NAME OF SPECIES: Eastern mosquito fish (Gambusia holbrooki) and Western mosquito fish (Gambusia affinis)

A. CURRENT STATUS AND DISTRIBUTION	
1. In Wisconsin?	a. YES ☒ NO ☐
	b. Abundance: generic report of G. affinis found somewhere in WI on the USGS web site - no details given
	c. Geographic Range:
	d. Type of Waters Invaded (rivers, ponds, lakes, etc): (in other states, found in: rivers, estuaries, lakes, creeks, ponds)
	e. Historical Status and Rate of Spread in Wisconsin: report mentioned above is from 1961, no additional reported sightings found
2. Invasive in Similar Climate Zones	YES ☒ NO ☐ Where: MN ponds, most other reported infestations slightly south
3. Similar Habitat Invaded Elsewhere	YES ☒ NO ☐ Where: see below
4. In Surrounding States	YES ☒ NO ☐ Where: G. affinis is native to southern portions of IN, IL, and the rest of the southern Mississippi drainage; they have also become established in the northern portions of IN and IL, also reported established populations in a number of MN ponds, and OH river, MI, and the Mississippi River in Iowa. G. holbrooki is native to southern Atlantic coast states, not as many reported infestations in northern US (1 in OH)
5. Competitive Ability	High: These species are highly competitive worldwide and have had huge impacts in some areas. They give live birth to young and females can store sperm for later fertilization, they also exhibit highly aggressive predatory behavior. Low: Both species are not, in general, cold tolerant, limiting their ability to survive the winter in northern US climates. Overwintering may require surface groundwater spring or other warm water source.
B. ESTABLISHMENT POTENTIAL AND LIFE HISTORY TRAITS	
1. Temperature:	Range: usually 12 - 29 deg. C, up to 42 deg. C for short time periods
2. Spawning Temperature:	Range:
3. Number of Eggs:	Range: live birth, reproduce several times per year, brood size typically 60 young, can be more than 300.
4. Preferred Spawning Substrate:	Prefer to live in brackish, slow-flowing or standing water, vegetated ponds and lakes, backwaters and pools of streams
5. Hybridization Potential:	possibility of hybridization between these two species

6. Salinity Tolerance	Fresh: ☒ Marine: ☐ Brackish: ☒
7. Oxygen Regime	Range: can tolerate low oxygen levels
8. Water Hardness Tolerance	Range:
9. Easily confused for Native Species?	List: none found, though these two speceis are very similar to one another
C. DAMAGE POTENTIAL	
1. Likelihood of Damage	a. Presence of Natural Enemies:
	b. How well introductory and expansion pathways can be described and quantified: Native to more southern portions of the US, both species have been routinely stocked for mosquito control
2. Environmental Impacts	a. Alteration of ecosystem composition, structure and function: Feed primarily on zooplankton and invertebrate prey at the top of the water column. Maximum consumption rates of 42 - 167% of body weight per day. They are aggressive and predatory - may affect populations of small fish through competition and predation. They are even aggressive toward larger fish, which they may attack and kill. They eat the eggs, larvae, and juvenilles of other fish
	c. Damage to ecosystem resilience/sustainability:
	d. Loss of biological diversity: have the ability to displace native fish species through aggressive behavior; severe impacts have been seen in southwestern US
	e. Abiotic modifications (affects on turbidity, H2O chemistry, etc.):
	f. Biotic effects on other species (loss of cover, nesting sites, forage, changing competitive relationships: can precipitate algae blooms when fish eat zooplankton grazers, could even result in increased mosquitos if fish eat their invertebrate predators
D. NET SOCIO/ECONOMIC IMPACT	
1. Positive aspects of the species to the economy/society:	Effect: Can provides effective mosquito control in small, stagnant waters; large scale effectiveness has been questioned - may not do any better than native fish they have the potential to replace. Also, used for food for carnivorous aquarium fish
2. Direct and indirect effects of the invasive species:	Effect: may eat eggs of economically desirable fish species and prey on rare indigenous fish and invertebrates
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 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:	
3. Detection Capability:	
4. Control Tactics Effective:	Mechanical: ☐ Biological: ☐ Chemical: ☒
5. Efficacy/Feasibility of Control (effort, # of staff):	biological control is stll well beyond present capabilties.
6. Cost of Control:	High: ☐ Medium: ☐ Low: ☐
7. Non-Target Effects of Control:	Rotenone may work to control them, but would kill all other fish, as well
8. Threshold at which control would be attempted:	
9 Efficacy of Monitoring:	