

NAME OF SPECIES: **Bloody Shrimp (*Hemimysis anomala*) a.k.a. bloody red mysid, bloody-red shrimp**

A. CURRENT STATUS AND DISTRIBUTION	
1. In Wisconsin?	a. YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
	b. Abundance:
	c. Geographic Range:
	d. Type of Waters Invaded (rivers, ponds, lakes, etc):
	e. Historical Status and Rate of Spread in Wisconsin:
2. Invasive in Similar Climate Zones	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Where: 1 st reported in Muskegon Lake, Michigan (connected to Lake Michigan) in 2006, since collected in Lake Ontario (2006) and Lake Erie (2007)
3. Similar Habitat Invaded Elsewhere	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Where: see above
4. In Surrounding States	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Where: see above
5. Competitive Ability	High: Based on history of invasions in Europe, significant impacts on zooplankton populations are possible; the fact that they are hermaphroditic may enable them to spread more rapidly, as only a single individual is needed to reproduce. Low:
B. ESTABLISHMENT POTENTIAL AND LIFE HISTORY TRAITS	
1. Temperature:	Range:
2. Spawning Temperature:	Range:
3. Number of Eggs:	Range: Females carry an egg pouch (approx 30 eggs/female); are protandrous hermaphrodites (can change from males to females)
4. Preferred Spawning Substrate:	
5. Hybridization Potential:	
6. Salinity Tolerance	Fresh: <input checked="" type="checkbox"/> Marine: <input checked="" type="checkbox"/> Brackish: <input checked="" type="checkbox"/>
7. Oxygen Regime	Range:
8. Water Hardness Tolerance	Range:

9. Easily confused for Native Species?	List:
C. DAMAGE POTENTIAL	
1. Likelihood of Damage	a. Presence of Natural Enemies:
	b. How well introductory and expansion pathways can be described and quantified: Likely introduced via ballast water
2. Environmental Impacts	a. Alteration of ecosystem composition, structure and function: voracious predators, omnivorous
	c. Damage to ecosystem resilience/sustainability: concern about impacts on zooplankton and phytoplankton populations
	d. Loss of biological diversity: Great decreases in portions of the zooplankton population have been observed in the Netherlands following introduction
	e. Abiotic modifications (affects on turbidity, H2O chemistry, etc.):
	f. Biotic effects on other species (loss of cover, nesting sites, forage, changing competitive relationships: changes in zooplankton populations could impact the fish that rely on them for food
D. NET SOCIO/ECONOMIC IMPACT	
1. Positive aspects of the species to the economy/society:	Effect:
2. Direct and indirect effects of the invasive species:	Effect:
3. Type of damage caused by organism:	Effect: Potential to impact fish populations if zooplankton populations are significantly impacted/changed
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 quarantine:	Effect:
6. Cost of prevention or control relative to cost of allowing invasion to occur (cost of prevention is borne by different groups than cost	Effect:

of control):	
7. Cost at different levels of invasion:	Effect:
E. CONTROL AND PREVENTION POTENTIAL	
1. Costs of Prevention (including Education):	
2. Responsiveness to Prevention Efforts:	Education efforts targeting boaters and anglers could be effective in helping to prevent their spread to new waters
3. Detection Capability:	
4. Control Tactics Effective:	Mechanical: <input type="checkbox"/> Biological: <input type="checkbox"/> Chemical: <input type="checkbox"/>
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:	(from http://www.glerl.noaa.gov/hemimysis/index.html) The NOAA National Center for Research on Aquatic Invasive Species (NCRAIS) is coordinating a rapid research response to define the range, distribution, and impact of <i>Hemimysis anomala</i> in the Great Lakes. Help is needed to document and prevent the spread of this species! <i>Hemimysis anomala</i> is difficult to locate because it is nocturnal, preferring to hide in rocky cracks and crevices near the bottom along the shoreline during daylight. This species sometimes exhibits swarming behavior, especially in late summer, forming small dense reddish-tinged clouds containing thousands of individuals concentrated in one location and visible just below the waters surface in a shallow zone. This is the basis for a new survey and monitoring program being established which is asking for public assistance in locating other occurrences of this organism.