

Abstract for a presentation at the Missouri River Natural Resources
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Demonstrating a Consistent and Unified Approach for Monitoring and
Assessing Ecological Conditions of the Missouri, Upper Mississippi, and
Ohio Rivers.

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Discrepancies between the spirit and letter of the Clean Water Act can be as wide as the Big Muddy. Our current understanding of river condition is largely dependent on data that are available, rather than data that are most appropriate. This has motivated EPA to develop and demonstrate a probability-based sampling program for Great Rivers. The EMAP-Great Rivers program has located about 400 main-channel sampling sites on the Upper Mississippi, Missouri, and Ohio Rivers. Over 75 people from 11 state agencies and the USGS were trained to collect water chemistry, physical habitat, and biological (e.g. fish, benthic macroinvertebrates, phytoplankton, periphyton, and zooplankton) samples. Crews successfully sampled about half the sites in 2004. A web-based sample tracking and information management system facilitates the flow of data and samples from the field to the labs, and through data analyses. Statistically robust and unbiased estimates of summer conditions will be made at state and river scales. Analyses of EMAP data will be done in partnership with state and federal agencies and will emphasize novel and complementary uses of monitoring data. Future research priorities include 1) defining regional reference conditions so that condition reports may be used as assessments, and 2) determining how EMAP data can complement and supplement existing monitoring programs through improved indicators, survey designs, and statistical analyses. Ultimately, the program will increase the data available for bioassessments, but more importantly, it will demonstrate an approach to collect data most appropriate for better bioassessments.

* presenting the paper in Pierre

Impact Statement

A large-geographic scale program has been designed and implemented for Great Rivers within the entire upper Mississippi drainage system. Results from sampling of nearly 400 sites in 2005-2006 will demonstrate a new ability to report on conditions of aquatic life, habitat, and water quality in these very large river systems --- consistently across regional and state-scale levels, and in a manner appropriate to meet Clean Water Act requirements.

