

Sustainable Development Strategy Team

Notes from Research Workshop sponsored by Sustainable Water Resources Roundtable

The workshop was conducted in Ann Arbor, MI on April 5-6, 2005 and sponsored by the Sustainable Water Resources Roundtable (SWRR), a sub-group of the Advisory Committee on Water Information (ACWI), a federal interagency advisory committee. The workshop was attended by about 70 persons from government, industry, academia, NGOs and consulting firms. The purposes of the workshop were twofold: develop recommendations of research needs for sustainable water resources, and discuss a draft set of indicators for sustainable water resources developed by the SWRR.

The first day of the workshop included five panel discussions aligned with water resource use categories somewhat similar to those being using by the SD Strategy Team. There were 3-5 short presentations for each panel, and each presenter was asked to include in their remarks some recommendations about research needs. Some recommendations were for very specific research, while others were for more general information needs.

Power Generation

- development of more efficient cooling technologies
- improved technologies for using and treating “impaired” water for cooling
- research to support science-based water policy
- technologies to deal with intake clogging by invasive species and algae
- technologies to deal with impacts of ice at intakes
- technologies for more cost-effective mercury removal
- better educational tools for conservation

Agriculture and Forestry

- improved tools to evaluate BMP impacts and efficiencies
- improved tools to evaluate impacts of land use change

Manufacturing

- better tools to evaluate safe yields, develop basin water budgets, evaluating long-term impacts to aquifers, and drought contingency planning
- technologies for more cost-effective mercury removal
- technologies to deal with impacts of lake level fluctuations on intakes
- technologies for water reuse

Navigation

- economic and social impacts of commercial navigation (or loss of)
- ballast treatment technologies
- improved methods for evaluating beneficial uses of dredged material

Urban/Water Supply and Return

- monitoring of BMP applications
- better understanding of interaction between surface and ground waters
- better educational tools for conservation
- better understanding of health effects of new/emerging contaminants

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Ecological

- indicators linking aquatic resources to watershed activities
- indicators of ecosystem functions and stability
- models capable of predicting futures with less than perfect information
- better understanding of human impacts on flow regimes
- better (regional) classification system for river health

On the second day of the workshop, there were two presentations on water law and water policy. Research needs identified in these talks included:

- development of market-based systems to promote sustainability
- evaluate ways federal laws impact sustainable water use
- evaluate how surface and ground water laws can be integrated
- evaluate how existing laws might be changed to promote sustainability

Following these talks there were break-out sessions for each of the five use categories. In these break-outs, the issues that needed research were discussed along with potential collaborators. In the break-out I attended, the following research need was discussed:

- development of metrics to value water for applications including:
 - formulation of water policy
 - allocation between competing uses
 - evaluating impacts of land and water management decisions
 - public education
 - promoting market-based solutions for sustainability

Following the break-outs, there was a presentation on a set of indicators for sustainable water resources under development by a workgroup of SWRR. This effort has developed a short number of economic, social and ecological criteria, with a large set of indicators for each (over 400). The workgroup is now in the process of selecting a short list of indicators for a broad range of interests. A break-out session was conducted to provide feedback on a preliminary set of key indicators.

I was unable to stay for the report back from the first break-out groups and the final break-out session. However the SWRR will have a more detailed summary of the workshop available in a few weeks.

Final thoughts. The concepts and recommendations discussed at the SWRR workshop provide a good starting point for addressing research needs and indicators in the SD Team report. In order to include some recommendations in the SD executive summary, we need to determine the top few research and indicator needs that are broadly applicable to most or all use categories.

JAN A. MILLER
SD Team co-chair