

NAME OF SPECIES: *Daphnia lumholtzi*

A. CURRENT STATUS AND DISTRIBUTION	
1. In Wisconsin?	a. YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
	b. Abundance: unclear
	c. Geographic Range: Lake Michigan, some also found in Lake Superior and Wisconsin portion of Mississippi River
	d. Type of Waters Invaded (rivers, ponds, lakes, etc): lakes, rivers
	e. Historical Status and Rate of Spread in Wisconsin: First discovered in Great Lakes in 1999 (Lake Erie), also known in the IL River for years; unclear when first detected in WI waters
2. Invasive in Similar Climate Zones	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Where: In IL River, Mississippi River, Great Lakes
3. Similar Habitat Invaded Elsewhere	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Where: See above
4. In Surrounding States	YES <input type="checkbox"/> NO <input type="checkbox"/> Where: IL
5. Competitive Ability	High: When successful, likely due to ability to avoid predation and adapt to disturbed areas - they produce resting eggs that can resist adverse conditions. The resting eggs have spines that can grip objects and aid in dispersal. Low: These inverts are adapted to higher temperature range than native <i>Daphnia</i> . They may be restricted to warm and near-shore areas of Lake Michigan. Their populations also peak after native <i>Daphnia</i> , leading to less direct competition than many expected.
B. ESTABLISHMENT POTENTIAL AND LIFE HISTORY TRAITS	
1. Temperature:	Range: Peak abundance in the Illinois River at 20 - 30 deg.C (70 - 86 deg. F)
2. Spawning Temperature:	Range: In Illinois River, peak reproductive rates at 20 - 30 deg. C, but individuals with eggs have been collected at temps. from 3 - 10 deg. C (37 - 50 deg. F)
3. Number of Eggs:	Range: not found
4. Preferred Spawning Substrate:	N/A
5. Hybridization Potential:	none found
6. Salinity Tolerance	Fresh: <input checked="" type="checkbox"/> Marine: <input type="checkbox"/> Brackish: <input type="checkbox"/>
7. Oxygen Regime	Range: none found

8. Water Hardness Tolerance	Range: none found
9. Easily confused for Native Species?	List: may be possible to confuse with native Daphnia species
C. DAMAGE POTENTIAL	
1. Likelihood of Damage	a. Presence of Natural Enemies: Native fish eat them, once juveniles are large enough
	b. How well introductory and expansion pathways can be described and quantified: Initial intro to U.S. may have been with imported Nile perch and other contaminated stockings of fish; further spread via recreational boating and angling
2. Environmental Impacts	a. Alteration of ecosystem composition, structure and function: Populations appear to peak in late summer, after native Daphnia species; most young fish are big enough to eat them at this point, so it is difficult to know how big their impact is. If some fish species aren't able to eat them or they compete directly with specific zooplankton, then there may be impacts on the ecosystem.
	c. Damage to ecosystem resilience/sustainability:
	d. Loss of biological diversity:
	e. Abiotic modifications (affects on turbidity, H2O chemistry, etc.):
	f. Biotic effects on other species (loss of cover, nesting sites, forage, changing competitive relationships):
D. NET SOCIO/ECONOMIC IMPACT	
1. Positive aspects of the species to the economy/society:	Effect: food source for fish
2. Direct and indirect effects of the invasive species:	Effect: If they do ultimately impact fish populations, then there is the potential for them to impact recreational and commercial fishing.
3. Type of damage caused by organism:	Effect:
Industries affected by invasive:	Effect:
4. Loss of aesthetic value affecting recreation and tourism:	Effect:
5. Increased cost to a sector (monitoring, inspection, control, public education, modifying practices, damage repair, lower yield, loss of export markets due to	Effect:

quarantine:	
6. Cost of prevention or control relative to cost of allowing invasion to occur (cost of prevention is borne by different groups than cost of control):	Effect:
7. Cost at different levels of invasion:	Effect:
E. CONTROL AND PREVENTION POTENTIAL	
1. Costs of Prevention (including Education):	
2. Responsiveness to Prevention Efforts:	Since they are likely primarily spread by recreational boating like may other species, a specific audience can be targeted with a prevention of spread message.
3. Detection Capability:	
4. Control Tactics Effective:	Mechanical: <input type="checkbox"/> Biological: <input type="checkbox"/> Chemical: <input type="checkbox"/> none found
5. Efficacy/Feasibility of Control (effort, # of staff):	
6. Cost of Control:	High: <input type="checkbox"/> Medium: <input type="checkbox"/> Low: <input type="checkbox"/>
7. Non-Target Effects of Control:	
8. Threshold at which control would be attempted:	
9 Efficacy of Monitoring:	