

NOV 11 2003

November 6, 2003

Representative Sue Jeskewitz  
Co-Chair Legislative Audit Committee  
Room 314 North  
State Capitol  
PO Box 8952  
Madison, Wisconsin 53708

Senator Carol Roessler  
Co-Chair Legislative Audit Committee  
Room 8 South  
State Capitol  
PO Box 7882  
Madison, Wisconsin 53707

My name is Joe Greco, former Village President of Menomonee Falls, and I am writing this letter to let you know that despite historic ill feelings left from "Sewer Wars", the Milwaukee Metropolitan Sewerage District (MMSD) is providing an extremely valuable service to the Milwaukee metropolitan area. I was very much involved in the settling of Sewer Wars and have monitored the performance of the District for the past 15 years. While every agency has issues, I believe MMSD is headed in the right direction and has faced its past and future head on.

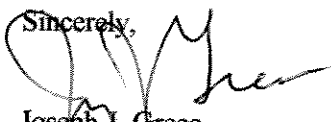
MMSD has thrown off the cloak of secrecy and is actively trying to facilitate an informed discussion on the future of water quality in southeastern Wisconsin. As part of this effort, they have initiated a Citizens Action Committee, which I have volunteered to be a part of. Through this and other constituent committee's, MMSD is fostering a healthy discussion of what we want our future water resources to be. These efforts have led me to understand that every one of us must think about how we impact water quality, what we want our future generations to be left with and what we can do to insure this future.

MMSD is doing more than its part to help this community. All of us should support their efforts. The Milwaukee area is a very old community and it will take some time to mitigate the impacts we have had on our natural environment. But, we must also do this in an economically feasible manner. Through these open discussion, I believe MMSD is meeting this challenge.

Finally, I am very much concerned about the stigma that the media has placed on the District and I would ask that before you submit your final report of your audit, that you attend what has been labeled Sewer School which includes an overview of the MMSD along with a tour of Jones Island. Sewer School has been presented throughout the entire region for those who have shown interest. Some of what you will learn is that:

- MMSD is a sewage district that is one of the most well managed districts in the nation
- The metropolitan Milwaukee area experiences fewer overflows than other similar metropolitan cities in the nation
- Since August 2002, other then one time due to contractor error, there has been no "dumping" of raw sewage into Lake Michigan. All other overflows were treated and had been disinfected, meeting all governmental standards.
- MMSD is one of the lowest cost sewage agencies in the nation and a vital component for any future the redevelopment of the region

I believe MMSD has not been given a "fair shake" and ask that the committee take the time to evaluate the entire situation. While still in office, Trustee Jim Jeskewitz, Representative Jeskewitz's husband and I toured Jones Island and I am confident he will confirm what I have stated in this letter. I am confident that the committee will separate fact from fiction and look forward to your final report. In the event you have further questions, please feel free to contact me at (262) 251-5495 or email me at [jgreco@core.com](mailto:jgreco@core.com).

Sincerely,  


Joseph J. Greco  
N74 W15994 Stonewood Dr.  
Menomonee Falls, Wisconsin 53051

Cc: Kevin Shafer Executive Director MMSD



NOV 07 2003

11333 N. Cedarburg Road 60W  
Mequon, WI 53092  
Phone (262) 242-3100  
Fax (262) 242-9819  
mayor@ci.mequon.wi.us

Mayor Christine Nuernberg

November 6, 2003

The Honorable Carol A. Roessler  
Co-Chairman  
Joint Legislative Audit Committee  
P.O. Box 7882  
Madison WI 53095

The Honorable Suzanne Jeskewitz  
Co-Chairman  
Joint Legislative Audit Committee  
P.O. 8952  
Madison, WI 53708

RE: Milwaukee Metropolitan Sewerage District

Dear Sen. Roessler and Rep. Jeskewitz;

As you may know, the City of Mequon is a contract community of the Milwaukee Metropolitan Sewerage District. While the city and MMSD have had differences in beliefs about a number of issues over the years, both entities have always supported the same goals. Those goals relate to clean water and the conveyance and treatment of sanitary sewerage.

My experience, particularly in the last few years, with MMSD is that the District is working cooperatively with local municipalities to achieve the goals we share. With regard to its planning for 2020, MMSD has invited our staff, most notably our city engineer, to be part of the Technical Advisory Team that wrestles with many complex issues as it develops the plan. Our engineer finds his participation meaningful in that MMSD staff and other members of the team work collaboratively to come up with the most cost-effective solutions possible.

I have worked with a number of MMSD staff as the District works toward improving our water quality. The District has moved to a watershed approach that is inclusive, and I believe, will in the end have the greatest impact on making our waters fishable and swimmable. Just this morning, a member of the District staff, Karen Sand,

The Honorable Carol Roessler  
The Honorable Suzanne Jeskewitz  
November 6, 2003  
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made a presentation at the Milwaukee River Basin Partnership annual meeting, which I attended. Among other things, Karen was recruiting members for an advisory committee dealing with a number of issues including TMDL levels.

The DNR correctly has set a number of conditions in its permit for MMSD, and everything I have witnessed is that MMSD is working with communities to comply with those conditions. I look forward to this positive partnership continuing to meet the challenges we continue to face.

Sincerely,



Christine Nuernberg  
Mayor

Cc: Mr. Kevin Shafer  
Executive Director  
Milwaukee Metropolitan Sewerage District

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# MMSD charges to rise outside county

## Communities in Waukesha, Ozaukee counties to see average 20% increase

By STEVE SCHULTZE and MARIE ROHDE [sschultze@journalsentinel.com](mailto:sschultze@journalsentinel.com)

Last Updated: Nov. 9, 2003

Bills for the Milwaukee sewerage district to communities outside Milwaukee County will rise on average nearly 20% for 2004, according to district documents.

The impact on local homeowners will vary by community, but one thing is clear: The so-called tax freeze the Milwaukee Metropolitan Sewerage District has announced for next year applies only to Milwaukee and 17 Milwaukee County suburbs.

The freeze does not apply to nine suburbs in Waukesha and Ozaukee counties and one subdivision in Racine County that send their sewage to MMSD treatment plants, district officials said.

"When we said we were keeping our tax rate (frozen), we were just talking about our member communities, not our non-member communities," said MMSD Controller Mark Kaminski.

The non-member communities essentially purchase sewage treatment services from MMSD but are outside the MMSD

### Rising Sewer Fees

MILWAUKEE METROPOLITAN SEWERAGE DISTRICT RISING SEWER FEES

All Milwaukee Metropolitan Sewerage District (MMSD) sewerage rates for 2004 will rise by an average of 19% over 2003 rates. The increase is based on the 2004 rates set by the MMSD Board of Directors. The increase is based on the 2004 rates set by the MMSD Board of Directors. The increase is based on the 2004 rates set by the MMSD Board of Directors.

COMMUNITY	2003	2004	CHANGE	% CHANGE
Brookfield	\$1,230,000	\$1,450,000	▲ 220,000	▲ 18.0
Delmar	1,811,000	2,100,000	▲ 289,000	▲ 16.0
Franklin	2,000,000	2,300,000	▲ 300,000	▲ 15.0
Greenfield	300,000	350,000	▲ 50,000	▲ 17.0
Menomonee Falls	2,100,000	2,400,000	▲ 300,000	▲ 14.0
Northbrook	1,800,000	2,100,000	▲ 300,000	▲ 17.0
Wauwatosa	1,800,000	2,100,000	▲ 300,000	▲ 17.0
Westbrook	2,000,000	2,300,000	▲ 300,000	▲ 15.0
Weyauwaton	1,400,000	1,600,000	▲ 200,000	▲ 14.0

\* Residents in Racine County

COMMUNITY	2003	2004	CHANGE	% CHANGE
Brookfield	\$1,230,000	\$1,450,000	▲ 220,000	▲ 18.0
Delmar	1,811,000	2,100,000	▲ 289,000	▲ 16.0
Franklin	2,000,000	2,300,000	▲ 300,000	▲ 15.0
Greenfield	300,000	350,000	▲ 50,000	▲ 17.0
Menomonee Falls	2,100,000	2,400,000	▲ 300,000	▲ 14.0
Northbrook	1,800,000	2,100,000	▲ 300,000	▲ 17.0
Wauwatosa	1,800,000	2,100,000	▲ 300,000	▲ 17.0
Westbrook	2,000,000	2,300,000	▲ 300,000	▲ 15.0
Weyauwaton	1,400,000	1,600,000	▲ 200,000	▲ 14.0

Rising Sewer Fees

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boundaries.

A committee of the MMSD commission gave preliminary approval for the charges Monday. The full commission will consider the increases Nov. 17.

MMSD bills the non-member communities using a complex formula that starts with the sum that would be collected if the MMSD property tax did apply there. Then costs of flood-control work that don't benefit a particular community are subtracted, and other adjustments are made.

Bottom line for next year: In seven of the non-MMSD suburbs, the sewer bill will rise - from 18.2% in New Berlin to a high of 31.3% in Elm Grove.

Kaminski said the boost was largely attributable to costs in those seven communities connected with the \$210 million Menomonee River flood-control project. MMSD charges are projected to drop next year in the other three non-member communities.

In Elm Grove, the estimated MMSD increase will be \$210,993, or 31.3%, for a total of \$884,660.

Village Manager Dave DeAngelis said the boost comes as no surprise to the village because MMSD annually provides six-year projections of sewer bills.

Elm Grove folds its MMSD charges into its overall village levy, which is proposed to remain steady for next year, DeAngelis said. The village was able to plan for the MMSD increase and offset it by other cuts, he said.

Other communities outside Milwaukee County that use MMSD pass along the MMSD charge in a variety of ways to homeowners.

Mequon Mayor Christine Nuernberg agreed that Mequon's nearly \$593,000 increase for 2004 was no surprise. The total MMSD bill to Mequon for next year will be \$3 million.

She said the MMSD formula for its charges "was confusing at first, but the district did a very thorough job explaining it."

The MMSD sewer charges for the 18 member communities will remain, on average, nearly the same as this year, according to district officials. Individual homeowners may see MMSD property tax increases, however, based on higher home values.

The overall MMSD budget for next year is \$324.3 million.



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# SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

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November 13, 2003

Senator Carol Roessler, Co-chairperson  
Joint Legislative Audit Committee  
P.O. Box 7882  
Madison, WI 53707-7882

Representative Suzanne Jeskewitz, Co-chairperson  
Joint Legislative Audit Committee  
P.O. Box 8952  
Madison, WI 53708

Dear Senator Roessler and Representative Jeskewitz:

On November 18, 2003, the Joint Legislative Audit Committee is scheduled to revisit the audit report pertaining to the Milwaukee Metropolitan Sewerage District (MMSD) that was the subject of a public hearing held on September 4, 2002. Because the audit report pertained, in part, to the MMSD's deep tunnel system, and because the Southeastern Wisconsin Regional Planning Commission was very much involved in the planning efforts that led to the construction of that system, on behalf of the Commission I submitted a statement to the Audit Committee last fall. A copy of that statement is attached hereto for your convenience.

My purpose in writing to you at this time is to briefly reiterate a few points that I discussed with the Audit Committee last fall and, perhaps more importantly, to bring you up to date on our efforts to work cooperatively with the MMSD in identifying what additional steps need to be taken throughout the Milwaukee area watersheds to move us all closer to the goal of truly "fishable and swimmable" waters.

First, a few points about deep tunnel system.

1. The MMSD deep tunnel system remains a critical part of our efforts to achieve water quality goals. The deep tunnel recommendations, which extend back to 1971, remain sound. Nothing in the Audit Committee's report on the MMSD leads to any other conclusion. The tunnel system is readily expandable should studies now underway lead us to that course of action.
2. As to performance expectations relative to the deep tunnel system, state-of-the-art analyses at the time that the tunnel sizing decisions were made indicated that spilling of combined sewage would likely occur no more than an average of 1.4 times per year. The deep tunnel system opened in 1994. Since that time, combined sewage has spilled an average of 2.8 times per year, reasonably close to the predicted average given several relatively wet years since the opening; and far less than the average of about 55 combined sewage spills per year prior to the construction of the deep tunnel system.
3. Explicit public policy decisions were made not to expend significant additional public funds at the time of constructing the deep tunnel system to provide sufficient additional storage to totally avoid combined sewage spills. These public policy determinations were based upon studies that showed that even with additional substantial public investment in tunnel capacity—many hundreds of millions of dollars—water quality objectives would not be fully met largely due to elusive upstream nonpoint sources of pollution.

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4. One of the important features of the deep tunnel system is that it results in a high level of control of nonpoint source pollution in addition to storing and reducing the frequency of sanitary sewage overflows. This is an important function for a geographic area where there are no other real options for nonpoint source pollution control.

Importantly, since last fall's audit report hearing, the Regional Planning Commission and the MMSD have embarked upon a partnership effort to fully explore, through comprehensive watershed planning, the remaining sources of water pollution in the greater Milwaukee area and to prepare fully integrated watershed and MMSD sewerage facility plans to properly address those pollution sources and move closer to achieving the "fishable and swimmable" water quality goals. That partnership effort will involve extensive public and local elected official participation. We all need to work together to get this important job done. None of us should prejudge the outcomes of these inter-related work efforts. Rather, we need to achieve widespread participation in the planning process and together let that process guide us toward sensible, cost effective solutions to the remaining Milwaukee area water quality and sewage management problems.

Thank you for your attention to this important matter. We at the Regional Planning Commission look forward to continuing to work with the MMSD and all of the other parties concerned in developing a sound watershed-based plan for achieving our water quality goals.

Sincerely,

  
Philip C. Evenson  
Executive Director

PCE/wb  
#88636 v1 - JT LEGIS AUDIT COMM LTR

Enclosure

cc: Kevin Shafer, Executive Director, MMSD



NOV 14 2003

**PUBLIC HEARING STATEMENT  
JOINT COMMITTEE ON AUDIT**

Wednesday, September 4, 2002  
9:00 a.m.

Milwaukee County Courthouse, Room 203R

Thank you, Mr. Chairman, and good morning members of the Committee. My name is Philip C. Evenson and I am the Executive Director of the Southeastern Wisconsin Regional Planning Commission (SEWRPC). As an integral part of providing comprehensive planning services to the seven-county Southeastern Wisconsin Region, the Commission is, pursuant to Federal law, the gubernatorially-designated water quality management planning agency for the greater Milwaukee area. In that capacity, the Commission has conducted a number of in-depth studies over the years which bear upon the matter that is the subject of the hearing today, namely, the Water Pollution Abatement Program carried out by the Milwaukee Metropolitan Sewerage District (MMSD). The Regional Planning Commission has worked collegially with the MMSD and its predecessor agencies for nearly 40 years. The focus of my remarks relates to the MMSD's deep tunnel system and the expectations for that system as reflected in Commission planning studies. In dollar terms, the deep tunnel system represented about one-third of the cost of the Water Pollution Abatement Program, or about \$716 million.

The first in-depth examination of the problem of combined sewer overflow pollutant discharges in the Milwaukee area was undertaken in the SEWRPC Milwaukee River watershed study. As a young staff member just out of graduate school in the late 1960s, I was assigned to work on that study. Completed in 1971, that study examined in detail 15 alternative methods of abating pollution from combined sewers. Those methods ranged from sewer separation in the streets, to sewage treatment at outfall locations along the rivers, to various schemes of storage with subsequent conveyance to the MMSD plants for treatment. Through the planning process, we brought together the best minds that we could assemble to consider these alternatives and select the most appropriate one for recommendation. That recommendation, made 30 years ago, was a deep tunnel conveyance and storage system. Sewer separation was rejected, not only because of its disruptive effect on an already-developed, relatively dense urban area extending over 24 square miles, but more importantly for two basic reasons: cost and water quality. Sewer separation would have cost nearly three times as much as a deep tunnel system. Moreover,

sewer separation would have left the most densely developed portion of southeastern Wisconsin without any viable option to control pollutant loadings that come from urban streets. These loadings include such harmful pollutants as sediment, metals, and bacteria.

In subsequent years, the MMSD undertook its own in-depth studies that reviewed the findings and recommendations of the Milwaukee River watershed plan. Those studies ultimately reaffirmed that the deep tunnel system was the best way to address the problems of sewage overflow and urban nonpoint source pollution in the developed Milwaukee community. As our staff read the Audit Bureau's report, we came across nothing that would suggest that the recommendation made by the Commission in 1971 to resolve sewage overflow problems through a deep tunnel system, and the decision by the MMSD in 1983 to build that system, were not warranted and did not represent the best, most cost-effective solution to the problem.

Let me turn now to the performance expectations attendant to the deep tunnel system as it was designed and sized by the MMSD. The tunnels were sized to convey and store sewage from the separate sewer service areas given the worst storm of record over a 40-year period. The design expectation, then, was that the deep tunnel system, together with near surface conveyance capacity expansions, would eliminate sewage spills into the rivers from separate sanitary sewers for all storms up to and including that worst storm of record. Once the sizing of the deep tunnel system was completed, attention turned to the question of to what extent tunnel capacity could be made available to serve also the need to abate sewer overflows from the combined sewer service area. For all but that single worst design storm, there should be available significant storage capacity in the deep tunnel system to accommodate spills from the combined sewer area. MMSD calculations in this respect as reported to us were that the deep tunnel system, as designed to eliminate separate sewer spills under the worst storm of record, would also have sufficient capacity to limit the spilling of combined sewers to no more than an average of 1.4 times per year.

With this information, the MMSD asked the Commission to ascertain the anticipated impacts upon water quality of a scenario under which there would be no separate sewer overflows and where combined sewer overflows could be expected to occur 1.4 times per year. That question was addressed in the SEWRPC Milwaukee Harbor estuary study conducted over the period 1982

through 1987. Again, the Commission assembled the best team of experts that it could find to address this important water quality question. State-of-the-art modeling techniques, calibrated by extensive water quality sampling data, were employed. The bottom line of that study indicated that although the pollutant reductions expected to be achieved by the deep tunnel system and other measures upstream of the MMSD would substantially improve water quality conditions over time, it would not be possible to fully achieve the stated water use objectives of "full fish and aquatic life" and "full recreational use." This finding was documented in the Commission's Milwaukee harbor estuary study report.

With that finding in hand, the estuary study next examined an alternative that would provide for a virtually complete elimination of combined sewer overflows, again based upon the design storm of record. That alternative would have provided additional deep tunnel storage of about 1.4 billion gallons, or more than three times the amount constructed by the MMSD. This additional storage capacity had an estimated cost of about \$350 million in 1980 dollars. The study found that even with this additional public investment, the water use objectives would not be fully achieved. Other measures would be required, including operating flushing tunnels and in-stream aeration devices to fully address certain problems, such as low dissolved oxygen levels during critical periods. In addition, higher-than-desired fecal coliform levels could be expected to remain a problem given up-stream nonpoint sources.

Accordingly, the Milwaukee Harbor estuary study concluded with a recommendation that the design of the deep tunnel system not be changed at that time. Rather, it was recognized that it likely would be necessary to come back in a generation and revisit these problems even given the then anticipated expenditure of \$2.3 billion in funds by the MMSD and proportional amounts by others in the upstream watersheds. It was acknowledged that additional tunnel storage capacity may well be required once experience was gained in operating a large, very complex system, and once experience was also gained in addressing other sources of pollution. We all remain in that experience-gaining and learning process, as a reading of the Audit Bureau's findings leads one to conclude.

Given the foregoing, and taking into account over 30 years of planning and implementation efforts relative to the attainment of water quality objectives in the Milwaukee area, we as comprehensive planners conclude the following:

- The MMSD deep tunnel system is a critical part of our collective efforts to achieve water quality goals. It facilitates the treatment of pollutant sources of all types in an area where there are no real options for nonpoint source control. It's time to stop raising sewer separation as a solution to the combined sewer problem.
- As may be necessary, the deep tunnel system can be extended and enlarged at any time in order to meet additional needs.
- No SEWRPC studies have ever concluded that the State-specified water use objectives in the Milwaukee area would be fully met upon deployment of the deep tunnel system. Indeed, our studies have identified many additional steps that need to be taken to achieve those objectives, including addressing the ever-elusive sources of nonpoint pollution.
- Planning and engineering for water quality improvement is not an exact science. The systems involved are large and complex. We will all remain on a learning curve in this respect for some time to come.

Given these conclusions, what is important now is to comprehensively re-examine the water quality conditions that exist today and prepare an updated plan for achieving the water use objectives, taking into account what we have learned over the past generation. Given sufficient fiscal resources, we at the Regional Planning Commission look forward to undertaking that process in partnership with the MMSD and with the oversight of the Wisconsin Department of Natural Resources.

## Asbjornson, Karen

---

**From:** Matthews, Pam  
**Sent:** Friday, November 14, 2003 1:43 PM  
**To:** Asbjornson, Karen; Chrisman, James; Mueller, Janice; Shannon, Pam  
**Subject:** FW: Triad Report

I just received this from the DNR regarding the MMSD and wanted to pass it along to everyone in case they did not have it.

Pam

-----Original Message-----

**From:** Burney, Charles G  
**Sent:** Friday, November 14, 2003 1:25 PM  
**To:** Matthews, Pam  
**Subject:** Triad Report

Attached is a summary of our review of the Triad Report. Let me know if you have any questions. I plan on being at the hearing on Tuesday.



Triad report  
summary.doc

 Charles Burney, P.E.

Special Assistant, MMSD

Bureau of Watershed Management

Wisconsin Department of Natural Resources

(☎) phone: (608) 266-0053

(☎) fax: (608) 267-2800

(✉) e-mail: Charles.Burney@dnr.state.wi.us

DATE: August 11, 2003

TO: Todd Ambs AD/5

FROM: Chuck Burney WT/2  
Jim Fratrack SER

SUBJECT: MMSD Triad Report

We have completed our initial review of the report "Improvement of the Conveyance System Monitoring and Regulatory Database" prepared by Triad Engineering Incorporated (Triad) for the Milwaukee Metropolitan Sewerage District (MMSD). Our review included both the report itself and the manner in which MMSD handled the report. We have reviewed MMSD files on the report, including related e-mails.

Report : The report was initiated by MMSD in September of 2000, and is not a required report for the WPDES discharge permit. The report has two major goals of reviewing, and improving where necessary the techniques used to prepare flow estimates for Combined Sewer Overflow (CSO) events, plus improving access to metered data and estimated flow rates by updating and upgrading the system monitoring database. The initial draft of the report was submitted to MMSD in January 2002, a later draft in August 2002, and a final draft in December 2002. The August draft had comments prepared by MMSD and submitted to Triad, with preliminary responses from Triad in September of 2002, and then final responses incorporated into the December report. The cover letter of the December report says it is the final report, but the five technical memorandum are all labeled as "final draft", and they constitute approximately 95% of the report. Technical Memorandum #1 deals with the estimation of CSO volumes, while the remaining four-memorandum deal with calibration of dropshaft rating curves, flow estimating within the MIS, technical support documents, and a user manual. In addition to the report, the work product included a software package to be installed on MMSD's network.

The first two drafts of the report do not contain any comparisons between current CSO volume estimates and those that would result from using the proposed system. The December 2002 report contains the first such comparison. There were three historic CSO events evaluated (August 98, June 99, May 00), and the proposed system would result in an increased estimate of CSO volume for the events of 79%, 78% and 59% respectively. The consultant was then asked to run an additional three events (September 00, July 00, June 01), and those estimates resulted in a decreased estimate of CSO volume of -21%, -42% and -98% respectively.

The report found that the CSO volume estimates were very sensitive to the river elevations that were used to prepare the estimates. The current method and the proposed method use different data sets and techniques to estimate the river stage, but the report recommends that more river gages be installed to obtain better data sets for use in preparing future estimates. The additional river gauges will be installed as recommended. The report also makes several other recommendations on changes that Triad believes would improve the volume estimates. MMSD has accepted some of the recommendations and is moving forward to implement them, but has questions on some of the other recommendations and is gathering further information and asking for additional analysis before accepting those recommendations. One of the major concerns with some of the recommendations is that the software delivered by the consultant has



yet to be run successfully on the MMSD's network.

The software was delivered with the report in December 2002, and it is clear from the files that the inability to get the software to work has dominated the MMSD's efforts since receiving the package. A sub-consultant to Triad Engineering prepared the software, and worked on attempting to install the package until March 2003, at which time the MMSD hired programming experts to assist them in installing and running the program. The process continues, and MMSD estimates the installation and field verification will take up to one year to complete.

MMSD's handling of the report: The file review made it clear to us that the project has been handled by MMSD at the supervisory/staff level and was not made an issue at the administrative level. The staff were aware, starting in December 2002, of the report's prediction that some events would have significantly higher CSO volume estimates, but were also aware, starting in January of 2003, that other events would be estimated with significantly lower CSO volumes. The files show a significant level of activity starting in January 2003 focused on trying to install and run the new software. There is no indication that the December report itself was reviewed, other than the review of the draft done in August 2002.

We believe that a briefing in early 2003 by MMSD for DNR staff would have been sufficient to keep us aware that MMSD was working on the issue and what their plan was for addressing remaining concerns. There is no indication of any attempt to "hide" the report, but rather it appears the staff were working hard to resolve problems. It was technical staff working to resolve technical issues. However, it is also clear that project managers recognized the potential implications but did not raise the issue with DNR.

On many projects, including this one, MMSD has augmented their project management staff by hiring consultants, (Steve Weber for this project), to assist MMSD staff on project management. This has resulted in MMSD project management staff being somewhat removed from the day to day handling of the report and software. Steve Weber, the consultant, initiated pay requests, which were then initiated by MMSD staff; e-mails went to Steve Weber directly on resolving problems with the software installation, etc.

We believe the issue of project management is a concern that should be discussed further with MMSD, as it has arisen on other occasions.

Original URL: <http://www.jsonline.com/news/metro/jun03/148472.asp>

## Condoms floating in Milwaukee harbor spark angry dispute


By MARIE ROHDE  
[mrohde@journalsentinel.com](mailto:mrohde@journalsentinel.com)

*Last Updated: June 16, 2003*

When a fisherman came across a messy slick of hundreds of spent condoms in the Milwaukee harbor recently, suspicious eyes turned to the nearby Jones Island Wastewater Treatment Plant.

In a harshly worded letter, the Milwaukee Metropolitan Sewerage District blamed United Water Service, the private company that operates the sewers and treatment plant, for the mishap. United Water Service shot back that the district's new \$8.5 million system designed to screen out condoms and other "floatables" doesn't work and never has.

### Related Coverage

 [Contract: United Water delivering savings](#)

Meanwhile, both sides say there is no positive proof that the yucky stuff came from the treatment plant. The state Department of Natural Resources agrees, saying it will not cite the district for violating its operating permit because of the incident.

"No one ever saw them coming out of the treatment plant," said Chuck Burney, a DNR official who oversees the sewerage operation. "They've taken steps to guard against it happening again."

Flushing spent condoms down the toilet creates a particularly tricky problem for most treatment plants.

"You always get one or two that get through a plant," said Burney. "They're quite buoyant and they're tough."

Condoms that get through the screens can fill with air in the final stage of the treatment process. They then pop to the surface of the harbor. Some sewerage workers call them "silver fish" because of their appearance in the effluent.

Eventually, the ultraviolet rays of the sun cause the condoms to deteriorate and sink, Burney said.

MMSD Executive Director Kevin Shafer ordered United Water to send workers out in a boat at least twice per shift to remove floatable debris from the harbor and clean all the tanks and basins that sewage passes in order to remove any solid material that has collected. He also demanded weekly written reports on efforts to correct problems.

Shafer first said that the fisherman may have mistaken alewives for condoms. He also said there were only 40 or 50 condoms floating in the harbor by the time the district boat got to the site to investigate.

"It's the alewives season," Shafer said. "If it was from the treatment plant, why wouldn't there be other debris?"

Later, when confronted with the letter he had already written to United Water, he acknowledged that other debris is heavier and usually sinks.

### System operator chastised

Shafer's strongly worded letter chastised United Water and noted that he had earlier asked for an independent audit of the firm's performance "because of my serious concerns about inadequate maintenance of the district's facilities and equipment."

"My staff has concluded, after investigation, that at least some of the condoms floating in the harbor are being released from



the Jones Island Plant," Shafer wrote. "The discharge of these wastes is completely unacceptable."

Shafer told a reporter last week that no other collection of condoms or other debris had been found.

In a lengthy response, Terry Tobel, the project manager for United Water Service, charged that the problem was not with his workers. He maintains that a new \$8.5 million system designed to remove chunky and floatable materials at the first step of the treatment process doesn't work and never has.

"It is clear that the systems designed to intercept floatables were removed by MMSD and replaced with equipment that does not function properly," Tobel wrote. "The underlying issue is not operations but the provision of functional working systems to continuously remove floatables. MMSD staff has stated this non-functional equipment will not be replaced for another 18 to 24 months."

In an interview last week, Shafer said all necessary steps were being taken to correct the problem.

"If it is a capital improvement project, we've already taken some of the key steps necessary to try to fix the situation," Shafer said, adding that a request for bids to fix the system is being prepared.

In his May 28 letter to Shafer, Tobel complained that "to date MMSD exhibited no urgency in fixing, replacing or otherwise providing functional equipment to remove floatables."

### **'Every nook and cranny'**

Tobel said Friday that United Water was working with the district to check "every nook and cranny to see where it's (the condoms are) coming from."

The district would not be discarding the \$8.5 million project known as the Jones Island Grit system, Shafer said. It would just add to it, he said.

Shafer said the district is considering taking legal action against the Greeley and Hansen Environmental Engineers of Chicago, the designer of the system. Still, he said he's not conceding that the condom problem is fully the result of faulty equipment.

"There is a learning curve associated with anything, and there were no reports of anything in the lake until late April," Shafer said.

The grit system at Jones Island is the first point where pollutants are to be removed from the wastewater. This first point of debris removal is a bar screen with three-quarter inch openings. Small flexible items - such as condoms - can slip through, Tobel said.

Floatables can be removed at other steps in the plant's treatment process, but Tobel wrote that "the failure of the new preliminary treatment equipment makes it increasingly difficult to keep the whole facility performing as necessary."

United Water workers have been using nets to manually remove these floatables in the primary clarifiers - large tanks where the debris that gets through the screens is sent.

From the June 16, 2003 editions of the Milwaukee Journal Sentinel

Legislative Audit Hearing  
November 18<sup>th</sup> 2003

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- Agenda**
- System Overview
  - Action Items
    - I. Overflows
    - II. In-Plant diversions, or Blending
    - III. Power Supply to Deep Tunnel Pumps
    - IV. Lobbying Expenses
    - V. Harbor Siphon Capacity
    - VI. Flood Management Projects

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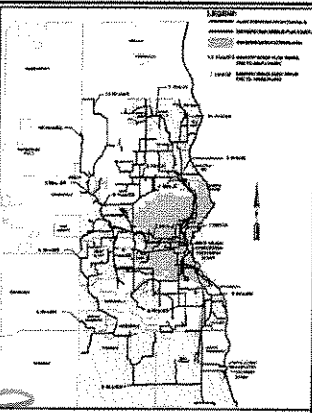
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**Travel Time**

- MMSD treats 40% of Wisconsin's sewage.
- 420 square mile Service Area.
- 23 square miles Combined Area (5.5% of total).



*Single Pipe System*

*40% of Sewerage State*

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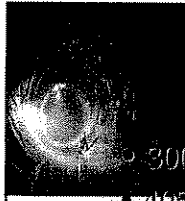
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*28 Colman,  
12 w/ in CO*

*avoider of better*



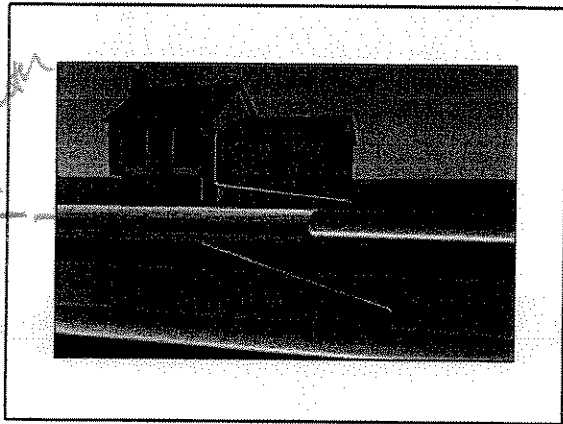
### Deep Tunnel System

- 300 feet below ground
- 405 million gallons
- 19.4 miles long
- 17- to 32-foot diameter
- Designed for 1-2 overflows a year



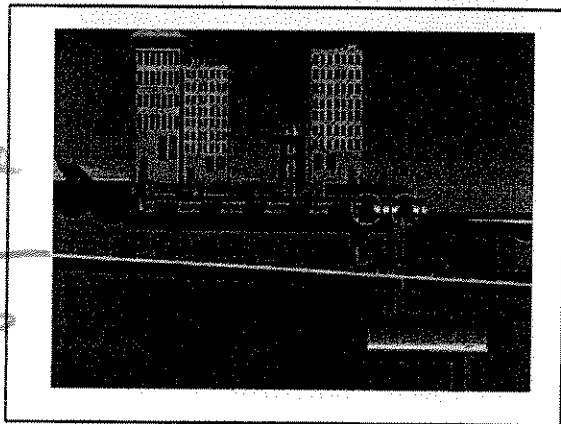
Should  
 1.4 overflow  
 once every  
 8 mos. →

① Stormwater  
 Runoff



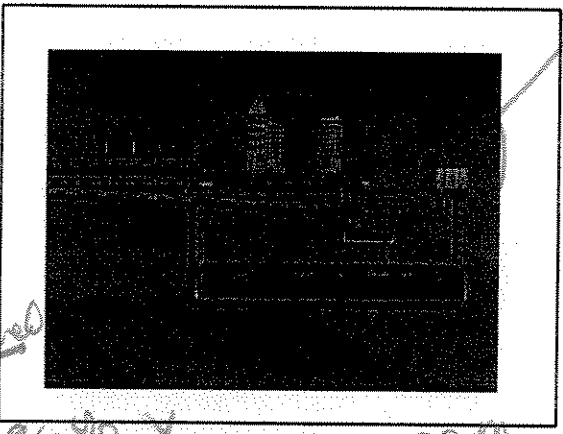
Storm sewer  
 sends urban runoff

② 2nd level  
 levee  
 of business



13-15 hrs after storm gets water in. Separate  
 system

Plant A and B



Combined area  
away  
area  
in  
treated  
95.96%

100 m  
on days

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If u don't have overflow  
then what causes beach  
closing -

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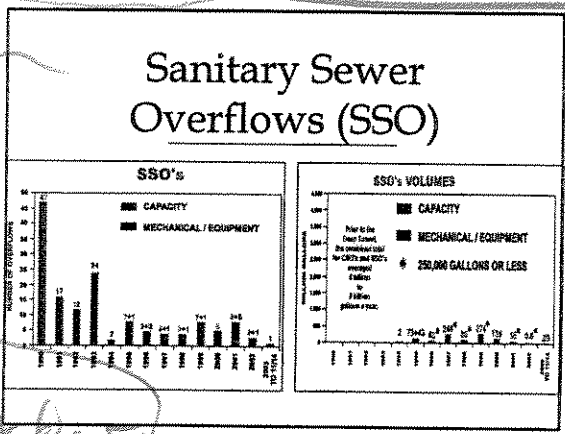
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Action Items...  
  
I. Overflows  
  
- Water quality has improved in the combined sewer area (LAB).

Both URBAN & RURAL  
cause of low hanging  
pipes - result to be  
Direct CAUSE

Simple Answer is non point. Pollution - at beaches  
Rise in BEACH closings everywhere -  
non point of non point -



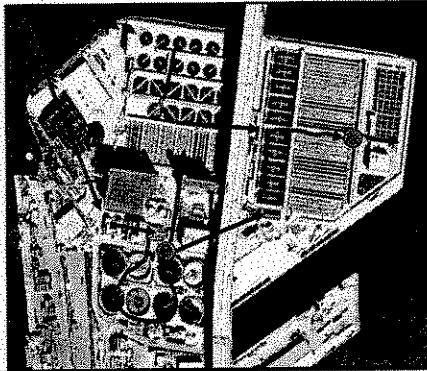
Bird Droppings  
RACINS - Groom Beach  
Cause Sun to Kill  
Root Co  
take sample = whole day look  
1/4 run flow.

Never violated  
Combined Sewer  
When HHS  
400  
SSO's

Bottom comes up sewage flow  
1/2 way at close those gaps combined  
to Preserve the space more toxic



### Treatment Process



Inflow  
Preliminary  
Primary  
Secondary  
Disinfection

*in from under water tank*

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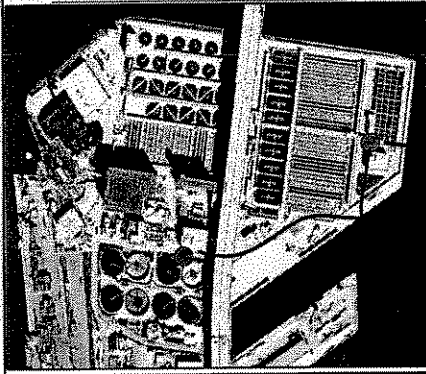
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### In-Plant Diversion



Disinfection  
In-Plant  
Diversion

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### Action Items...

- Issue Three: Power Supply to Deep Tunnel Pumps

NO ENERGIES

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*Will not happen again  
power delay -  
switch*

## Bumpless Power Switchover

- Deep tunnel has 3-50 mgd pumps.
- Two power sources: WE Energies and Jones Island turbines.
- 1994-July 2003: switching between power sources required turning off pumps for approximately 1 hour.
- Effective July 25, 2003 - Bumpless Power Switchover operational.

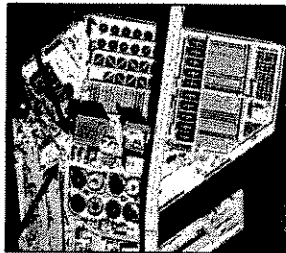


## Action Items...

- Issue Four: Harbor Siphon Capacity

## Harbor Siphon Project

- Engineering design 90% complete.
- Construction to initiate 1<sup>st</sup> Quarter of 2004.
- Projected operational in Winter 2007.



*will deliver more flow to Jones Island,*

Action Items...

- Issue Five: Lobbying Expenses

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Lobbying (Since 1998)

- Lobbying Expenditures approx. \$1,000,000
- Received \$16.9 million in Federal grants
- Received \$2.1 million in State grants
- Total grants received since 1998 = \$19,000,000
- Return on every dollar = \$19

1 m over 5 yr.  
Every 19,000,000  
State? Fed  
\$ for every 1 \$ = \$19 back

Action Items...

VI: Flood Management Projects

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**Lincoln Creek**

- Concrete Removal
- Protecting 2,025 businesses and homes

114 115 m \$  
 removed

shrank flood plain  
 area

Salmon + trout fish  
 kids fishing on Lincoln  
 Creek.

**Lincoln Creek Awards**

- Wisconsin Association of Consultant Engineers 2001 Engineering Excellence Honor Award
- Association of State Floodplain Managers (ASFPM) 2001 James Lee Witt Award of Excellence (Gold Level)
- Design-Build Institute of America 2002 National Design-Build Award for Best Project in the Rehabilitation/Renovation/Restoration Category
- American Academy of Environmental Engineers Design Category 2003
- American Council of Engineering Companies of Wisconsin 2003
- ASFPM 2003 James Lee Witt Award of Excellence (Platinum Level) for Lincoln Creek Environmental Restoration and Flood Control Management

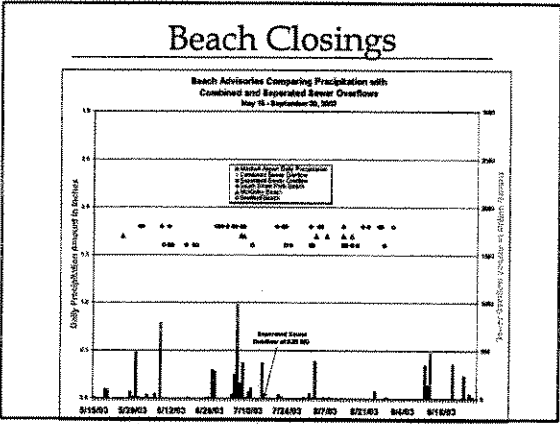
leader  
 in flood  
 mgmt

Design Build  
 8-9 hrs dead  
 saved \$1.5 m \$

**Where We are Today...**

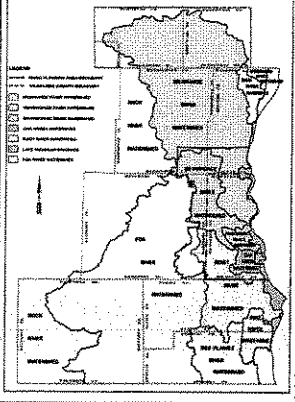
- Forced by the DNR to:
  - ✓ Spend \$900 million in system improvements by 2010.
  - ✓ 29% additional tunnel capacity.
- Federal Judge dismissed citizen's lawsuit.
- No tunnel overflows in the last 15 months

Over flow from  
 tunnel system



May 15 - Sept 30

Need Scientific Help for Plan??



**Water Quality INITIATIVE**

- The *Water Quality Initiative* involves the public in identifying sources of water pollution.
- Uses watershed approach to establish community goals and objectives for improving our rivers and lakes.
- MMSD is currently lobbying for additional Federal Participation.

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3rd lowest 7th lowest nationally ratio = low

### Where We are Today...

- Rate Study shows MMSD one of the lowest nationally.
- Everyone pays based on the same property tax rate.
- In 2004, MMSD Commission froze the property tax levy.

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**If you die  
What will  
happen to  
your family?**

Monthly Rates for 10 Year Non-Quoted Term Life Insurance

Age	Male	Female
20	\$10.00	\$8.00
25	\$12.00	\$10.00
30	\$15.00	\$12.00
35	\$18.00	\$15.00
40	\$22.00	\$18.00
45	\$28.00	\$22.00
50	\$35.00	\$28.00
55	\$45.00	\$35.00
60	\$60.00	\$45.00
65	\$80.00	\$60.00
70	\$110.00	\$80.00
75	\$150.00	\$110.00
80	\$200.00	\$150.00

**etern**  
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Posted 10/26/2003 11:41 PM

## Sewer overhauls drive fee hikes

By Larry Copeland, USA TODAY

ATLANTA — Most Americans don't give a second thought to wastewater once it swirls down the drain or toilet and out of their lives. As the sewage treatment professionals say, we flush and forget it.



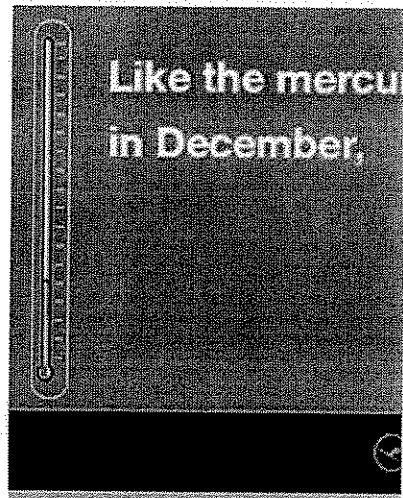
Workers Michael Robison, right, and David Splendiani tour the Nancy Creek Tunnel project in Atlanta.

By Michael A. Schwarz, USA TODAY

But where that wastewater goes next affects daily life in many ways. A city's sewer system determines whether residents can fish and swim in their rivers and streams. And for 40 million residents in 772 communities in the Northeast, South, Midwest and Pacific Northwest, it could make a big dent in their wallets.

The sewage treatment systems in many cities are outdated. Many were built more than a century ago. They need costly upgrades to meet federal clean-water standards. But the federal money available for such updates is a fraction of what it was a generation ago.

The problem is part of the challenge the nation faces in overhauling highways, bridges, mass transit and other public works systems that are straining from decades of wear and tear and the demands of a rapidly increasing population. The question is how such improvements can be made and who will pay for them.



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### Rates keep rising

Many communities that have antiquated sewer systems are passing the costs of upgrades directly to residents through higher sewer bills:

- Atlantans could see their sewer bills almost triple over the next five years as the city tries to pay for \$3 billion in improvements. Unless the city gets federal or state help, the average homeowner's sewer bill could go from about \$36 a month to \$102 in 2008. Equally alarming in a city that relies heavily on convention business, the monthly water-sewer bill for a downtown hotel could rise from \$27,000 to \$77,000.
- Indianapolis, which has some of the nation's lowest sewer bills, expects to triple rates over the next 15 years to pay for a \$1 billion update.
- Providence has raised rates four times in the past four years to fund the first phase of a 20-year, \$700 million project. The average annual residential bill has gone from \$135 in 2001 to \$235 this year. "People are definitely not happy about it," says Jamie Samons, spokeswoman for the Narragansett Bay Commission, which runs Providence's sewer system.
- The Northeast Ohio Regional Sewer District in Cleveland must complete a \$1.3 billion update over the next 30 years. Rates there are about \$35 a month. But "without any type of other source of funding, we're projecting a doubling of sewer rates over the next 10 years," says William Schatz, the district's general counsel.

The problems in these and about 770 other communities are systems that blend sewage from homes and businesses with runoff from streets, roofs and parking lots when it rains. For generations, these cities dumped untreated waste into rivers and streams whenever heavy rainfall overwhelmed the systems' ability to carry the load to treatment plants.

### Mandate for clean water

Then, in June 1969, the Cuyahoga River in Cleveland caught fire and all that began to change. Schatz notes that it was grease and oil on the river that caught fire — not the river itself. But the nation saw a river seemingly so polluted that it was in flames. That indelible image led to a national push to clean up America's waterways and to congressional passage of the Clean Water Act in 1972.

Cities that built separate systems for sewage and storm water in the first place also must meet the standards of the law and subsequent amendments. But the rules hit particularly hard at cities and suburbs that have combined systems.

Those communities were left with two options:

- They could build separate systems for sewage and storm runoff, which would mean huge disruptions and costs. "I'm not sure even God has enough money to do that," Schatz says.
- Or they could build massive underground tanks to hold the combined flows during storms. After the storm, the wastewater could be pumped to treatment plants and released into rivers. Most cities have picked the second option.

The federal government once paid 75% to 95% of the cost of such projects, industry experts say. That share has dropped to about 5%. The Environmental Protection Agency estimates that the cost of clean-water improvements from 2000 to 2019 will be \$388 billion more than federal money currently planned.

"The federal government must re-commit to funding," says Adam Krantz, managing director for government affairs of the Association of Metropolitan Sewerage Agencies, which represents 300 public agencies and other groups involved in sewage treatment. Unless that investment takes place, he says, water pollution may increase to levels before the Clean Water Act took effect.

But there is little movement in Congress to finance major clean water initiatives at a time when the federal budget deficit is at record levels.

Many cities, already struggling from a weak economy that has hurt their finances, say drastic increases in utility bills could risk driving out residents and businesses.

"We need a national water policy and we need financing for clean water," Atlanta Mayor Shirley Franklin says. "Atlanta is a poster child for how badly we need that."

But some experts say the federal government is already doing enough. "Water and sewer systems are local services that should be paid for by the people who use them," says Adrian Moore, executive director of the Reason Public Policy Institute, a Los Angeles-based think tank that promotes privatizing water and sewer systems. Charging users the full cost of water and sewer services encourages conservation and efficiency, he argues.

Moore says Congress could help local governments by letting private companies issue tax-exempt bonds for water and sewer projects. Now, only local governments can issue such bonds.

#### **Atlanta's worries**

Atlanta needs to overhaul its sewers not just to meet federal clean water rules but to handle population growth in Georgia's largest city and its suburbs.

Franklin is seeking financial help from federal, state and suburban officials to ease the burden on city residents, but they have been cool to her pleas. Gov. Sonny Perdue has said he might ask the Legislature to help but says he doubts the state will chip in the \$500 million Franklin seeks.

Atlanta officials say that De Kalb and Fulton counties, each of which includes parts of Atlanta, use the city's water treatment system but haven't helped pay for improvements.

Franklin is pushing a 1-cent sales tax increase in Fulton County. But officials in Fulton twice have refused to put the tax on the county ballot.

Some political observers say that Atlanta's sewer rates certainly will rise but that the huge increase Franklin is floating is a political gambit.

"I think this is a worst-case scenario," says William Boone, a political science professor at Clark Atlanta University. "You're just now beginning to attract people back to the city who can afford to expand the tax base in a positive way. So (Franklin) can't be thinking about increasing utility fees in a way that would frighten people away."

But Franklin rarely bluffs. She already has balanced the budget by hiking taxes and laying off city employees.

Franklin says she will pursue alternatives to the large fee hikes and appeal to the EPA on the grounds that the costs will make her city unaffordable for many residents.

The goal for Atlanta and hundreds of other cities and counties is how to keep more

pollution from flooding into rivers, streams, lakes and bays.

Says Samons of the Providence system: "I think we're at a real turning point in terms of how we're going to set the priorities and how we're going to fund them."

*Contributing: Dennis Cauchon in Granville, Ohio.*

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**Alberta Darling**  
**Wisconsin State Senator**  
Co-Chair, Joint Committee on Finance

TESTIMONY BEFORE THE JOINT LEGISLATIVE AUDIT COMMITTEE ON  
MMSD AUDIT FOLLOW-UP

November 18, 2003

Good morning and thank you Chairwomen Roessler and Jeskewitz for scheduling this follow-up hearing on the MMSD audit completed last summer by the Legislative Audit Bureau. I appreciate your help and your willingness to call the committee back today to further review MMSD's practices since the audit was released sixteen months ago, in July of 2002.

I also would again like to thank Director Jan Mueller and her team for their thorough investigation into past practices at MMSD and for helping the legislature better identify the successes and failures of MMSD's governing board and administration.

I also want to thank the representatives from the DNR and MMSD for attending today's follow-up hearing, especially Kevin Schaefer, MMSD's Executive Director. I appreciate his willingness to answer more questions today and provide more insight on what has and is being done to better the water quality in the Milwaukee-area.

Last September, when this committee convened to discuss the MMSD audit, I began my testimony by asking the question, "Why are we here?" At that time, it was because of some serious concerns many people had with MMSD's dumping of partially treated sewage, and because of some troubling financial decisions that had been made that led to severe cost-overruns. *At the time, MMSD officials promised to be more cost-conscious with the taxpayers' money, to work diligently to stop all combined sewer overflows, and to improve water quality. I sincerely hope that today's report back to the committee will show improvements in all of those areas.*

Of particular concern to me is the fact that during the audit hearing last September, MMSD officials told us that even if they experienced zero overflows that Milwaukee water quality would still not meet the necessary standards. MMSD and DNR officials both said that non-point pollution was a much bigger concern than sewage dumps into Lake Michigan. I hope officials speaking today can enlighten the committee on what has been done to fix that problem.

---

Capitol Office: P.O. Box 7882 □ Madison, Wisconsin 53707-7882 □ Phone: 608-266-5830 □ Fax: 608-267-0588 □ Toll-free: 1-800-863-1113

District Office: N88 W16621 Appleton Avenue □ Menomonee Falls, Wisconsin 53051

Email: Sen.Darling@legis.state.wi.us □ Web page: www.legis.state.wi.us/senate/sen08/news/

# Alberta Darling

## Wisconsin State Senator

Co-Chair, Joint Committee on Finance

The original audit revealed some disturbing facts.

- 1) The total number of sewer overflows had not been reduced to the extent anticipated when the deep tunnel was built a decade ago.
- 2) The expected price tag on current and future construction projects promised to be costly.
- 3) Overall water quality in the Milwaukee-area has improved, but remains substandard in certain areas, including Lake Michigan.
- 4) MMSD has been fined by the DNR for some permit violations while others hadn't been punished.

The original audit also included recommendations that I hope MMSD officials took seriously. We should hear about the steps they have taken to improve their performance.

The audit also raised concerns about the role of the DNR, and the penalties and fines they've issued, or failed to issue. It is my hope that we will hear testimony today that shows DNR officials keeping a closer watch on MMSD. As our state government's environmental watchdog, it is vital they hold MMSD to the strictest standards allowed by law.

Let me end my testimony by offering credit where credit is due. In the last year and a half, I personally have received nothing but consistent cooperation from MMSD's administration. I have been given immediate answers from DNR officials when I've asked questions, and I feel like the district and DNR are moving in the right direction together, openly and honestly. *In fact, the only way MMSD will be able to overcome it's ongoing negative public image is if it remains an open and honest form of government, accessible by all and accountable to all.*

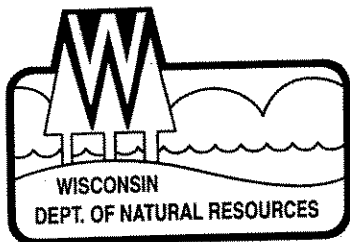
Thank you again and I look forward to hearing today's speakers and for continuing this increasingly important dialogue.

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Charles  
Burney



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LAB Testimony  
November 18, 2003

Good morning, I am Charles Burney, Special Assistant, Bureau of Watershed Management and am pleased to be here to update the information presented at the last hearing in September of 2002.

**Discharge permits:**

**MMSD Permit:** The wastewater discharge permit for MMSD was issued on March 26, 2003 and became effective on April 1, 2003. The permit contains several new provisions, including:

**Diversion Specific Monitoring** - MMSD will be required to take effluent samples from the wastewater treatment plant while in-plant diversions are occurring. MMSD will monitor chlorine residual, e-coli bacteria and pH on an hourly basis for 2003 and 2004. One mercury sample will be taken in 2003 and one in 2004 (Section 8.9).

**E-Coli Bacteria Monitoring at Jones Island and South Shore** - The permit requires MMSD to monitor for e-coli bacteria in anticipation of future EPA limits for municipal discharges. Limitations on e-coli bacteria will likely not be in place until the next permit is issued, however the department does have the ability to modify this permit to include such limits (Sections 5.2.1 and 5.5.5).

**Mercury Pollutant Minimization Program** - New state rules were promulgated in October requiring municipal treatment facilities to assess the presence of mercury in their influents and effluents. Based on the results of the analysis for mercury, the Department will determine the need for a Mercury Pollutant Minimization Program (Sections 5.2.1.5 and 8.6).

**Combined Sewer Overflow (CSO) Control Program** - A new combined sewer overflow condition in the permit requires MMSD to identify operational actions taken to maximize capture and treatment. It is the intent of the Department to implement a CSO control program based on water quality considerations. Combined sewer overflows occur in older sewer systems where stormwater and wastewater exceed conveyance and/or treatment capacity and are released to area waters. The CSO Long-term Control Plan is required to be submitted by June 30, 2007 and will provide the information needed to establish a water quality based approach. Inspections of diversion structures (structures within sewer systems that enable flows to be diverted to tunnels, interceptor sewers or combined overflow sewers) have been increased from once a month to once each week. (Section 3)

**Technology-based Requirements for CSOs** – The permit requires MMSD to monitor and document all controls put into place during each combined sewer overflow. All overflow points in the system will have these monitoring and documentation capabilities and the information collected will allow MMSD to demonstrate compliance with the national CSO policy (Section 3).

**Upgrade of Village of Bayside Lift Station at Ravine Lane** – An upgrade will be required for the lift station at Ravine Lane in the Village of Bayside to maximize conveyance and minimize overflows (Section 8.8).

**Unscheduled Bypassing Conditions** - Any unscheduled bypass or overflow of wastewater at the treatment works or from the collection system is prohibited, and the Department may take enforcement action against a permittee for such occurrences under s. 283.89, Wis. Stats. unless certain conditions are met (9.2.6).

**Local Permits:** The department has issued specific wastewater permits to four communities tributary to MMSD, in lieu of the general permit which covers the remaining communities. The specific permits contain schedules of compliance for the communities related to reduction of sanitary sewer overflows (SSOs) occurring within the local communities' collection systems. In addition, the department has held enforcement conferences with other communities to develop schedules for collection system upgrades.

### Court Order

The department continues to monitor MMSD compliance with the stipulated court order. I am pleased to tell you that all current compliance dates and actions called for in the court order have been complied with. The three projects to increase the storage capacity of the system are either under construction or commencing design and all are on schedule.

### Permit Enforcement

The only new violation of the MMSD's discharge permit occurred in July of this year when an overflow occurred during dry weather conditions. The overflow was associated with contractor activities in the area. The Secretary instructed staff to prepare a referral package for that apparent violation. The department has received numerous reports and evaluations from several interested parties during the investigation of the incident. The draft referral package is currently under review in Madison.

### Water Quality

There have been no wet weather overflows, either sanitary or combined sewer, this year, yet there continue to be water quality related issues in the Milwaukee area and Lake Michigan. These continuing water quality problems underscore the department's previous testimony, that "The Deep Tunnel was never intended to be the total solution to water quality problems in the Milwaukee River, but it has produced significant improvement. Nonpoint sources from urban and rural stormwater, residual contamination in sediments and near-stream soils, sanitary sewer overflows, upstream sources and the occasional combined sewer overflow all contribute to water

quality degradation. We need to look at all these sources using a watershed approach to determine what is the best and most cost effective solution to attaining the desired state for the Milwaukee area rivers and near-shore Lake Michigan.”

Beach closings have continued to be in the news along the Great Lakes shoreline, with dozens of closings at individual beaches caused by elevated levels of bacteria. The increased number of beach closings in recent years is a direct result of increased monitoring rather than a reflection of declining water quality. Detailed studies continue in the Milwaukee area to determine the sources of the high bacteria counts.

However, the overall water quality in the Milwaukee River has improved over time and we expect will continue to improve as further point and nonpoint controls are implemented. The department selected the Milwaukee River for a Sturgeon stocking program and has already released 50,000 sturgeon fry and just last week stocked 8 adult sturgeon, 7 of which were tagged with transmitters for tracking purposes.

#### **Statewide Activities**

The department has moved forward on developing and consolidating a statewide approach to SSOs. We formed an advisory committee, have had several meetings and have shared a draft administrative rule with the committee. We anticipate the rule package will be ready to take to the Natural Resources Board to request public hearings in 2004. The purpose of the rule package will be to establish a consistent and well-defined set of rules to regulate and address SSOs in the state. The rules will establish a prohibition on SSOs and more precisely define the “affirmative defense” provisions that mitigate any noncompliance with this provision. The proposed rules would also incorporate requirements for implementing Capacity, Management, Operation and Maintenance (CMOM) programs for all collection systems in the state. These rules will require communities to assess their collection systems, carry out annual maintenance, and plan ahead for repairs, replacements and upgrades to keep the system functioning properly.

**Questions for Milwaukee Metropolitan Sewerage District Hearing  
November 18, 2003**

Questions for MMSD:

1. Can you please explain what led to the 250,000 gallon sanitary sewer overflow in July 2003 and what steps MMSD has taken to prevent future overflows caused by human error?
2. Why didn't you provide your commission with the Triad Engineering study regarding overflow volume estimates before it was discussed in a Milwaukee Journal-Sentinel article?
3. Apparently MMSD now believes the Triad Engineering study was faulty. If so, why did MMSD pay for a faulty report? Does MMSD have new alternative estimates for the overflows?
4. Why does your \$8.5 million system to remove large and floatable materials not appear to be working as intended? If it was a faulty design, is MMSD taking action against the engineering firm that designed the system?
5. How many notices of noncompliance has MMSD written to United Water Services for contract violations? For what types of problems? Has MMSD ever fined United Water Services for a contract violation? Why? How many contract violations can United Water Services have before MMSD can cancel the contract and search for a new vendor?
6. What actions have been taken to better estimate the amount of the Deep Tunnel capacity to reserve for sanitary sewage?

Questions for DNR:

1. What enforcement action has DNR taken against MMSD for the 250,000 gallon sanitary sewage overflow that took place in July 2003?
2. Why does MMSD's new permit allow 6 combined sewer overflows annually? Could that number be reduced?
3. What action has DNR taking against MMSD for releasing condoms into Lake Michigan? Is this a violation of their permit?
4. Has DNR reviewed the Triad Engineering study regarding sewer overflow volumes? Does DNR believe that MMSD has understated overflow volume?

- Welcome everyone
- Please fill out a hearing slip to testify or register and give them to the Senate messengers
- I don't anticipate limiting testimony, but if we have a lot of speakers we may

*Alberta*  
*roll*  
1. Janice Mueller, State Auditor, LAB

2. Kevin Shafer, MMSD Executive Director

-- Any clarification needed from Janice Mueller?

3. Chuck Burney, DNR

-- Any clarification needed from Janice Mueller?

4. Senator Darling (requested this hearing)

5. Other legislators

6. MMSD Commission members if any are here:

- Dennis Grzezinski, Chair – Lawyer
- Tim Seider, Vice Chair – Greenfield Mayor
- Jeanette Bell – West Allis Mayor
- Michael D'Amato – Milwaukee Alderman
- Preston Cole – Milwaukee Superintendent of Environmental Services
- Candice Owley – Federation of Nurses Pres.
- Robert Brunner – River Hills Village President
- Bill Christofferson – Consultant
- Michael Murphy – Milwaukee Alderman
- Dale Richards – Oak Creek Former Mayor
- G. Spencer Coggs – State Representative

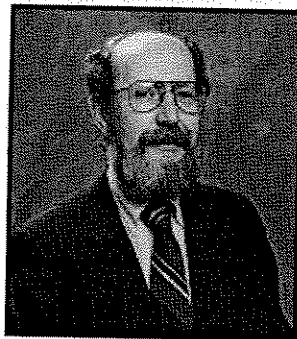
7. Public testimony

- February 10
  - March 10
  - April 14
  - May 5
  - June 9
  - July 14
  - August (Recess)
  - September 8
  - October 6
  - November 3
  - December 1
- February 24
  - March 24
  - April 28
  - May 19
  - June 23
  - July 28
  - August (Recess)
  - September 22
  - October 20
  - November 17
  - December 15

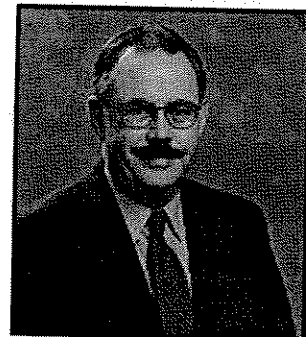
## MMSD Commission

Milwaukee Metropolitan Sewerage District commissioners' primary duties are to establish and enforce District policies in compliance with statutory responsibility. Of the 11 members, seven are appointed by the mayor of the City of Milwaukee, (subject to Common Council confirmation), and four are appointed by the Intergovernmental Cooperation Council, which includes elected officers of the municipalities within the District other than the City of Milwaukee.

Commissioners function through two standing committees: Policy, Finance & Personnel Committee; and the Operations Committee. Issues discussed by the committees include financial planning, budget recommendations, audits, personnel and labor relations, legal and legislation, public information policies, compliance, industrial development and pretreatment, and the award of contracts.

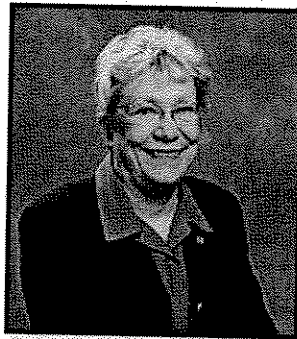


**Dennis M. Grzezinski**  
Commission Chair    Law  
Office of  
Dennis M. Grzezinski

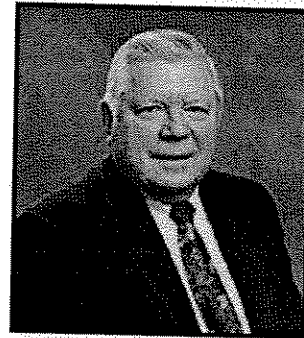


**Tim Seider**  
Commission Vice Chair  
Mayor  
City of Greenfield





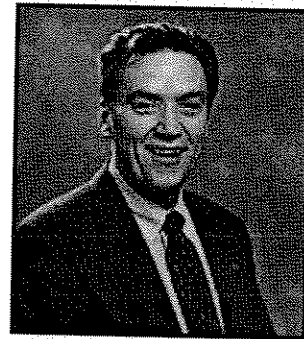
**Jeannette Bell**  
Mayor  
City of West Allis



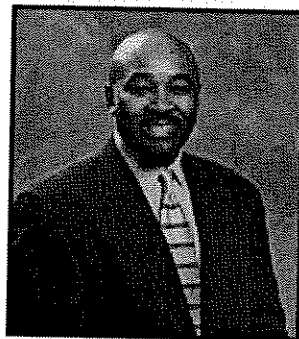
**Robert Brunner**  
Village President  
Village of River Hills



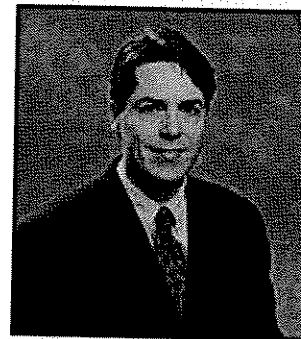
**Michael D'Amato**  
3rd District Alderman  
City of Milwaukee



**Bill Christofferson**  
Consultant



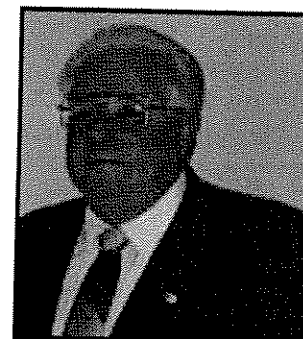
**Preston Cole**  
City of Milwaukee  
Superintendent of  
Environmental Services



**Michael Murphy**  
16th District Alderman  
City of Milwaukee



**Candice Owley**



**Dale Richards**

### **Third Audit in 10 years**

**Haven't done additional audit work – current through July 2002**

**Senator Darling requested the hearing**

**1991 Contracting**

**1997 milorganite**

**2002 overflows and compliance**

**July 2002** Evaluated **sewer overflows**, the district's efforts to reduce overflows, changes in water quality in Milwaukee-area waterways, compliance with DNR wastewater discharge permits.

#### **Main Points:**

1. Sewer overflows have not been reduced to the extent anticipated
2. Sewer overflows have multiple causes
3. Plans to increase capacity and reduce flooding will be costly
4. Water quality has improved in parts of the Districts' service area
5. District may not have met all conditions of its permit

#### **Sewer overflows have not been reduced to the extent anticipated**

- Deep Tunnel has reduced number and volume of sewer overflows in Milwaukee area – average discharge of untreated wastewater reduced by 7.2 billion gallons annually (81.3% reduction from estimated pre-tunnel levels)
- At time of construction expected to virtually eliminate sewer overflows and significantly reduce combined sewer overflows.
- Contrary to these expectations, been an average of 4.9 sanitary sewer overflows and 3 combined sewer overflows annually since Deep Tunnel built.
- District discharged a total of 13.2 billion gallons of untreated wastewater since 1994 (Deep Tunnel began operation).
  - 12.3 billion gallons from combined sewer overflows allowed under DNR operating permit
- 936.7 million gallons from sanitary sewer overflows

#### **Sewer overflows have multiple causes**

- Large storms
  - 64% of overflow since 1994 discharged because system could not capture wastewater generated by storms of a size it was designed to handle.
- Storm water infiltration into sewers
- Capacity issues in Deep Tunnel, sewers and treatment facilities
  - 17.4% increase in water inflow and infiltration from municipals served by the district
  - Problem with siphons that limit amount of wastewater conveyed to one of Districts 2 treatment plants
  - Sediment deposits in the Deep Tunnel
- Operational policies
  - 107 million gallons untreated wastewater was discharged from June 1999 to June 2001 due to turning off Deep Tunnel pumps while switching to a lower-cost source of electricity.

## **Plans to increase capacity and reduce flooding will be costly**

- District plans to spend \$786.4 million to increase capacity to address limitations of sewer system:
  - Construction of 116 million gallon additional storage capacity for sanitary sewage (28.6% over Deep Tunnel current capacity)
  - Improve conveyance system
  - Purchase storm tracking and real-time flow monitoring equipment to predict storage capacity needs
  - Increase treatment plant capacities
    - 27.1% Jones Island
    - 23.1% South shore
- District plans to reduce amount of storm water entering the sewer system:
  - Fund \$2.1 million local demonstration projects and adopt new inflow and infiltration limits. Effort to reduce are intended to reduce inflow and infiltration by 5% district-wide through 2010
  - Require municipalities to include runoff management systems as par to development plans
- Through 2001 District spent \$133.8 million for watercourse improvement projects expected to reduce flood damage, sewer overflows and improve water quality. LAB reviewed financial data for both completed watercourse improvement projects and those not completed. LAB found actual costs have been significantly higher than projected.
  - Ex. Lincoln Creek project to protect approximately 2,000 homes projected to cost \$71.4 million now \$115.4 estimate (63.9% increase)
- District plans to spend \$410 million on watercourse improvement projects to reduce flood damage, improve water quality and reduce inflow of storm water into system through 2010 including \$131.3 million for Milwaukee River watershed and \$192 million for Menomonee River watershed.

## **Water quality has improved in parts of the Districts' service area**

- Water quality has generally improved within the City of Milwaukee and the Village of Shorewood (the combined sewer area)
- Water quality outside the combined sewer area has not improved substantially since 1994
- DNR report indicated neither Lake Michigan nor Milwaukee-area rivers currently meet designated water quality standards specified in federal and state law.
- Other sources of pollution, including nonpoint sources, continue to adversely affect water quality in the District's service area.

## **District may not have met all conditions of its permit**

- 4 times between 1994 and 2001 the District appears to not have submitted timely reports to DNR on sewer overflows (submitted in quarterly reports – approximately 90,000 gallons of untreated wastewater) DNR did not issue a notice of noncompliance.
- District exceeded groundwater standards for coliform bacteria in 29 wells since 1994.
- These isolated violations of permit conditions did not result in formal enforcement actions by DNR.

MMSD special-purpose municipal corporation that provides sewer services to the City of Milwaukee, most of Milwaukee County, and all or part of a number of municipalities in Waukesha, Ozaukee, Racine and Washington Counties.

Each municipality served by the district owns and operates its own sewer system. Wastewater from the local sewer flows into the District system of collector sewers (interceptor sewer system) before conveyed to 1 of 2 treatment plants or to the Deep Tunnel (19.4 miles of temporary storage tunnels at depths of up to 325 feet) District also maintains 153 overflow points from which untreated wastewater may be discharged into local waterways during periods of heavy rain/snowmelt.

The Water Pollution Abatement Program is a comprehensive, multi-year, and \$2.3 billion sewer improvement program started in 1986 to comply with stricter federal water quality standards. The interceptor system and Deep Tunnel are part of this program.

In 1994 \$716 million Deep Tunnel put into operation and since concerns raised about both performance and the continued discharge of untreated wastewater into Lake Michigan and other Milwaukee-area waterways.

Deep Tunnel has reduced number and volume of sewer overflows.

- Before 1994 average of 50 overflows annually
- In the following 8 years, 39 sanitary sewer overflows and 24 combined sewer overflows.
- District estimates Deep Tunnel captured more than 40 billion gallons of wastewater and prevented 240 sewer overflows since '94.
- Average annual volume of sewer overflows reduced by 7.2 billion gallons annually (81.3% from estimated pre-tunnel levels)
- At time of construction expected to virtually eliminate sewer overflows and significantly reduce combined sewer overflows.
- Contrary to these expectations, been an average of 4.9 sanitary sewer overflows and 3 combined sewer overflows annually since Deep Tunnel built.
- District discharged a total of 13.2 billion gallons of untreated wastewater since 1994.
  - A. Storm Size
    - 36%/4.8 billion gallons released because 5 large storms beyond designed storage capacity) 1940 storm 6 inches – 1997 – 8.1 inches
    - 64%/8.4 billion gallons released occurred because sewer system and tunnel proven insufficient to capture wastewater generated by smaller storms
  - B. Other factors contribute to sewer overflows:
    - water inflow and infiltration into municipal sewer systems has increased by 17.4 % over 1980 levels
    - capacity problem caused by siphons that limit amount of wastewater conveyed to the treatment plant
    - sediment deposits in the Deep Tunnel reducing its capacity
    - policies and strategies adopted by MMSD and United Water Services Milwaukee (operates and maintains the 2 treatment plants and conveyance system)
- Both MMSD and United Water Services made efforts to eliminate sanitary sewer overflows, overfilling the Deep Tunnel and minimize combined sewer overflows
  - Efforts to eliminate sewer overflows resulted in larger combined sewer overflows than would otherwise occurred. 107 million gallons untreated wastewater discharged from June 1999 to June 2001 because temporarily turned off Deep Tunnel pumps because switched to lower-cost electricity source. Saved \$515,000 switching power sources.

- District plans to spend \$786.4 million to increase capacity to address limitations of sewer system:
  - Construction of 116 million gallon additional storage capacity for sanitary sewage (28.6% over Deep Tunnel current capacity)
  - Improve conveyance system
  - Purchase storm tracking and real-time flow monitoring equipment to predict storage capacity needs
  - Increase treatment plant capacities
    - 27.1% Jones Island
    - 23.1% South shore
- District plans to reduce amount of storm water entering the sewer system, Deep Tunnel and treatment plants by:
  - Adopt new inflow and infiltration limits. Effort to reduce inflow and infiltration by 5% district-wide through 2010
  - Adopt rules to require municipalities to include runoff management systems as par to development plans
  - \$410 million spend on watercourse improvement projects to reduce flood damage, improve water quality and reduce inflow of storm water into system.

#### Costs higher:

- LAB reviewed financial data for both completed watercourse improvement projects and those not completed. LAB found actual costs have been significantly higher than projected.
  - Ex. Lincoln Creek project to protect approximately 2,000 homes projected to cost \$71.4 million now \$115.4 estimate (63.9% increase)
- Districts cost projects for a watercourse improvement project to protect 425 properties and 315 structures from a 100-year flood have more than doubled since 2000
- District estimates through 2020, a 100-year flood in the Menomonee River watershed would result in \$13.2 million in damages to structures
- August 2000 projected costs are \$192 million, \$108.9 million more than originally projected.
- District start work on comprehensive 2020 Facility Plan array of alternatives for reducing future overflows, preventing flooding, protecting the environment and improving water quality. Plan completion expected in 2007.

#### Water quality:

- Water quality has improved within the combined sewer area, but water quality outside the combined sewer area has not improved substantially since 1994
- DNR report indicated neither Lake Michigan nor Milwaukee-area rivers currently meet designated water quality standards specified in federal and state law.

#### Permits:

- Since 1994, the District has never violated the terms of its permit related to combined sewer overflows.
- Permit allows either up to 6 combined sewer overflows per year, or the capture and treatment of at least 85% of the total annual wet-weather wastewater collected in the combined sewer area.
- 39 sanitary overflows since 1994- permit prohibits sanitary sewer overflows unless they result from equipment damage, temporary power interruption, excessive storm runoff, or unless they are unavoidable and necessary to prevent loss of life or severe property damage.
- DNR alleged 8 of 39 sanitary overflows violated the District's permit.
- March 2002 DOJ and DNR filed lawsuit against the District in Milwaukee County Circuit Court.
- DNR and District entered into a stipulated settlement of the lawsuit under which the District agreed to implement a number of initiatives to reduce future overflows.

- 4 times between 1994 and 2001 the District appears to not have submitted timely reports to DNR on sewer overflows (submitted in quarterly reports) which did not issue a notice of noncompliance.
- District failed to meet other conditions of permit on several occasions.
  - Standards for coliform bacteria have exceeded standards in 29 wells since 1995.
  - Deep Tunnel filled to higher than permitted level 5 times since 1994.
  - Historically DNR relies on informal administrative enforcement procedures, permit compliance schedules, and authority to deny requested sewer extensions to achieve compliance with permits conditions.
- Sewer overflows occur throughout WI. Between 1996 and 2000 288 communities reported total 988 overflows (564.1 million gallons of wastewater discharged)
- DNR strategy to get compliance with federal and state requirements is to
  - identify and map every sewer overflow location in the state
  - work with communities to improve reporting of overflows
  - address problems of clean water inflow and infiltration into sanitary sewer systems
  - require communities that experience chronic sewer overflows to address their underlying causes.

Clip Notes:

June 2003 Slick of spent condoms floating in Milwaukee harbor spark angry dispute

MMSD blamed United Water Service (Private company operates sewer and treatment plant)

United Water Services (Terry Tobel project manager) shot back the new \$8.5 million system designed to screen out condoms and "floatables" doesn't work and never has

Both say no proof condoms came from treatment plant

Condoms that get through the screen often fill with air and pop to surface in the harbor looking like "silver fish."

Kevin Shafer (MMSD) ordered United Water Service to send workers in boats to remove floatables, clean tanks and basins, and submit weekly written reports.

Terry Tobel said MMSD staff equipment would not be replaced for 18 to 24 months.

Kevin Shafer request for bids to fix the system is being prepared.

Kevin Shafer said district considering taking legal action against Greeley and Hansen Environmental Engineers of Chicago – designers of the system

Grit system at Jones Island first point where pollutants are to be removed from the wastewater.

Workers have been using nets to manually remove these floatables in the primary clarifiers

United Water runs District's 2 treatment plans and the deep tunnel sewage system since 1998. System screening floatables doesn't work despite \$8.5 million cost

In May a United Water employee was blamed for release of \$2 million gallons of partially treated sewage into the lake

Last September toilet water was dumped directly into Milwaukee River downtown.

If can't do satisfactory job, maybe the district needs to look elsewhere.

Performance review said Milwaukee area served well by United Water Services and MMSD.

At a high level in a manner that compares favorably with similar agencies across the nation.

Water quality in the area has improved markedly over the last several decades.

Recommendations for system of financial incentives for better maintenance, decrease frequency and quantity of sewage release and how long can United Water lose money on the operation.

Believe Shafer is working hard and is sincere in efforts to communicate accomplishments and challenges it faces.

While accidental dumpings have occurred fairly often, this is the first time the DNR has decided to take the district to court. The other recent incident did prompt the DNR to cite the district for violating its operating permit, also an unusual action.

Michels crew was cleaning large sewer and workers were unable to completely close and gate and stop sewage from entering the work area. The sewage backed up into a smaller sewer and then was dumped into the creek when the sewer overflowed. July 2003

**Report** finished in December 2002 – Shafer did not release until July 2003. Had commission members and others wondering why they didn't get copies of the report.

Milwaukee based TRIAD Engineering did the report that said raw sewage dumped after 3 big rainstorms - MMSD lowballed by an average of 72% in reports filled with the state.

Inaccuracies crop up in measuring stream elevations and gauges sometimes don't work properly the study said. The report also said the mathematical model MMSD used for calculating sewer overflow rates was outdated. MMSD has been using a technique to estimate the amount of sewage dumped during a storm that was developed in 1986 before the deep tunnel was completed.

Report also concluded MMSD has likely vastly underestimated the amount of sewage dumped since the tunnel system opened in late 1993.

Study recommended 10 steps for improving the measuring of sewage dumping, including replacing the old mathematical formulas and updating the techniques for computing river levels.

Triad provided a preliminary version of its report to MMSD in January 2002, another draft version in August and final report in December.

Dumping tally should be nearly 4.9 billion gallons instead of the 2.9 billion gallons MMSD reported to the state.



Shafer said problems with the computer program and they don't have it. Later did have it but the computer program doesn't work due to a computer glitch. Looking at numbers to see if this is an accurate report.