

BACKGROUND SHEET

Red River Basin Drought Preparedness Strategy Scoping Document

The Drought Scoping Document was completed in January 2008. The Red River Basin Commission funded this Red River Basin Drought Preparedness Strategy Scoping Document (“Scoping Document”) to outline what a fully developed basin-wide drought strategy could include and the resources needed to prepare such a strategy.

Phase 1:

Red River Basin Immediate Drought Response Process – February 2009

Responding and preparing for drought can take many forms. These include increasing water supplies, reducing water needs by conserving water, and mitigating for drought impacts. The development of additional water supplies, as with the Red River Valley Water Supply Project, may not be possible in the short term. During this time, the risk of drought and hazards from associated impacts will remain and possibly increase as basin population and water needs change. This document discusses options and recommendations to move forward for the immediate future in improving the basin’s resiliency to and mitigating the impacts of drought.

Recommendations for Jurisdictional Consideration

The establishment of a basin-wide Drought Action Committee (“Committee”) is recommended. The Committee could be comprised of emergency management and water resources agencies from each jurisdiction. Initial tasks for this Committee will be to develop and refine the definition of drought for the basin as a natural hazard. This includes evaluation of indicators to describe the severity of the drought.

The previously described drought response options would be reviewed by the Committee for refinement. These activities could include:

1. Evaluate the feasibility of drought preparedness, reporting, monitoring, and response.
2. Evaluate various drought indicators to describe drought severity and recommend a set of indicators for basin-wide drought forecasting and monitoring
3. Evaluate the feasibility of drought response options.
4. Develop a detailed plan on how the jurisdictions will cooperate and act, and what will trigger such action.
5. Work with the national, state and provincial climate offices to develop a basin specific water supply, demand, and shortage forecasting system that is accessible through a public website.
6. Start a dialogue on drought reoperation of the three major supply reservoirs of Orwell, Traverse, and Ashtabula. Some operational changes will require state permit changes, Congressional reauthorization of project uses, and/or action under the U.S. National Environmental Policy Act.
7. Develop a common drought forecasting, reporting, and monitoring system in the basin.
8. Initiate dialogues with emergency management agency’s of the basin on coordinating drought related basin-wide disaster relief effort
9. Initiate consultations with the public and stakeholders for drought response and monitoring.
10. Initiate a study program for climate change adaptation to drought.

Phase 2:

Red River Basin Water Conservation for Residential, Municipal, Commercial, and Industrial Needs – March 2010

Various water supply studies have indicated that water demand may equal or exceed supply in significant portions of the basin during drought conditions (MN DNR, 1987; IISD, 2005; USBR, 2007). This document discusses water conservation approaches and the potential to reduce demand for water as a means to improve the basin's resiliency and mitigate the impacts of drought. Wolff and Gleick (2002) proposed a "soft path" approach for water conservation. With soft path, water conservation involves supplying the same or comparable services with reduced water use. Inclusion of economic, social, and ecological sustainability in water planning is a critical component. This includes maintaining existing and future business vitality of a community, ensuring that all community residents have access to water, and important habitat needs are met. The goal of this report is to identify water conservation approaches that have the goal of maintaining the same level of residential and business services with reduced water use. While several communities are evaluated as representative of the basin, the report is not intended as a water conservation plan for any given community.

Drought Conservation Recommendations:

1. Education, awareness, incentives and regulations for water conservation are essential and should be considered for basin communities.
2. For outdoor water conservation, full community participation is recommended. An outdoor conservation program may include adopting Xeriscaping (planting drought tolerant plants), drip irrigation, rain water harvesting, and water use scheduling. These have the largest potential for water savings but are assumed to be the most difficult to implement.
3. A review is suggested to determine the role that existing conservation, water laws and policies, drought and other water use ordinances, water rates, or private groundwater use may have. The current community outdoor watering restrictions, particularly those contained in emergency drought management ordinances, should be reviewed and adapted when needed for improved effectiveness.
4. For indoor water conservation programs, full community participation is recommended. The most effective conservation such as low-flow fixtures and appliances and other measures, such as retrofit on resale, should be promoted to provide gradual indoor water conservation improvements.
5. Further review is recommended of existing business, agricultural and other water conservation plans. Potential conservation approaches, such as use of reclaimed non-potable water (known as "grey" or "gray" water systems), should also be reviewed. Business planning strategies that provide sustainable employment for communities, particularly those with declining population, should be a component of water conservation planning programs. Key emerging business sectors for the basin, in particular health care and social services should be a key part of commercial and industrial water conservation planning.
6. Programs to reduce actual losses in water distribution systems should be supported. Detailed loss analysis can be undertaken to develop target loss rates and refine estimates of real losses in distribution systems. Communities with declining populations may have higher unaccounted/unmetered losses due to reductions in water system funding, although further research is required to establish this linkage. This may indicate a need for additional financial or government assistance to maintain and improve distribution systems for communities facing declining water sales.
7. A Pilot study for outdoor water conservation should be considered in the Red River Basin, based on Fargo's experience, to determine any value and benefit based on existing summer water use.
8. A Pilot study on the "soft path" approach to water conservation should be considered for communities within the Red River Basin.
9. Further conservation can be achieved through proper valuation of the real cost of water supply and appropriate "Water Pricing" policies, with consideration of economic impacts to customers.