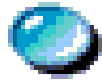


The Sustainable Water Resources Roundtable



SWRR

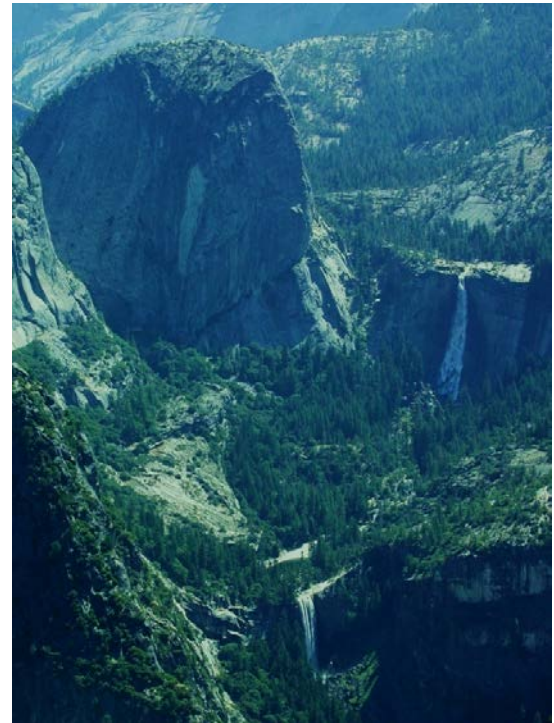


April 2016

Since 2002, the SWRR has brought together federal, state, corporate, non-profit, and academic sectors to advance our understanding of the nation's water resources and to develop tools for their sustainable management.

Because water resources are central to the vitality of our ecosystems, society, and economy, there is great interest in understanding trends in water quality and use, and learning to manage water resources sustainably. No single organization has the mission or mandate to address the full spectrum of water resource issues including water availability, water quality, infrastructure and ecosystem needs. This fragmentation of responsibility and a widespread interest in identifying water indicators of sustainability brought about the formation of SWRR.

Just as the participants in SWRR represent a wide range of interests and responsibilities related to water resources, we hope that its work is useful to a wide and diverse audience. To this end, we invite interested people and organizations throughout the country to participate in Roundtable activities.



Waterfalls at Yosemite David Berry

Supporting Organizations

University, State, Private and Nonprofit

Alice Ferguson Foundation
American Water Resources Association
Annis Water Resources Institute
California Department of Water Resources
Ecological Society of America
Electric Power Research Institute
Illinois State Water Survey
Five E's Unlimited
Kranz Consulting
Metropolitan Washington Council of Governments
Minnesota Environmental Quality Board
Nature Conservancy
Rural Community Assistance Partnership
Universities Council on Water Resources
University of California, Santa Barbara
University of Illinois
University of Michigan, Ann Arbor
Water Environment Federation
Western Pennsylvania Watershed Program

Federal

Advisory Committee on Water Information
National Aeronautics & Space Administration
President's Council on Environmental Quality
U.S. Army Corps of Engineers
U.S. Department of Agriculture
Natural Resources Conservation Service
Forest Service
U.S. Department of Commerce
National Oceanic and Atmospheric Administration
U.S. Department of Energy
National Energy Technology Lab
National Renewable Energy Lab
U.S. Department of the Interior
Bureau of Land Management
Bureau of Reclamation
Fish and Wildlife Service
U.S. Geological Survey
U.S. Environmental Protection Agency

Mission and Activities

The Roundtable mission is to promote sustainability of the nation's water resources through:

- Evaluation of information
- Development and use of indicators
- Targeting of research
- Engagement of people and new partners in the work of water related organizations
- Offering organizations a venue to vet ideas prior to finalization of a report or policy
- Offering organizations additional channels to disseminate information and reports

The goal is to improve management, conservation and use of water and related resources at local, watershed, national, and global levels.

The Roundtable was founded to support efforts of the White House CEQ and Federal Agencies to develop environmental indicators. It is a subgroup of the Advisory Committee on Water Information, ACWI, which advises agencies responsible for managing water resources.

The Roundtable has hosted multi-stakeholder meetings on indicators, innovative initiatives, and research needs since December 2002 in California, Colorado, Florida, Maryland, Michigan, Minnesota, New Hampshire, Virginia, and Washington, D.C. Proceedings and presentations from past meetings can be found at http://acwi.gov/swrr/p&p_library/

The Roundtable receives funding from public agencies and the private sector.

Reports

The Roundtable has published a number of reports on Sustainability of Water Resources. These can be found at http://acwi.gov/swrr/Rpt_Pubs/index.html

Sustainability Principles

Discussions of water sustainability take place within the context of major driving forces like population, income, land use, climate change, and energy use. To navigate within such a context, SWRR identified a set of sustainability principles for water resources management:

1. *The value and limits of water*

Water supports all life and provides great value. While water is abundant, people need to appreciate that it is limited in many regions, that there are environmental and economic costs of depleting or damaging water resources, and that unsustainable water and land use practices pose serious risks to people and ecosystems. A renewable natural resource is sustainable only if the rate of use does not exceed the rate of natural renewal.

2. *Shared responsibility*

Water does not respect political boundaries. Sustainable management of water requires consideration of the needs of people and ecosystems up- and down-stream and throughout the hydrologic cycle, and avoiding extreme situations that may deplete water in some regions to provide supplies elsewhere.

3. *Equitable access*

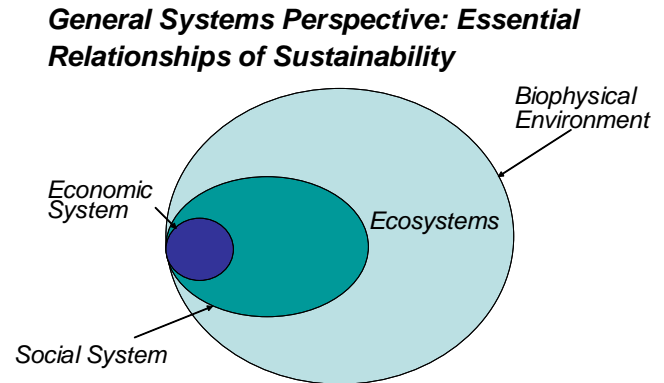
Sustainability suggests fair and equitable access to water and water dependent resources. Equitable access requires continuous monitoring to detect and address problems as they occur, and means to correct the problems.

4. *Stewardship*

Meeting today's water needs sustainably challenges us to address the implications of our water resources decisions on future generations and the ecosystems upon which they will rely. We must be prepared to correct policies and decisions if they create adverse unintended consequences.

Systems Concepts

The Roundtable worked with a set of concepts based on a general “systems” perspective to guide its work. This is useful for a framework for indicators of water resources sustainability and to determine what research is needed. The figure displays the relationship between ecosystems, which include all living things and their physical environment, and society, which represents all the human elements of the biosphere, including the economic system.



Source: Sustainable Water Resources Roundtable

Indicators

Indicators of water resource sustainability tell us “where we are” in meeting short and long-term ecological, social, and economic needs. Indicators highlight trends, help evaluate causes and effects, and give us a common language and understanding of issues. SWRR believes that effective indicators provide tools to make good decisions – and an opportunity to achieve sustainable and adaptive management of water resources. The analysis of sustainability indicators is an ongoing, iterative process.

Water-Related Research

At SWRR meetings, experts share perspectives on decision-making for sustainability of water resources and on research needs and opportunities for collaboration. SWRR and the University of Michigan convened a workshop of 75 experts in April 2005 to explore research priorities with a focus on the Great Lakes Region. Research priorities were discussed in six areas: power generation, agriculture and forestry, urban issues, manufacturing and industry, ecological protection, and ethics, law and policy.

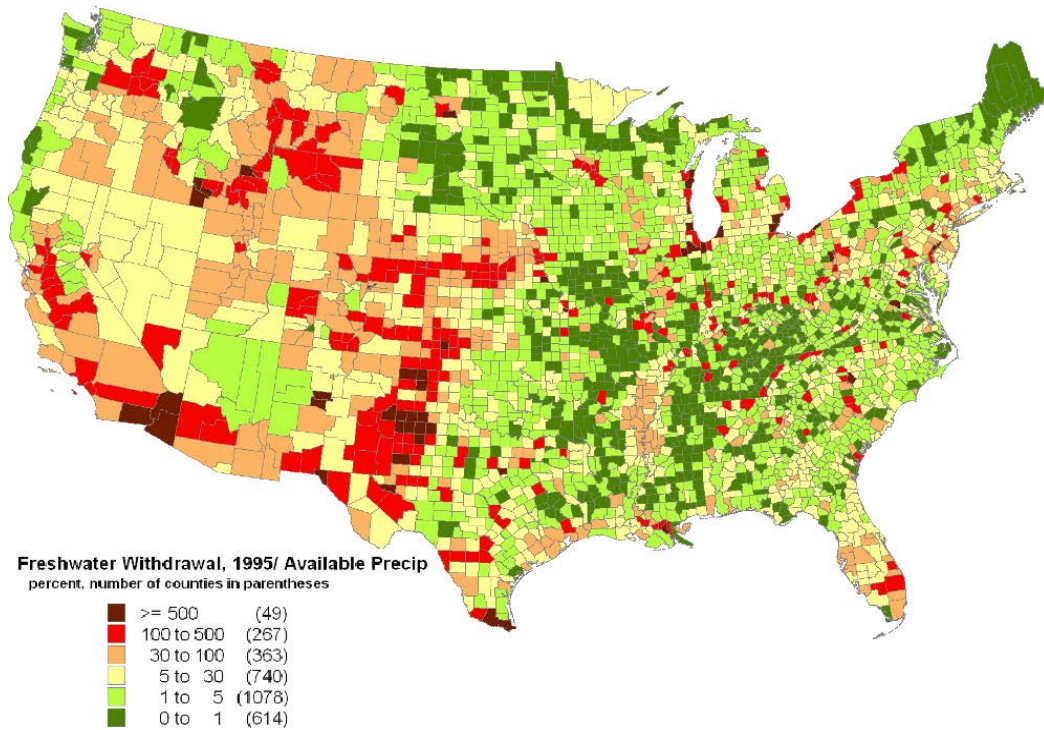
Several key observations emerged including the need to:

- Improve understanding of the critical water resource processes that impact sustainability.
- Develop decision support models, tools, and conduct a better inventory of critical data.
- Adopt new monitoring technologies.
- Develop a conceptual approach to quantify the value of water.
- Establish new policies and law to manage water on a regional basis.
- Solve the forecast shortfall in human resources educated in water resource issues.

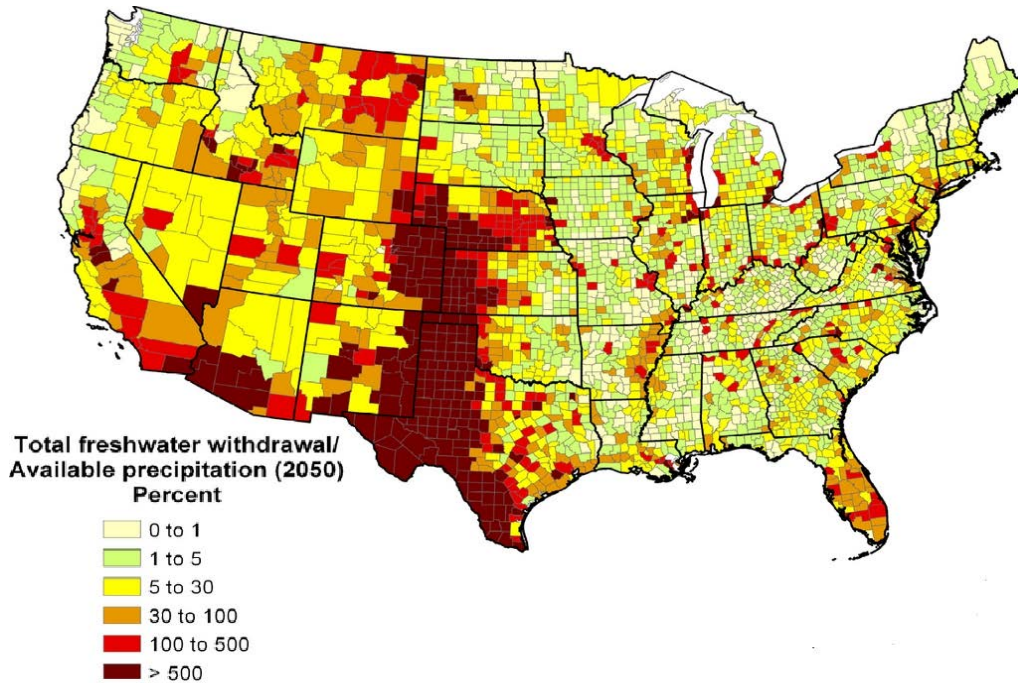
Tasks Ahead for the Roundtable and its Participants

- Continue meetings in different regions of the nation to serve as a forum to gather and disseminate information, support organizations in collaboration, and as a subgroup of the Federal Advisory Committee on Water Information to advise agencies on aspects of sustainability of water resources.
- Refine indicators for water sustainability, making them scalable to national, state, and local levels.
- Describe the need for Federal, State, and local programs to collect, manage, and analyze information.
- Expand ties within the scientific community to ensure that SWRR employs state-of-the-art ideas in indicators development and to encourage additional research into water sustainability.
- Continue to consult with other Resource Roundtables, Federal and State agencies, academia, the private sector, non- profit organizations and others on water sustainability related topics.
 - Develop a training workshop for education in water sustainability principles.
 - Continue briefings on SWRR projects, products, meetings, and related water resource information

Sample Indicator:



Source: Paper presented at SWRR meeting March 2004. Roy, S.B., Ricci, P.F., Summers, K.V., Chung, C.-F. & Goldstein, R.A. Published as *Evaluation of the Sustainability of Water Withdrawals in the United States, 1995-2025*; Journal of the American Water Resources Association, October 2005



Source: NRDC

We welcome your participation in the Sustainable Water Resources Roundtable. Further information on SWRR at <http://acwi.gov/swrr> Contact David Berry at davidberry@aol.com