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Understanding Sustainability at the State Level

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(Oral Presentation)
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The national Sustainable Water Resources Roundtable is a subgroup of the Advisory Committee on Water Information, which advises federal agencies working on water. The SWRR mission is to work for sustainability of the nation's water resources through indicators and research. The hope is that indicators identified by the SWRR will contribute to a national system of indicators on natural and environmental resources. To date, the roundtable has developed a theoretical framework for understanding the meaning of "sustainable water resources," a related set of criteria, and a preliminary package of indicators for tracking progress toward sustainable water resources.

This presentation interprets the SWRR framework from a state's perspective in order to illustrate how both technical and political issues come to bear at the state-level scale. State government is the primary implementer of federal water quality policy, the principal source of water allocation policy and programs, and the chief partner and overseer of local government water activity. In Minnesota, as in every other state, this involves a package of efforts, ranging from water planning and incentives for best management practices to regulation of water quality, drinking water, source waters, well construction, water appropriation, wetlands, flood plains, shorelands and dam safety. Each resource management area is guided by its own set of rules and procedures, and little attention is given to integrating efforts across the board. Furthermore, little or no effort is made to routinely evaluate the sustainability of the end result.

The utility of the SWRR sustainability framework at aiding such routine evaluations is tested in two areas of Minnesota: a) the growth corridor between Minneapolis and St. Cloud and b) the state's Karst region in and around Rochester. The ecological, social and economic criteria include calls for an assessment of the:

- Legal, institutional, community and technical capacities for management of water and related land resources for sustainability
- Capacity to make water of appropriate quality and quantity available for human uses, as well as ecosystems
- Economic well-being resulting from use of water and related land resources

Application of the framework to the growth corridor underscores sustainability concerns in each sector. Urban development is moving rapidly up the corridor toward St.

Cloud and into a region with no regional land use authority and few reliable sources of ground water. The ground water supplies that do exist are shallow and prone to contamination. A short-term solution might be a regional system with conjunctive use of surface and ground waters, tapping the supplies of the Mississippi River. The absence of an adequate institution to build and manage such a system would be a key issue, as would paying for it. Long term, this approach might put habitat in the river at risk.

Application of the framework to Rochester, Minnesota's Karst territory reveals other sustainability issues. Fifty percent of the recharge to the aquifer Rochester taps for its drinking water comes along a geologic formation called the Decorah Edge. Recharge along the edge is threatened by extensive subdivision development, and water flow patterns pose a real economic threat to housing. Yet, a dozen subdivisions have been built on the Edge and a number more proposed. Local authorities estimate that the added cost to individual homeowners can reach as high as $40,000, while rough estimates place the value of the area for recharge in the millions of dollars.

In the first case, the efforts of federal, state and local authorities have been piecemeal and inadequate, with little apparent recognition of a looming problem. In the second case, authorities at each level have together invested hundreds of thousands of dollars in geologic research and planning, with no easy solutions in sight. In each case, the sustainability of the current course is in grave doubt and, yet, the absence of an accepted, credible framework for reaching and communicating such a conclusion obscures widespread recognition of the problems and potential solutions. This at the long term expense of people, the economy and the environment, or something we call "sustainability."