

## STANDARD OPERATING PROCEDURE

### IN SITU BIOACCUMULATION STUDIES USING CAGED FISH

#### 1.0 SCOPE AND APPLICATION

This standard operating procedure (SOP) describes conducting an *in situ* bioaccumulation study using caged fish. This procedure is applicable to any water body; stream, lake, wetland, etc. Young-of-the-year (YOY) channel catfish (*Ictalurus punctatus*) or fathead minnows (*Primephales promelas*) are recommended.

#### 2.0 METHOD SUMMARY

Caged YOY fish are deployed in cages for 28 days, and retrieved for contaminant analysis. Fish are processed as whole fish, not fillets.

#### 3.0 PROCEDURE

##### 3.1 Equipment and Supplies

- YOY fish, from a commercial hatchery or other source known to be free of contaminants
- metal mesh cages; approximately 18" x 18" x 30" recommended
- appropriate supplies to secure the cages on-station; see below
- certified clean wide-mouth glass jars; 500 mL recommended
- an appropriate boat for deploying the cages
- ice chests
- global positioning system, or other means of establishing station locations

##### 3.2 Procedure

[Note: steps marked with "\*\*\*" denote general descriptions of activities that will vary from project to project, the details of which are described in detail in the project-specific Field Sampling Plan.]

1. Establish position of station and record location in the field notebook.\*\* Appropriate procedures could include use of a global positioning system, triangulation on local landmarks, careful notations on a detailed map, etc.
2. Measure the dissolved oxygen in the water at the depth at which the cages will be deployed. If it is less than 3 mg/L, consider moving the station.
3. Fix the cage on-station by an appropriate means. This could include:
  - attachment to a bridge piling, or other permanent structure
  - suspension from a buoy, which is attached to an anchor