

NAME OF SPECIES: Round goby (Neogobius melanostomus), a.k.a. Apollonia melanostomus

A. CURRENT STATUS AND DISTRIBUTION	
1. In Wisconsin?	a. YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> b. Abundance: often quite abundant when present - abundant in following areas of Lakes Michigan and Superior - Superior Harbor, Milwaukee Harbor, Sturgeon Bay c. Geographic Range: Lakes Michigan and Superior, established in Amnicon and Sheboygan Rivers d. Type of Waters Invaded (rivers, ponds, lakes, etc): lakes and rivers e. Historical Status and Rate of Spread in Wisconsin: 1 <sup>st</sup> found in North America/Great Lakes system in 1990, 1 <sup>st</sup> recorded in Duluth-Superior Harbor in 1995, captured in Lake Michigan in 1999, now in all Great Lakes and traveling upstream into rivers
2. Invasive in Similar Climate Zones	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Where: Great Lakes
3. Similar Habitat Invaded Elsewhere	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Where: see above, also in the Illinois River and other rivers and a few inland lakes in IL, IN, MI, OH, and Ontario
4. In Surrounding States	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Where: see above
5. Competitive Ability	High: Aggressive, voracious feeders that can forage in total darkness and can take over prime spawning sites, can tolerate a wide range of environmental conditions Low:
B. ESTABLISHMENT POTENTIAL AND LIFE HISTORY TRAITS	
1. Temperature:	Range: - 1 to 30 deg. C
2. Spawning Temperature:	Range: 9 - 26 deg. C (mid-May through late July)
3. Number of Eggs:	Range: mature females contain 80 - 600 eggs and lay them among several nests, they can spawn every 20 days
4. Preferred Spawning Substrate:	establish nests in cavities under rocks or logs or within shipwrecks or other artificial structures
5. Hybridization Potential:	
6. Salinity Tolerance	Fresh: <input checked="" type="checkbox"/> Marine: <input type="checkbox"/> Brackish: <input checked="" type="checkbox"/>
7. Oxygen Regime	Range: can tolerate < 1 mg/L
8. Water Hardness Tolerance	Range:

9. Easily confused for Native Species?	List:
<b>C. DAMAGE POTENTIAL</b>	
1. Likelihood of Damage	a. Presence of Natural Enemies: eaten by native fish and snakes
	b. How well introductory and expansion pathways can be described and quantified: introduced and then spread within Great Lakes in ballast water, once introduced can migrate into connected waters on their own
2. Environmental Impacts	a. Alteration of ecosystem composition, structure and function: eat a variety of benthic animals, including zebra mussels, snails, other inverts., also eat eggs and small fish
	c. Damage to ecosystem resilience/sustainability: fear that they will have major impacts on native fish communities - are larger and more aggressive than many native benthic fish and may compete with them for food, habitat, spawning sites
	d. Loss of biological diversity: concerns about their impacts on native sculpins, darters, and logperch, have been reports of native fish declines in areas where gobies have become abundant
	e. Abiotic modifications (affects on turbidity, H2O chemistry, etc.):
	f. Biotic effects on other species (loss of cover, nesting sites, forage, changing competitive relationships: may disturb nesting sites of native fish
<b>D. NET SOCIO/ECONOMIC IMPACT</b>	
1. Positive aspects of the species to the economy/society:	Effect: can be used as bait, eat zebra mussels (unlikely to have major impacts on their numbers, though). In native range, they are eaten - are easy to catch.
2. Direct and indirect effects of the invasive species:	Effect: concern about impacts on fish populations and ecosystems ultimately impacting commercial and sportfish populations. Because they go after bait, many anglers consider them a nuisance.
3. Type of damage caused by organism:	Effect:
Industries affected by invasive:	Effect: potentially commercial and recreational fishing
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: potential for relatively costly electric barriers to prevent upstream spread; the barrier in the Chicago area was activated after gobies had already moved into the IL River system, however.
7. Cost at different levels of invasion:	Effect:
<b>E. CONTROL AND PREVENTION POTENTIAL</b>	
1. Costs of Prevention (including Education):	
2. Responsiveness to Prevention Efforts:	Bait bucket releases are a potential mechanism of spread to inland lakes and rivers, so education targeting anglers may be effective.
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:	