

**MINUTES OF THE THIRD MEETING
SEWRPC REGIONAL WATER SUPPLY PLANNING ADVISORY COMMITTEE**

DATE: January 18, 2006
TIME: 9:00 a.m.
PLACE: Lower Level Conference Room
Regional Planning Commission Offices
W239 N1812 Rockwood Drive
Waukesha, Wisconsin

MEMBERS PRESENT

Kurt W. Bauer, Chairman	Executive Director Emeritus, SEWRPC
Robert P. Biebel, Secretary	Special Projects Environmental Engineer, SEWRPC
Julie A. Anderson	Director, Racine County Division of Planning and Development
Kenneth R. Bradbury	Hydrogeologist/Professor, Wisconsin Geological and Natural History Survey
Thomas J. Bunker	General Manager, Water and Wastewater Utility, City of Racine
Douglas S. Cherkauer	Professor of Geology, University of Wisconsin-Milwaukee
Lisa Conley	Representative, Town and Country Resource Conservation and Development, Inc.
Michael P. Cotter	Director, Walworth County Land Use and Resource Management Department
Charles A. Czarkowski	Regional Water Program Expert, Wisconsin Department of Natural Resources, Southeast Region
Daniel S. Duchniak	General Manager, Waukesha Water Utility, City of Waukesha
Charles P. Dunning	Hydrologist, U.S. Geological Survey
David Ewig	Water Superintendent, City of Port Washington
Thomas M. Grisa	Director of Public Works, City of Brookfield
Raymond Grzys	Director of Utilities, City of New Berlin
Andrew A. Holschbach	Director, Ozaukee County Planning, Resources, and Land Management Department
Roger C. Johnson	Manager, North Shore Water Commission
Terrence H. Kiekhaefer	Director of Public Works, City of West Bend
Carrie M. Lewis	Superintendent, Milwaukee Water Works, City of Milwaukee
George E. Melcher	Director, Kenosha County Department of Planning and Development
Matthew Moroney	Executive Director, Metropolitan Builders Association of Greater Milwaukee
Paul E. Mueller	Administrator, Washington County Planning and Parks Department
Jeffrey Musche	Administrator/Clerk, Town of Lisbon
Michael P. Rau	General Manager, We Energies-Water Services
Edward St. Peter	General Manager, Water Utility, City of Kenosha
Dale R. Shaver	Director, Waukesha County Department of Parks and Land Use
Daniel S. Winkler	Director of Public Works and Utilities, City of Lake Geneva
Steven N. Yttri	General Manager, Water and Sewer Utility, City of Oak Creek

MEMBERS EXCUSED OR OTHERWISE ABSENT

Franklyn A. Ericson	Manager, Environmental Operations & Central Services, S. C. Johnson & Son, Inc.
Jeffrey A. Helmuth	Hydrogeologist Program Coordinator, Wisconsin Department of Natural Resources, Madison
Thomas J. Krueger	Water and Wastewater Utility Director, Village of Grafton
Mark Lurvey	Agricultural Business Operator
Patrick T. Marchese	Member, Water Policy Advisory Panel, Public Policy Forum
James Surfus	Environmental and Energy Engineering, Miller Brewing Company
George A. Torres	Director, Transportation & Public Works, Milwaukee County Department of Parks and Public Infrastructure

GUESTS

Daniel T. Feinstein	Hydrologist, U.S. Geological Survey
James Rowen	Concerned Citizen
Steven H. Schultz	Department Head, Water Supply and Wastewater Treatment Ruekert & Mielke, Inc.
Jodi Habush Sinykin	HS Law and Midwest Environmental Advocates

STAFF

Catherine D. West	Planner, Southeastern Wisconsin Regional Planning Commission
Kenneth R. Yunker	Deputy Director, Southeastern Wisconsin Regional Planning Commission

CALL TO ORDER AND ROLL CALL

Chairman Bauer called the meeting to order at 9:00 a.m. Roll call was taken by circulating an attendance signature sheet, and a quorum was declared present.

PRESENTATION OF REPORT PREPARED BY MIDWEST ENVIRONMENTAL ADVOCATES, *PROTECTING WISCONSIN WATER: A CONSERVATION REPORT AND TOOLKIT*

Chairman Bauer then referred the Committee to Agenda Item 3 and asked Mr. Biebel to introduce Ms. Jodi Habush Sinykin, the primary author of the report which is to be the focus of that agenda item.

Mr. Biebel introduced Ms. Habush Sinykin, noting that she received her law degree from Harvard Law School and was currently the sole proprietor of the Milwaukee law firm, HS Law. He noted that Ms. Habush Sinykin has been involved in the practice of environmental law, as well as of other fields, since 1992. She has, he noted, co-authored the report *Protecting Wisconsin's Water: A Conservation Report and Toolkit*, published by Midwest Environmental Advocates. A copy of this report, he noted, had been provided to all Committee members for review prior to the meeting. (Copy of report attached to official file copy of minutes.) Ms. Habush Sinykin, he noted further, was a member of the State Groundwater Advisory Committee.

Mr. Biebel indicated that he had attended a meeting of that Advisory Committee last month during which Ms. Habush Sinykin had presented the aforementioned report. He had concluded that the report should be

of interest to the Advisory Committee, and had asked Ms. Habush Sinykin to brief the Committee on the findings and recommendations set forth in the report.

Mr. Biebel then asked Ms. Habush Sinykin to review the findings and recommendations of the conservation report with the Committee.

[Secretary's Note: A copy of the PowerPoint presentation used by Ms. Sinykin is attached hereto as Exhibit A.]

The following discussions ensued during the presentation.

Ms. Lewis referred to the recommendations relating to rate structure revisions designed to encourage water conservation measures. She asked if that was intended to be applied statewide or in the groundwater management areas designated by the State groundwater law. Mr. St. Peter questioned the impact of changing the rate structure on industries and economic development. Ms. Sinykin responded that the conservation report was prepared with a statewide interest in mind. She noted that the rate structure changes proposed could be directed toward the residential users in order to reduce summertime lawn watering uses and other summer uses affecting peak use periods. She also noted that any rate structure which would encourage conservation would need to reflect a balance of capital expenditures and operation expenditures.

Ms. Lewis noted that the Public Service Commission had established policies on rate structure and cost recovery and required equitably charging all users and not favoring one user group at the expense of another. She indicated that these policies would not typically allow for use of varying rate structure between customer categories. She noted that such public oversight was unusual in the United States. Mr. Duchniak noted that the City of Waukesha had asked the Public Service Commission to consider the use of a flat rate structure when it last applied for a rate change. He indicated that the Public Service Commission had discouraged that approach and the request was dropped by the City.

Mr. St. Peter reported that summer-use revenue was an important source of funds to maintain a sound public water supply system. He cited the repair and replacement of aging water mains as an important program requiring financing and noted that main replacement also conserved water by minimizing leakage. Mr. Bunker reiterated that repair and replacement of water mains was an important water conservation measure and should be a priority in any service area.

Mr. Bunker reminded the Committee and guests that one of the purposes of a public water supply was to carry wastes in the municipal sewerage systems. He noted that lowering the amount of water used has the potential to cause problems with sewer solids blockages and stagnation resulting in increased maintenance, odors, and potential public health hazards. He indicated that these problems have been experienced in some areas of the Region. Mr. Mueller asked what problems could occur in a sewer system. Mr. Bunker replied that house laterals and sewer lines can become blocked by material that is not carried away because of low sewage flow, causing sewage backups into basements of buildings—a severe public health hazard—and that odors can develop at pumping stations where long detention times occur. He noted that sewer systems had been engineered based using standards relating to wastewater flow factor and that changing the amounts of water used could be inconsistent with the system engineering assumptions.

Mr. Rau reported that he was familiar with instances where the mandated use of low flow fixtures had resulted in changes in the standards for water pressures in residential areas, with such changes being needed to insure proper functioning of low-volume flush toilets. As a result of the need for higher water main pressures, considerable infrastructure costs were incurred and energy costs have increased.

Ms. Lewis indicated that she supported water conservation properly applied. However, she noted that the water conservation recommendations should recognize varying situations that exist and not try to uniformly apply new rules or practices. She particularly noted situations where there was a significant amount of excess water supply infrastructure capacity. In such cases, the requirements for water conservation could result in a significant financial burden since reductions in water use would force increases in water rates. Such increases could be a deterrent to industrial and commercial development and could affect existing users. Ms. Lewis cited the example of the Red Star Yeast Company moving out of the City of Milwaukee, resulting in a loss of revenue from water sales of about \$1.1 million per year. She noted that the savings in costs from items directly related to supply, such as electricity and chemicals, was about \$100,000 per year. Thus, the difference would have to be made up by other means, including increased costs to other users. She indicated that the same concerns would apply to reductions in water use from water conservation.

Mr. St. Peter stated that the definition of water conservation was important and that it could mean different thing in different situations. He indicated that in the case of the Kenosha Water Utility all of the Lake Michigan water supplied is returned to the Lake as spent wastewater. He noted that, in fact, more water is returned via the sewerage system than is taken out. He also noted that other Lake Michigan supplied utilities were likely in a similar situation. He questioned the need for conservation in such systems.

Ms. Lewis reiterated the need to look at conservation differently in different situations. Mr. Winkler also reiterated that point noting that the City of Lake Geneva system had many of the characteristics of the Lake Michigan water utilities in that the water used is returned to the source of supply. Thus, the concept of water conservation is carried out by the water system supply and wastewater disposal methods. He indicated that the costs and benefits of conservation program or mandates for such programs should be carefully thought out.

Ms. Lewis cited the case of the Denver water utility where a conservation program was put in place during drought conditions which turned out to be relatively successful. However, it was then necessary to institute a 20 percent rate increase. She reiterated that water conservation programs often do not save money.

Ms. Conley stated that water conservation had benefits from a wastewater treatment and disposal point of view. She cited the MMSD program as an example of where a wastewater utility felt conservation was important. It was noted by Ms. Lewis that major reductions in wastewater flows to the MMSD system would likely also require user charge increases.

Dr. Cherkauer reiterated that conservation has different meaning depending upon the source of supply and the method of wastewater disposal. He cited the Lake Geneva model as an example of a system that should be given consideration as the planning moves forward.

Mr. Grzys indicated that water user fees and rates would be one of the means by which water conservation could be voluntarily implemented.

Ms. Sinykin indicated that she recognized the validity of the issues raised, but stressed the need to look at an integrated water resources approach and the importance of a sustainable future. She also cited the importance of land use planning and the use of stormwater management measures which returned stormwater to the source of supply.

Mr. Winkler suggested that it was important to look at the potential for conservation on the production side. That is the reduction of unaccounted for water. Mr. Bunker reiterated that—in this respect—water main replacement and repair was an important conservation measure.

Mr. Duchniak noted another type of water recycling related to the use by downstream communities of river water receiving wastewater discharges, the Fox River being an example. Dr. Cherkauer suggested that consideration should be given to keeping in the water in the same area if it is to be reused.

Mr. Melcher indicated that the use of low-water-use fixtures and appliances can have associated personal hygiene and cost issues. He noted the need for multiple flushing of toilets, and the cost of soap and initial purchase price for washing machines. The latter, he noted, could further burden the lower income population. Ms. Conley disagreed, indicating that based upon personal experience, she had not experienced the problems referred to.

Dr. Cherkauer noted the complexity of the conservation issues, noting that the situations varied and the definition of the term “conservation” varied. He indicated that no single solution will fit all situations, but rather, each situation should be considered based upon the sources of supply and means of wastewater disposal.

Ms. Conley asked if recommendations could be made by the Commission to the Public Service Commission (PSC). Chairman Bauer indicated that the Commission could, indeed, address recommendations to the Public Service Commission. This would be done as necessary in the implementation sections of the plan report and the report communicated to the PSC.

Mr. Duchniak indicated that the State Groundwater Advisory Committee will be developing recommendations relating to recycling. He also raised the issue of water supply quality with regard to recycling wastewater to the groundwater. He cited the potential quality issues, particularly those relating to pharmaceuticals and endocrine disrupting compounds.

Upon the conclusion of Ms. Habush Sinykin’s presentation, and there being no further questions or comments on that presentation, Chairman Bauer thanked Ms. Habush Sinykin on behalf of the Committee and the Commission for her very important presentation. He then invited Ms. Habush Sinykin to remain for the rest of the meeting; indicated that the Commission staff would provide her copies of the agendas and materials for future meetings, and extended to her an invitation to attend such meetings.

CONSIDERATION OF MINUTES OF THE MEETING OF NOVEMBER 30, 2005

Chairman Bauer noted that copies of the minutes of the November 30, 2005, meeting of the Regional Water Supply Planning Advisory Committee had been provided, to all members of the Committee for review prior to the meeting, and asked that the Committee consider approval of those minutes. He reminded the Committee members that all of the revisions which were requested by the Committee to be made in the materials reviewed at that meeting were intended to be documented in the minutes. He noted that because of the extensive changes involved in the planning report chapter on objectives, principles, and standards, that a revised copy of the draft chapter had also been provided to the Committee, with the changes shown with red and strike-out. Finally, he reminded the Committee that the approval of the minutes would constitute final approval of all those parts of Chapter V, “Planning Objectives, Principles, and Standards,” of SEWRPC Planning Report No. 52; namely, pages 1 through 24, that had been reviewed at the previous meeting.

Mr. Moroney asked if the portion of Chapter V that was reviewed at the previous meeting would be reviewed again. Chairman Bauer indicated that was not intended and that, rather, the review of the

minutes was intended to be the means by which the changes made in response to the Committee's previous review could be reconsidered. With that in mind, Mr. Moroney stated that he was not in agreement with the revised version of the first standard under Objective No. 2, as that standard was rewritten on the bottom of page 8 of the minutes. He indicated that the standard was too prescriptive in defining an exact minimum level for the deep sandstone aquifer, noting that, until the plan is done, it would not be known if that level can be practically achieved. Mr. Biebel observed that the objectives and standards were intended to be used as desirable goals, recognizing that fully achieving all of the standards will likely not be possible. Alternative plans are to be evaluated in terms of the extent to which they meet the objectives and standards. Mr. Moroney reiterated that he believed that the standard, as written, was too prescriptive and that any plan may be judged in the future as failing to meet the objectives considered. He suggested a more practical, generalized standard. Mr. Grisa agreed, noting other standards were more generalized. Following further discussion, on a motion by Mr. Moroney, seconded by Mr. Grisa, and carried unanimously, words "at the year 2007 level or higher" were struck from the revised Standard No. 1 of Objective No. 2.

Ms. Lewis expressed concern about not being able to revisit chapters that have been reviewed if there are sound reasons to do so, even if the minutes covering the meeting review had been approved. Chairman Bauer replied that the chapters which were approved could be revisited if necessary at the request of the Committee. If the plan and plan report are to be published within the timetable and cost specified, he said that such revisitation should be resorted to only if found absolutely necessary by subsequent work.

Mr. Mueller referred to the text addition to Chapter II relating to the inclusion of groundwater recharge areas, as set forth on the bottom of page 7 and the top of page 8 of the minutes. He recommended that the word "can" be changed to "should" in the second line on the top of page 8. After brief discussion, on a motion by Mr. Mueller, seconded by Mr. Melcher, and carried unanimously, the recommended substitution was made.

Ms. Conley reported that she had developed recommended language that underscored the economic importance of water which she recommended be included under Objective No. 2. Mr. Biebel distributed a copy of Ms. Conley's e-mail setting forth the recommended text.

[Secretary's Note: A copy of Ms. Conley's e-mail is attached hereto as Exhibit B.]

After further discussion it was the consensus of the Committee to use Ms. Conley's recommended text as the second principle under Objective No. 2 and to move Standard No. 1 under the second principle of Objective No. 1 to be the standard under the new principle.

Mr. Moroney referred to the definition of sustainability on the top of page 9 of the minutes. He asked about the origin of that definition and the relevance of the 10 percent value for judging the significance of impacts. Mr. Biebel indicated that the 10 percent threshold was customarily used in systems engineering to distinguish between differences that are real from differences due to imprecision in simulation modeling and analyses. After further discussion on the application of the definition, it was agreed to add the words "period of record" prior to the word "range" in the 10th line of the definition.

Mr. Shaver pointed out a typographical error in the statement of Objective No. 1 in Table V-I.

[Secretary's Note: A copy of revised Table V-I is attached hereto as Exhibit C. The table has been revised to reflect all the recommended changes made during the review of the subject minutes.]

There being no further corrections or additions, the minutes of the meeting of November 30, 2005, were approved, as amended, subject to the condition that the Committee would have the ability to consider the content of Chapter V in the future if conditions warrant, on a motion by Ms. Lewis, seconded by Mr. St. Peter, and carried unanimously.

CONSIDERATION OF PORTION OF CHAPTER V, "PLANNING OBJECTIVES, PRINCIPLES, AND STANDARDS," OF SEWRPC PLANNING REPORT NO. 52, BEGINNING WITH SECTION ENTITLED "ENGINEERING DESIGN STANDARDS FOR WATER SUPPLY FACILITIES" ON PAGE 5-24

Chairman Bauer then asked the Committee to consider Agenda Item 4. He noted that all Committee members had received a copy of the revised preliminary draft of Chapter V, "Planning Objectives, Principles, and Standards," for review prior to the meeting. He noted that pages 1 through 24 of this chapter had been reviewed at the previous meeting, and the final version of those pages approved by the action just taken to approve the minutes of the meeting of November 30, 2005. He then asked Mr. Biebel to review the remainder of the chapter beginning on page 5-24 with the Committee on a page-by-page basis.

Mr. Biebel noted that the details of the standards for estimating future demands and for engineering and planning were not yet developed in detail and that the chapter text listed the standards that were to be documented in a detail in a referenced appendix. He noted that further detail would be provided in the referenced technical report on the state-of-the-art of water supply practices. He also noted that the Committee would be asked to review both of those documents.

Mr. Bunker referred to the design standards and highlighted their importance. He noted that many of the problems which have developed with water supply systems have been the result of not following sound engineering practice with regard to such standards. He particularly cited the use of smaller private or special district systems as places where such standards had often not been adhered to.

Mr. Shaver noted the difficulty in developing unit water use rates for various types of land uses, since the rate could vary depending upon a number of factors. However, he noted that it was necessary to develop a set of water rates for future development based upon the best data available.

Mr. Biebel suggested that the term "legal costs" be added to the list of items included in the 35 percent addition used to convert construction costs to project costs, as set forth in the second to last sentence on page 5-26. After discussion, it was agreed to add the term "ordinary legal costs" to that list and to note the extraordinary legal cost that might be specifically associated with certain alternatives or recommended plans would be discussed qualitatively, along with advantages and disadvantages of such alternatives.

Ms. Conley asked if savings in capital expenditures that might occur by deferring infrastructure costs would be considered. Mr. Biebel indicated that such costs would, indeed, be considered, noting that the timing of the need for major facilities was an important factor in developing costs in a present worth or equivalent annual cost basis.

Mr. Musche asked about the basis for the use of the 6 percent interest rate in the economic evaluation, as set forth in the last sentence on page 5-26. Mr. Biebel responded that while interest rates fluctuate over time, a value of 6 percent is considered reasonable because it represents the approximate economic return available from alternative conservative investments over time. Thus, it is representative of the cost of foregoing opportunities for investment elsewhere. He indicated that the 6 percent rate was typically used in other regional planning studies and in major public utility infrastructure planning programs.

There being no further questions or comments, on a motion by Mr. Moroney, seconded by Mr. Melcher, and carried unanimously, the portion of Chapter V, "Planning Objectives, Principles, and Standards," of SEWRPC Planning Report No. 52, following page 5-23, was unanimously approved as amended.

REVIEW OF REGIONAL WATER SUPPLY PLANNING NEWSLETTER NO. 1

Chairman Bauer then asked the Committee to consider Agenda Item 5. He noted that a copy of the draft Newsletter had been provided to all Committee members for review prior to the meeting, and noted that the draft Newsletter was being presented to the Committee for information and comment. He then asked Mr. Biebel to review the Newsletter with the Committee.

Mr. Duchniak strongly objected to the inclusion of the "Statement of the SEWRPC Executive Director" and to the content of the statement itself. He specifically cited the third bulleted item, noting that it singled out the City of Waukesha and that the item mischaracterized the situation. Messrs. Rau and St. Peter also suggested that the statement be removed from the Newsletter, or in the alternative, recast. Mr. Yunker observed that the statement had been included in the Newsletter in an effort to set the record straight regarding the focus of the water supply planning effort. He noted that there had been unsupported allegations made that the study was specifically intended to obtain the use of Lake Michigan as a source of supply for selected areas in Waukesha County, which was clearly not the case.

Ms. Lewis recommended that the communication focus on what the study will do and not what it will not do.

After considerable further discussion, Chairman Bauer stated that the sense of the Committee's position and direction with respect to the statement was clear and would be conveyed to the SEWRPC Executive Director.

Mr. Yunker indicated that if the statement was eliminated, three important points made in that statement should be included in the content of the Newsletter. These included: 1) that the regional water supply plan will be fully consistent with the applicable rules and regulations including the 2001 Great Lakes Charter Annex; 2) that the evaluation of means to meet existing and projected water supply needed will be done considering a full range of viable options; and 3) that there will be an assessment of the cumulative areawide impacts of the recommended plan and of all alternatives thereto considered.

In this respect, Ms. Anderson referred to the first bulleted item in the statement and suggested that it be recast to indicate that all seven counties had participated in the financial support of the water supply plan. She noted that, as written, that item implied support from only three counties.

Mr. Biebel then proceeded with the Newsletter review highlighting the sections on the plan objectives and on water uses and trends in water uses.

Mr. Dunning reported that the U.S. Geological Survey was currently undertaking the development of water use data similar to the long-term data what was being reported in the Newsletter and that these data should be available for use later in the study itself.

Ms. Lewis referred to Figure 3 and noted that the trends in per capita water use would be more meaningful if broken down by category of use, such as residential use, as was now reported by the utilities to the Public Service Commission. Mr. Biebel agreed and noted that the next section of the Newsletter which reported current water use data did do that. It was agreed to supplement the text to clarify the desirability of using more specific user category data to consider trends.

There being nor further questions or comments, Chairman Bauer indicated that the Commission staff would revise the Newsletter considering the comments received prior to publication and distribution. He thanked the Committee for its comments and indicated that no formal action for approval need be taken, unless the Committee so desired.

[Secretary's Note: A copy of the revised Newsletter is attached hereto.]

DATE AND TIME OF NEXT MEETING

After a brief discussion, the next meeting of the Advisory Committee was tentatively scheduled for March 22, 2006, at 9:30 a.m. at the same location.

OTHER BUSINESS

Mr. Holschbach reported that he recently heard a presentation from the staff of the Wisconsin Department of Commerce regarding the use of system and fixtures which were related to water reuse and conservation. He suggested, and it was generally agreed, to request the Commission to investigate the potential for adding a representative of that Department to the Committee.

Mr. St. Peter noted that the Commission staff had, on its own motion, arranged for the presentation on conservation for the subject meeting. He asked if other such presentation were proposed to be scheduled, citing an industry representative as an example. Mr. Biebel indicated no such scheduling was anticipated at this time. He noted, further, that the conservation presentation had been scheduled as a means of coordinating the planning effort with the work of the State Groundwater Advisory Committee. Mr. Yunker indicated that future presentations, if any, would be discussed with the Committee.

Mr. St. Peter asked if the plan would be done in strict conformance with the current version of Great Lakes Charter Annex 2001. He noted that the approval of that document was pending approval by each of the State Legislatures. Mr. Biebel responded that it was intended to carry out the planning in the spirit of the Annex 2001 requirements.

ADJOURNMENT

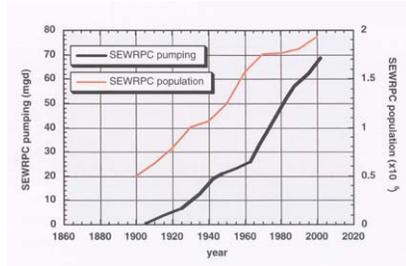
There being no further business to come before the Committee, on a motion by Mr. Melcher, seconded by Mr. Moroney, and carried unanimously, the meeting was adjourned at 11:50 a.m.

* * *

Exhibit A

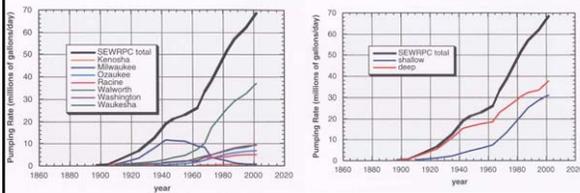
**SEWRPC REGIONAL WATER SUPPLY PLANNING ADVISORY COMMITTEE
PRESENTATION GIVEN BY JODI HABUSH SINYKIN**

Water demand rising faster than population growth



- SE Wisconsin water usage up about 40% from 1980 to 2000 compared to 8% population increase

- Biggest user of sandstone aquifer in SE Wisconsin is Waukesha County



- SEWRPC 2000 pumpage estimate is about 36 mgd from deep system and 30 mgd from shallow system.

A Call for Conservation

- Wiser and more efficient use of water is vital to sustainable growth and resource protection
- Prospective Compact will require conservation by both in and out-of-basin communities
- The GWAC established under 2003 Wis Act 310 is developing a groundwater management plan for the state's GMAs that will require implementation of conservation and best management practices.

WATER CONSERVATION: GAPS & OPPORTUNITIES UNDER WISCONSIN LAW	
GAPS	OPPORTUNITIES
Absence of State Legislation Requiring Water Conservation	Amendment of Wisconsin Statute § 281.35 to Require Conservation Plans for All New or Increased Water Withdrawals in Excess of 100,000 Gallons Per Day
Regulatory Void Regarding Reclaimed Water	Bolstering Wellhead Protection Conservation Programs Groundwater Quantity Regulator's Directives for Groundwater Management Areas (GMAs) Annex 2001 Implementing Agreements' Conservation Requirements Conserve Wisconsin Initiative
Failure of State and Local Land Use Laws and Annexation Policies to Protect Regional Groundwater Supplies	Local Utilization of Smart Growth Planning and Funding to Prioritize Groundwater and Surface Water Conservation and Management
PSC's Declining Block Rate Structure "Opt Out" Potential	Water Conservation Pricing Regulatory or Statutory Preclusion of Opt Out
Lack of Local and Regional Cooperation Among Municipalities and Stakeholders	Development of a Regional Groundwater Management Plan as Binding Contract SEWRPC Reform and/or Expanded Regulatory Authority Groundwater Advisory Committee's Statutory Charge Under 2003 Wisconsin Act 310 to Develop a Coordinated Groundwater Management Strategy for GMAs

Gaps & Opportunities Great Lakes Charter's Legacy in WI

- In 1985, the governors of the 8 Great Lakes States signed the Great Lakes Charter
- In implementation of the Charter, WI enacted a statute directing the creation of a "water quantity resources plan" for the management of the waters of the state.
- Section 281.35 was enacted to govern water withdrawals; requires "water loss" permits and conservation for new or increased withdrawals resulting in a water loss ave. > 2 million g.p.d.

GAP # 1: Plan Created But No Implementation:

Although the Natural Resources Board fulfilled its statutory duty under Section 281.35 and created a conservation plan for the state, no headway has ever been made towards implementation of the plan.

Lesson Learned:

State conservation planning requirements must be accompanied by implementation requirements.

GAP # 2: Strong Conservation Language But Impractical “Trigger”:

Section 281.35 requires conservation for new or increased water withdrawals resulting in a “water loss” averaging more than 2 mgd in any 30 day period.

* The 2mgd water loss threshold is set so high that, practically speaking, the majority of the state’s water withdrawals are excluded from the statute’s conservation requirements (only a small handful of water users triggered threshold over last 20 years).

Lesson Learned: The statute’s high threshold and water loss provisions fail to deter inefficient water waste on the part of most of the state’s largest water users, thereby limiting the state’s ability to prevent local water shortages from arising around the state.

Opportunity: Wisconsin Statute 281.35

POLICY RECOMMENDATION:

☒ Wisconsin Statute § 281.35 should be amended to change the two million gallon per day trigger to 100,000 gallons per day. This would require all entities seeking new or increased water withdrawals in excess of 100,000 gallons per day, regardless of water loss or consumptive water use, to have implemented conservation measures prior to approval of the proposed withdrawal. A bright line rule like this can be applied simply and uniformly.

☒ Whereas the current statute's conservation provisions fail to have an impact on the vast majority of new and increased water withdrawals occurring within the state, the recommended change will encourage local efficiencies, thereby preventing costly local water conflicts. Furthermore, not only is the 100,000 gallons per day threshold consistent with the high capacity well permit threshold under the Groundwater Quantity Act of 2004, but the proposed statutory amendment is consistent with the draft 2005 Annex Implementing Agreements and the goals of the Governor's Conserve Wisconsin Initiative.

Gap:

Wellhead Protection Program

Under this state program, all communities installing a new municipal well after May 1, 1992 must complete a Wellhead Protection Plan comprised of 9 elements, including “development of a water conservation program.”

Yet, Program's Conservation Component relegated to a mere paperwork requirement due to:

- No implementation requirements
- No monitoring/tracking by State
- No financial incentives

Gap:
Groundwater Quantity Act
(2003 Wisconsin Act 310)

No conservation requirement for high capacity well permit holders

Opportunity:
Groundwater Advisory Committee

POLICY RECOMMENDATION:

- ☒ The Groundwater Advisory Committee should draft and recommend the promulgation of regulations requiring conservation for high capacity well permit holders.
- ☒ The Groundwater Advisory Committee should recommend implementation of a conservation program to mitigate water problems in the GMAs.

Gaps & Opportunities: WI Land-Use Laws

POLICY RECOMMENDATION:

- ❑ Wisconsin land use laws and annexation policies need to be amended and/or enacted to proactively protect water supplies, including groundwater recharge zones, and to facilitate water supply planning at both the local and state level.
- ❑ Local communities need to ask regional planning commissions, UW extension representatives, and others involved in assisting local planning efforts to provide the hydrogeologic studies and technical assistance necessary to effectuate groundwater management planning and implementation.
- ❑ Local communities should utilize Smart Growth planning efforts and funding to produce comprehensive groundwater and related water resources management and land use plans.

Gap & Opportunity: Reclaimed Water

WI has no state regulations or guidelines addressing water re-use for purposes other than irrigation

POLICY RECOMMENDATION:

- ❑ Wisconsin should commit to the development of an institutional and regulatory framework pertaining to the use of reclaimed water as an additional means of aquifer recharge and as an alternative non-potable water supply to decrease groundwater withdrawals.

Utility Water Rate Structures

U.S. WATER UTILITY RATE STRUCTURES

RATE STRUCTURES	RATE FEATURE	CONSERVATION IMPACT
Flat Rate	Charges the user a fixed price regardless of the amount of water used.	Least effective in encouraging water usage reduction.
Uniform Rate	Charges the user the same unit rate for all water usage.	Minimally effective in encouraging water usage reduction.
Declining Block Rate	Charges the user less as usage increases.	Discourages efficient water use for large water users.
Increasing Block Rate	Charges the user more as usage increases.	Rewards efficient water usage.
Seasonal Block Rates Differentiated seasonal Summer seasonal	Charges users a higher rate for water used during the summer. Surcharge directed only to users whose peak season use exceeds average use during off-peak season.	Encourages water users to be efficient by reducing uses during peak season.

Opportunity: PSC Rate Structure Adjustment

POLICY RECOMMENDATION:

- ☒ The PSC should produce a uniform rule applying an increasing block rate across Wisconsin. An increasing block rate raises the price per unit of water as the amount of water consumption rises. Water use then could be accurately priced to motivate water conservation measures that limit consumption and promote water reuse.

Opportunity: Statutory or Regulatory Preclusion of “Opt Out”

POLICY RECOMMENDATION:

- ▣ The PSC or the Groundwater Advisory Committee should offer statutory and regulatory recommendations to preclude large scale water users from opting out of available public water utility systems.
- ▣ Local governments should follow New Berlin’s lead and pass mandatory connection provisions as part of their implementation of water conservation measures.

Opportunity:

CASE STUDY: Mandatory Connection in the City of New Berlin, Wisconsin

The City of New Berlin’s “mandatory connection” provision offers an instructive alternative to allowing large scale water users to opt out of a water utility. Under the City’s Municipal Code, “the construction or deepening of private wells is prohibited on any premises to which municipal water service is available.”¹¹³ In other words, residents or owners of premises are required to connect to the municipal water system once available. Thus, New Berlin’s industrial sector, upwards of 98% of whom are on the city’s municipal water system, cannot opt out in the manner discussed above and must remain bound to the municipality’s rates and conservation measures.¹¹⁴

Opportunity: Creation of a Groundwater Management Plan

STEPS TO ADOPT A BINDING GROUNDWATER MANAGEMENT PLAN

Step One	Identify stakeholders with long-range interests in the ground and surface waters of an area
Step Two	Develop Comprehensive Groundwater Plan for Region through adherence to a planning process that is both transparent and open to public participation
Step Three	Review and Approval process by which stakeholders sign onto the groundwater plan in a contractual manner
Step Four	Design and implement a dispute resolution process
Step Five	Stakeholders stay the course using an adaptive approach and continued monitoring, reporting, and financial support.

Developing a Successful Conservation Program

Step 1: Development of Water Use Profile

Step 2: Identification of Conservation Incentives, Measures & BMPs

Step 3: Selection

Lesson Learned:

Reducing Peak Water Demands

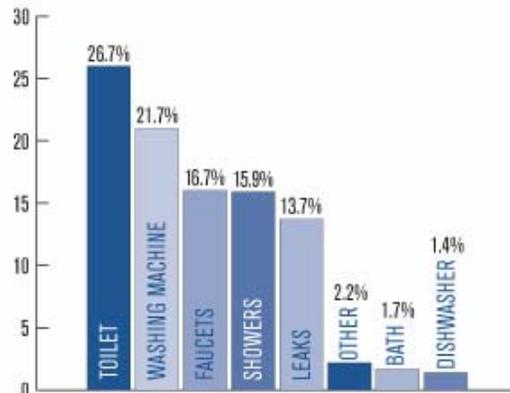
(e.g. selection of BMPs that reduce outdoor water use in summer months)

can reduce pressure on water systems
&

defer \$\$ expensive capital
expenditures on infrastructure

* Waterloo, Ontario Example

TYPICAL INDOOR RESIDENTIAL WATER



A SAMPLE WISCONSIN CONSERVATION TOOLKIT

1. School and Public Information Programs
2. Residential Low-Flow Toilet and Appliance Replacement and Retrofitting programs and Incentives
3. Landscape Conservation Programs and Incentives for Residential and ICI Customers
4. ICI Customer On-Site Audit Programs and Informational Programs and Incentives
5. Implementation of Conservation Rate Structures
6. Promotion of Efficient Irrigation Practices and Technologies Among Residential, ICI and Agricultural Customers
7. Water Facility Leak Detection and Repair to Achieve Reductions in Unaccounted-for-flows
8. Land Use Planning Protective of Groundwater Resources
9. Developing Groundwater Recharge/ Infiltration Systems
10. Increased Use of Reclaimed Water in Lieu of Other Water Sources – Especially for Irrigation
11. Leading by Example: Water Efficient Technologies and Practices in Public Parks and Buildings
12. Reduction of Thermoelectric Water Use Through the Promotion of Water Efficient Technologies, Renewable Energy Systems and Energy Conservation

Key Component: Land-Use Reform

Southeast Wisconsin communities should revise their planning and zoning ordinances to require that new developments have minimal impact on groundwater infiltration through low-impact design, open space goals, and conservation planning.

Waukesha County, in particular, should devise a proactive, coordinated land use plan that both limits future annexations and protects the County's aquifer recharge areas.

Key Component:
**Maximization of Water Recycling &
 Stormwater Management**

For Southeast Wisconsin communities on groundwater systems, in place of the current “once-through” practice where water withdrawn from local aquifers is used just once, treated, and then discharged beyond the watershed, communities should evaluate ways in which wastewater can be utilized for industrial, agricultural and irrigational uses or for recharge of the region’s aquifer reserves by means such as surface spreading or infiltration basins.

Potential Management Strategies

EDUCATIONAL	FINANCIAL	REGULATORY
<ul style="list-style-type: none"> ■ School Curriculum ■ Bill Inserts ■ TV & Radio Ads ■ Demonstrations ■ Training Programs ■ Conservation Checklists 	<ul style="list-style-type: none"> ■ Rebates ■ Conservation Rate Structures ■ Incentive/Surcharge Fees ■ Bill Credits ■ Metering 	<ul style="list-style-type: none"> ■ Water-Efficiency Ordinances ■ Laws and Plumbing Codes for Water Efficient Fixtures/Appliances ■ Landscape Standards ■ Irrigation Scheduling ■ Penalties for Outdoor Water Waste



Midwest Environmental Advocates

www.midwestadvocates.org

608-251-5047

414-961-8944

Exhibit B

Robert P. Biebel

From: Lisa Conley [llconley@wi.rr.com]
Sent: Tuesday, January 17, 2006 1:27 PM
To: Robert P. Biebel
Subject: surface water language

Sorry I'm so late with this - but here's the language I promised to put together for Chapter V, objective 2 - Conservation and Wise use of Surface Water and Groundwater Supplies"

The lakes, rivers, and wetlands of the region are intimately connected to each other and to the groundwater of the area. These resources provide scenic beauty, fish and wildlife habitat, fishing, swimming and boating opportunities to residents and visitors to our region. This in turn supports the businesses and jobs that depend on these activities.

In addition, the tax base generated by the higher values of waterfront properties adds greatly to the economic well being of the counties of our region. Surface water quality and quantity are vital to the economic stability, social fabric, and community well being of the area.

Example: value of lake to community - UW whitewater study.

Direct spending as a result of Delavan Lake is estimated at \$77 million annually.

http://www.delavan-lake.org/show_commentary.cfm?commentary_number=1029

"We make a living by what we get, but we make a life by what we give."
Winston Churchill

Lisa Conley
262/567-5947
llconley@wi.rr.com

Exhibit C

Table V-1

WATER SUPPLY PLANNING OBJECTIVES, PRINCIPLES, AND STANDARDS

OBJECTIVE NO. 1—SUPPORT OF EXISTING LAND USE PATTERNS AND SUPPORT AND DIRECTION OF PLANNED LAND USE PATTERNS

A regional water supply system which, through its capacity and efficiency, will effectively serve the existing regional land use pattern, promote the implementation of the regional land use plan, and identify any constraints to development in subareas of the Region which may require refinement of the regional land use plan.

PRINCIPLE

An adequate water supply is essential for the well being of the residents and for the economic prosperity of the Region. A sound regional water supply plan should support all of the necessary land use activities within the Region. The regional water supply plan should be designed to serve the needs of both urban and rural land uses, including agriculture and rural-density residential development.

STANDARDS

1. Public water supply systems should be designed to serve lands planned to be developed for urban uses,¹ in accordance with the adopted regional land use plan.
2. Areas of high potential for groundwater contamination should be excluded for the siting of potentially contaminating land uses or facilities.
3. Important groundwater recharge and discharge areas should be identified for preservation² or application of land development plans and practices which maintain the natural surface and groundwater hydrology, while protecting the groundwater quality.
4. Sources of water supply should be specifically allocated to adequately serve lands planned to be maintained in agricultural uses.

PRINCIPLE

The preservation of environmental corridors and isolated natural resource areas in essentially natural, open use yields many benefits, including recharge and discharge of groundwater and the maintenance of surface water and groundwater quality and quantity, as well as maintenance of base flows in and to surface waters; reductions in soil erosion; provision of wildlife habitat; protection of plant and animal diversity; protection of rare and

¹Urban development is defined as an area devoted to urban-density residential, commercial, industrial, governmental and institutional, recreational, and utility and communication uses. "Urban-density" residential development includes the following density ranges: high-density (at least 7.0 dwelling units per net residential acre); medium-density (2.3 to 6.9 dwelling units per net acre) and low-density (0.7 to 2.2 dwelling units per net acre). The term "urban service area" refers to areas that are intended to accommodate urban development insofar as they are served by basic urban services and facilities, including public sanitary sewer service and typically also including public water supply service and a local park, school, and shopping area.

²As used herein, the term "preserve" generally means to retain areas in existing, often natural, open, uses. In some cases, the plan may specifically indicate the types of uses that are able to be accommodated while maintaining the overall integrity of the natural resource base. This standard indicates that certain areas should be preserved; it does not indicate the measures—such as public acquisition, conservation easements, or land use regulation—that are recommended to be used to assure the desired preservation. Such measures are dealt with in the plan and plan implementation chapters of this report.

Table V-1 (continued)

endangered species; maintenance of scenic beauty; and provision of opportunities for recreational, educational, and scientific pursuits.³

STANDARDS

1. Primary environmental corridors should be preserved⁴ in essentially natural, open uses, and the extension of urban services, including public water supply services, into such corridors should be avoided, except for corridor-dependent uses, such as recreational facilities and water transmission main, sewage conveyance facilities, and other utility crossings.
2. Secondary environmental corridors and isolated natural resource areas should be preserved in essentially natural, open uses to the extent practicable, as determined in county and local plans.

Uses considered to be compatible with the preservation of environmental corridors and isolated natural resource areas are indicated in Table V-1A.

PRINCIPLE

The preservation of productive agricultural land is important for meeting future needs for food and fiber. Agricultural areas, in addition to providing food and fiber, can provide groundwater recharge and wildlife habitat and contribute to the maintenance of an ecological balance between plants and animals. Moreover, the preservation of agricultural areas also contributes immeasurably to the maintenance of the scenic beauty and cultural heritage of the Region. The preservation of agricultural lands can maximize return on investments in agricultural soil and water conservation practices; minimize conflicts between farming operations and urban land uses; and help maintain an important component of the economic base of the Region.

STANDARD

1. The most productive soils, those designated by the U. S. Natural Resources Conservation Service as comprising agricultural soil capability Classes I and II, should be preserved for agricultural use, to the extent practicable, recognizing that certain Class I and Class II farmland will have to be converted to urban use in order to accommodate the orderly expansion of urban service areas within the Region. The extension of urban services, including public water supply services, into such areas should be avoided, except as these lands are converted to urban uses.
2. Development of water sources in areas to be preserved for agricultural uses should be carried out in a manner which preserves the agricultural uses of the land as envisioned in the adopted regional land use plan.

³*Environmental corridors are elongated areas in the landscape which contain concentrations of natural resource features (lakes, rivers, streams, and their associated shorelands and floodlands; wetlands; woodlands; prairies; wildlife habitat areas; wet, poorly drained, and organic soils; and rugged terrain and high-relief topography) and natural resource-related features (existing park and open space sites; potential park and open space sites; historic sites; scenic areas and vistas; and natural areas and critical species habitat sites). Primary environmental corridors include a variety of these features and are at least 400 acres in size, two miles long, and 200 feet in width. Secondary environmental corridors also contain a variety of these features and are at least 100 acres in size and one mile in length. Isolated natural resource areas are smaller concentrations of natural resource features that are physically separated from the environmental corridors by intensive urban or agricultural uses; by definition, such areas are at least five acres in size.*

⁴*As used herein, the term "preserve" generally means to retain existing conditions. In some cases—for example, when used in relation to environmental corridors or isolated natural resource areas—this term has been specifically defined to indicate certain types of uses that are able to be accommodated while maintaining the overall integrity of the existing resources. The objectives and standards presented in this table indicate that certain areas should be preserved; they do not indicate the measures—such as public interest ownership, conservation easements, or land use regulation—that may be used to help assure the desired preservation. Such measures are dealt with in the plan and plan implementation chapters of this report.*

Table V-1 (continued)

OBJECTIVE NO. 2—CONSERVATION AND WISE USE OF THE SURFACE WATER AND GROUNDWATER SUPPLIES

A regional water supply system which conserves and wisely utilizes the surface water and groundwater supplies of the Region, so as to sustain those supplies for future, as well as existing needs.

PRINCIPLE

The sustainability⁵ of the surface water and groundwater supplies should be maintained through the careful design, operation and use of the water supply systems.

STANDARDS

1. The use of the deep sandstone aquifer should be managed so that the potentiometric surface in that aquifer is sustained as determined by the use and recharge within the Southeastern Wisconsin Region. Declines in the potentiometric surface of the aquifer within the Region due to uses in areas beyond the Region should be identified for purposes of considering interregional planning and action.
2. The uses of the shallow aquifer should be managed so that the aquifer yields are sustainable.
3. The uses of the deep and shallow aquifers should be managed so as to minimize the ecological impacts on the surface water system of the Region.
4. Lake Michigan as a source of supply should be utilized recognizing the constraints of the current regulatory framework and the status and provisions of the Great Lakes Charter 2001 Annex.

PRINCIPLE

The lakes, rivers, and wetlands of the Region are intimately connected to each other and to the groundwater of the area. These resources provide scenic beauty, fish and wildlife habitat, fishing, swimming, and boating opportunities to residents and visitors to our Region. This, in turn, supports the business and jobs that depend on these activities. In addition, the tax base generated by the higher values of waterfront properties adds greatly to the economic wellbeing of the counties of our Region. Surface water quality and quantity are vital to the economic stability, social fabric, and community wellbeing of the area.

1. The use of groundwater and surface water for water supply purposes should be carried out in a manner which minimizes adverse impacts to the water resources system, including lakes, streams, springs, and wetlands.

PRINCIPLE

Conservation of water can help to sustain supplies, as well as reduce energy usage, reduce wastewater flows, and minimize water supply infrastructure development needs and operating costs. The effectiveness of water conservation programs will be dependent upon the willingness of users to conserve and the ability of suppliers to implement changes in policies and rules governing water use.

STANDARDS

1. Residential per capita water usages should be reduced to the extent practicable based upon the conclusions developed in SEWRPC Technical Report No. 43, *State-of-the-Art of Water Supply Practices*, and recognizing that

⁵*Sustainability may be defined as the condition of beneficially using water supply resources in such a way that it supports the current and probable future needed uses, while simultaneously ensuring that the resource is not unacceptably damaged by such a beneficial use. For purposes of this water supply planning program, unacceptable damage is defined as a change in an important physical property of the groundwater or surface water system—such as water level, water quality, water temperature, recharge rate, or discharge rate—that approaches a significant percentage of the normal range of variability of that parameter. Impacts that are 10 percent or less of the annual or historic period of record range for any property will be considered acceptable, unless it can be shown that the cumulative effect of the change will cause a permanent change in an aquatic ecosystem by virtue of increasing the extremes of that property to levels known to be harmful.*

Table V-1 (continued)

differences in levels of conservation may be appropriate, depending upon the source of supply and related natural resources.

2. Both indoor and outdoor water uses should be optimized through conservation practices which do not adversely affect the public health.
3. Water uses for commercial, industrial, and institutional land uses should be reduced to the extent practicable through water conservation measures, duly considering the source of supply and related natural resources, as well as the economic viability and economic development needs of the Region.
4. Unaccounted-for water in utility systems should be minimized.

PRINCIPLE

Urban and rural land use development, including stormwater management and related land management practices, have important impacts on groundwater recharge with respect to the quantity of the recharge water.

STANDARDS

1. The type and extent of stormwater management and related land management practices should be determined through preparation of local stormwater management plans and land development practices and policies specifically considering the impact of those activities on groundwater recharge and should promote such practices which maintain or enhance the natural groundwater hydrology to the extent practicable, while protecting surface water and groundwater quality and quantity.

OBJECTIVE NO. 3—PROTECTION OF PUBLIC HEALTH, SAFETY, AND WELFARE

A regional water supply system which protects the public health, safety, and welfare.

PRINCIPLE

An adequate, high-quality water supply is essential to the social and economic welfare of an area. Public water supply facilities and sources should protect the public health, safety, and welfare by providing pure, safe, healthful drinking water in sufficient quantities and pressures to meet demands, including fire protection requirements. In order to do so, it is necessary to protect and enhance the quality of surface water and groundwater quality, as well as to provide appropriate protective measures between the sources of supply and the uses of that supply.

STANDARDS

1. Water supply systems should be designed, constructed and operated to deliver finished water to users which meets the drinking water standards established by the Wisconsin Department of Natural Resources to protect the public health, safety, and welfare. Those standards are set forth in this chapter and Appendix V-2.
2. Water supply systems should be designed, constructed, and operated consistent with technically sound water supply industry standards directed toward the protection of the public health, safety, and welfare.
3. The selection of sources of supply and the design, contribution and operation of related treatment facilities should be made cognizant of the potential presence of unregulated emerging pollutants, such as pharmaceuticals, personal care products, and certain viruses.
4. The reuse of wastewater should be evaluated for applications where there is no potential for direct human consumption and limited potential for direct human contact, unless the pre-use treatment level is such as to preclude risks to public health.
5. Surface water and groundwater supply treatment plants should be provided with state-of-the-art barriers to substances harmful to human health and safety.
6. Water supply sources and treatment processes should be selected to minimize potential problems with subsequent treatment and disposal of created waste streams.

Table V-1 (continued)

7. Groundwater and surface water sources of water supply should be protected from sources of contamination by appropriate siting, design, and land use regulation.

PRINCIPLE

Urban and rural land use development and related land management practices, including stormwater management and waste disposal practices, have an impact on surface water and groundwater quality.

STANDARDS

1. The level of treatment and design provided at public sewage treatment plants and industrial wastewater discharge locations should be determined directly related to the achievement of adopted water use objectives and supporting surface water and groundwater standards. These objectives and standards are set forth in Appendices V-2 and V-3 for the receiving waters and the safety and public health requirement of any potentially affected water supplies.
2. The density, design, operation, and level of treatment of onsite sewage disposal systems should be related to the achievement of the groundwater quality standards and the safety and public health requirements of any potentially affected water supplies.
3. The type and extent of stormwater management or associated preventive land management practices to be applied in both urban and rural areas should be determined by State and local regulations, local stormwater management plans, county land and water management plans, and farm management plans directly related to protection of potentially affected water supplies and to the established water quality standards for the receiving surface water and groundwater systems.
4. There should be no known wastewater or stormwater discharges to the surface water or groundwater systems used for water supply of inorganic compounds, synthetic compounds, volatile organics, or other substances in quantities at levels known to be bioaccumulative, acutely or chronically toxic or hazardous to human health, fish or other aquatic life, wildlife, and domestic animals.

OBJECTIVE NO. 4—ECONOMICAL AND EFFICIENT SYSTEMS

The development of water supply facilities, operational improvements, and policies, that are both economical and efficient, best meeting all other objectives at the lowest practical cost, considering both long-term capital and operation and maintenance costs.

PRINCIPLE

The total financial resources in the Region are limited and investment in construction and operation of water supply facilities must recognize that resources applied in this area will not be available for investment in other areas. Total water supply costs, therefore, should be minimized while meeting and achieving other water supply objectives.

STANDARDS

1. The sum of water supply system operating and capital investment costs should be minimized. Costs for waste disposal byproducts of water treatment, long-term energy and operation and maintenance, and legal costs should be considered.
2. Maximum feasible use should be made of all existing and committed water supply facilities, which should be supplemented with additional facilities only as necessary to serve the anticipated water supply needs.⁶
3. The use of new or improved technologies and management practices should be allowed and encouraged if such technologies and practices offer economies in construction costs or by their superior performance lead to the achievement of water supply objectives at a lesser cost.

⁶For purposes of regional water supply planning, the determination of excess, or available, capacity in existing and committed water supply facilities, as well as the reliability of that capacity, must be accomplished in close cooperation with the facility owners concerned.

Table V-1 (continued)

4. Water supply facilities should be designed for staged or incremental construction where feasible and economical so as to limit total investment in such facilities and to permit maximum flexibility to accommodate changes in the rate of population growth and the rate of economic activity growth or changes in the technology for water supply management.

OBJECTIVE NO. 5—RESPONSIVE AND ADAPTIVE PLANS

The development of water supply systems, operations, and policies which are flexible and adaptive in response to changing conditions, and redundant with respect to source of supply.

PRINCIPLE

As human understanding of the factors affecting water supply] improves, the activities necessary for the achievement of the established water supply objectives and supporting standards may require modification for responding to varying short- and long-term changes in conditions and emerging challenges. The conduct of such activities requires that the adopted plan and the designated management agencies have sufficient operational flexibility and monitoring capacity to respond to changing conditions.

STANDARDS

1. The recommended regional water supply plan components should be adaptable to change in scope, capacity, and effectiveness to the extent practicable.
2. The recommended water supply plan should be designed to incorporate redundancy, system backup features, and emergency operation requirements to the extent practicable in order to insure a safe delivery of water.
3. The regional water supply plan components should be designed for staged incremental construction to the extent practical, so as to permit maximum flexibility to accommodate unanticipated changes in future conditions.
4. The regional water supply plan should be adaptable to changes in the regulatory structure, including the 2001 Great Lakes Charter Annex being put forth by the Council of Great Lakes Governors and the State of Wisconsin 2003 Act 310.
5. The regional water supply plan should consider the possibility of long-term climate cycles that can affect recharge rates and water demand.
6. The regional water supply plan should consider the possibility of changes in economic conditions, security issues, and regulations that can affect the demand for water supply and need for and types of water supply facilities.

Source: SEWRPC.

#113059 V1 - PR-52 TABLE 5-1
RPB/pk
11/15/05, 01/30/06