

## **WERF explores research needs for large rivers**

Margaret Stewart, Program Director, Watershed Management and Water Quality Program, WERF

To help wastewater utilities that discharge to large river systems begin to better understand these systems for which they are partially responsible for managing, the Water Environment Research Foundation (WERF) held a workshop in 1999 to define research needs and priorities for large river systems. Workshop participants included large river experts from academia, wastewater utilities and industry. The purpose of this workshop was to improve the understanding of the basic ecology of these systems, to describe reference conditions within large rivers, and to improve watershed management practices. The current incomplete understanding could adversely affect integrity of aquatic ecosystems, human health and safety, and water availability. The workshop concluded that there are three principal high priority research needs, two of which speak to the need for reference conditions for large river systems, and the challenges for establishing reference conditions:

1. **Large River Status and Inventory:** To help establish reference conditions for large river systems by understanding where the reaches least impacted by human activity are located, there needs to be an inventory of large river systems.
2. **Search of Historical Records:** Better understanding historical conditions in these rivers systems will help define reference conditions.
3. **Effects of Compression on Ecological Function:** The effects of spatially compressing ecological function in large river systems are not fully understood.

Overall, this workshop identified a long term research agenda with 11 priority areas of research, including the top three listed above. This agenda can help clarify many of the relationships between the functions and processes of large river systems, and further explore relationships among aquatic ecosystem integrity, multiple stressors, water availability, and social expectations. Next steps really focus on identifying the right parties to conduct this research and developing the collaborations.

Lippincott, B.L. 2005. Research Needs Workshop for Large River Systems. WERF 98-HHE-6. Water Environment Research Foundation. Alexandria, VA.

Margaret Stewart is a program director at the Water Environment Research Foundation (WERF) for the Watershed Management and Water Quality program area. She's been with WERF since 1999, and has been involved with a host of research topics related to water quality and watershed management. Prior to WERF, she worked on stormwater and watershed management issues for local government. Ms. Stewart has a Masters of Regional Planning with a focus on Environmental and Coastal Management from the University of North Carolina at Chapel Hill, and an A.B. from Bryn Mawr College, outside Philadelphia. She is a Cincinnati native.