NAME OF SPECIES: Fishhook waterflea (Cercopagis pengoi)

A. CURRENT STATUS AND DISTRIBUTION	
1. In Wisconsin?	a. YES ☒ NO ☐
	b. Abundance: variable
	c. Geographic Range: Lake Michigan
	d. Type of Waters Invaded (rivers, ponds, lakes, etc): lakes
	e. Historical Status and Rate of Spread in Wisconsin: Entered the Great Lakes in the 1990s, found in Ontario in 1998, in by 1999 found in Southern Lake Michigan
2. Invasive in Similar Climate Zones	YES ☒ NO ☐ Where: Finger Lakes in NY, Lakes Ontario, Erie, Michigan, inland lakes in MI
3. Similar Habitat Invaded Elsewhere	YES ☒ NO ☐ Where: see above
4. In Surrounding States	YES ☒ NO ☐ Where: see above
5. Competitive Ability	High: Reproduce asexually and rapidly, long tails protect them from some predation (by small fish), produce resting eggs that can survive adverse conditions, even after adults are dead, can tolerate wide range of temperatures and salinity Low:
B. ESTABLISHMENT POTENTIAL AND LIFE HISTORY TRAITS	
1. Temperature:	Range: Wide tolerance from 3 - 38 deg. C; highest densities at 16 - 26 deg. C
2. Spawning Temperature:	Range:
3. Number of Eggs:	Range: Parthenogenic - females can produce asexually without males. Sexual females produce 1 - 4 resting eggs, asexual females produce 1 - 24 embryos multiple times per year
4. Preferred Spawning Substrate:	n/a
5. Hybridization Potential:	none found
6. Salinity Tolerance	Fresh: ☒ Marine: ☒ Brackish: ☒
7. Oxygen Regime	Range:
8. Water Hardness Tolerance	Range:
9. Easily confused for Native Species?	List: none found, resembles invasive spiny waterflea

C. DAMAGE POTENTIAL	
1. Likelihood of Damage	a. Presence of Natural Enemies: Larger fish eat them - some have even shown a preference for them.
	b. How well introductory and expansion pathways can be described and quantified: Entered Great Lakes in ballast water, further spread in ballast water and on boats and fishing and other recreational gear and equipment and via bilge and bait water, some avian dispersal possible
2. Environmental Impacts	a. Alteration of ecosystem composition, structure and function: They are predators, eating smaller zooplankton, putting them in direct competition with other large zooplankton and juvenille fish for food. Young fish have difficulty eating them because of their long tails.
	c. Damage to ecosystem resilience/sustainability:
	d. Loss of biological diversity: Could decrease native plankton populations
	e. Abiotic modifications (affects on turbidity, H2O chemistry, etc.):
	f. Biotic effects on other species (loss of cover, nesting sites, forage, changing competitive relationships: If native plankton decrese and young fish cannot eat them,fishhook waterfleas could have negative impacts on young fish survival
D. NET SOCIO/ECONOMIC IMPACT	
1. Positive aspects of the species to the economy/society:	Effect: Are a prefered food for some fish
2. Direct and indirect effects of the invasive species:	Effect: decrease in native zooplankton could lead to decrease in sport fish, which could impact the sport fishing industry
3. Type of damage caused by organism:	Effect: Large groups of these waterfleas clump together and foul fishing lines and downrigger cables, possibly resulting in loss of hooked fish
Industries affected by invasive:	Effect: Have the potential to impact recreational and commercial fishing industries
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 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:	Recreational fishing and boating are the primary means of transport to new waters, so this is a good species to target with prevetion of spread education
3. Detection Capability:	
4. Control Tactics Effective:	Mechanical: ☐ Biological: ☐ Chemical: ☐
5. Efficacy/Feasibility of Control (effort, # of staff):	no known control options
6. Cost of Control:	High: ☐ Medium: ☐ Low: ☐
7. Non-Target Effects of Control:	
8. Threshold at which control would be attempted:	
9 Efficacy of Monitoring:	