

IACUC Guidelines on Spawning Practices for Fish Native to Lake Michigan and Other Temperate Freshwater Species

Date Approved: 4/29/22

Date Implemented: 4/29/22

Last Revision:

Revision History:

This guideline is intended to establish husbandry, intervention, and humane endpoint parameters for spawning fish native to Lake Michigan and other temperate freshwater species.

During spawning seasons, proper husbandry practices are critical and require daily care and monitoring. Some critical characteristics and elements related spawning activity that must be addressed are:

- Temperature control: The PI and care staff must ensure that the temperature of the water in which the fish are maintained are appropriate for the survival, growth, and reproduction of the species. For fishes native to Wisconsin, a good reference is The Fishes of Wisconsin by George C. Becker (1983).
- Daily observations of health and condition: Both males and females should be observed daily to ensure that they are in the appropriate condition (i.e., they are healthy and of the appropriate size) for spawning
- Daily collection and recording of naturally deposited egg ribbons: It is important to record the onset of egg laying to prepare for increasing the number of daily inspections for spawning behavior and egg collection.
- Inspections during the spawning period: Observations should be made frequently, at least twice a day or more often if warranted.
- Physical examination of females: Within the peak spawning window, females should be visually observed to determine the condition of the vent. Extreme care must be used when handling to avoid damaging any of the internal organs. This should only be performed by experienced, knowledgeable personnel.

- Physical examination of males: Males can be visually observed for ripeness.

While some post-spawning stress may be observed for up to 72 hours, strange swimming behavior in temperate freshwater fish can be symptomatic of the significant stress. That stress can cause disruption in regular homeostasis, which can result in negative buoyancy disorder.

If a fish is exhibiting water buoyancy disorder during the applicable spawning season, water quality should be checked and corrected as necessary. Some water quality parameters that can cause stress are:

- pH (Wisconsin natives typically prefer neutral to alkaline pH, but this can vary)
- high ammonia
- high nitrite
- low oxygen
- conductivity (Wisconsin natives typically prefer higher conductivity, but this does vary from species to species)
- water hardness (Wisconsin natives typically prefer hard water, but this can vary)
- improper temperatures

If all the proper post-spawning husbandry care has been provided, and the buoyancy symptom is not corrected within 72 hours, the chance of the fish surviving lessens. The fish should then be euthanized. A necropsy may be necessary to determine if the fish has a communicable disease or is otherwise injured.