courtesy of Sue Graham, Wisconsin DNR[4]

III. Damage Potential	
a. Ecosystem Impacts	
Composition	Undocumented
Structure	Undocumented
Function	Undocumented
Allelopathic Effects	Undocumented
Keystone Species	Undocumented
Ecosystem Engineer	Undocumented

Sustainability	Undocumented
Biodiversity	Undocumented
Biotic Effects	Influences water microbial communities[17]
Abiotic Effects	Influences water physical parameters (i.e., dissolved oxygen, pH, and temperature) and nutrient uptake[17]
Benefits	Important plant for oviposition of endangered *Dytiscus sharpi* (diving beetle) in Japan[18,19]
b. Socio-Economic Effects	
Benefits	Ornamental trade[4,6]; edible plant[1,7]; wastewater purification and nutrient uptake[11,12,13,14,20,21,22,23,24]; extracts have shown inhibition of hepatitis B virus[25]; extracts have been shown effective in overcoming alcohol intoxication[26]
Caveats	Risk of release and population expansion outweighs benefits of use
Impacts of Restriction	Increase in monitoring, education, and research costs
Negatives	Undocumented
Expectations	Undocumented
Cost of Impacts	Decreased recreational value; decline in ecological integrity; increased research expenses
"Eradication" Cost	Undocumented
IV. Control and Prevention	
a. Detection	
Crypsis:	Synonymous with *O. stolonifera*[1,7]
Benefits of Early Response:	Undocumented
b. Control	
Management Goal 1	Control
Tool:	Aquatic herbicides; 4 oz/gallon AquatNeat (glyphosate) and 1 oz/gallon Habitat (imazapyr)[6,27]
Caveat:	Non-target effects on other native species
Cost:	Undocumented
Efficacy, Time Frame:	Application occurred in late July[6]; approximately 75% efficacy reported after a single treatment[27]; masses of stems remained viable in the channel bottom, requiring a follow up treatment[27]
Tool:	Tillage and puddling[28]
Caveat:	Non-target effects on other native species; may not be applicable in natural ecosystems
Cost:	Undocumented
Efficacy, Time Frame:	After growth begins, perform deep ploughing 10-25 days before burial of foliage by puddling under shallow water[28]

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