

MINUTES

SEWRPC ADVISORY COMMITTEE ON REGIONAL WATER QUALITY MANAGEMENT PLAN UPDATE FOR THE GREATER MILWAUKEE WATERSHEDS

DATE: January 25, 2006

TIME: 9:30 a.m.

PLACE: City of Mequon City Hall
Upper Level Council Chambers
11333 N. Cedarburg Road
Mequon, Wisconsin

Committee Members Present

Daniel S. Schmidt, Chairman
Michael G. Hahn, Secretary

Julie A. Anderson
Martin A. Aquino
(for Jeffrey J. Mantes)
John R. Behrens

John M. Bennett
Thomas J. Bunker
Marsha B. Burzynski
(for Charles J. Krohn)
David E. Carpenter
John Hawkins (for William J. Hoppe)
Shannon K. Haydin
Judy Jooss (for Diane M. Georgetta)
William A. Kappel
James Lubner

Christopher Magruder
(for Kevin L. Shafer)
Matthew Moroney

Jeffrey S. Nettesheim
Stephen Poloncsik
(for Peter G. Swenson)
Thomas A. Wiza

Administrator, Village of Kewaskum, SEWRPC Commissioner
Chief Environmental Engineer, Southeastern
Wisconsin Regional Planning Commission
Director, Racine County Division of Planning and Development
Environmental Manager, Environmental Engineering,
City of Milwaukee
Commissioner-Secretary, Silver Lake Protection and
Rehabilitation District
City Engineer, City of Franklin
General Manager, City of Racine Water and Wastewater Utility
Regional Water Quality Planner, Wisconsin Department
of Natural Resources
Director of Planning and Development, Dodge County
City of Mequon
Director of Planning and Resources, Sheboygan County
Town and Country Resource Conservation and Development, Inc.
Director of Public Works, City of Wauwatosa
Sea Grant Advisory Services Specialist,
University of Wisconsin Sea Grant Institute
Community Environmental Liaison, Milwaukee
Metropolitan Sewerage District
Executive Director, Metropolitan Builders Association
of Greater Milwaukee
Senior Utility Engineer, Village of Menomonee Falls
Senior Staff Engineer, U.S. Environmental Protection Agency

Director of Engineering and Public Works, City of Cedarburg

Staff Members and Guests

Joseph E. Boxhorn

Troy E. Deibert (for William Krill)
Thomas M. Slawski

Senior Planner, Southeastern Wisconsin Regional
Planning Commission
Water Resources Engineer, HNTB Corporation
Principal Planner, Southeastern Wisconsin
Regional Planning Commission

WELCOME AND INTRODUCTIONS

Mr. Schmidt thanked the Advisory Committee members for attending this meeting. He indicated that roll call would be accomplished with a sign-in sheet circulated by Commission staff.

APPROVAL OF MINUTES OF THE MEETING OF DECEMBER 14, 2005

Mr. Schmidt asked if there were any additions or revisions to be made to the minutes of the December 14, 2005, meeting of the Committee.

There being no additions or revisions, the minutes were approved, on a motion by Mr. Behrens, seconded by Mr. Lubner, and carried unanimously.

CONSIDERATION OF CHAPTER IX, "SURFACE WATER QUALITY CONDITIONS AND SOURCES OF POLLUTION IN THE ROOT RIVER WATERSHED," OF SEWRPC TECHNICAL REPORT NO. 39, *WATER QUALITY CONDITIONS AND SOURCES OF POLLUTION IN THE GREATER MILWAUKEE WATERSHEDS*

Mr. Schmidt asked Mr. Hahn to review the preliminary draft of the chapter.

Mr. Hahn began by providing a brief summary of the status of the preparation and review of the chapters of Technical Report No. 39. He noted that TR No. 39 Chapters V (Kinnickinnic River watershed), VI (Menomonee River watershed), and VIII (Oak Creek watershed) would be available on the Commission web site soon, once committee comments were incorporated.

[Secretary's Note: The attached Exhibit A is the chapter status summary that was presented.]

Mr. Hahn noted that Chapter VII (Milwaukee River watershed) was being prepared and that the tentative meeting date for committee consideration of that chapter would be discussed under new business. He also mentioned that Technical Report No. 39 is nearing completion and was anticipated to be completed before the end of 2006. The Technical Report will serve as a reference and input as Planning Report No. 50 is written.

Mr. Hahn then explained that the chapter will be presented in separate sections by Mr. Boxhorn, Mr. Slawski, and himself.

Mr. Boxhorn began summarizing the introduction, description of the watershed, land use, quantity and quality of surface water, and toxicity conditions sections of the chapter.

Regarding the extent of the period of record from 1975 to 2001 at the MMSD stations, Mr. Magruder noted that data does exist up to year 2004 for the upstream MMSD stations on the Root River and he asked why those years were not included in this chapter. Mr. Boxhorn replied that acquisition and completing analysis of data began more than a year ago and data were only available through 2001 at that time. Mr. Boxhorn also explained that we primarily relied on the information available in the MMSD Corridor Study database, which still only contains data to the year 2001 for most stations and constituents. At this point it would be a substantial effort to obtain and reanalyze additional data for each of the watersheds that we have already completed and are continuing to draft.

Mr. Magruder asked if we were looking at the relationship between stream discharge and fecal coliform concentrations through regression analysis. Mr. Magruder noted that MMSD has been working on this and found some strong relationships based upon the amount of discharge at the time of sampling. Mr. Boxhorn noted that the chapter includes a section titled "Wet-Weather and Dry-Weather Loads" where the relationships between discharge and concentrations for total phosphorus, total suspended solids, fecal coliform, total nitrogen, and biochemical oxygen demand concentration loads are explored.

Mr. Bunker asked if the quantity of surface water was taken into account at the time of sampling, noting that last year there were times of no flow on the Root River. He said that no correlations between discharge and dissolved oxygen concentration or any water quality variables were indicated. Mr. Hahn said that discharge data are not always available to correlate with water quality measurements, but the issue would be investigated further.

[Secretary's Note: As appropriate, regressions will be run between discharge and selected water quality parameters and those results will be incorporated in the ***Wet-Weather and Dry-Weather Loads*** subsection of each watershed chapter.]

Mr. Behrens asked for clarification regarding the water temperature standard shown on Figure IX-9 on page 19. Mr. Boxhorn said that Chapter NR 102 of the *Wisconsin Administrative Code* establishes the water temperature standard.

Mr. Magruder asked that the last sentence of the first partial paragraph on page 18 be revised, because he was not certain that decreasing chlorophyll-a concentrations necessarily indicated improvement in water quality, noting that such decreases could be related to turbidity issues rather than a general improvement in water quality.

[Secretary's Note: That paragraph was revised to read as follows (Note: Bold text is used to include additional text in this Secretary's note and subsequent notes in these minutes):

“The trend toward decreasing chlorophyll-a concentrations at the Johnson Park station **may indicate** an improvement in water quality.”]

Mr. Magruder said that he would provide written comments from MMSD directly to Mr. Hahn at the end of the meeting.

Mr. Bunker asked if the chapter reports results of water quality samples of mercury concentrations before the year 1996. Mr. Boxhorn replied that it did. Mr. Bunker said that sampling and laboratory analyses for both mercury and PCBs have gone through substantial changes since 1996 and samples collected before 1996 are not comparable to current concentrations. Therefore, he believes that there are not enough data to conclude anything about mercury or PCBs in the Root River watershed. He suggested that reported historic concentrations of these substances be mentioned, but that no conclusions be drawn. Mr. Boxhorn said that this issue would be reexamined.

[Secretary's Note: The SEWRPC staff continues to work on this issue and it is intended to summarize the findings and include them in Chapter III of this report, “Data Sources and Methods of Analysis.” If necessary, appropriate modifications to the existing draft chapters will be made based upon findings relevant to this important topic.]

Mr. Boxhorn noted that a new subsection on lakes (**Water Quality of Lakes and Ponds**) was included in this chapter because this is the first watershed that data were available to report. Mr. Slawski noted that new Trophic State Index (TSI) parameters were used to describe the productivity status of these lakes.

Ms. Jooss asked why there was a change to analyzing filtered pesticide samples in 2004 when unfiltered samples were analyzed in the previous years. She thought that this might provide falsely lower pesticide concentrations in the 2004 samples compared to the previous samples before 2004. Mr. Boxhorn replied that such false comparisons were possible, and he said that the issue would be considered further.

[Secretary's Note: The fourth sentence in the first full paragraph on page 41 specifically addresses this issue by stating:

“It is important to note that the results from the samples taken in 2004 are not directly comparable to those from the early periods.”

The report then goes on to explain the issue regarding filtered and unfiltered samples. No additional elaboration is considered to be necessary.]

Mr. Bunker reiterated his previous comment that sampling and analysis procedures for PCBs have also changed. He said that PCBs are more complicated than indicated on page 42. He said that, for example, some congeners are toxic and some are not, but that this complexity is not explained. He also stated that older sampling methods may not yield results comparable to newer methods. He claimed that they have never found PCBs in the Root River and that the data presented in the chapter indicate that no PCBs are found in the Root River. Mr. Boxhorn and Mr. Hahn both indicated that this issue would be looked into.

[Secretary's Note: On page 45, it is noted that PAHs and PCBs have been detected in sediments of the Root River. The SEWRPC staff reviewed the sediment toxicity data that were provided by WDNR and analyzed by the Wisconsin State Laboratory of Hygiene. Unfortunately, the laboratory methodologies were not reported for any of the samples summarized below. In 1989, Aroclor 1254 was observed in the Root River at a concentration of 250 µg/kilogram about 100 feet below the STH 38 bridge (50 feet off of the right bank) and a concentration of 240 µg/kilogram about 600 feet below the railroad bridge (20 feet off the right bank). Total PCB concentrations of 50 µg/kilogram were observed in the Root River about 200 feet below the Union Pacific Railroad (formerly Chicago and Northwestern Railroad) bridge (15 feet off the left bank) and also at Lincoln Park adjacent to the Riverside parking lot. In 1997, PCB 1254/1260 was observed at a concentration of 430 µg/kilogram in the Root River Estuary at the 5th Street Yacht Club Launch and at a concentration of 180 µg/kilogram in the Root River Estuary about 100 feet upstream of the second bridge below 5th Street. Also in 1997, a concentration 2,300 µg/kilogram of PCB was measured in the Root River Estuary at the 5th Street Yacht Club Launch. Therefore, as stated on page 45 of the text, these results indicate that the Root River sediment has been shown to contain PCB contaminants in samples collected in both 1989 and 1997. It is also important to note that a large portion of coho and Chinook salmon have been shown to be contaminated with PCBs and these fish migrate up to the Horlick dam and die annually on the Root River system. Hence, the PCB contaminant load in the tissue of these fishes is being deposited into the Root River system, at least up to the Horlick dam, which may very well be the source of contamination on the lower portion of this system.

In discussions with the SEWRPC staff following the meeting, Mr. Ron Arneson, Laboratory Coordinator for the Bureau of Integrated Science Services at the Department of Natural Resources, confirmed that the methods for PCBs and PAHs analysis have undergone some changes over the years. However, those changes do not mean that the past data are incorrect or cannot be used. Gas chromatography (GC) and electron capture (EC) methods give very low detection limits and have been used over the past few decades and are still used by the WDNR today. Mr. Arneson stated, for example, that PCB analyses made by GC and EC methods are still valid. A new method to detect the congeners of PCBs is now available. These newer methods just provide more information to detect problems. For PAH, new instruments (HPLC and HPLC/MS) have lower detection limits; however, that does not mean that the old data have no use. In certain cases, GC or EC tests may have indicated no concentrations above the level of detection possible with those tests, but concentrations detectable with the old instruments are valid.

Mr. Arneson also noted that the USEPA funds and publishes validation studies when the new methods are being developed. In the validation studies, the old approved method is compared to the new method. The new method has to meet or exceed the old method in performance. If the new method is approved then the regulations will often allow both methods to be used. In conclusion, unless there is some specific evidence to suggest that the data were either collected or analyzed inappropriately, it is not valid to reject old data simply because it was analyzed with older techniques.

Based upon this review, the SEWRPC staff has verified that the Root River was shown to be contaminated with PCBs in 1989 and 1997. Although the laboratory methodologies are not known, there was no documentation that would indicate that these samples were not collected pursuant to approved EPA guidelines and standards. Therefore, no conclusions will be changed relative to the PCB contamination in the Root River as summarized in the **Toxic Contaminants in Sediment** section in this report.]

Mr. Bunker indicated that he would have more confidence in the reported mercury concentrations as shown in Table IX-8 on page 45, if the data were collected more recently than 1989, and he asked if the dates when these mercury samples were taken could be verified. Mr. Boxhorn indicated that this would be investigated. Mr. Bunker also suggested that the years in which samples of each constituent were taken be added to Table IX-8. Mr. Boxhorn responded that those additions would be made.

[Secretary's Note: The SEWRPC staff reviewed the mercury toxicity data that were provided by WDNR and analyzed in the Wisconsin State Laboratory of Hygiene. The laboratory methodologies were not reported for any of the samples summarized below. There were a total of 11 samples for mercury taken from June 10, 1997 through May 30, 2003. There were five sites on the mainstem of the Root River, three sites along Hale Creek, two sites on an unnamed tributary upstream of STH 32 and downstream of Elm Road, and one site on Crayfish Creek. The dates of sampling were added to Table IX-8 which is attached as Exhibit B.]

Mr. Slawski then began a summary of the biological conditions, channel conditions, and habitat and riparian corridor condition sections for the Root River watershed.

Mr. Behrens noted that there was a significant increase in the abundance of largemouth bass and northern pike as shown in Table IX-9 on page 47, and asked if these species were stocked. Mr. Slawski answered that he did not think these species were stocked, but we would verify this. Ms. Burzynski noted that WDNR fish managers sometimes complete targeted gamefish sampling surveys that can sometimes bias species abundances one way or the other. Mr. Slawski also noted that the data generally indicate the purpose of the survey and he did not recall that there were targeted gamefish surveys for northern pike or largemouth bass in the Root River. The increase in abundance may also be due to spatial variability of sampling efforts as well, for example, increased sampling in deeper water, downstream areas of the Root River would bias the sampling towards catching larger gamefish species in the deeper pools which they are more likely to inhabit.

[Secretary's Note: Mr. Slawski verified that there is no stocking of largemouth bass and northern pike in the watershed.]

Mr. Bunker noted that fisheries IBI scores in the Lower Root River subwatershed show very poor conditions on Map IX-6 on page 50, however, the chapter claims that there has been an improvement in the fishery in the Lower Root River subwatershed. Mr. Slawski replied that most of the samples in that subwatershed are classified as very poor, but that there are several samples shown by yellow dots on Map IX-6, indicating a fair IBI score and one with a green dot, indicating an excellent IBI rating. Mr. Bunker suggested that we should just show sample locations and leave out the rating or just show the rating for the year 2004, and he asked what this map is intended to represent. Mr. Slawski replied that the map is intended to show the overall character of the fishery conditions in

terms of sampling distribution and quality. He said that the SEWRPC staff would consider including two separate maps, with one showing historic fishery conditions up to 1997 and one showing existing fishery conditions (post 1997). Ms. Jooss suggested using the existing color scheme on Map IX-6, but adding different symbols to distinguish historic versus current conditions.

Mr. Behrens noted that in Figures IX-40 and 41 it was somewhat confusing for the vertical axis to show the HBI changing from very poor conditions at the top of the axis to excellent conditions at the bottom. Mr. Hahn noted that this issue was discussed at the last meeting and he said the figures would be left as they are since standard practice is for a numeric vertical scale to increase from bottom to top as is the case for the HBI on the two figures.

Mr. Lubner suggested that separating Figure IX-44 into two separate figures would help to clarify differences between the figures. Mr. Hahn said that would be considered.

[Secretary's Note: Figure IX-44 was split into one figure for EPT and one for HBI.]

Mr. Moroney asked if the black color indicating enclosed conduit on Map IX-9 could be changed to a different color to make it easier to see those areas. Mr. Slawski said that would be done.

[Secretary's Note: Map IX-9 was revised to indicate enclosed reaches of the channel in a more-contrasting color. That change was also made to Maps V-7 (Kinnickinnic River watershed), VI-9 (Menomonee River watershed), and VIII-8 (Oak Creek watershed).]

Ms. Anderson asked if the third sentence in the third full paragraph on page 82 could be clarified. Mr. Boxhorn indicated that sentence was referring to the **SOURCES OF WATER POLLUTION** section on page 86, and Mr. Hahn said that the text would be clarified.

[Secretary's Note: That sentence was revised to read as follows:

“By 1985, **all of those** plants had been abandoned (see the **Sources of Water Pollution section** below).]

Ms. Anderson asked that the reference to the “Racine County Highway and Park Commission Building” in the first sentence of the second paragraph on page 85 be changed to the “Racine County Ives Grove Complex, which includes both the Sheriff's Department and Public Works Department.”

Mr. Bennett asked that local stormwater management efforts be addressed in more detail on page 86. He noted that the City of Franklin adopted a citywide stormwater management plan in 1993 and that many communities have now incorporated the stormwater runoff and pollution control requirements of Chapter NR 151, “Runoff Management,” of the *Wisconsin Administrative Code*.

[Secretary's Note: There is an extensive description of Chapters NR 151 and NR 216 of the *Wisconsin Administrative Code* in the **Nonpoint Source Pollution Abatement Plan Element** subsection on pages 85 and 86 and in the **Nonpoint Source Pollution** subsection on pages 92, 96, and 98. These subsections include information on which communities have WPDES stormwater discharge permits. Table IX-19 indicates which communities have stormwater management plans and/or ordinances, construction erosion control ordinances, and funding frameworks for stormwater programs. On pages 86 and 97, it is noted that permitted communities will have to adopt stormwater management ordinances that are consistent with the standards of NR 151.

The following footnote was added under the “Stormwater Management Ordinance and/or Plan” column, on the line for the City of Franklin:

“The City of Franklin adopted a citywide stormwater management plan in 1993 and has been implementing that plan since then.”]

Mr. Bennett noted that the City of Franklin Sanitary Sewer Service Area should be added to Table IX-16 on page 90. Mr. Hahn said that would be done.

[Secretary’s Note: SEWRPC staff reviewed Table IX-16 and found that the City of Franklin Sanitary Sewer Service Area already was included as indicated in the third row of the table.]

Mr. Bennett suggested that we add a footnote to Table IX-20 on page 90 indicating that part of the Metro Landfill also drains to the Fox River watershed. Mr. Hahn indicated that we will make this change.

[Secretary’s Note: The following footnote was added to Table IX-20 in the third row “Subwatershed” column:
“A portion of the Metro Landfill drains to the Fox River watershed.”]

Ms. Anderson said that the Hunt’s Disposal Landfill site listed in Table IX-20 had been remediated. Mr. Bennett added that the Fadrowski Drum Disposal site had also been mitigated. Ms. Burzynski noted that the U.S. EPA website should have information on remediation of landfill sites. Mr. Hahn indicated that the appropriate revisions would be made.

[Secretary’s Note: In Table IX-20, the “Status” column was revised to indicate “Mitigated” status for facilities No. 2 and 11 (in the first column).]

Regarding the first full paragraph on page 121, Mr. Bunker noted that that the data do not support the conclusion that there are impairments to the Root River caused by PCBs and mercury. He said that data show no contaminants in the Root River in regard to PCBs and mercury, and he reiterated his previous comment that anything but recent PCB and mercury data is questionable. He stated his belief that the Root River is not impaired, but the quality of fishery is impaired by contaminants that probably originate in Lake Michigan, rather than in the Root River. Mr. Hahn indicated that the SEWRPC staff would make an overall review of data on PCBs and mercury and would revise the chapter where appropriate.

[Secretary’s Note: The following provides elaboration on the data characterizing PCB and mercury conditions in water, aquatic organisms, and sediment.

Toxic Substances in Water-Between 1999 and 2001 six sites along the mainstem of the Root River in Milwaukee County were sampled on six dates for the presence and concentrations of 14 PCB congeners in water. Since concentrations of only 14 out of 209 congeners from this family of compounds were examined, the results from the mainstem should be considered minimum values. In no samples were the concentrations of these PCB congeners above the limit of detection. Few historical data on the concentration of mercury in the water of the Root River exist. Most sampling for mercury in water in the River was taken during or after 1996. The mean concentration of mercury in the River over the period of record was 0.103 µg/l. Mercury concentrations showed moderate variability, with a range from below the limit of detection to 2.84 µg/l. The means at individual stations ranged from 0.001 µg/l at the station below the Horlick Dam and the stations near the River’s mouth to 0.240 µg/l at W. Ryan Road.

Toxic Substances in Aquatic Organisms-Between 1976 and 2002 the WDNR examined tissue taken from individuals of several species of aquatic organisms for contamination with PCBs. For most species examined, concentrations of PCBs were reported that exceeded the thresholds used by the WDNR for issuing consumption advisories. Between

1977 and 2002, the WDNR sampled tissue from individuals from several species of aquatic organisms for mercury contamination. The concentration of mercury reported in fish tissue ranged between 0.03 micrograms per gram tissue (μg per g tissue) and 1.40 μg per g tissue with a mean concentration of 0.63 μg per g tissue. The concentrations of mercury reported in most samples were above the threshold for issuing consumption advisories.

Toxic Substances in Sediment-As noted in the summary discussions above, the SEWRPC staff has verified that 1) in 1989 and 1997, the Root River sediments at several sites were shown to be contaminated with PCBs and 2) in 1997 and 2003, sediments were shown to be contaminated with mercury.

Based upon this review, there is ample historical and current information on water, sediment, and tissue PCB and mercury concentrations in the Root River watershed to conclude that some beneficial uses are being impaired by the presence of contaminants, especially PCBs and mercury. However, it is important to note that SEWRPC staff will continue to clarify the issue of the comparability of the historic versus current sampling methodologies and laboratory procedures for metals, PCBs, and PAHs with the USGS and the State Laboratory of Hygiene.]

Ms. Jooss asked that the second sentence in the *Worsened Toxicity Conditions* section on page 122 be clarified. Mr. Boxhorn indicated that the sentence should read: "While the quantity of data is **not** sufficient ..."

Ms. Jooss noted that the Tier 3 permits are documented on page 96, but that the chapter states that WDNR authority for Tier 3 permits no longer exists. Mr. Hahn said that 2003 data were used to characterize Tier 1 through 3 permits and the Tier 3 permits were included in that characterization for completeness, even though authority for those permits was later eliminated.

A motion to approve preliminary draft Chapter IX, "Surface Water Quality Conditions and Sources of Pollution in the Root River Watershed," as amended, was made by Ms. Anderson, seconded by Mr. Moroney, and was carried unanimously by the Committee.

UPDATE ON STATUS OF WATER QUALITY MODELING

Mr. Schmidt asked Mr. Hahn to review the update and status of the water quality modeling.

Mr. Hahn called the Committee's attention to the status table that they were provided (attached as Exhibit C) and he reviewed the shaded items in that table which indicated changes in status since the last committee meeting. Mr. Hahn further indicated that model results are coming in for all watersheds for existing conditions as well as future conditions. He also noted that the riverine models of watersheds tributary to the Milwaukee Harbor Estuary are being incorporated into the Harbor Estuary/Lake Michigan model.

CLEAN RIVERS/CLEAN LAKES III CONFERENCE ON MARCH 2, 2006, AT THE ITALIAN COMMUNITY CENTER IN MILWAUKEE

Mr. Schmidt then asked Mr. Hahn to update the Committee on the upcoming planning conference. Mr. Hahn said that reminder cards were sent and that each committee member should have received one. He said that the conference agenda was nearing completion, and that it focuses on the SEWRPC/MMSD planning process and includes presentations on water quality data and preliminary plan alternatives.

RESPONSES TO COMMENTS FROM MR. MAGRUDER OF THE MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

[Secretary's Note: After the meeting, Mr. Magruder provided an annotated copy of the chapter to the SEWRPC staff. A summary of the SEWRPC staff responses to his comments is set forth below.]

[Secretary's Note: Mr. Magruder noted that it would be helpful if a figure were added to summarize the flow fraction discussion on pages 5 and 6.

Response: Where possible, the SEWRPC staff will develop a figure as recommended for the Root River watershed as well as for the other watersheds.]

[Secretary's Note: Mr. Magruder suggested that it be indicated that the fecal coliform bacteria standard for full recreational use, which is stated as 200 cells per 100 ml on page 12, is a geometric mean. He also asked how the report deals with the 200 cells per 100 ml geometric mean standard and the 400 cells per 100 ml maximum standard for fecal coliform.

Response: SEWRPC staff has devoted Chapter IV of this report specifically to water use objectives and water quality standards. Therefore, additional, repetitive definition of standards within each of the watershed chapters is not considered to be necessary. Compliance with standards is assessed in the **ACHIEVEMENT OF WATER USE OBJECTIVES IN THE ROOT RIVER AND ITS TRIBUTARIES** section of the chapter. The report consistently applies the more conservative 200 cells per 100 ml standard, rather than the 400 ml maximum standard, in assessing compliance with fecal coliform standards in waters to which those standards are applicable. No agency is currently collecting fecal coliform bacteria river samples with enough frequency to assess the 200 cells per 100 ml standard as a geometric mean per Chapter NR 102 of the *Wisconsin Administrative Code*, however, we are concerned with reporting the quality of water and comparison of this quality against the more conservative standard over multiple years and among stations.]

[Secretary's Note: Mr. Magruder suggested that samples sizes of fecal coliform bacteria be identified in Figure IX-3 on page 14 and he asked how comparable the fecal coliform data are between stations shown on Figure IX-4 on page 15, since the frequency of sampling varies between sites.

Response: For the MMSD stations at RM 36.7 and RM 28.0, the number of fecal coliform bacteria samples for the time ranges shown in Figure IX-3 ranged from 4 to 31 and 4 to 51, respectively. The number of samples for other agency stations at RM 11.5 and RM 5.9 ranged from 36 to 88 and 9 to 35, respectively. Therefore, these results are not biased by large differences in the frequency of sampling by different monitoring entities. Regarding the comparability of the data from different sampling sites as shown in Figure IX-4, for those sampling stations that are common to Figures IX-3 and IX-4, the preceding comments on IX-3 apply. In general the box and whisker plots, such as shown in Figure IX-3, are used to make comparisons between sampling locations on a given stream, rather than the monthly variation plots shown in Figure IX-4.]

[Secretary's Note: Mr. Magruder suggested that the fourth full paragraph on page 29 be modified.

Response: The ninth sentence in that paragraph was revised as follows:

“At some stations, dissolved phosphorus concentrations were negatively correlated with **concentrations of chlorophyll-a** and total phosphorus concentrations were positively correlated with concentrations of chlorophyll-a.”]

[Secretary’s Note: Mr. Magruder suggested that the second paragraph on page 40 be modified.

Response: That last sentence in that paragraph was revised as follows:

“The decrease in surface dissolved oxygen concentrations during the summer in Scout Lake **is unknown.**]

[Secretary’s Note: Mr. Magruder asked whether the Horlick dam is considered a good or bad influence on fish species (page 48).

Response: This report is not intended to evaluate the Horlick dam’s positive or negative impacts on the fishery. Additional consideration will be given to those impacts in the SEWRPC planning report that will document the overall regional water quality management plan update.]

[Secretary’s Note: Mr. Magruder suggested that we add a description of the agricultural impacts to streams along with the urban impacts as described on pages 53 through 55.

Response: Beginning with the second sentence in the second full paragraph on page 53, the following revisions were made in response to Mr. Magruder’s comment and based on additional consideration by the SEWRPC staff. Similar revisions will; be made as appropriate in the **Fisheries** subsections in Chapters V (Kinnickinnic River watershed), VI (Menomonee River watershed), and VIII (Oak Creek watershed):

Second sentence, second paragraph: “**Agricultural and/or urban development** can cause numerous changes to streams that have the potential to alter aquatic biodiversity that include but are not limited to the following factors which have been observed to varying degrees in the Root River watershed:”

Second bullet: • Decreased base flows—These lead to increase crowding and competition for food and space, increase vulnerability to predation, **decrease in habitat quality**, and increase sediment deposition;

Third bullet: • Increased **sediment load from cultivated agricultural lands and urban lands during and after construction of urban facilities, resulting in sediment transport and deposition in streams**—This leads to reduced survival of eggs, loss of habitat due to deposition, siltation of pool areas, and reduced macroinvertebrate reproduction;

Seventh bullet: • Increased temperatures due to **loss of riparian buffers as well as runoff from pavement**—This leads to changes in migration patterns, increased metabolic activity, increased disease and parasite susceptibility, and increased mortality of sensitive fishes and macroinvertebrates;

Tenth bullet: • Channel straightening or hardening—This leads to increased stream scour and loss of habitat **quality and complexity (i.e. width, depth, velocity, and substrate diversity)** through disruption of sediment transport ability;

Thirteenth bullet • **Increased algae blooms due to increased nutrient loading— Chronic algae blooms, resulting from increased nutrient loading, lead to oxygen depletion, causing fish kills, and to increased eutrophication of standing waters. These effects can be worsened through encroachment into the riparian buffer adjacent to the waterbody and loss of riparian canopy which increases light penetration.**

[Secretary's Note: Mr. Magruder questioned the validity of the last sentence in the last paragraph on page 68.

Response: That sentence was revised and two additional sentences were added as follows. (Similar revisions will be made in Chapters V, VI, and VIII.)

“In the absence of mitigative measures, increased urbanization in a watershed may be expected to result in increased streamflow rates and volumes, with potential increases in streambank erosion and bottom scour, and flooding problems. In many of the communities in the Root River watershed, the requirements of MMSD Chapter 13, “Surface Water and Storm Water,” are applied to mitigate instream increases in peak rates of flow that could occur due to new urban development without runoff controls. In communities outside of the MMSD service area, local ordinances provide for varying degrees of control of runoff from new development. Also, where soil conditions allow, the infiltration standards of Chapter NR 151, “Runoff Management,” of the *Wisconsin Administrative Code* are applied to limit increases in runoff volume from new development.]

[Secretary's Note: Mr. Magruder asked what locations are associated with the river miles identified in Table C-5 and how the seasonal breakouts are defined. He also suggested that in Table C-5 be revised to indicate whether an increasing or decreasing trend is associated with an improvement or impairment in water quality.

Response: The following footnote “b” was added after the “Season” column heading in Table C-5 and also in the Appendix C Tables for the other watersheds with appropriate table and map number references:

“The river miles are associated with the locations shown on Map IX-5 and defined in Table IX-4.”

The following footnote “c” was added after the “River Mile” column heading:

“The seasonal breakouts are defined in Chapter III of this report, “Data Sources and Methods of Analysis.” The seasons are defined as follows: Spring is March through May, Summer is June through August, Fall is September through November, and Winter is December through February.”

The increasing or decreasing trends in Table C-5 are not identified as being associated with an improvement or impairment in water quality, because that has already been addressed in each of the water quality parameter sections throughout the chapter, including the figures.]

[Secretary's Note: Mr. Magruder noted that Table G-5 does not include the City of Greenfield in the list of communities with WPDES stormwater discharge permits, and he asked if the City has a permit.

Response: As stated on page 97, in 2000 the City Greenfield applied for a permit as part of a group, but that permit has not yet been issued by the WDNR.]

DETERMINATION OF NEXT MEETING DATE AND LOCATION

The next meeting of the Advisory Committee had been tentatively scheduled for February 22, 2006, but Mr. Hahn asked that the meeting be rescheduled to a later date since additional time was required to analyze the very large amount of water quality data for the Milwaukee River watershed. Mr. Schmidt offered the committee the option of convening prior to the March 2 Clean Rivers/Clean Lakes III Conference to receive a summary of the Milwaukee River watershed information that the SEWRPC staff would publicly present for the first time at the Conference. Mr. Kappel recommended waiting to present that information to the committee until the draft Milwaukee River chapter is complete, and the other committee members indicated agreement with that approach. The next committee meeting was scheduled for March 28, 2006, beginning at 1:30 p.m. at the Mequon City Hall in the upstairs Council Chambers.

ADJOURNMENT

The January 25, 2006, meeting of the Advisory Committee on the regional water quality management plan update was adjourned at 3:18 p.m. on a motion by Mr. Behrens, seconded by Mr. Moroney, and carried unanimously by the Committee.

* * *

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300-4001
MGH/TMS/pk
03/14/06

Exhibit A

SEWRPC Technical Report No. 39

WATER QUALITY CONDITIONS AND SOURCES OF POLLUTION IN THE GREATER MILWAUKEE WATERSHEDS

Status of Chapters 01/25/06

Chapter I—Introduction	(Reviewed 05/25/05 – on website)
Chapter II—Water Quality Definitions and Issues	(Reviewed 05/25/05 – on website)
Chapter III—Data Sources and Methods of Analysis	(Reviewed 05/25/05 – on website)
Chapter IV—Water Use Objectives and Water Quality Standards	(Reviewed 05/25/05 – on website)
Chapter V—Surface Water Quality Conditions and Sources of Pollution in the Kinnickinnic River Watershed	(Reviewed 10/12/05 – anticipated to be on website) in early February 2006)
Chapter VI—Surface Water Quality Conditions and Sources of Pollution in the Menomonee River Watershed	(Reviewed 08/03/05 – anticipated to be on website) in early February 2006)
Chapter VII—Surface Water Quality Conditions and Sources of Pollution in the Milwaukee River Watershed	(Under preparation. To be presented at March 2006 Advisory Committee meeting)
Chapter VIII—Surface Water Quality Conditions and Sources of Pollution in the Oak Creek Watershed	(Presented at 12/14/05 Advisory Committee meeting)
Chapter IX—Surface Water Quality Conditions and Sources of Pollution in the Root River Watershed	(Reviewed January 25, 2006 Advisory Committee meeting)
Chapter X—Surface Water Quality Conditions and Sources of Pollution in the Milwaukee Harbor Estuary and Adjacent Nearshore Lake Michigan Areas	
Chapter XI—Groundwater Quality Conditions and Sources of Pollution in the Study Area	
Chapter XII—Summary and Conclusions	

Exhibit B

Table IX-8

**CONCENTRATIONS OF TOXIC METALS IN SEDIMENT SAMPLES FROM THE
ROOT RIVER, CRAYFISH CREEK, AND WHITNALL PARK CREEK: 1989-2003^a**

Statistic	Metals							
	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
Mean.....	19.2	3.41	73.1	68.0	102.8	0.09	30.1	292.1
Standard Deviation.....	17.0	10.20	108.4	69.6	112.9	0.05	13.7	286.8
Minimum.....	0.0	0.00	16.0	20.0	19.0	0.03	14.0	66.6
Maximum.....	65.0	44.00	400.0	280.0	380.0	0.21	70.0	932.0
Number of Samples.....	14	18	14	14	14	11	14	14
Date of Earliest Sample	1997	1989	1997	1997	1997	1997	1997	1997
Date of Latest Sample	2003	2003	2003	2003	2003	2003	2003	2003

^aAll concentrations in mg/kg based on dry weight.

Source: Wisconsin Department of Natural Resources.

Exhibit C

RWQMPPU/2020 FP WATER QUALITY MODELING STATUS 01/19/2006

Watershed	Task 1 Model Structure	Task 2 Model Data Sets	Task 3 Hydrology Calibration	Task 4 Quality Calibration	Task 5 Integrate with Estuary/Lake	Task 6 Production Runs	Task 7 Document Results	Comments
Kinnickinnic River	Completed	Completed	Completed	Completed	Underway	Underway		Initial SEWRPC review of Task 1 and Task 2 complete SEWRPC review of reach definition memo complete Corrections requested based on Task 2 review have been addressed Final Task 1 memo approved by SEWRPC Second SEWRPC review of hydrology calibration memo complete Initial SEWRPC review of water quality calibration memo complete Preliminary existing condition pollutant loads provided to SEWRPC
Menomonee River	Completed	Completed	Completed	Completed	Underway	Underway		Initial SEWRPC review of Task 1 and Task 2 complete SEWRPC review of reach definition memo complete Corrections requested based on Task 1 and 2 review have been addressed Final Task 1 memo approved by SEWRPC Second SEWRPC review of hydrology calibration memo complete Second SEWRPC review of water quality calibration memo complete Preliminary existing condition pollutant loads provided to SEWRPC
Milwaukee River	Completed	Completed	Completed	Underway	Underway	Underway		Model structure has been agreed upon. Tetra Tech has completed dataset SEWRPC completed development of precipitation and temperature datasets to use for calibration Initial SEWRPC review of model input complete Second SEWRPC review of hydrology calibration memo complete Preliminary existing condition pollutant loads provided to SEWRPC
Oak Creek	Completed	Completed	Completed	Completed	Underway	Underway		SEWRPC review of reach definition memo complete Corrections requested based on Task 2 review have been addressed Final Task 1 memo approved by SEWRPC Second SEWRPC review of hydrology calibration memo complete. Second SEWRPC review of water quality calibration memo complete. Preliminary existing condition pollutant loads provided to SEWRPC

Watershed	Task 1 Model Structure	Task 2 Model Data Sets	Task 3 Hydrology Calibration	Task 4 Quality Calibration	Task 5 Integrate with Estuary/Lake	Task 6 Production Runs	Task 7 Document Results	Comments
Root River	Completed	Completed	Completed	Underway	Not Applicable	Underway		<p>Initial SEWRPC review of Task 1 and Task 2 complete (Upper Root only) Corrections requested based on Task 1 and 2 review have been addressed (Upper Root only) Final Task 1 memo approved by SEWRPC (Upper Root only) Model structure for Lower Root has been agreed upon. Tetra Tech has completed dataset. SEWRPC completed development of precipitation and temperature datasets for use in calibration. Initial SEWRPC review of model input complete. Initial SEWRPC review of hydrology calibration memo complete. Preliminary existing condition pollutant loads provided to SEWRPC.</p>
Harbor Estuary and Lake Michigan Nearshore	Completed	Completed	Completed	Underway	Not Applicable	Underway		<p>Model grid system refined Second SEWRPC review of hydrodynamic model calibration memo completed.</p>