



SOUTHERN ILLINOIS UNIVERSITY CARBONDALE

Institutional Animal Care & Use Committee

Standard Operating Procedure Fish Hauler

Purpose: Research, teaching, and/or testing by the Center for Fisheries, Aquaculture, and Aquatic Sciences (CFAAS) occasionally requires fish to be transported, as outlined in the associated IACUC approved protocols. The purpose of this standard operating procedure (SOP) is to provide a safe and acceptable method of transportation of fish that reduces stress and mortality on the animals being moved. The fish hauler is the only *motorized vehicle* used to transport animals.

The fish hauler is designed to facilitate transfer of fish that will be completed within one day. The distance and time vary given the species and source of fish, but typical trips are completed in 6 hours or less. Commonly fish are picked up and brought back to CFAAS from Missouri, Arkansas, Kentucky, Ohio, and Northern Illinois.

The fish hauler does not allow shared space between passengers and fish.

Procedures: The fish hauler includes two 150-gallon capacity aluminum tanks, up to two water agitators, and up to two micro pore air stones on each side. Air is supplied with a dedicated 0x200 sized air cylinder. Water is not temperature controlled, though aluminum has a high heat capacity and acts as an insulator. The hauling tank is secured in the truck bed with a chain to prevent sliding backward, and two heavy duty wedges to prevent sliding and making contact with the truck cab. The air tanks are secured with brackets attached to the interior of the truck bed. The ring brackets are secured around the vertical tanks to maintain a standing position.

For long distance hauling, the water temperature is adjusted to ~60 °F. This is done with bags of ice, which can be opened and dumped into hauling tanks without fish in it. For adjusting the water temperature in hauling tanks with fish present, the bags can be thrown in unopened, for a more gradual change in temperature. Salt up to 4ppt can be added to ease stress during transport. Dissolved oxygen (DO) is checked via a YSI DO gauge in the cab of the vehicle. The DO in the hauling tank is maintained at 15 – 25 ppm.

The water used to fill the tanks is generally supplied by the facility where they are picked up from. When fish are picked up to be brought back to CFAAS, the fish supplier fills the tank



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with water on-site. For fish transported from CFAAS to other locations, the haulers are filled with reverse-osmosis water conditioned with salt, or dechlorinated city water.

The number of fish per tank is determined by their size and species. Maximum hauling densities for commonly hauled fish are 1 lb./gal for Hybrid striped bass (*Morone chrysops* x *Morone saxatilis*), 2 lbs./gal for Largemouth Bass (*Micropterus salmoides*) and Tilapia (*Oreochromis niloticus*), and 3 lbs./gal for Channel Catfish (*Ictalurus punctatus*). These maximum densities are dependent on maintaining sufficient DO levels in the water.

After use, the fish hauler is emptied, rinsed thoroughly with city water, then decontaminated with dilute bleach or Virkon.

No allergies are associated with transporting fish.