



United States Department of the Interior
U.S. GEOLOGICAL SURVEY
Upper Midwest Environmental Sciences Center
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To: LTRMP Fish Component Specialist staff

From: Brian S. Ickes, LTRMP Fish Component PI

Subject: Electrofishing boat dropper array policy

[Memo compiled from an e-mail correspondence dated 3/7/2012, under the subject heading "New e-boat dropper array decision, e-mailed to the full LTRMP Fish Component staff]

Andy, Kraig, Steve, and I met this morning to discuss alternative dropper array assemblies for their 2 new e-fish boats. This was a topic raised at the all-hands meeting a few weeks ago. We needed to arrive at a resolution on whether alternative dropper array assemblies could be considered on the new e-boats...

To remind folks, Lake City and La Crosse field stations were requesting consideration for a variance in our standard dropper assemblies to arrive at an electromechanical equivalent solution that also provided some conveniences being sought (smaller and lighter arrays, ability to remove readily for transport, etc...).

All options being considered (as presented at the all-hands meeting) did NOT include a ring, as we now have on our arrays. The proposed alternatives were functional equivalents to our standard dropper array in terms of electrical conductivity and dropper configuration and spacing, but lacked our standard ring.

We discussed sources of observer error that were common to all field sampling efforts (environmental variation, observer variation - different dippers, equipment specs, etc...). Some of this variation/error is unavoidable (e.g., environmental) and assumed random over time, some of this error is partially within our control (e.g., observer variation - why we have documented standard procedures), and some is entirely within our control (e.g., equipment specs).

Simply, transitioning from a dripper array possessing our standard ring to one that does not, has the very real possibility of introducing new sources of error into our observations (e.g., altering the dipper's efficiency, and thus catchability, since there is no ring to contend with netting efforts in an alternative array design). Simply, in my judgment, the conveniences of an alternative design do not outweigh the risks associated with introducing potential new, yet controllable, sources of error into our observations.

Thus, after our discussion at the all-hands meeting and my extended discussion with Andy, Kraig, and Steve this morning, I have decided that any dropper array assembly **MUST** meet the following conditions:

- (1) It must be demonstrably an electromechanically equivalent to our existing dropper array in composition and configuration (e.g., conductance, spacing and length of droppers);
- (2) It must be demonstrably a compositional equivalent (e.g., possess a ring so we do not influence dipper efficiency).

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