

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

DATE: August 24, 2010

TIME: 9:30 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
Thomas J. Bunker	Representative, Water and Wastewater Utility, City of Racine
Douglas S. Cherkauer	Professor of Hydrogeology, 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
Franklyn A. Ericson	Director Worldwide S/H/E/Q Operations, S.C. Johnson & Son, Inc.
Andrew A. Holschbach	Director, Ozaukee County Planning, Resources, and Land Management Department
James Kell	Water Utility Superintendent, City of West Bend
Eric J. Kiefer	Manager, North Shore Water Commission
Carrie M. Lewis	Superintendent, Milwaukee Water Works, City of Milwaukee
Mark Lurvey	Agricultural Business Operator, Lurvey Turf Nursery
George E. Melcher	Director, Kenosha County Department of Planning and Development
Michael P. Rau	President, City Water, LLC
Steven N. Yttri	General Manager, Water and Sewer Utility, City of Oak Creek

**MEMBERS EXCUSED OR OTHERWISE ABSENT**

Kenneth R. Bradbury	Hydrogeologist/Professor, Wisconsin Geological and Natural History Survey
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
Jeffrey A. Helmuth	Hydrogeologist Program Coordinator, Wisconsin Department of Natural Resources, Madison
Thomas J. Krueger	Water and Wastewater Utility Director, Village of Grafton
J. Scott Mathie	Director of Government Affairs, Metropolitan Builders Association of Greater Milwaukee
Paul E. Mueller	Administrator, Washington County Planning and Parks Department
Jeffrey Musche	Administrator/Clerk, Town of Lisbon

Edward St. Peter	General Manager, Water Utility, City of Kenosha
Dale R. Shaver	Director, Waukesha County Department of Parks and Land Use
James Surfus	Senior Environmental Engineer, MillerCoors, LLC
Jack H. Takerian	Director, Milwaukee County Department of Transportation & Public Works
Daniel S. Winkler	Director of Public Works and Utilities, City of Lake Geneva

## **GUESTS**

Randall R. Kerkman	Administrator, Town of Bristol
Douglas J. Nelson	Water Supply and Wastewater Treatment Design Supervisor, Ruekert & Mielke, Inc.
Cheryl Nenn	Milwaukee Riverkeeper
Jodi Habush Sinykin	Midwest Environmental Advocates
Ben Wood	Engineer, Strand Associates, Inc.

## **STAFF**

Joseph E. Boxhorn	Senior Planner, Southeastern Wisconsin Regional Planning Commission
Michael G. Hahn	Chief Environmental Engineer, Southeastern Wisconsin Regional Planning Commission
Kenneth R. Yunker	Executive Director, Southeastern Wisconsin Regional Planning Commission

## **CALL TO ORDER AND ROLL CALL**

Chairman Bauer called the meeting to order at 9:30 a.m. Roll call was taken by circulating an attendance signature sheet, and a quorum declared present.

Chairman Bauer noted that Dr. Bradbury had co-authored a paper on the use of groundwater models in evaluating strategies for drinking water protection in rural subdivisions, published in the most recent issue of the *Journal of the American Planning Association*—a peer-reviewed journal. The paper, he said, may be of interest to some Committee members.

## **REPORT ON REVIEW OF MINUTES OF THE MEETING OF OCTOBER 6, 2009**

Chairman Bauer reminded the Committee members that the minutes of the October 6, 2009, Committee meeting had been provided to the Committee members with a staff memorandum dated January 26, 2010. That transmittal also included a return mail postal card to be used to indicate approval, conditional approval, or disapproval of the minutes. Consideration of the minutes was sought ahead of the next Committee meeting in order to expedite publication of SEWRPC Technical Report No. 46, *Groundwater Budget Indices and Their Use in Assessing Water Supply Plans for Southeastern Wisconsin*, which was reviewed at the October 6th meeting. Based upon the return mail, the minutes were approved as published. Twenty Committee members returned the card indicating “approval” of the minutes, one Committee member indicated “conditional approval,” and no cards were returned indicating “disapproval.”

Mr. Biebel noted that Dr. Cherkauer, who voted to approve the minutes, had suggested the correction of a typographical error in the minutes regarding the change of the word “indices” to “index” on page 6, and in addition, suggested some changes to the text, maps, and figures of SEWRPC Technical Report No. 46, *Groundwater Budget Indices and Their Use in Assessing Water Supply Plans for Southeastern Wisconsin*, which he authored. The suggested changes to the report were all incorporated in the published report.

Ms. Conley indicated approval of the minutes conditioned upon the addition of a clarifying statement concerning the permitting of high-capacity wells and the conduct of related environmental impact evaluation. She suggested that the minutes note that the State requirement for the conduct of an environmental impact evaluation was limited to wells located within 1,200 feet of surface waters classified as outstanding resource waters, exceptional resource waters, and some streams classified as trout streams; resulting in a very limited area of the Region for which an environmental impact evaluation was required, and leaving open a large majority of the area of the Region to the location of new high-capacity wells without environmental impact evaluations.

Chairman Bauer indicated that no further action was required regarding the minutes of the October 6, 2009, meeting which stood as approved by mail ballot.

Chairman Bauer noted that SEWRPC Technical Report No. 46 had now been published and copies were distributed to the Advisory Committee members on July 26, 2010.

### **CONSIDERATION OF CHAPTER X, “RECOMMENDED WATER SUPPLY PLAN,” OF SEWRPC PLANNING REPORT NO. 52 DESCRIBING THE RECOMMENDED REGIONAL WATER SUPPLY PLAN**

Chairman Bauer asked the Committee to consider Agenda Item 3. He noted that all Committee members had received a copy of Chapter X, “Recommended Water Supply Plan,” for review prior to the meeting. He noted that the Committee had at its meeting of October 6, 2009, considered and approved as amended pages 1 through 17 of this Chapter, summarizing the public review process, the comments received in that process, and the staff response to those comments. Chairman Bauer then asked the Committee to consider pages 18 through 33 of the Chapter and asked Mr. Biebel to review those pages and the related Appendix P with the Committee. He noted that Appendix P was not subject to approval of the Committee, since the Appendix simply reproduced a part of a report prepared by the University of Wisconsin-Milwaukee–Center for Economic Development. The following comments were made, questions asked, and actions taken during the review.

Mr. Melcher noted that in the third comment on page 7, the name “Thelen” is misspelled. Mr. Biebel indicated that the needed correction would be made.

Mr. Biebel called attention to the section of the chapter titled “Socioeconomic Analysis” which begins on page 18. He indicated that this section summarized the conclusions of a socioeconomic impact analysis of the preliminary recommended regional water supply plan. He noted that the Commission had in 2007 created an Environmental Justice Task Force (EJTF) to more directly involve minority and low-income communities in its planning processes. He explained that based upon the expressed interest of this Task Force, the Commission contracted with a consultant, the University of Wisconsin-Milwaukee Center for Economic Development (UWM-CED), to conduct a socioeconomic impacts analysis of the preliminary recommended regional water supply plan. He noted that the consultant had submitted a final report setting forth the findings of the impact analysis to the Commission in late July, and that the EJTF had met four times before then to review portions of the report. He noted at its July 8, 2010 meeting, the EJTF had concluded that there was one outstanding issue that was not addressed in the report. The issue concerned the potential socioeconomic impacts of the differences in the costs of the alternative sources of supply for the City of Waukesha on the residents of Waukesha and Milwaukee Counties. It had been agreed that the consultant would address the issue and report the findings of the analysis in an addition to the final report, and these findings would be reported to the members of the EJTF by electronic mail. He noted that the consultants had accordingly addressed this issue and the findings were reported to all members of the EJTF with a request for comments by July 26, 2010, in order to accommodate the UWM-CED schedule for report completion by July 30, 2010. He noted that only one comment was received from the members of the EJTF which comment indicated that the member found that the issue raised had been addressed.

Mr. Biebel indicated that Commission staff has reviewed the final consultant report as expanded, and incorporated its recommendations into the water supply plan report as appropriate. He also noted that, subsequent to the mailing of materials to the Advisory Committee for today's meeting, members of the EJTF requested another meeting to give further consideration to the UWM-CED report. In order to honor that request, the matter has been placed on the September 2, 2010, EJTF meeting agenda. He noted that the results of such further consideration by the EJTF of the expanded report would be reported to the Committee in these minutes.

Ms. Lewis stated that the City of Milwaukee has concerns about approving the summary of a report that has not received final approval from the requesting body. She indicated that it would be preferable to have one more meeting of the Regional Water Supply Planning Advisory Committee scheduled after the EJTF meeting for final consideration of parts of the regional water supply plan related to the socioeconomic impact study and actions from the EJTF meeting. Mr. Yunker stated that the UWM-CED had completed its work, but what action the EJTF may take regarding the report is not known. He noted that SEWRPC staff was unaware that an additional EJTF meeting would be requested when the materials for today's Regional Water Supply Plan Advisory Committee were sent out. Mr. Bunker commented that this Committee could wait for a long time for others to act on the findings of the socioeconomic impact study, and noted that this could delay completion of the planning effort. Mr. Melcher asked what issues specifically the EJTF wished to discuss. Mr. Yunker responded that the members of the Task Force had simply requested to discuss the study further within the Task Force.

Ms. Conley commented that the regional water supply plan may have some important beneficial socioeconomic impacts. She noted that water conservation programs might result in cost savings for utilities and lower water bills for economically disadvantaged utility customers. She also noted that installation of green infrastructure related to the stormwater management element of the plan may abate flooding and make communities more livable. She asked that these comments be passed on to the EJTF. Ms. Conley noted that a potential negative impact could be related to any significant additional amounts of unregulated chemicals which potentially could reach Lake Michigan.

[Secretary's Note: A memorandum summarizing comments from the Regional Water Supply Planning Advisory Committee on issues related to the socioeconomic impact analysis was distributed to the Environmental Justice Task Force prior to the Task Force's September 2, 2010 meeting. A copy of that memorandum is attached hereto as Exhibit A.]

Mr. Rau noted that another factor to consider was the availability of advanced remote water metering which is capable of detecting water leaks in real time. This allows short-term follow-up with residents and reduces water use and avoids high bills for leaks such as those caused by toilet valve malfunctions.

[Secretary's Note: Based upon Mr. Rau's comment, as shown in the attached Exhibit B, the listing of water supply system efficiency measures to be considered by utilities in developing a water conservation program has been expanded to include an item for "evaluation of new water metering technologies."]

Ms. Lewis commented that the central portion of the City of New Berlin shown on Map X-2 should now be colored dark blue to indicate that it is receiving Lake Michigan water as its source of supply. Mr. Biebel responded that the base year of the maps was 2005, but that this more-recent development would be addressed in footnotes on the maps concerned. He also noted that a footnote would be added to Map X-3 to reflect the completion of the expansion and upgrading of the City of Oak Creek Water and Sewer Utilities' water treatment plant.

[Secretary's Note: The following footnote was added to Map X-2 and Map XII-1:

“On May 29, 2009, the Wisconsin Department of Natural Resources approved a diversion of Lake Michigan water to provide water supply to the New Berlin Central service area. Lake Michigan supply to this service area was implemented in July 2009.”

The map symbol was revised on Maps X-3, X-4, XII-2, and XII-3 and the following footnote was added to Maps X-3 and XII-2:

“The City of Oak Creek Water and Sewer Utility completed expansion and upgrading of its water treatment plant in 2010.”]

Ms. Lewis noted that the yellow areas on Map X-2 indicate potential service areas that would require local initiatives to convert from private wells to service municipal water utilities. She asked what would be the affect on the plan if they did not convert. Mr. Biebel responded that the simulation modeling and plan costs assume that these areas will eventually convert to municipal systems in order to ensure that the plan would be viable in these areas served. Mr. Biebel noted that some of these service areas may indeed not convert to municipal service by 2035, but which areas these may be is unknown. Ms. Lewis asked about the situation where there is no local intent to meet the recommendation. Mr. Yunker responded that the plan was a long-range plan and that conditions can change. He indicated the plan recommendations should envision the provision of municipal water to areas where good municipal planning and engineering practices would provide such service, in order to ensure a viable regional system, if such service is needed. Mr. Biebel noted that a number of the municipal water supply systems which are now in place were served by private wells 20 years ago and were converted as envisioned in earlier stages of adopted regional plan elements.

Dr. Cherkauer stated that the Village of Richfield is moving forward with the development of a private water utility and asked that the text on page 22 be revised to reflect this.

[Secretary’s Note: The third through fifth sentences of the second full paragraph on page 22 were revised to read as follows:

“Given this new municipal status, this portion of the planned water supply service area is expected to be served by a newly created water utility in the Village of Richfield. That utility could be served by a separate groundwater-supplied water system, or through a connection to the Village of Germantown Water Utility system. The water supply service area in the Village of Richfield lies east of the subcontinental divide.”

In order to maintain consistency between Chapter X and XII, the same revisions were made to the third through fifth sentences of the first full paragraph on page 15 of Chapter XII.]

Ms. Conley asked whether the hatched areas on Map X-2 represented areas that could receive Lake Michigan water. Mr. Biebel answered that the hatched area in the Town of Genesee is included in the City of Waukesha water supply service area. He noted that the Town could create a separate utility using groundwater as a source of supply, or be connected to the Waukesha system utilizing a Lake Michigan supply. He stated that a similar situation existed for the hatched area in the Village of Richfield.

Mr. Rau noted that the legend to Map X-3 has two entries for “Planned municipal well and reservoir storage facility (Deep aquifer).” Mr. Biebel stated that the error will be corrected.

[Secretary’s Note: The half-red, half-pink entry in the legends on Map X-3 and Map XII-2 was revised to read:

“Planned municipal well and reservoir storage facility (Deep or shallow aquifer)”]

Mr. Biebel called attention to the last sentence of the first partial paragraph on page 26. He explained that this sentence would be revised to reflect the fact that the Wisconsin Department of Natural Resource (WDNR) has drafted administrative rules related to water conservation. These rules, he continued, were recently approved by the Wisconsin Natural Resources Board. He noted that the rules are currently before the State Legislature which had 60 days to approve the rules or they would become effective. He stated that the sentence would be revised to reflect this.

[Secretary’s Note: The last sentence of the first paragraph on page 26 was revised to read as follows:

“The WDNR has drafted Chapter NR 852 of the *Wisconsin Administrative Code* which sets forth rules and guidelines related to water conservation pursuant to the requirements of the Great Lakes-St. Lawrence River Basin Water Resources Compact and Wisconsin Acts 227 and 310. As of September 1, 2010, this proposed rule had been approved by the Wisconsin Natural Resources Board and was submitted to the State Legislature for review.”

In order to maintain consistency between Chapter X and XII, the same revision was made to the sentence that is divided between pages 17 and 18 of Chapter XII.]

Ms. Conley commented that the levels of water conservation described on page 25 of the draft chapter are vague. She asked whether it is expected that performance standards would be developed. Mr. Biebel replied that the intention is for each utility to evaluate the actions necessary to meet the specified objective. Mr. Yunker suggested adding a table listing potential measures for each level of conservation.

[Secretary’s Note: A table describing potential water conservations measures to be considered for incorporation into each level of program was added to the chapter and is attached hereto as Exhibit B. The last sentence in the last full paragraph on page 25 was revised to read as follows:

“The measures included in each level of program are summarized in Table X-5a and described in Chapter IX of this report.”

In order to maintain consistency between Chapter X and XII, the last sentence of the last full paragraph on page 17 of Chapter XII was revised to read as follows:

“The measures included in each level of program are summarized in Table X-5a in Chapter X of this report and described in Chapter IX of this report.”]

Mr. Biebel noted that compliance with the water conservation requirements in the administrative rules approved by the Natural Resources was largely voluntary except when a new or increased diversion of Great Lakes water is requested.

Ms. Conley referred to Map X-2 and noted that the Village of Lac La Belle and adjacent portions of the Town of Oconomowoc were currently served by private wells. She noted the map implied the areas were currently served by a municipal water supply system.

[Secretary’s Note: A review of Map X-2 indicates that the intent was to indicate the planned 2035 service area associated with existing utilities. In the case of the Village of Lac La Belle and adjacent areas of the Town of Oconomowoc, these areas relate to the Oconomowoc water supply service area. The map legend on Maps X-2, X-3, XII-1,

and XII-2 have been revised to clarify the intent to include currently unserved areas in the planned 2035 service areas of existing utilities.]

Ms. Conley commented that proposed changes to Chapter NR 151 of the *Wisconsin Administrative Code* would increase stormwater infiltration requirements in areas of existing development. She noted that these changes were approved by the Natural Resources Board and are currently before the Legislature. Mr. Biebel replied that the report will be revised to recognize the changes to NR 151.

[Secretary's Note: The following footnote was added at the end of the second to last sentence of the first bullet point on page 27 and the footnote numbering in the chapter was revised to reflect the additional footnote:

“<sup>7</sup>The WDNR has proposed several revisions to Chapter NR 151 of the *Wisconsin Administrative Code*. The proposed revisions add new, and modify existing, performance standards that address stormwater runoff pollution from both agricultural and nonagricultural sources, including transportation facilities. The proposed revisions make modifications to the agricultural performance standards addressing cropland soil erosion control, nutrient management, and manure storage. The proposed revisions would also change nonagricultural performance standards that address construction site erosion control, post-construction stormwater management, and runoff from developed urban areas. Among the proposed revisions to the post-construction performance standards are a removal of the exemption from the total suspended solids performance standards applicable to redevelopment sites with no increase in expanded parking or roads, and the addition of a midlevel infiltration performance standard for sites with a moderate amount of impervious area development. As of September 1, 2010, the proposed revisions had been approved by the Wisconsin Natural Resources Board and have been submitted to the State Legislature for review.”]

With reference to the well-siting component of the recommended plan on page 27, Dr. Cherkauer suggested adding text recommending that, where possible, new high-capacity municipal wells be located along the mainstems of major rivers that receive discharges of treated wastewater. Mr. Biebel agreed, noting that the recommendation had been included in the preliminary recommended plan in Chapter IX.

[Secretary's Note: The following paragraph was added after the second bullet point on page 27:

“While it is recognized that siting wells in the shallow aquifer is dependent upon locating productive areas, some additional factors should be considered when siting wells constructed in this aquifer. Preference should be given to site locations that are less likely to produce adverse impacts upon surface waterbodies and existing wells. In addition, preference should be give to sites adjacent to major rivers receiving treated effluent from municipal wastewater treatment plants downstream from the treatment plants. Such application of riverbank filtration has the potential to increase available water supplies without degrading the environment.”

In order to maintain consistency between Chapters X and XII, this paragraph was also added after the first bullet point on page 19 in Chapter XII.]

Mr. Biebel reported that Mr. Grisa was unable to attend this meeting, but had sent by electronic mail a memorandum raising several issues that he suggested be incorporated into the plan. Mr. Biebel noted that a copy of Mr. Grisa's memorandum had been distributed to all Committee members for review at this meeting.

[Secretary's Note: A copy of Mr. Grisa's e-mail and memorandum is attached herein as Exhibit C.]

Mr. Biebel noted that Mr. Grisa's first comment was that the last two paragraphs on page 22 seemed repetitive, and only slightly different.

[Secretary's Note: Commission staff reviewed the text in question. The paragraphs in question were combined to read as follows:

“With regard to the connection of the eastern portion of the City of Brookfield Water Utility service area and the Village of Elm Grove proposed utility service area, to a Lake Michigan supply, the cost data included in the recommended plan are based upon direct connections to the Milwaukee Water Works. However, there are two other viable options available for providing a Lake Michigan supply to these two service areas: one by connection through the City of Wauwatosa and City of West Allis water supply systems; and the other by connection to a new transmission system for the City of Waukesha connection to the Milwaukee Water Works, the City of Oak Creek Water and Sewer Utility, or the City of Racine Water and Wastewater Utility water supply systems. A similar situation exists with respect to the City of Muskego Water Utility with potential connections to the Milwaukee Water Works, the City of Oak Creek Water and Sewer Utility, and the City of Racine Water and Wastewater Utility systems. Accordingly, the plan recommends that the options be considered in greater detail in a second-level plan implementation planning and engineering phase.”]

Mr. Biebel indicated that Mr. Grisa's second comment—related to the WDNR proposed revisions to Chapter NR 151 of the *Wisconsin Administrative Code*—had already been considered by the Committee.

Mr. Biebel noted that Mr. Grisa's third comment recommended that the footnotes of Table X-9 that are related to the production costs of water to reflect the possibility that the additional costs for water purchase could be significant, and might exceed the savings from retiring water softeners, possibly changing projected cost savings for individual utilities into cost increases. Mr. Bunker noted that the Public Service Commission administers rules related to water rates for purchased water, and that Mr. Grisa's concern in that respect were unwarranted. Mr. Biebel observed, moreover, that even inordinate increases in the cost of purchased water would result in no net change in the total operation and maintenance costs of the plan, since the selling utility would gain an amount equal to that paid by the purchasing utility.

[Secretary's Note: The following sentences were added to the end of foot notes k, l, s, v, w, x, z, bb, and dd of Table X-9:

“Depending upon the magnitude of the additional water purchase costs, the projected savings in total net O&M costs and total in O&M costs may be reduced. If the additional costs were to be sufficiently high, it could result in a change from a negative total net or total O&M cost to a positive or increase in total net or total O&M cost.”]

Ms. Conley pointed out that Map X-5 shows that the Oconomowoc water supply service area is recommended for an intermediate-level water conservation program. She noted that there were historical drawdowns in the deep aquifer in the Oconomowoc area suggested that this recommendation be changed to an advanced-level program. Mr. Biebel replied that stabilization is expected to occur in the level of the deep aquifer in that area, the staff would evaluate Ms. Conley's suggestion.



[Secretary's Note: Commission staff reviewed the results of the aquifer simulation modeling under preliminary recommended plan conditions relative to aquifer performance in the City of Oconomowoc and adjacent areas. A rise in the water level of the deep aquifer would be expected to occur under planned conditions over most of the service areas concerned. While a small area of drawdown may be anticipated, under planned conditions its depth and geographical extent would be small, and in some cases less than those anticipated for several other communities that are recommended for an intermediate-level water conservation program. In all cases, the drawdowns anticipated are less than 15 feet, with the drawdown in the Oconomowoc area being less than six feet. Accordingly, it may be concluded that a change in the recommended level of water conservation for the City of Oconomowoc Utilities service area is not warranted at this time. However, it was judged that it would be prudent for those utilities utilizing the deep aquifer in areas for which drawdowns are anticipated to monitor water levels in their wells and periodically reevaluate their water conservation programs in light of monitoring results. Accordingly, the following paragraph was added following the first partial paragraph on page 26:

“As noted in Chapter IX of this report, under planned conditions some very modest drawdowns may be expected in the deep aquifer underlying portions of Walworth County and very small portions of Kenosha, Washington, and Waukesha Counties. Under these circumstances, it would be prudent for the utilities utilizing the deep aquifer in these areas to periodically reevaluate their water conservation programs in light of observed trends in water levels in the deep aquifer. Accordingly, it is recommended that the City of Elkhorn Light and Water Utility, the City of Whitewater Municipal Water Utility, the Village of Darien Water Works and Sewer System, the Village of Genoa City Municipal Water Utility, the Village of Williams Bay Municipal Water Utility, and the Lake Como Sanitary District No. 1 in Walworth County; the Allenton Sanitary District No. 1 in Washington County; and the City of Oconomowoc Utility in Waukesha County monitor water-levels in their deep aquifer wells and periodically reevaluate their water supply management program, including the level of water conservation programs required.”

Commission staff also concluded that a similar recommendation would be prudent for those water utilities relying upon the shallow aquifer as a source of supply. The following paragraph was therefore added after the second full paragraph on page 28:

“As noted in Chapter IX of this report, under planned conditions some reductions in baseflow may be expected in surface waters in the Region related to the envisioned use of the shallow aquifer as a source of water supply. Although these impacts may be mitigated in several streams by contributions of treated effluent from wastewater treatment plants, it would be prudent for the utilities utilizing the shallow aquifer to periodically reevaluate their water conservation programs in light of their water usage. Therefore it is recommended that water utilities utilizing the shallow aquifer as a source of supply monitor their water usage and periodically reevaluate their water supply management program, including the scope and level of their water conservation programs.”]

Ms. Lewis noted that Table X-11 indicates that the recommended plan does a generally good job of meeting the water supply planning objectives and standards. She suggested that in any future planning efforts related to water supply, consideration of potential socioeconomic impacts should be addressed by formulating a specific planning objective and supporting standard addressing socioeconomic impacts. Mr. Biebel stated that he agreed, and that such consideration should apply to local, as well as regional, planning efforts. He noted that since the

socioeconomic impact study found that the proposed regional plan would not have any adverse socioeconomic impacts, it would be likely that the plan would meet any related standards. Ms. Lewis asked that her comment be reported to the Environmental Justice Task Force. This was done via the memorandum cited earlier and attached hereto as Exhibit A.

Mr. Bunker commented that the annual operation and maintenance costs listed in Table X-10 for the City of Racine Water and Wastewater Utility appeared to be high, especially when they are compared to the fixed costs for the City of Kenosha Water Utility. Mr. Biebel indicated that the staff would review the costs concerned.

[Secretary's Note: Commission staff reviewed the calculations used to compute the existing annual operation and maintenance costs for the Racine and Kenosha utilities, and found that they were correctly computed. Several factors appear to account for the differences between the annual operation and maintenance costs for these two utilities. First, the calculations were based upon the annual costs that the utilities reported in 2005 to the Public Service Commission of Wisconsin. In their report, the Racine Utility reported operation and maintenance costs of approximately \$8.3 million, while the Kenosha Utility reported such costs of approximately \$4.8 million. One factor contributing to the differences in these reported costs is the difference in the capacities of the two utility's water treatment plants. Racine's plant has a capacity that is about 43 percent higher than Kenosha's plant and would therefore be expected to have correspondingly higher fixed costs associated with its operation and maintenance. Second, the differences between the two utilities in the calculated existing operation and maintenance costs reflect differences between the two utilities in what proportion of their sales are represented by wholesale sales of water to other utilities. The calculation of existing operation and maintenance costs included an adjustment to account for the fact that wholesale sales of water to other utilities act to transfer some of the fixed costs of operating and maintaining the treatment plant from the selling utility to the purchasing utility. In the pumpage used to compute the existing cost, wholesale sales of water to other utilities represented about one third of the City of Kenosha Water Utility pumpage, the other two thirds was represented by retail sales. By contrast, wholesale sales of water to other utilities represented only about 10 percent of City of Racine Water and Wastewater Utility pumpage. Because retail sales represent a substantial higher fraction of the Racine utility pumpage, a larger fraction of fixed costs of operating and maintaining its facility are attributed to this utility and a smaller fraction are transferred to its wholesale customers.]

There being no further questions or comments, pages 18 through 33 of Chapter X, "Recommended Water Supply Plan," of SEWRPC Planning Report No. 52, *A Regional Water Supply Plan for Southeastern Wisconsin*, was approved as amended on a motion by Mr. Melcher, seconded by Mr. Ericson, and carried with Ms. Lewis voting no. Ms. Lewis stated that her vote reflected the City of Milwaukee concerns relating to approval of the summary of the socioeconomic impact analysis included in Chapter X prior to pending action by the EJTF. Mr. Yunker stated that the Commission staff would inform the Advisory Committee of any action by the EJTF via these minutes, and would also proposed changes in the planning report text as may be found necessary describing the EJTF actions. Ms. Lewis responded that if this was done, she would remove her objection to the approval of Chapter X.

[Secretary's Note: At its September 2, 2010 meeting, the Environmental Justice Task Force acted to accept the University of Wisconsin-Milwaukee Center for Economic Development socioeconomic impact analysis expanded report for transmission to the Southeastern Wisconsin Regional Planning Commission, and recommended that the comments made by members of the public attending the September 2, 2010, Task Force meeting

also be transmitted to the Southeastern Wisconsin Regional Planning Commission, together with comments made by Task Force members at the meeting.

A number of comments regarding the consultant socioeconomic impact analysis report were expressed by individual members of the EJTF during the EJTF's discussion of the report. Several members indicated that they believed the report represented a considerable and fair work effort. Other comments indicated the following: that there could have been a better summary of the assumptions underlying the analysis and of the findings of the analysis; there could have been greater outreach to the minority and low-income populations; that the plan was based upon existing needs and future conditions to the year 2035 design year of the plan, and whether the forecasts and assumptions regarding population, land use, and water supply may be expected to be valid; whether the plan could have been based solely on existing conditions and whether the plan should have extended well beyond the year 2035; consistency between the City of Waukesha's application for a diversion of water from Lake Michigan and the regional water supply plan regarding the availability of groundwater to meet future water supply needs; the purpose and scope of a socioeconomic impact analysis; and the advisory nature of the Southeastern Wisconsin Regional Planning Commission and the Environmental Justice Task Force.

Comments and concerns regarding the socioeconomic impact analysis report were also expressed by members of the public attending the September 2, 2010, Task Force meeting. Among the comments and concerns expressed were several regarding the assumptions upon which the regional water quality management plan and the socioeconomic impact analysis were based, which if incorrect, could in their opinion result in potential adverse socioeconomic impacts. These include the assumptions that there are alternatives available to the City of Waukesha to the use of Lake Michigan water as a source of supply to the year 2035; that groundwater supplies will be managed sustainably to the year 2035; that communities will follow land use plans to the year 2035; that the costs of groundwater water supply alternatives are similar to Lake Michigan water supply alternatives; and the sustainability of groundwater beyond the year 2035. In addition, concern was expressed over whether the regional water supply plan and the socioeconomic impact analysis report were consistent with the assertion in the City of Waukesha diversion application that there was no "reasonable" alternative to Lake Michigan water. Finally, it was commented that the socioeconomic impact analysis report should recommend that any agreement for supplying Lake Michigan water should address the racial, ethnic, and economic disparities in the Region.

Based upon consideration of the foregoing comments, the following paragraph was added to the Chapter X report section entitled "Socio-Economic Analysis" following the fourth full paragraph on page 19:

"At its September 2, 2010, meeting, the Economic Justice Task Force acted to accept the University of Wisconsin-Milwaukee Center for Economic Development socioeconomic impact analysis report for transmittal to the Southeastern Wisconsin Regional Planning Commission; and recommended that comments made by members of the public present at the September 2, 2010, meeting, as well as comments made by members of the Task Force itself, be transmitted to the Southeastern Wisconsin Regional Planning Commission, with possible amendments. The comments and concerns raised and transmitted to the Southeastern Wisconsin Regional Planning

Commission have been documented in the minutes of the September 2, 2010, Environmental Justice Task Force meeting and were provided to the Regional Water Supply Planning Advisory Committee and the Regional Planning Commission. Based upon careful consideration of the comments received and the fact that a greater part of the EJTF and public comments to the EJTF relate to the validity of assumptions related to future conditions that were used in the socioeconomic impact study, no changes were made to the UWM-CED socioeconomic analysis. For the same reason, no changes were made to the regional water supply plan or plan report by the Regional Water Supply Advisory Committee, recognizing that the plan currently recommends that population, employment, land use, and water demand and supply conditions within the Region be monitored, and that the plan be periodically reevaluated and revised as may be necessary or desirable.”

A copy of the minutes of the September 2, 2010 meeting of the SEWRPC Environmental Justice Task Force are attached hereto as Exhibit D.]

**CONSIDERATION OF CHAPTER XI, “PLAN IMPLEMENTATION,”  
OF SEWRPC PLANNING REPORT NO. 52, INCLUDING APPENDIX Q,  
“MODEL RESOLUTION FOR ENDORSEMENT OF THE REGIONAL WATER  
SUPPLY PLAN FOR SOUTHEASTERN WISCONSIN,” AND APPENDIX R,  
“FUNDING AND TECHNICAL ASSISTANCE INFORMATION”**

Chairman Bauer asked the Committee to consider Agenda Item 4. He noted that all Committee members had received a copy of Chapter XI, “Plan Implementation,” and the related Appendices Q, “Model Resolution for Endorsement of the Regional Water Supply Plan for Southeastern Wisconsin,” and R, “Funding and Technical Assistance Information,” for review prior to the meeting.

Chairman Bauer then asked Mr. Biebel to review Chapter XI and Appendices Q and R on a page-by-page basis. The following comments were made, questions asked, and actions taken during the review.

Mr. Biebel reported that Mr. Grisa in his previously referenced electronic mail memorandum suggested that the references to “final design” in the subsection on the public works development process be changed to read “final design and construction.” Mr. Biebel indicated that this change would be made and that the first subsection heading on page 5 would be revised to read as follows: Final Design and Construction.”

Ms. Conley asked that the phrase “with conservation practices in place” be added to the end of the first full paragraph on page 4. Mr. Biebel suggested instead the wording “based upon plan recommendations, including water conservation program practices.” Ms. Conley indicated that this wording was acceptable.

[Secretary’s Note: The last sentence of the first full paragraph on page 4 was revised to read as follows:

“However, it has become clear as the planning effort progressed that water supply is not a limiting factor on land use development within this Region with respect to the location of urban development either east or west of the subcontinental divide, based upon plan recommendations, including water conservation program practices.”]

Mr. Bunker noted that contract negotiations and modifications are an additional factor that may require reexamination of an earlier step in the three-phase public works development process and asked that this be added to the subsection on other considerations.

[Secretary’s Note: The following sentence was added to the end of the third full paragraph on page 5:

“Similarly, issues emerging out of contract negotiations or modifications may require reexamination of an earlier phase of the public works development process.”]

Ms. Lewis noted that there was a typographical error in the first partial paragraph on page 7.

[Secretary’s Note: The second instance of the use of the phrase “representation by” in the last sentence of the first partial paragraph on page 7 was deleted.]

In reference to the subsection on county park and planning agencies on page 8, Mr. Biebel noted that in his e-mail memorandum Mr. Grisa questioned the relevance of county park facilities to water supply issues. Mr. Biebel noted that some counties, such as Waukesha, have combined county park and planning departments and commissions. He also noted that some park operations are important for groundwater recharge area protection. Ms. Conley agreed and added that parks can also be involved in stormwater management and are thus relevant. It was generally agreed to maintain the text as written.

In reference to the description of WDNR authority and responsibilities related to water supply that are described on pages 11 through 16, Ms. Conley expressed concern that the Department may not have the capacity to carry out all of these responsibilities. She noted that in recent years the Department has experienced budget cuts and staff reductions. Mr. Kiefer indicated he shared Ms. Conley’s concern, but noted that much of the oversight by the WDNR involves self-reporting by the regulated entities.

In reference to the description of the authority of the Public Service Commission of Wisconsin (PSC) on page 16, Ms. Conley commented that the PSC has been overly conservative in allowing institution of conservation water rates. Mr. Biebel noted that there have been recent actions by the PSC that indicated a change in this historic position. Mr. Duchniak noted that the PSC has approved an “inclining block” sale structure—a conservation measure—for the City of Waukesha Water Utility. He added that it must, however, be remembered that one of the primary functions of the PSC in setting rates and approving rate structures is to ensure that sufficient funds are available for the operation of the utility. Ms. Lewis commented that rate structures need to be tailored to local circumstances. She noted that one type of inclining block structure in the City of Milwaukee which was initially recommended by an outside group would have had a heavy negative impact on lower-income persons, especially in the central city. Mr. Yunker reminded the Committee that the plan recommends that water conservation programs be tailored to each utility’s individual circumstances.

Mr. Biebel reported that in his e-mail Mr. Grisa noted that a reference to the regional water quality management plan on page 20 should be changed to regional water supply plan. Mr. Biebel indicated that the text would be corrected.

In reference to the last paragraph on page 20, Mr. Biebel noted that in his e-mail Mr. Grisa questioned whether local planning commissions should endorse the plan or whether it would be better for the plan to be endorsed by the local water utility board, or by the public works board, which ever may be responsible for water supply issues. Mr. Biebel indicated that Mr. Grisa also asked whether it might be better to offer the plan for endorsement by the appropriate board or commission as determined by the utility or municipality. Chairman Bauer noted that under the State *Statutes*, local plan commissions were responsible for adopting and recommending adoption to the governing body the comprehensive development plan for the community—a plan that must contain a water supply element along with other related elements, including a land use element. Therefore, plan adoption by the local plan commission was not only important, but essential. With proper coordination between the agencies concerned, the plan should also be adopted by the local water utility commission and board of public works. Upon further discussion, it was the consensus of the Committee that the existing text should be retained.

Mr. Biebel drew the Committee’s attention to Table XI-1. He indicated that a column would be added to the table with the heading “Maintain, upgrade, and expand distribution system as needed.” He indicated that such action will be recommended for all utilities.

Mr. Biebel noted that Table XI-2 contains recommendations for areas not currently served by public water supply. Mr. Holschbach pointed out that the units of government in the Ozaukee County section of the table needed editing to correct the municipalities noted. Mr. Biebel responded that the needed revisions would be made.

Ms. Conley noted that a bill was introduced in the last session of the Legislature that proposed more restrictive regulation of the spreading of municipal and agricultural wastes on land in karst areas. She suggested that this be noted in the implementation chapter. Mr. Biebel indicated that Commission staff would review the bill and draft any needed text revision.

[Secretary's Note: The Commission staff reviewed the bill in question, 2009 Senate Bill 632. This bill was introduced in the State Senate and referred to committee. No action on the bill was taken prior to the end of the 2009 legislative session. While the bill did include a provision that allowed other counties to become subject to its provisions by resolution of their county boards, the bill specifically applied only to Brown, Calumet, Door, Kewaunee, and Manitowoc Counties, none of which are located within the Wisconsin Region. It was, therefore, concluded that an addition to the text was not warranted.]

Ms. Conley commented that the U.S. Natural Resources Conservation Service wetland reserve program and grassland reserve programs may also be possible sources of funding for some groundwater recharge area protection projects. Mr. Biebel indicated that these programs would be added to the section on financial and technical assistance.

[Secretary's Note: Entries were added to the tables in Appendix R for the programs noted by Ms. Conley. In addition, the following subsection was added after the fourth full paragraph on page 34:

*“U.S. Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS) Programs*

For groundwater recharge area protection projects that also serve to protect wetlands or grasslands, it is possible that funding may be available through two USDA-NRCS programs.

The Wetlands Reserve Program (WRP) is a voluntary program offering landowners the opportunity to protect, restore, and enhance wetlands on their property. It provides landowners with technical assistance and financial incentives and assistance to restore and enhance wetlands in exchange for retiring marginal agricultural land. The program offers landowners three options: permanent conservation easements, 30-year conservation easements, and restoration cost-share agreements of a minimum 10-year duration. For permanent easements, the WRP provides an easement payment of up to the fair market value of the land concerned, and pays 100 percent of the costs of restoration. For 30-year easements, the WRP pays an easement payment of 75 percent of what would be paid for a permanent easement. In addition, the program pays 75 percent of restoration costs. For restoration cost-share agreements the WRP pays 75 percent of restoration costs.

The Grassland Reserve Program (GRP) is a voluntary program for landowners and operators to protect grazing uses and related conservation values by conserving grassland, including rangeland, pastureland, shrubland, and certain other lands. Participants voluntarily limit future development and cropping uses of the land while

retaining the right to conduct common grazing practices and operations related to the production of forage and seed. The program offers eligible landowners and operators two options: permanent easements and rental contracts of 10-year, 15-year, or 20-year duration. For permanent easements, the GRP offers compensation up to the fair market value of the land concerned less the grazing value of the land. For rental contracts, the GRP provides annual payments of 75 percent of the grazing value established by the Federal Farm Service Agency, up to \$50,000 to a single person or legal entity. Certain grassland easements or rental contracts may also be eligible of cost-share assistance of up to 50 percent of the cost to reestablish grassland functions and values where land has been degraded or converted to other uses. Payments of this cost-share assistance may not exceed \$50,000 per year to a single person or legal entity.”]

[Secretary’s Note: Subsequent to the August 24, 2010, Advisory Committee meeting, and at the September 15, 2010, regular meeting of the Southeastern Wisconsin Regional Planning Commission, it was recommended by the Commission that some additional oversight would be desirable of the return flow for the City of Waukesha Water Utility. Based upon that recommendation, the following paragraph was added to Chapter XI after the second full paragraph on page 23:

“With regard to the recommendation for the conversion of the source of supply for the City of Waukesha Water Utility to Lake Michigan and the attendant development of a return flow system, active participation by the counties and municipalities concerned in the implementation process related to the return flow component is recommended. Should the return flow option selected and approved during the subsequent plan implementation steps involve use of either Underwood Creek or the Root River, or both streams, it is recommended that a return flow oversight committee be created by the WDNR to guide the WDNR permitting and regulatory actions. The committee would be responsible for the development and oversight of the planning related to the return flow facilities operation, including measures for mitigating impacts during high-flow periods. In addition, the committee would be responsible for recommending needed post-implementation monitoring of facility performance. This oversight would be coordinated with, and be advisory to, the WDNR, whose decisions concerning permitting would be final. The committee would be comprised of representatives of the units and agencies of government most directly affected, including the WDNR, Milwaukee County, Racine County, Waukesha County, the Milwaukee Metropolitan Sewerage District, the City of Waukesha Water Utility, SEWRPC, and the local units of government, including the City of Milwaukee, within which the affected streams are located, with the final composition of the committee depending upon the return flow option involved. The units and agencies of government should all have endorsed the regional water supply plan.”

A brief summary of this addition was added to Chapter XII.]

There being no further questions or comments, Chapter XI, “Plan Implementation,” of SEWRPC Planning Report No. 52, *A Regional Water Supply Plan for Southeastern Wisconsin*, together with the related Appendices Q and R, were approved as amended on a motion by Mr. Holschbach, seconded by Dr. Cherkauer, and carried unanimously.

## **CONSIDERATION OF CHAPTER XII, “SUMMARY,” OF SEWRPC PLANNING REPORT NO. 52**

Chairman Bauer asked the Committee to consider Agenda Item 5. He noted that all Committee members had received a copy of Chapter XII, “Summary,” for review prior to the meeting.

Chairman Bauer noted that as a summary this chapter should contain no new information, and then asked Mr. Biebel to review Chapter XII on a page-by-page basis. The following comments were made, questions asked, and actions taken during the review.

Mr. Biebel stated that the costs for Subalternative 1 shown in Table XII-6 have been modified from those in Chapter IX to include costs related to treatment of shallow aquifer groundwater, and to include the costs of needed connections from service areas to new well locations. He explained that new wells may have additional connection costs associated with them because they are located outside of the service area concerned. He noted that Chapter IX had also been changed accordingly.

Mr. Biebel reminded the Committee that the changes in Chapter X related to the siting of new high-capacity municipal wells along the mainstems of major rivers that receive discharges of treated wastewater would be reflected in this chapter. He also indicated that text would be added to this chapter recognizing the completion of the upgrading and expansion of the City of Oak Creek Water and Sewer Utility’s water treatment plant.

[Secretary’s Note: The following text was added to the end of the first bullet point on page 14:

“In this report, it should be noted that the City of Oak Creek Water and Sewer Utility completed construction of a major plant expansion program in 2010. The Utility also plans to conduct a rerating analysis of the plant which is expected to demonstrate a plant capacity of 35 million gallons per day, adequate to meet the expected 2035 demand for the Utility and its customer communities.”]

Ms. Conley commented that the discussion of emerging contaminants in Chapter X is more extensive with regard to the protection of the integrity of the ecosystem than the discussion on page 21 of Chapter XII. She noted that there are other emerging contaminants in addition to pharmaceuticals and personal care products. Mr. Biebel indicated that the text of the summary chapter would be expanded to reflect Ms. Conley’s observation.

[Secretary’s Note: The following paragraph was added to the beginning of the subsection on disposal of emerging and unregulated contaminants on page 21:

“Water quality contaminants of emerging concern include pharmaceuticals, personal care products, and endocrine disrupting compounds. Recent research indicates that these contaminants are entering surface and groundwater and may be producing adverse effects on fish and other aquatic organisms. The extent of the threat posed to human health and to the integrity of surface waters and groundwaters by the presence of these compounds is not currently known. Several factors account for this lack of knowledge. These categories represent a large number of chemical compounds. The concentrations of most of these compounds in surface waters and groundwaters have not been determined. The biological and toxicological effects of many of these compounds on human health have not been characterized, especially at environmentally relevant concentrations and under long-term conditions. Few data are available on the fate of these compounds in the environment. Studies examining the presence of these compounds in the environment and the toxicological properties of these compounds have generally not examined their metabolites and transformation products, which may be biologically active.”]



Ms. Conley questioned the use of the term “conservative constituent” in the stormwater management measures affecting groundwater quality section on page 20. Chairman Bauer responded that this term did not have political implications, but was a well-accepted chemical term used to indicate a substance whose concentration in the environment is not affected by physical and biological processes. He suggested substituting the term “conservative substances.” The first sentence of the last paragraph on page 20 was revised accordingly.

Mr. Kiefer requested that Tables X-3 and XII-7 reflect the fact that the North Shore Water Commission provides water to the utilities serving the City of Glendale and the Villages of Fox Point and Whitefish Bay.

[Secretary’s Note: The following footnote was added to Tables X-3 and XII-7 and referenced to the communities served by the North Shore Water Commission:

“The North Shore Water Commission provides water to the City of Glendale Water Utility, the Village of Fox Point Water Utility, the Village of Whitefish Bay Water Utility, and a portion of the Village of Bayside served by We Energies-Water Services.”]

There being no further questions or comments on Chapter XII, “Summary,” of SEWRPC Planning Report No. 52, *A Regional Water Supply Plan for Southeastern Wisconsin*, was approved as amended on a motion by Mr. Ericson, seconded by Dr. Cherkauer, and carried unanimously.

## **OLD BUSINESS**

Mr. Biebel indicated that a copy of Appendix B, “Glossary of Terms and List of Abbreviations,” had been distributed to all Committee members present at this meeting. He noted that the glossary had been previously reviewed and approved by the Committee. The glossary, however, had been refined and expanded as the work of drafting the planning report proceeded. He asked the Committee members to review the additions which had been made, which were highlighted, and provide the Commission staff with any suggested changes or additions. Any comments, he said, would have to be received by the staff within about two weeks in order to be reflected in the published glossary.

[Secretary’s Note: A copy of Appendix B is attached herein as Exhibit E.]

Ms. Conley distributed a brochure to the Committee regarding the Water Star Wisconsin program. She explained that this program is designed to recognize municipalities that do outstanding work providing their communities with safe water, protecting surface waters from polluted stormwater, maintaining aquatic habitat, and providing recreational opportunities. She noted that there will be a workshop regarding the program in Milwaukee on September 17, 2010.

[Secretary’s Note: A copy of the brochure is attached hereto as Exhibit F.]

## **OTHER BUSINESS**

Ms. Conley noted that she had distributed a brochure describing the “Water Star Wisconsin” program which provides guidelines for municipalities to develop stormwater management practices which go beyond the requirements of Chapter NR 151 of the *Wisconsin Administrative Code*.

Chairman Bauer reported that SEWRPC Technical Report No. 48, *Shallow Groundwater Sustainability Analysis Demonstration for the Southeastern Wisconsin Region*—which was prepared by the Wisconsin Geological and Natural History Survey—had now been published, and that a copy would be mailed to all Committee members in

the next week. That report, which was reviewed and approved by the Committee at its meeting held on June 30, 2009, represents the fifth and last technical report to be prepared under the planning effort.

Chairman Bauer then noted that this would likely be the last meeting of the Committee held for plan development purposes. He thanked the Committee members on behalf of the Regional Planning Commission and Commission staff for their faithful and patient commitment and contributions to the planning process, and indicated that a letter of appreciation would be sent to all Committee members by the Commission in this regard, together with a copy of the published report. He further noted that the plan implementation recommendations envisioned that the Commission would maintain the Committee—perhaps with some reconstitution—as a continuing advisory committee to guide plan implementation and plan revision as needed. Thus, over time, additional meetings of the Committee may be called for those purposes.

Chairman Bauer noted that the regional water supply plan would now be transmitted to the Regional Planning Commission for its consideration and action. He indicated that—assuming approval by Commission—final copies of the plan report would be provided to all Committee members.

## **ADJOURNMENT**

There being no further business to come before the Committee, on a motion by Mr. Yttri, seconded by Mr. Ericson, the meeting was adjourned at 11:57 a.m.

\* \* \*

#153044 V4 - RWSP MINUTES 08/24/10  
310-1001  
RPB/KRY/KWB/MGH/JEB/pk  
10/06/10

## Exhibit A

### SEWRPC STAFF MEMORANDUM

TO: Members of the SEWRPC Environmental Justice Task Force

FROM: SEWRPC Staff

DATE: September 2, 2010

**SUBJECT: COMMENTS RECEIVED FROM THE REGIONAL  
WATER SUPPLY PLANNING ADVISORY COMMITTEE**

During the August 24, 2010, meeting of the Regional Water Supply Planning Advisory Committee, three comments were received on the socioeconomic analysis of the regional water supply plan which are reported below for your information.

1. A comment was made that the regional water supply plan may have some beneficial socioeconomic impacts, in that water conservation programs might result in cost savings for utilities and lower water bills for economically disadvantaged utility customers. It was also noted that installation of green infrastructure related to the stormwater management element of the plan may abate flooding and make communities more livable. A comment was also made which indicated that some water conservation measures, such as rate structure revisions, can result in increases in water bills and have a negative impact on low-income and minority populations. It was also noted that a potential negative impact could be the discharge of any significant increased amounts of unregulated contaminants to Lake Michigan.
2. A comment was made that new advanced water metering is now available which can detect leaks in real time. This can be used as a basis to contact customers and avoid water loss and large water bills as sometimes occurs due to leakage such as caused by toilet valve malfunctioning.
3. A comment was made suggesting that in future water supply planning a specific plan objective and supporting standards be developed to address socioeconomic issues.

\* \* \*

## Exhibit B

**Table X-5a**

### ANTICIPATED REDUCTIONS IN DEMAND AND POTENTIAL PROGRAM COMPONENTS FOR RECOMMENDED WATER CONSERVATION PROGRAMS

Program Level <sup>a</sup>	Reduction in Daily Demand (percent)		Potential Program Components <sup>b</sup>
	Average	Maximum	
Base	4	6 to 10	Water supply system efficiency actions Meter testing Leak detection and repair Water main maintenance and replacement Water system audits Water production system refinement Evaluation of new water metering technologies
			Moderate level of public information and education Redesign of water bills Collation and distribution of educational materials Presentation to school and civic groups
			Outdoor watering reduction measures Rain barrels Limited lawn and landscape watering restrictions
Intermediate	6 to 8	12 to 16	All of the components of the base-level program
			Higher levels of public information and education Development of school curricula Broader informational program in websites, newspapers, and flyers
			Plumbing retrofits, including provision of low-volume shower heads and toilet displacement device kits
			Water conservation rate structures
			More aggressive outdoor watering restrictions
Advanced	10	18	All of the components of the intermediate-level program
			Fixture and plumbing management Toilet replacement rebate programs Water softener replacement rebate programs Clothes washing machine replacement rebate programs
			More aggressive conservation rate structures
			Additional outdoor watering restrictions

<sup>a</sup>Recommended program levels of water conservation for individual utilities are summarized on Map X-5. The plan also envisions that the base-level conservation measures would apply to private individual, self-supplied systems.

<sup>b</sup>The scope and content of the water conservation programs are to be determined on a utility-specific basis to reflect the type and sustainability of the source of supply and the probable future water supply infrastructure requirements.

Source: SEWRPC.

## Exhibit C

**Biebel, Robert P.**

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**From:** Grisa@ci.brookfield.wi.us  
**Sent:** Thursday, August 19, 2010 4:17 PM  
**To:** Biebel, Robert P.  
**Subject:** Water Supply Plan

Hi Bob,

Neither John nor I can make it to the meeting next week. I have put together a list of my comments on the chapters provided. Please incorporate these as appropriate into the plan or minutes. Thanks.

Chapter X, Page 22 - Last two paragraphs: These two paragraphs seem repetitive, yet slightly different. Is this just a cut and paste error or is there really a difference?

Chapter X, Page 26 - First paragraph: WDNR has already promulgated the rules referenced at the end of the paragraph - change tense of the sentence to reflect this?

Chapter X, Tables, Page 21-22 - The footnotes referencing the production cost of water vs. the water purchase cost should be expanded to indicate that the actual water purchase price will substantially raise the total cost reflected in the last column of the table; and depending on the price, could change a projected cost savings to a cost increase for that utility seeking Lake Michigan water. This is important so that local officials will not misinterpret this data that may show a cost savings if one purchases lake water since it may actually increase the total cost to the utility. I understand you can not identify the actual purchase price for the water, so this language is better than nothing.

Chapter XI, Page 3 - Under the Public Works Development Process, Add the words, "and construction" after the word "design" in the fourth line.  
Construction is needed otherwise it is just a plan on a shelf.

Chapter XI, Page 8 - I don't understand what County Park facilities have to do with this discussion about water supply. Is this a carryover from the Update to the Water Quality Management Plan? Should it be deleted? I like the part about the County Planning since it involves zoning, land use approval, etc.

Chapter XI, Page 20 - top of page, remove language referencing the update to the regional water quality management plan and replace with regional water supply plan - again looks like a carryover from that document.

Chapter XI, Page 20 - last paragraph, should local Plan Commissions endorse the plan or is this better to be endorsed by the Water Utility Board or Board of Public Works if they are the ones in charge of water issues, or offer to be endorsed by the appropriate Board or Commission as determined by the Utility or Municipality?

Thanks for the chance to comment on the plan. I have enjoyed being a member of this committee and look forward to this plan being implemented.

Thomas M. Grisa, P.E., F. ASCE  
Director of Public Works  
City of Brookfield  
2000 N. Calhoun Road  
Brookfield, WI 53005  
Ph. (262) 796-6644

**Exhibit D**

**Draft – Not Yet Approved**

Minutes of the Sixteenth Meeting of the  
**ENVIRONMENTAL JUSTICE TASK FORCE**

DATE: September 2, 2010  
TIME: 4:00 p.m.  
PLACE: Independence *First*  
540 South 1<sup>st</sup> Street  
Milwaukee, Wisconsin

Members Present

Adelene Greene..... Director, Division of Workforce Development,  
Chair Kenosha County  
Nancy Holmlund..... President, WISDOM Interfaith Coalition  
Vice Chair  
Ella Dunbar ..... Program Services Manager, Social Development Commission, Milwaukee  
Ness Flores..... Attorney, Flores & Reyes Law Offices  
Lynnette McNeely ..... Attorney, Law Offices of Thomas J. Awen; NAACP  
Brian Peters..... Housing Policy Advocate, Independence *First*  
Wally Rendon ..... Member Education/Outreach Representative, Racine Educator’s  
Credit Union; former Racine Police Officer  
Yolanda Santos Adams ..... Director, League of United Latin American Citizens  
Jackie Schellinger ..... Indian Community School  
Willie Wade ..... Alderman, City of Milwaukee

Guests and Staff Present

Stephen P. Adams ..... Public Involvement and Outreach Manager, SEWRPC  
David Bagwell ..... Citizen  
Robert P. Biebel..... Special Projects Engineer, SEWRPC  
Lisa Conley ..... Town and Country Resource Conservation and Development, Inc.  
Dennis Grzezinski..... Midwest Environmental Advocates  
Gary K. Korb ..... Regional Planning Educator, UW-Extension/SEWRPC  
Catherine Madison..... Policy Analyst, UWM Center for Economic Development  
Benjamin R. McKay ..... Principal Planner, SEWRPC  
Karyn Rotker..... Attorney, ACLU of Wisconsin  
Kenneth R. Yunker ..... Executive Director, SEWRPC

**CALL TO ORDER**

Ms. Greene called the meeting of the Environmental Justice Task Force to order at 4:10 p.m., welcoming those in attendance.

**APPROVAL OF MEETING MINUTES OF MARCH 4, 2010, AND JULY 8, 2010 (DISTRIBUTED FOR APPROVAL VIA E-MAIL)**

Ms. Greene noted that not enough Task Force members had voted on the July 8, 2010, meeting minutes by e-mail and requested that the Task Force vote on the minutes. She asked if there were any questions or

comments on the minutes. Hearing no comments, Mr. Rendon made a motion to approve the minutes from the July 8, 2010, meeting. Ms. Santos Adams seconded the motion. The motion was approved unanimously. Ms. Greene noted that the March 4, 2010, meeting minutes had been approved via e-mail.

**CONTINUED DISCUSSION OF CONCLUSIONS AND RECOMMENDATIONS OF THE SOCIO-ECONOMIC IMPACT ANALYSIS OF THE PRELIMINARY RECOMMENDED REGIONAL WATER SUPPLY PLAN – UWM CENTER FOR ECONOMIC DEVELOPMENT**

Ms. Greene stated that the primary order of business at this meeting is to provide Task Force members an opportunity for further discussion on the socio-economic impact analysis (SEI) of the regional water supply plan that was prepared by the UWM Center for Economic Development (CED). Ms. Madison distributed updated SEI materials including an Appendix with example water sale agreements and an insert regarding possible socio-economic impacts of the City of Waukesha application for a Great Lakes water diversion (the insert is shown as Attachment 1). A SEWRPC staff memorandum regarding comments received from the Regional Water Supply Planning Advisory Committee on the SEI was also distributed to the Task Force (see Attachment 2). The following discussion points and comments were made regarding the SEI:

1. Ms. Holmlund asked for clarification regarding whether the Task Force was reviewing an incomplete report at the July 8 meeting because the insert regarding possible socio-economic impacts of the Waukesha diversion application was not yet completed. Ms. Schellinger asked for further clarification as to whether the analysis included in the insert was part of the original scope of work for the SEI. Mr. Yunker responded that UWM analyzed whether there would be any socio-economic impacts regarding the cost difference between a Lake Michigan water supply source and a groundwater supply source to the City of Waukesha, which is approximately \$20,000,000. He then noted that the diversion application is not a part of the regional water supply plan (RWSP), therefore, analysis of the application was probably not part of the envisioned scope of work for the SEI.
2. Mr. Peters noted that he read a newspaper article regarding the extension of municipal water service to an area of the Village of Caledonia near Interstate Highway 94. Mr. Peters asked if this proposed extension of water service was considered in the SEI. Ms. Madison noted that the SEI was based on the comprehensive plans of communities. Mr. Biebel noted that a large portion of Caledonia is included in its planned water service area. Ms. Holmlund noted that the expansion of urban uses towards Interstate Highway 94 has been slowed in Racine County compared to Kenosha County. Mr. Biebel noted that some areas of Caledonia are served by the City of Oak Creek.
3. Ms. McNeely made a point of order that time be reserved for Task Force comment on the SEI and a Task Force vote to accept the SEI or table it. She then stated that the SEI report seems disjointed and asked the opinion of other Task Force members regarding the cohesiveness of the report. Mr. Flores suggested that each member of the Task Force should have three minutes to comment on the SEI report. Ms. Greene agreed and asked Mr. Flores to start.
4. Mr. Flores stated that he does not have many concerns regarding the SEI other than the report being submitted to the Regional Water Supply Plan Advisory Committee at their August 24, 2010, meeting, prior to final acceptance by the Task Force. He stated that the sequence of events was disheartening because the Task Force put a great amount of effort into review of the SEI,

including choosing the consultant. He noted that Task Force comments and suggestions typically go to an Advisory Committee for reaction.

5. Ms. Dunbar stated that as a new member of the Task Force she is becoming familiar with the issue of water supply. She is concerned about how the information in the regional water supply plan has been presented to low-income communities at SEI public meetings. She attended the SEI public meeting at HeartLove Place and stated that attendance was low. She is concerned that the low-income community does not participate in issues such as regional water supply planning and that information is not presented so citizens can readily understand the issues.
6. Ms. Santos Adams stated that she is concerned that the 2035 plan design year for the RWSP is so far into the future. She noted that planning assumptions can change quickly and noted that the RWSP should be reviewed in five years and amended if the planning assumptions do not seem accurate. She stated that she is not yet comfortable with accepting the SEI because, as a watch dog for low-income communities, she feels the possible socio-economic impacts of the Waukesha diversion application need more discussion. She also stated that she appreciates the ability to ask questions to experts regarding water supply planning issues, some of whom are not on the Task Force. She also appreciates comments and e-mail communications from the public.
7. Mr. Peters stated that he is largely satisfied with the SEI; however, he would like stronger language regarding report assumptions and socio-economic analyses and recommendations. He noted that some of the information in the report is confusing and stronger language might clarify the report. He then asked if the RWSP recommendations support the Waukesha diversion application. Ms. Greene stated that SEWRPC staff will answer questions after each Task Force member has had their opportunity to comment on the SEI.
8. Ms. Holmlund stated that the Waukesha diversion application insert clarified many of her questions regarding the SEI. She noted that SEWRPC is an advisory body and communities do not have to follow Commission recommendations. She noted Pabst Farms as an example. The regional land use plan recommended that the area remain in agricultural use; however, it is being developed with urban uses. She stated that SEWRPC's advisory role can be frustrating. Mr. Peters suggested that the DOT and SEWRPC should not continue to provide planning support for the expansion of the freeway interchange adjacent to Pabst Farms.
9. Ms. McNeely stated that she is still confused by the SEI. She stated that the SEI needs a summary. She feels that the summary includes a lot of text, and is not clear. She also felt that the scope of the SEI should have included a focus on the impact of the RWSP recommendations on residential and commercial development in outlying areas of the Region and the impact of this development on the Region's low-income and minority communities, which she did not feel the SEI accomplished. She is also concerned about the assumptions incorporated into the SEI and what happens if the assumptions are incorrect. She also would have liked more discussion between Task Force members on the SEI.
10. Mr. Flores commented that although SEWRPC is advisory and the Task Force is advisory to SEWRPC, the Task Force still needs to work to increase equality and opportunity for low-income and minority communities in the Region. He stated that the Waukesha diversion application is a divisive issue, even within the City of Waukesha. He noted that there was a mayoral change due in part to the diversion application. He stated that he has watched the debate as a resident and that it seems many of the experts feel a Lake Michigan water supply is a better option than



groundwater. He also noted that the diversion application is controversial to Milwaukee because the perception is that all of Waukesha County will be supplied with Lake Michigan water. He noted that only the City of Waukesha would be supplied with Lake Michigan water under the diversion application and noted that in the second paragraph on page three of the SEI summary it states minorities will account for all of the projected growth in the City of Waukesha through 2035. He stated that there is not much land for growth in the planned Waukesha water service area and the diversion will not fuel a large amount of urban sprawl.

11. Ms. McNeely suggested that the water supply of surrounding communities, and their potential for growth, could be limited if Waukesha uses groundwater for water supply.
12. Ms. Schellinger stated that Task Force members were identified as people who represent underrepresented and disenfranchised populations. She stated that as a representative of these populations, she is concerned about any SEWRPC studies and recommendations that may affect limits to education, jobs, and housing for environmental justice communities. She also stated that regional population and housing projections for the next 25 years seem to be optimistic in light of the recent financial downturn and questioned how many new homes will be built over this period of time to contribute to additional urban sprawl.

Ms. Schellinger stated that the original Task Force motion regarding SEIs called for a qualified independent consultant to review SEWRPC plan recommendations and ensure they include environmental justice considerations such as no barriers for environmental justice communities to jobs or housing based on growth patterns. She stated that the regional water supply plan SEI reaches the conclusion that the water supply recommendations do not create barriers to jobs or housing for environmental justice communities. She suggested that the Task Force should accept the SEI findings and direct its attention towards issues such as housing and public transit.

Mr. Wade stated that water is essential to other development issues such as housing and economic development, which must take place where water is located, which makes water supply planning very important to environmental justice communities. He suggested that the Task Force's role in water supply planning is to disseminate honest facts to help policy makers plan for future use of water resources. He noted that water is an important issue to many, and politicians may win and lose elections based on water issues. The Task Force should ensure a record of the facts for use in the future to compare to past actions. It should also be recognized that this Region needs to plan for water resources carefully because the Region's access to water gives it a natural advantage over other regions. Mr. Wade also stated that local governments tend to act in their own best interest, so it is important for the Task Force to provide facts regarding development issues such as water supply to hold local governments accountable for their actions. It is not the Task Force's job to alter the politics of the Region, but to ensure that low-income, minority, and other underrepresented communities have representation.

Ms. Schellinger asked Mr. Wade if he thought the Task Force has accomplished the goal of providing factual information to local governments regarding development issues. Mr. Wade stated that there may be a sense of frustration among some of the Task Force members because the Task Force has been trying to go beyond the provision of facts, but he feels the SEI report provides fair and accurate information to local governments. Ms. Schellinger agreed and stated that local governments usually act in their own interest and the SEI report does provide information that local governments can use in their decision making process, so the Task Force should accept the SEI and move on to other issues.

13. Mr. Flores referenced Chapter 7 of the SEI report and noted that the RWSP has concluded that Southeastern Wisconsin is currently a water abundant Region and that the provision of Lake Michigan water to suburban areas is not essential if groundwater resources are properly managed to support the projected development through 2035. He then noted that the Great Lakes Compact will not allow a major diversion, such as to the southwestern or southeastern U.S. where there are severe water shortages, and that very few areas can apply for a diversion like the City of Waukesha. He also noted that there are strict regulations regarding water return to the Great Lake Basin. Mr. Flores stated that the SEI includes important factual information and should be accepted by the Task Force; however, SEIs on future SEWRPC plans should not be presented to SEWRPC Advisory Committees prior to acceptance by the Task Force, such as this one was.
14. Mr. Yunker noted that the SEI was not purposely presented to the Regional Water Supply Plan Advisory Committee prior to acceptance by the Task Force. He explained that at the July 8 meeting the Task Force asked that the CED add analysis to the SEI regarding possible socio-economic impacts associated with the cost differences among the water supply alternatives included in the Waukesha diversion application. Mr. Yunker noted that he suggested a Task Force meeting be scheduled for early August to discuss the results of this additional analysis and conclude Task Force work on the SEI; however, Professor Rast of the CED staff stated that the CED's contract with SEWRPC was ending at the end of July and suggested that the additional and final review be completed via e-mail by the Task Force members. All of the Task Force members present at the July 8 meeting agreed to this suggestion; however, after the Regional Water Supply Plan Advisory Committee meeting was scheduled and the meeting notice and materials were mailed, some Task Force members asked that the SEI be discussed at an additional Task Force meeting. Mr. Yunker stated that all of the Task Force comments and concerns expressed at this meeting will be transmitted to the SEWRPC Regional Water Supply Plan Advisory Committee for their consideration. Mr. Flores stated that he was not in attendance at the July 8 meeting, and now understood why the Regional Water Supply Plan Advisory Committee met before this Task Force meeting.
15. Ms. Holmlund referred to Ms. Dunbar's previous statement that public outreach materials should be easy to understand and noted that other issues, such as the regional housing plan, will be more understandable to the general public. She stated that the Task Force should review public outreach materials related to the regional housing plan. Mr. Yunker stated that the regional housing plan will be the next focus of the Task Force and that Mr. Adams and Mr. Korb could give a presentation on public outreach efforts related to the regional housing plan.
16. Ms. Dunbar suggested that some of the lessons learned from the water supply planning process are transferable to the housing planning process. Mr. Yunker noted that the CED staff did a great amount of work, but agreed that their work could have been summarized more succinctly. Regional housing plan summary materials and presentations will not be as lengthy and will cover only the key information and findings. Mr. Peters noted that the Task Force now has a better idea of what to request in the scope of work for the next SEI now that they have gained experience through the RWSP SEI.
17. Ms. McNeely reminded the Task Force that time needs to be allotted during the meeting for public comment. She noted that water is a finite resource and there is a limited amount of clean water available, which makes the issue important. She also stated that she feels the SEI analyses fell short regarding the socio-economic impacts of water supply on low-income and minority communities. Ms. Schellinger stated that she thought the verbal summary by CED staff at the

July 8 meeting tied the report together. Ms. McNeely stated that the report did not contain enough explanation about how water supply will affect demographics in the real estate market. She also noted that there are many examples of SEIs that were conducted previously and that because the Task Force is advisory, it is free to provide fair and balanced information that does not reflect the politics or segregation of the Region. Mr. Wade asked Ms. McNeely to clarify her feelings regarding the SEI. Ms. McNeely responded that she felt that there could be some negative socio-economic impacts, and that the explanation of the SEI findings was not clear.

18. Ms. Holmlund stated that residents of the Region, regardless of socio-economic standing, deserve access to clean water and that the cost of water supply alternatives and its impacts on environmental justice communities is the issue examined by the SEI. Mr. Yunker noted that the section of Chapter 7 that was discussed previously concludes that the Region has an abundant water supply and also noted that the studies conducted found that the groundwater supply of the Region could support a development pattern of one to two acre residential density served by private wells, which is a development pattern that would likely have negative socio-economic impacts on environmental justice communities. He also noted that the RWSP recommendations and findings of the SEI put the City of Milwaukee in a position to consider whether they would, or would not, want to sell water to the City of Waukesha. Mr. Flores noted that the City of Milwaukee has the capacity to sell water to the City of Waukesha and this may indeed lower water rates for City of Milwaukee residents.
19. Mr. Peters asked when the first update of the RWSP will take place. Mr. Yunker responded that regional plans are typically updated every ten years.
20. Ms. Greene noted Ms. McNeely's concerns regarding the SEI and asked if the Task Force had input into the development of the SEI scope of work at the beginning of the process. Mr. Yunker responded that a portion of a Task Force meeting was dedicated to the review of the scope of work. Ms. McNeely stated that she understood that there would be an analysis of possible demographic changes in the Region resulting from the recommendations of the RWSP and she feels this analysis did not include enough detail; however, other members of the Task Force seem satisfied with the analysis. Ms. Holmlund stated that the Task Force should demand this type of analysis from the regional housing plan.
21. Ms. Schellinger asked if a motion accepting the SEI would send the SEI to the Advisory Committee or the full Commission for review. Mr. Peters stated that he would not vote on a motion accepting the SEI until the public has had a chance to comment. Ms. Schellinger stated she would only make a motion and the vote on the motion should take place after public comment. Ms. Schellinger moved acceptance without exceptions of the UWM socio-economic impact analysis report for transmission to the Southeastern Wisconsin Regional Planning Commission. It is also recommended that the submission by members of the public be transmitted to the Southeastern Wisconsin Regional Planning Commission from the Environmental Justice Task Force. Ms. Holmlund seconded the motion. Ms. Greene opened the meeting to public comments regarding the SEI report.
22. Ms. Rotker commented that it is not accurate that the focus of past public opposition regarding the RWSP recommendations has been on the City of Waukesha, but on recommendations regarding several suburban communities that are less diverse than the City of Waukesha. She also noted that minorities are combined in the SEI demographic projections for the City of Waukesha through 2035. The African American population is projected to be only 5 percent of

the City's population in 2035. Ms. Rotker stated that the July 8 meeting minutes and the SEI do not reflect the statement made by Professor Rast that the adequate groundwater supply may make it difficult to approve the City of Waukesha diversion application. She stated that she finds this omission deeply troubling. She also stated that she is concerned with a number of assumptions in the SEI, which she described in an e-mail (see Attachment 3). Her chief concerns among the SEI assumptions are that communities will comply with existing land use plans until at least 2035; existing water supplies will be managed sustainably until at least 2035; there are reasonable alternatives to Lake Michigan water until at least 2035; the costs of providing alternative water sources are very similar to the cost of providing Lake Michigan water; and the statement that studies not addressing whether the existence or sustainability of water supplies past 2035 is irrelevant to planners, developers, and other decision makers.

Ms. Rotker continued to state that the July 8 minutes omitted Professor Rast's comments that local governments can amend their land use plans prior to 2035 and this could impact the SEI assumption that the groundwater supply would be adequate to meet future demands based on the regional land use plan through 2035. She stated that if any of the assumptions in the SEI are inaccurate there could be resulting negative impacts on low-income and minority communities in the Region. She also stated that there are significant racial, ethnic, and economic disparities in the Region that are projected to continue through 2035 and that the SEI recommends that any agreement supplying Lake Michigan water needs to address these disparities.

23. Mr. Grzezinski stated that the City of Waukesha has spent \$1.5 million to compile studies that conclude there is no reasonable alternative to a Lake Michigan water supply to meet their future water demands. He stated that he is opposed to several assumptions used in the SEI, including the SEI's analyses extending only to 2035 and the assumption that the cost of the alternative water supply sources set forth in the Waukesha diversion application are comparable to a Lake Michigan water supply source. He also stated that the SEI needs to state that if these assumptions are wrong its conclusions should be re-evaluated. He stated that a full summary of his concerns with the SEI were set forth in the letter transmitted from Midwest Environmental Advocates to the members of Task Force dated July 28, 2010, (see Attachment 4).
24. Mr. Wade asked Mr. Grzezinski if he was implying that the assumptions regarding adequate groundwater supply are incorrect and that would change the facts of the SEI. Mr. Grzezinski responded that this could be the case because the City of Waukesha has to prove that there are no reasonable alternatives to Lake Michigan water for their diversion application to be approved. Mr. Yunker responded that the phrase "no reasonable alternative," as set forth in the *State Statutes*, includes consideration of adverse environmental impacts. The RWSP concluded that a groundwater water source for the City of Waukesha would have greater adverse environmental impacts than a Lake Michigan water source. He also referenced the first paragraph on page 2 of Chapter 7 of the SEI report that states the provision of Lake Michigan water to suburban communities is not essential if groundwater is properly managed and then he noted that a Lake Michigan water source is preferable primarily because it has fewer adverse environmental impacts. He also noted that the report explicitly explains caveats of the assumptions in the SEI.
25. Mr. Grzezinski stated that the Waukesha diversion application identifies the cost difference between Lake Michigan water and groundwater as one of the reasons there is no reasonable alternative to Lake Michigan water. Mr. Grzezinski suggested that safe groundwater is too expensive for Waukesha and a Lake Michigan water source will save City of Waukesha residents and businesses money, which will lead to economic development and urban sprawl in the City of

Waukesha and environs. Mr. Yunker responded that the SEI cannot control the content of other documents. He also stated that, from an engineering perspective, the cost of implementing the Lake Michigan water supply alternative and the next least expensive water supply alternative identified in the diversion application are estimated to be within about 10 percent of each other through 2035. Ms. Rotker stated that the SEI report does not state that if the assumptions used in the SEI are incorrect there will be negative socio-economic impacts on low-income and minority communities.

26. Ms. Greene closed the public comment period to allow the Task Force to vote on the motion on the floor to accept the SEI. Mr. Peters asked that the motion be re-read. The motion was re-read. Mr. Peters asked what the term “without exceptions” means. Ms. Schellinger stated that it means the SEI report should be transmitted unchanged along with the public comments received at this meeting. Mr. Yunker stated that the public comments from this meeting will be transmitted with the SEI report. Mr. Wade stated that the comments received at this meeting should be added to the SEI report to make the report more complete. Mr. Wade requested a friendly amendment to the motion on the floor to add notes to the report regarding the public comments received at the meeting. Ms. Schellinger stated that the SEI report should not be amended, but the public comments from the meeting should be transmitted with the report. Mr. Flores added that it should be possible to amend the SEI report in the future if the assumptions in the report are found to be incorrect.
27. Ms. Schellinger amended the motion on the floor as follows: I move acceptance of the UWM socio-economic impact analysis report for transmission to the Southeastern Wisconsin Regional Planning Commission. It is also recommended that the submission by members of the public be transmitted to the Southeastern Wisconsin Regional Planning Commission from the Environmental Justice Task Force with possible amendments. Ms. Greene asked for a roll call vote on the motion. The motion was approved unanimously with Mr. Wade and Chair Greene abstaining.

## ADJOURNMENT

Ms. Greene declared the meeting adjourned at 6:20 p.m.

Respectfully submitted,

Benjamin R. McKay

Recording Secretary

\* \* \*

KRY/RPB/GKK/BRM

#153370 v1 - EJTF Minutes - Mtg 16 - 9/2/10

## Attachment 1

To be inserted into Chapter 4

### ***Waukesha Water Utility's Diversion Application***<sup>1</sup>

Waukesha Water Utility and its water utility contractor CH2MHill evaluated a series of scenarios to resolve its water supply problems, including different groundwater sources, surface water sources, and combinations of the two sources. Each of the scenarios has different costs associated with the procurement, treatment, and transmission of water. Procurement of Lake Michigan surface water would require not only developing the infrastructure for water conveyance, but also the development of infrastructure to transmit the spent water back to the Lake Michigan basin based on the conditions set forth in the Great Lakes Compact. Under any scenario that would require Waukesha to search for an alternative groundwater supply, the costs are generally tied up in treatment as well as procurement, including the possibility of annexing non-contiguous lands (for example, in areas south of the City near the Vernon Marsh or further west in Waukesha County, beyond the confining aquifer) in order to provide the necessary resources for shallow wells. After eliminating most of the less likely scenarios, CH2MHill and the Waukesha Water Utility focused on evaluating the following four alternatives:

Alternative 1: This proposes continued reliance on groundwater, and continued blending of groundwater from both the deep and shallow aquifers, but with more reliance on the shallow aquifer and reduced withdrawals from the deep aquifer. Specifically, this alternative includes using the existing shallow aquifer wells and the addition of water from 2 wells proposed to be located south of the City near the Vernon Marsh. Under this scenario, approximately 60% of the supply would come from the shallow aquifer while the remaining 40% would come from the deep aquifer. According to CH2MHill, this alternative would likely have negative impacts on the environmentally sensitive marsh and be less cost effective as the continued use of the deep aquifer supply has degraded water quality and would require additional water treatment or processing. Due to the two different source types, this alternative would also require at least two different types of treatment facilities. The cost to treat the ever degrading deep aquifer water would most likely increase through use. Water from this shallow aquifer is hard and would require continued softening costs for the property owner. The estimated capital cost for this alternative is \$189M, with annual operating and maintenance costs around \$7.2M.

Alternative 2: This focuses on continued reliance on groundwater, but proposes to discontinue the use of the deep aquifer in favor of utilizing water strictly from the shallow aquifer, namely from the Fox River alluvium. CH2MHill's analysis indicates that this alternative would have greater negative impacts on the environment than Alternative 1, as it would have a much greater impact on the baseflow to surface waters, specifically in areas along the Fox River including portions of the Vernon Marsh, Vernon Wildlife Area, and Pebble Creek. In comparison to Alternative 1, treatment would be provided by one central treatment facility resulting in a reduction in operation and maintenance costs over Alternative 1. Similar to Alternative 1, water from this shallow aquifer is hard and requires softening costs for the property owner. The estimated capital cost for this alternative is \$184M, with annual operating and maintenance costs around \$7.4M.

Alternative 3: This proposes to discontinue use of the deep aquifer and to purchase treated Lake Michigan water from a Lake Michigan water utility and blend this with water from the

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<sup>1</sup> Documents pertaining to the Waukesha Water Utility diversion application can be accessed online at [www.ci.waukesha.wi.us/web/guest/futurewatersupplyinfo](http://www.ci.waukesha.wi.us/web/guest/futurewatersupplyinfo)

shallow aquifer. Approximately 40% of the supply would come from a Lake Michigan supply; under this option, it is assumed that water would be purchased from Milwaukee Water Works, and conveyed through a transmission pipeline and booster pump station to a Waukesha reservoir for distribution. The other 60% of needed supply would come from new and existing shallow aquifer wells. Treated used water would be returned to the Lake Michigan watershed through some form of return flow conveyance. Although Underwood Creek was proposed based on CH2MHill's assessment that it is the best alternative due to the shortest distance and provides the best use of infrastructure, other return flow alternatives exist and would require further evaluation. Water from the shallow aquifer is hard. In some cases, it would be mixed with soft Lake Michigan water, but in others, the groundwater may not be mixed, therefore it would still require continued softening costs for the property owner. The estimated capital cost for this alternative is \$238M, with annual operating and maintenance costs around \$7.5M.

Alternative 4: This alternative proposes to discontinue use of the groundwater supply system and to purchase treated Lake Michigan water from a Lake Michigan water utility (specifically Milwaukee Water Works) and to convey the purchased water through a transmission pipeline and booster pump station to a Waukesha reservoir for distribution. Treated used water would be returned to the Lake Michigan watershed through some form of return flow conveyance. Although Underwood Creek was proposed based on CH2MHill's assessment that it is the best alternative due to the shortest distance and provides the best use of infrastructure, other return flow alternatives exist and would require further evaluation. Alternative 4 is the preferred alternative, as CH2MHill assess it as having the fewest environmental impacts, the longest term sustainability, and the lowest infrastructure costs as it removes the operation and maintenance costs associated with wells, well fields, and water treatment plants. The estimated capital cost for this alternative is \$164M, with annual operating and maintenance costs around \$6.2M.

In addition to the costs associated with water procurement and treatment, costs associated with return to source have also been taken into consideration for Alternatives 3 and 4. Any Great Lakes diversion demands that all water taken out of the basin must be returned to the basin and therefore infrastructure would need to be built to return the spent water. Waukesha evaluated three return flow routes, one through Underwood Creek, one through the Root River, and another as a direct flow to Lake Michigan. Based on the Waukesha Water Utility's diversion application, of the three return flow alternatives evaluated, the return flow through Underwood Creek is considered most preferable with the lowest estimated capital cost of about \$56M with an annual operations and maintenance cost of about \$120,000. The estimated costs for return flow via the Root River are about \$76M with an annual operating and maintenance cost of \$145,000. The estimate for the direct flow return to Lake Michigan is the most expensive with a capital cost of about \$110M and an annual operating and maintenance cost of about \$160,000. The additional costs for the least expensive, preferred return flow through Underwood Creek were added to Alternatives 3 and 4 but may need to be adjusted if this alternative were rejected, adding to the overall costs of Alternatives 3 and 4.

Alternative 4 offers both the lowest estimates in overall capital costs and annual operating and maintenance costs. Its estimated capital cost is lower than the next lowest alternative (Alternative 2 – shallow aquifer only) by \$20M or about 11%. Alternatively, its annual operating and maintenance is about \$1M less than Alternative 1 (shallow and deep aquifer blending), or about 14% less. On a present worth cost basis, the cost differential between Alternative 1 and Alternatives 2 and 4 would be somewhere in the range of 11 to 14%. Alternative 3 is substantially higher than the other alternatives, and therefore not considered a likely scenario.

Although the preferred alternative as set forth under the RWSP promotes the change in supply from groundwater to strictly Lake Michigan water (Alternative 4), questions have arisen regarding whether or not cost differences between the alternatives set forth in the Waukesha Water Utility diversion application would have any differential socio-economic impacts, particularly if either of Waukesha's groundwater alternatives would need to be implemented. It is impossible to answer this question definitively, since existing cost estimates are based on assumptions that may change over time. However, it appears unlikely at this time that the difference in overall cost between the Lake Michigan option and a groundwater option would result in significant socio-economic impacts. Currently, the average Waukesha Water Utility residential user is charged approximately \$67 per quarter for water (based on an average use of 14,300 gallons per quarter) or \$268 per year. Under groundwater-based Alternatives 1 and 2, the average residential water user would be charged about \$151 quarterly or \$604 per year. Under Lake Michigan Alternative 4, the estimated quarterly cost for the average residential water user would be about \$142 (about \$568 per year), or about 6 percent less than the groundwater alternatives. These costs could be somewhat lower if financial assistance is obtained from an outside source.

Additionally, it is unlikely that any of the Waukesha water alternatives would have negative socio-economic impacts on Milwaukee Water Works users based on cost. Current estimates project that future water rates in the Waukesha Water Utility service area will be significantly higher than in the Milwaukee Water Works service area, no matter which alternative is selected. Currently, the estimated quarterly cost for 14,300 gallons for most residential users of Milwaukee Water Works retail supply is about \$42, or roughly \$168 per year. This is \$400 less per year than the rates proposed under Alternative 4 and \$436 less per year than the rates proposed under Alternatives 1 and 2. As such, no matter which alternative is selected, there will be no incentive for a developer, business, or resident to move from Milwaukee to Waukesha based on the cost of water.

There are some unknown cost factors that may need to be addressed if the Waukesha's diversion application is rejected or if portions of the proposal such as the preferred return flow option need to be revised. If the WDNR rejects the preferred return flow route through Underwood Creek in favor of either of the other two routes, the estimated water rates under Alternative 4 would increase. Also, implementation of Alternatives 1 and 2 might trigger the possibility of developing infiltration systems or other protective methods in order to mitigate any impacts to the baseflows of surrounding surface waters. The WDNR has designated all of Waukesha County as a groundwater management area, and therefore implementation of any of the groundwater alternatives would require WDNR approval and would necessitate a groundwater management plan for the area, which could possibly include additional costs associated with recharge area management or groundwater infiltration techniques. Further study of these potential costs may be necessary.



## ATTACHMENT 2 - SEWRPC STAFF MEMORANDUM

TO: Members of the SEWRPC Environmental Justice Task Force

FROM: SEWRPC Staff

DATE: September 2, 2010

**SUBJECT: COMMENTS RECEIVED FROM THE REGIONAL  
WATER SUPPLY PLANNING ADVISORY COMMITTEE**

During the August 24, 2010, meeting of the Regional Water Supply Planning Advisory Committee, three comments were received on the socioeconomic analysis of the regional water supply plan which are reported below for your information.

1. A comment was made that the regional water supply plan may have some beneficial socioeconomic impacts, in that water conservation programs might result in cost savings for utilities and lower water bills for economically disadvantaged utility customers. It was also noted that installation of green infrastructure related to the stormwater management element of the plan may abate flooding and make communities more livable. A comment was also made which indicated that some water conservation measures, such as rate structure revisions, can result in increases in water bills and have a negative impact on low-income and minority populations. It was also noted that a potential negative impact could be the discharge of any significant increased amounts of unregulated contaminants to Lake Michigan.
2. A comment was made that new advanced water metering is now available which can detect leaks in real time. This can be used as a basis to contact customers and avoid water loss and large water bills as sometimes occurs due to leakage such as caused by toilet valve malfunctioning.
3. A comment was made suggesting that in future water supply planning a specific plan objective and supporting standards be developed to address socioeconomic issues.

\* \* \*

**Attachment 3**

**Karyn Rotker**

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**From:** Karyn Rotker [krotker@aclu-wi.org]  
**Sent:** Thursday, August 05, 2010 12:23 PM  
**To:** [REDACTED]  
**Subject:** Water

1) The SEI conclusions are expressly based on the assumptions that:

- \*communities will comply with existing land use plans until at least 2035
- \*existing water supplies will be managed sustainably until at least 2035
- \*there ARE reasonable alternatives to Lake Michigan water until at least 2035
- \*the costs of providing alternative water sources are very similar to the cost of providing Lake Michigan water
- \*the fact that studies do not address the existence or sustainability of water supplies past 2035 is irrelevant to planners, developers and other decision-makers

**If any of these assumptions are (or turn out to be) incorrect or are changed, then providing Lake Michigan water to communities that do not currently have such water may have an adverse socioeconomic impact on communities of color and low income communities in the region.**

2) The SEI is not based upon and cannot be construed as agreeing with any assertion by the city of Waukesha (for example in its diversion application) that there are "no reasonable alternatives" to Lake Michigan water.

If the city of Waukesha (or any other community's) assertion of "no reasonable alternatives" is determined to be correct, then providing Lake Michigan water to such communities may have an adverse socioeconomic impact on communities of color and low income communities in the region.

3) There are existing, significant racial, ethnic and economic disparities in the region that are projected to continue through at least 2035. The SEI expressly recommends that any recommendation or agreement that include supplying Lake Michigan water need to address and ameliorate those disparities.

**Attachment 4**

# Midwest Environmental ADVOCATES

*pro bono publico*

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Jodi Habush Sinykin  
Of Counsel

Date: July 28, 2010

To: Members of the Southeastern Wisconsin Regional Planning  
Commission's Environmental Justice Task Force

Re: Socio-economic impact analysis of Regional Water Supply Plan

Following the Environmental Justice Task Force meeting of July 8, 2010, in response to questions raised and discussions that occurred at that meeting, the UW-M Center for Economic Development prepared an insert to be included in Chapter 4 of the socio-economic impact analysis (SEI) of the Regional Water Supply Plan, and completed Chapter 7, "Summary and Conclusions."

We urge that the EJTF carefully review the report, the new insert and the completed Summary and Conclusions, before considering approval of the document. In particular, we urge that if the report is approved, the EJTF ensure that explicit recognition is given to the fact that the report was limited in scope in a number of ways, including as a result of assumptions made in the underlying Regional Water Supply Plan. Accordingly, *in the event the report is accepted or adopted by the Task Force, we recommend that any resolution of approval include the following caveats and limitations:*

1. The SEI conclusions are expressly predicated upon technical and scientific information stating that existing groundwater sources in southeastern Wisconsin, if properly managed, are of sufficient quantity and quality to support projected development through the year 2035, and thus that there are reasonable alternatives to the supply of Lake Michigan water to other communities until at least 2035.
2. The SEI is unable to address the sustainability of groundwater supplies beyond the year 2035.

551 W. Main Street Suite 200 · Madison, WI 53703  
Telephone 608.251.5047 · Fax 608.268.0205

312 E. Wisconsin Avenue, Suite 210 · Milwaukee, WI 53202  
Telephone 414.289.9200 · Fax 414.289.0664

3. **The SEI does not assess the potential socioeconomic impacts of any changes in, or variations from, existing land use, transportation, or other regional plans.**
4. **The SEI confirms that serious socioeconomic disparities exist between the urban communities of Kenosha, Milwaukee and Racine and the suburban communities being studied for the provision of Lake Michigan water, and that these disparities are projected to continue through at least 2035.**
5. **The SEI recognizes that provision of Lake Michigan water to the suburban communities requires the development of intergovernmental cooperative agreements between the providing community and the receiving community, and such agreements should be used to ameliorate regional socioeconomic disparities.**
6. **The SEI finds that while developers do not view the source of water supply as a potential constraint on development, “the costs associated with providing water and other infrastructure” are generally viewed as impacting development. (Chapter 7, p. 3)**
7. **The SEI does not provide answers regarding potential socioeconomic impacts that may exist – or conclude that no socioeconomic impacts would exist - should the actual cost differences among the water supply options turn out to be greater than the amounts stated in Waukesha’s diversion application.**

For each of these assumptions and limitations, we include below additional information and supporting reasoning, and specific quotations from the UW-M report, with page references, for your convenience.

1. **The SEI conclusions are expressly predicated upon technical and scientific information concluding that existing groundwater sources in southeastern Wisconsin, if properly managed, are of sufficient quantity and quality to support projected development through the year 2035, and thus that there are reasonable alternatives to the supply of Lake Michigan water to other communities until at least 2035.**

The data compiled [in the RWSP] by these studies currently provide the latest, most thorough examination about what is known of the groundwater supply in southeastern Wisconsin. The science concludes that southeastern Wisconsin is currently a water-abundant Region, and suggests that the provision of Lake Michigan water to suburban communities is not essential as existing groundwater sources, *if properly managed*, are of sufficient quantity and quality to support *projected* development through the year 2035. No other studies of which we are aware contradict the conclusions of the WGNHS, USGS, DNR, SEWRPC, and other agencies. (Chapter 7, p.2)

**2. The SEI is unable to address the sustainability of groundwater supplies beyond the year 2035.**

Little is known about the sustainability of groundwater supplies beyond the year 2035 because existing studies do not extend beyond that year. Existing studies base their projections about the sustainability of groundwater supplies on current land use plans, which can be altered. (Emphasis added) (Chapter 7, p. 2)

**3. The SEI does not assess the potential socioeconomic impacts of any changes in, or variations from, existing land use, transportation, or other regional plans.**

SEWRPC's land use plans are purely advisory in nature, and actual development patterns in the region, especially in suburban and exurban areas, have often been inconsistent with SEWRPC's land use plans, transportation plans, and other recommendations.

**4. The SEI confirms that serious socioeconomic disparities exist between the urban communities of Kenosha, Milwaukee and Racine and the suburban communities being studied for the provision of Lake Michigan water, and that these disparities are projected to continue through at least 2035.**

A recent U.S. census report found that the Milwaukee-Waukesha region is, overall, the most racially segregated region in the United States for African-Americans, and in the top third of segregated regions for Latinos.

The [SEI] data indicate that over the past 50 years, there has been an outward migration of population and jobs from the large lakeshore manufacturing cities to the outlying counties, suburbs, and exurbs. The loss of a manufacturing-based economy and the movement of economic and development activity inland created a negative impact on jobs and income in the historic central city areas. Data indicate that a significant increase in the number and percent of low-income persons or families living at or below the poverty level has occurred in the cities of Kenosha, Milwaukee, and Racine, while it has declined in many of the selected suburban communities. Racial and ethnic minority and low-income populations have been disproportionately affected, and these populations have become increasingly concentrated in the cities of Kenosha, Milwaukee, and Racine. (Chapter 7, pp. 2-3)

... These trends are likely to continue regardless of source of supply. (Chapter 7, p. 5)

**5. The SEI recognizes that provision of Lake Michigan water to the suburban communities requires the development of intergovernmental cooperative agreements between the providing community and the receiving community, and such agreements should be used to ameliorate regional socioeconomic disparities.**

The implementation of this recommendation [for provision of Lake Michigan water] presumes the development of an intergovernmental cooperative agreement and water service purchase agreement in which two or more communities have to be in agreement over the amount of water to be provided and the delineation of the water service area. This recommendation allows for the possibility that existing regional socio-economic imbalances could be rectified through an intergovernmental cooperative agreement.

**The SEI itself notes the importance of addressing these issues before evaluating the provision of Lake Michigan water to the suburban communities:**

These issues need to be addressed prior to an evaluation of each of the six recommendations under the RWSP. (Chapter 7, p. 4)

**6. The SEI finds that while developers do not view the source of water supply as a potential constraint on development, “the costs associated with providing water and other infrastructure” are generally viewed as impacting development. (Chapter 7, p. 3)**

The SEI evaluation of the city of Waukesha’s diversion application states that based on the cost differentials in the application, “it appears unlikely at this time that the difference in overall cost between the Lake Michigan option and a groundwater option would result in significant socio-economic impacts.” (Chapter 7, p. 6) The insert prepared by UW-M CED for Chapter 4 indicates that the stated cost differentials in the application are approximately \$20 million in capital costs and \$1 million/year in operating and maintenance costs. According to the analysis, cost differentials of this magnitude would not be likely to significantly impact development patterns in either Waukesha or Milwaukee. (Chapter 4 Insert, pp. 1-3; Chapter 7, pp. 6-7

**7. The SEI does not provide answers regarding potential socioeconomic impacts that may exist – or conclude that no socioeconomic impacts would exist - should the actual cost differences among the water supply options turn out to be greater than the amounts discussed in Waukesha’s diversion application:**

Although the preferred alternative as set forth under the RWSP promotes the change in supply from groundwater to strictly Lake Michigan water (Alternative 4), questions have arisen regarding whether or not cost differences between the alternatives set forth in the Waukesha Water Utility diversion application would have any differential socio-economic impacts, particularly if either of Waukesha’s groundwater alternatives would need to be implemented. It is impossible to answer this question definitively, since existing cost estimates are based on assumptions that may change over time. (Emphasis added) (Chapter 4 Insert, p. 3)

Your consideration is appreciated.

  
Dennis M Grzezinski  
Senior Counsel



**Exhibit E**

**Appendix B**

**GLOSSARY OF TERMS  
AND LIST OF ABBREVIATIONS**

#152866 V1 - PR-52 APPENDIX B DRAFT  
310-1001  
RPB/pk  
08/19/10

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## GLOSSARY OF TERMS

Aquifer:	A geological sediment or rock capable of transmitting useable quantities of water under normal hydraulic gradients. Groundwater occurs within three major aquifers that underlie the Region. From the land's surface downward, they are: 1) the sand and gravel deposits in the glacial drift; 2) the shallow dolomite strata in the underlying bedrock; and 3) the deeper sandstone, dolomite, siltstone, and shale strata. Because of their proximity to the land surface and hydraulic interconnection, the first two aquifers are commonly referred to collectively as the "shallow aquifer," while the latter is referred to as the "deep aquifer." Within most of the Southeastern Wisconsin Region, the shallow and deep aquifers are separated by the Maquoketa shale, which forms a relatively impermeable barrier between the two aquifers. Within the areas of the Region where the Maquoketa shale is absent, the shallow aquifer is sometimes defined as including the deeper dolomite and the upper sandstone strata.
Aquitard:	A geological sediment or rock layer that restricts the flow of groundwater from one aquifer to another, or restricts flow from an aquifer to a surface water system feature. An aquitard can act to confine an aquifer.
Average Day Demand:	The average quantity over a one-year period of daily water usage in a municipal water system.
Average Day Pumpage:	The average quantity pumped over a one-year period of daily water usage in a municipal water system.
Baseflow:	That part of stream discharge that results from groundwater flowing into the stream or other surface waterbody. That flow is not affected by surface runoff.
Baseflow Depletion:	A decrease in baseflow to a waterbody over a time period.
Baseflow Reduction Index	A groundwater budget index that assesses groundwater-derived baseflow changes over a time period.
Capacity:	The ability of available water utility resources to meet the quantity, quality, peak loads, and other service needs of the customers served by the utility.
Community Water System:	A public water system which serves at least 15 service connections used by year-round residents, or regularly serves at least 25 year-round residents. Any public water system serving seven or more homes, 10 or more mobile homes, 10 or more apartment units, or 10 or more condominium units is considered a community water system, unless information is available to indicate that 25 year-round residents will not be served.
Confined Aquifer:	A water-bearing geological formation whose upper boundary is a layer which does not transmit water readily.
Confining Unit, Confined Bed:	A body of relatively impermeable or distinctly less permeable material stratigraphically adjacent to one or more aquifers.

Demand to Supply Ratio:	A groundwater budget index that compares the amount of water withdrawn or replenished from an aquifer by humans to the amount of natural inflow in a base year.
Diurnal Demand Curve:	A curve which describes changes in the quantities of water used by customers over a one-day period.
Dolomite:	Dolomite rocks are rocks made of calcium magnesium carbonate. Many rock formations in Wisconsin which are referred to as limestone are actually dolomite.
Drawdown:	The difference between the pumping water level and static water level in a well. For an aquifer system, the difference between the natural condition water level and the water level as influenced by withdrawal of groundwater.
Drawup:	An increase in the level of the aquifer water table or the potentiometric surface, as compared to the level at a defined base time.
Effluent:	Discharged wastewater such as the treated waste from industrial facilities or wastewater treatment plants.
Elevated Storage:	A facility for storing water supplies that maintains a hydraulic grade in the system.
Elevated Tank:	A tank used for storage in a water distribution system, which is raised above the surface of the ground and supported by posts or columns.
Environmental Corridors:	Areas in the landscape encompassing concentrations of the best remaining elements of the natural resource base, including the best remaining wetlands, woodlands, and wildlife habitat areas; surface water and associated shorelands and floodplains; and related features, such as existing park and open space sites, scenic views, and natural area sites.
Equipotential Line:	A contour line along which groundwater hydraulic head is the same. Groundwater flow will move perpendicular to these lines from high head to lower head.
Fire Flow Rate:	The maximum flow rate that can be supplied by a water distribution system at a specified location and residual pressure (usually expressed as gallons per minute).
Formation:	A geological sediment or rock unit having properties consistent enough to be mapped.
Groundwater:	Water beneath the surface of the ground in a saturated zone.
Groundwater Depletion:	The removal of water supplies, without equivalent replacement, from an aquifer.
Groundwater Recharge:	The entry of water into the saturated zone of an aquifer.
Hazen Williams Pipe Roughness Coefficient:	A coefficient which is used to determine the energy (pressure) loss due to friction that will occur as water under pressure flows through a pipe.

High-Capacity Property:	A property on which a high capacity well or well system exists or is to be constructed.
High-Capacity Well:	A well constructed on a high capacity property.
High-Capacity Well System:	One or more wells, drillholes or mine shafts on a property that have a combined approved pump capacity of 70 or more gallons per minute.
Human Influence Ratio:	A groundwater budget index intended to quantify the portion of the groundwater budget that is controlled by human activity.
Hydraulic Conductivity (K):	A measure of how easily water moves through a geologic medium. The horizontal hydraulic conductivity ( $K_h$ ) is a measure of how easily water can move in the horizontal direction and the vertical hydraulic conductivity ( $K_v$ ) is a measure of how easily water can move in the vertical direction. Due to the stratified nature of geologic materials, the horizontal hydraulic conductivity is typically higher than the vertical hydraulic conductivity by one or more orders of magnitude.
Hydraulic Grade:	The piezometric surface, i.e. the height to which water will rise to in a piezometer.
Hydraulic Gradient:	Difference in hydraulic head or grade between two measuring points within a water system. In an aquifer, the rate of change of hydraulic head per unit of distance of flow at a given point and in a given direction.
Hydraulic Head:	Hydraulic grade expressed as feet or pressure above the base of the piezometer or a well. Head can vary both vertically and spatially in a groundwater system. Groundwater flows from high to low heads, so it is the driving force in groundwater systems.
Hydrology:	Study of the physical behavior of water from its occurrence as precipitation to its entry into streams, lakes, reservoirs, and aquifers and its return to the ocean or atmosphere.
Infiltration:	The movement of water into and through soil.
Maximum Contaminant Level:	The maximum permissible level of a contaminant in water which is deliverable to any user in a public water system.
Maximum Contaminant Level Goal:	The maximum level of a contaminant in drinking water at which no known or anticipated adverse effect on the health of persons would occur and which allows an adequate margin of safety. Maximum contaminant level goals are nonenforceable health goals.
Maximum Day Demand:	The highest quantity of daily water usage in a municipal water system in a given year.
Maximum Day Ratio:	The ratio of maximum day pumpage to average pumpage, expressed as a multiplier.

Maximum Residual Disinfectant Level:	A level of disinfectant added for water treatment that may not be exceeded at the consumer's tap without an unacceptable possibility of adverse health effects.
Maximum Residual Disinfectant Level Goal:	The maximum level of a disinfectant added for water treatment at which no known or anticipated adverse effect on the health of persons would occur and which allows an adequate margin of safety. Maximum residual disinfectant level goals are nonenforceable health goals and do not reflect the benefit of the addition of the disinfectant for control of waterborne microbial contaminants.
Municipal Water System:	A community water system owned by a city, village, county, town, town sanitary district, utility district, public inland lake and rehabilitation district, municipal water district or a Federal, State, county or municipal-owned institution for congregate care or correction, or a privately owned water utility serving the foregoing.
Noncommunity Water System:	A public water system that serves fewer than 25 year-round residents. A noncommunity water system is either a nontransient, noncommunity water system or a transient, noncommunity water system.
Nontransient, Noncommunity Water System:	A noncommunity water system that regularly serves at least 25 of the same persons over six months per year. Examples of nontransient noncommunity water systems include those serving schools, day care centers and factories.
Other-than-Municipal, Community Water System:	A community water system that serves at least 25 year-round residents, or serves 15 service connections used by year-round residents (anything greater than six months is considered year-round), and is not a municipal water system. Examples of these include mobile home parks, subdivisions, apartments, and condominiums.
Peak Hour Demand:	The rate of water usage during the highest hour use generally on a maximum usage day.
Peak Hour Demand Ratio:	The ratio of peak hour pumpage to peak day pumpage, usually expressed as a multiplier.
Permeability:	The capacity of rock or soil to transmit water.
Potable:	Suitable for drinking.
Potentiometric Surface:	Level to which water in a confined aquifers rises in wells which breach the confining unit. A surface representing the total head of groundwater and defined by levels to which water will rise in tightly cased wells.

Public Water System:	A system providing piped water to the public for human consumption, if the system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. A public water system is either a “community water system” or a “noncommunity water system.” A public water system includes: a) Any collection, treatment, storage, and distribution facilities under control of the operator of the public water system and used primarily in connection with the public water system, and b) Any collection or pretreatment storage facilities not under control of the operator of the public water system which are used primarily in connection with the public water system.
Pumpage:	The total volume of water pumped from a source or sources during a unit of time.
Pumping Water Level:	The water level in a well while it is being pumped can be expressed as feet below surface or as an elevation.
Recharge:	The downward movement of water through soil to groundwater.
Residence Time:	The time required for inflow to fill the full volume of a lake.
Residual Pressure:	Pressure at a specified location in the water distribution system when water is being removed or flowing.
Retail Water Service:	An arrangement whereby customer communities receive full service from a water supplier, including the provision of treated water, customer billing, and distribution system operation and maintenance.
Static Water Level:	The water level in a well when no water is being pumped from the aquifer can be expressed as feet below surface or as an elevation.
Subcontinental Divide:	The boundary separating the Mississippi River and Great Lakes-St. Lawrence River surface water drainage systems.
Surface Water:	All water which is open to the atmosphere and subject to surface runoff. Examples of surface water includes streams, rivers, lakes, and wetlands.
Sustainability	The condition of beneficially using a resource in such a way that the uses support current and probable future uses, while simultaneously ensuring that the resource is not unacceptably damaged by such a beneficial use.
Total Dynamic Head:	The total energy that a pump must overcome to deliver a given flow rate including suction lift, discharge, and friction losses.
Transient Noncommunity System:	A noncommunity water system that serves at least 25 people at least 60 days of the year. Examples of transient noncommunity water systems include those serving restaurants, taverns, motels, churches, campgrounds and parks.
Transmissivity:	The rate at which water is transmitted through a unit width of an aquifer under a unit gradient. It can be expressed as gallons per day per foot (gpd/ft) or feet squared (feet <sup>2</sup> )per day.

Unaccounted-for Water: The difference between the volume of water pumped into the distribution system and the volume of water sold or otherwise accounted-for. (Generally expressed as a percentage of total pumpage).

Unconfined Aquifer A water-bearing geological formation whose upper boundary is the water table.

Urban Services Area: The area which is developed or expected to develop in the future and require municipal utility services.

Water Demand: The amount of water required by a water user or users at a specific point or area within a water distribution system.

Water Distribution Main: A water pipe which primarily extends water to customer services and provide fire protection to an area of the water system.

Water Distribution System: A group of water mains usually consisting of a network of piping, including transmission and distribution mains which is designed to deliver water from water supplies to water users.

Water Supply System: Facilities designed to collect, pump, and furnish a supply of water for meeting water demands.

Water Table: The highest elevation of fully saturated sediment or rock in a geological profile. The water table is the surface on which the fluid pressure in the pores of an aquifer is exactly atmospheric.

Water Transmission Main: A large water pipe which is used to extend and convey water between a water system's supply/storage facilities and distribution mains. The definition of a water transmission main depends upon the function of the pipeline concerned within the system concerned. Thus, no minimum specific size can be associated with this term.

Wholesale Water Service: An arrangement whereby customer communities receive purchase treated water and provide it to their customers through their own water utilities, retaining responsibilities for operation of its water system, including customer billing and distribution system operation and maintenance.

Wisconsin Unique Well Number: A unique five-digit alphanumeric code assigned to by the Wisconsin Department of Natural Resources to identify individual wells.



## LIST OF ABBREVIATIONS

ASR	Aquifer Storage and Recovery
AWWA	American Water Works Association
BRI	Baseflow Reduction Index
CDBG	Community Development Block Grant
CMAR	Compliance Maintenance Annual Report
CWFP	Wisconsin Clean Water Fund Program
DATCP	Wisconsin Department of Agriculture, Trade, and Consumer Protection
DSR	Demand to Supply Ratio
fps	Feet per Second
ft	Feet
GAC	Wisconsin Groundwater Advisory Committee
gpcd	Gallons per Capita per Day
gpd	Gallons per Day
gpm	Gallons per Minute
gpm/ft	Gallons per Minute per Foot
GRN	Groundwater Reporting Network
HIR	Human Influence Ratio
in	Inches
L.F.	Linear Foot
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
MG	Million Gallons
mg	Milligram
mg/l	Milligram per liter
mg/l CaCO <sub>3</sub>	Milligram per liter expressed as an equivalent concentration of calcium carbonate
mgd	Million Gallons per Day
mgY	Million Gallons per Year
MMSD	Milwaukee Metropolitan Sewerage District
MRDL	Maximum Residual Disinfectant Level
MRDLG	Maximum Residual Disinfectant Level Goal
mrem	Milirem (1/1,000 of a rem which is a standardized dosage of ionizing radiation)
NGVD	National Geodetic Vertical Datum

O&M	Operations and Maintenance
pCi/l	Picocuries per liter
PPCP	Pharmaceuticals and Personal Care Products
PSC	Public Service Commission of Wisconsin
SEWRPC	Southeastern Wisconsin Regional Planning Commission
SDWA	Safe Drinking Water Act
SDWLP	Wisconsin Safe Drinking Water Loan Program
USDA-RUS	U.S. Department of Agriculture Rural Utilities Service
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
VOC	Volatile Organic Compound
WDOA	Wisconsin Department of Administration
WDOC	Wisconsin Department of Commerce
WDNR	Wisconsin Department of Natural Resources
WGNHS	Wisconsin Geological and Natural History Survey
WRDA	Water Resources Development Act
WRWA	Wisconsin Rural Water Association
WWTP	Wastewater Treatment Plant

## Exhibit F

### Water Star Sponsors

- ✓ Rock River Coalition
- ✓ Town and Country RC&D
- ✓ UW Cooperative Extension
- ✓ Dane County
- ✓ MSA Professional Services
- ✓ UW-Extension Environmental Resources Center
- ✓ Wisconsin Department of Natural Resources
- ✓ Natural Resources Consulting, Inc.
- ✓ Ruekert-Mielke
- ✓ Wisconsin Public Service Commission



### Become a Sponsor

- Be a member of the Water Star Steering Committee in good standing, or
- Provide \$500 of in-kind or cash support.

Sponsors will be named in media releases, will be invited to assist with designation ceremonies and will be invited to all events, webinars, and programs. Additionally, the sponsor's name, logo and link will be posted on the Water Star Home Page.

### Be a Water Star Endorser

Sign on as an endorser to the program on the Water Star Website. Your name will be added to the website's endorser list and may be used in publicity efforts.

Anyone can endorse whether an individual, municipality, organization or business.

For More Information

[www.waterstarwisconsin.org](http://www.waterstarwisconsin.org)

or call Suzanne Wade, UW-Extension Rock River Basin Educator and Water Star Coordinator at 920-674-8972 or by email to [waterstar@rockrivercoalition.org](mailto:waterstar@rockrivercoalition.org)



Guiding, inspiring and recognizing municipalities for exemplary efforts in:

- **Surface Water**
- **Groundwater**
- **Recreation**

Register your municipality and find out if you are a:

★ **GOLD** Water Star Community

★ **SILVER** Water Star Community

★ **BRONZE** Water Star Community

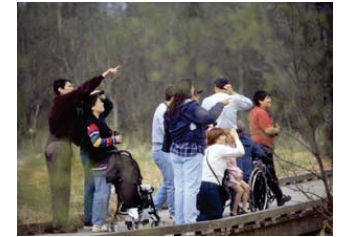
[www.waterstarwisconsin.org](http://www.waterstarwisconsin.org)



### The Water Star Community Program

Wisconsin is blessed with abundant waters. Our lakes, streams and wetlands play a key role in our residents' quality of life and the health of our economy, yet regulations to protect these resources often meet only minimum water quality standards. More must be done to ensure that future generations can continue to enjoy the state's water resources for drinking and as places to swim and fish.

Water Star is designed to honor municipalities who do outstanding work to provide their communities with safe and abundant groundwater; lakes and streams protected from polluted runoff; maintain and enhance desirable aquatic habitats; and provide appropriate recreational opportunities for their citizenry.



Starting on the 40th anniversary of Earth Day, Water Star will celebrate the work that top municipalities of all sizes do to protect and improve their water resources.

Meeting today's groundwater and surface water needs is a tremendous challenge. Many communities have engaged in thoughtful planning, have committed significant resources and have worked through tough decision-making processes to accomplish this.

Water Star believes municipalities who meet these challenges should be thanked and celebrated.



### Why Become a Water Star Community?

First, to be publicly recognized for your good work through designation ceremonies and local and state-wide media releases.

Second, to promote your community as a responsible unit of government and a good place for people to live and businesses to locate and thrive.

Water Star Communities will receive:

- A certificate proclaiming them a Water Star Community.
- One entrance sign for their community with more available for a fee.
- Electronic files of the logo and other promotional materials for their website and for print materials.
- A listing as a Water Star Community on the Water Star website.
- Guidance on how to improve their ratings and move up the Water Star rankings.



## Who Can Become a Water Star Community?

Water Star is designed for all types of municipalities including cities, villages, counties and towns.

We recognize that larger villages, cities and towns may have an easier time meeting the requirements to be designated a Water Star. The Water Star Steering Committee is interested in working with smaller and more rural municipalities to make this program work well for them.

## Minimum Requirements

- The municipality cannot be in default of any permits, or have a history of being in default of its stormwater, wastewater or public water supply permits.
- It cannot have a history of land use decisions that conflict with its own groundwater or surface water protection goals.
- A Water Star Community must write at least one success story highlighting its accomplishments prior to recertification.

Water Star Certification must be renewed every three years.

## Recognizing the Differences in Wisconsin Municipalities

Every municipality is different. Municipal groundwater might be abundant, scarce or have natural or human-generated contaminants. One municipality might have an abundance of surface water resources and another limited. Counties don't run wastewater treatment plants and some cities don't have public water utilities.

Water Star recognizes these differences. The online application form will allow each municipality to only answer questions that apply to its situation and the final score is based on a percentage of possible points.

If a municipality has a unique issue or has worked in an unusual way to protect its natural resources, it will be able to add this action and might qualify for a score adjustment.



## The Importance to Wisconsin of Water Star

Many facets add up to make a community a Water Star. The three basic components of the Water Star Program and why they're important to Wisconsin are:



### Surface Water

**Quality:** Many Wisconsin lakes, rivers and streams suffer from degraded water quality. Reducing polluted runoff is critical to halting the decline of water quality and in protecting high-quality waters. Additionally, keeping pollutants out of water is cheaper and better than trying to remove it later. Clean surface waters play a key role in human health, recreation and local economies;



making municipalities better places for people to live and businesses to succeed.

**Quantity:** Historically, only 4% of rain water ran off into lakes, streams and rivers. Now, in urban areas, more than 35-80% runs off with great speed and force greatly impacting our aquatic environments. Even in rural areas water runs off much quicker than it did in the past due to ditching and tiling.

**Habitat:** Drained wetlands, straightened streams, concrete drainage ways, sedimentation, dredging and the removal of shoreline vegetation and in-water woody debris have severely degraded fish and wildlife habitat throughout Wisconsin.



### Groundwater

**Quality:** Human-generated and natural contaminants impact drinking water in many areas of Wisconsin. Actions can be taken to protect drinking water quality, and where the contamination is naturally occurring, to protect the consumers of that water.

**Quantity:** Wisconsin is a water-rich state, but in some areas there is a shortage of groundwater either due to excess pumping or due to naturally low water bearing rock. When shortages occurs, human use must be adjusted to safeguard streams, wetlands or springs.



### Recreation

A healthy community provides recreational opportunities for its citizenry while protecting the natural resources that people enjoy and desire.

## How to Apply

Starting April 22, 2010, a municipality can register and begin the application process.

Since the application covers all aspects of municipal government, we've set up the application so different people can fill in different parts of the survey. Thus the public works, planning or parks director can complete their portion of the application when it's convenient for them.

The application is expected to take about 2.5 hours to complete in total.

Once completed, the municipality will receive a preliminary computer-generated rating. The computer will notify the Water Star Coordinator who will ensure that the application meets the minimum requirements and will contact the municipality to inform them of the final results.

If the applicant meets Gold Water Star standards, a random audit of the actions will be performed to ensure that the application truly meets this standard.

A Water Star Designation Ceremony will be scheduled with a Water Star Sponsor presenting the Water Star Certificate and the aluminum entry sign to the new Water Star Community.

## Actions Ranked and Prioritized

Water Star is composed of more than 130 actions, many with sub-actions, organized under municipal department headings such as public land management or drinking water utilities. Each action or sub-action is given a rating of Critical, Important or Enhancement depending on how directly it impacts the resource.

Each action is also given a point scale depending on the amount of time and resources required to implement the action.

The municipality will answer questions with a *yes*, *do not do* or *not applicable*. There is generally a sliding scale for *yes* answers allowing credit for moving toward full completion of the action.

Graphic design by Jeffrey J. Strobel, UW-Extension Environmental Resources Center.  
Photos by Suzanne Wade, Jeffrey J. Strobel, Sarah Traaholt, Kris Stepenuck, Lisa Conley, Peggy Compton, Bob Korth and Roger Bannerman.