

Improving Water Quality in the Menomonee River Watershed: Challenges and Opportunities for a Watershed Approach

A Report by the River Alliance of Wisconsin
July 2009

Executive Summary

The River Alliance of Wisconsin conducted interviews with staff, elected officials and citizens in the nine municipalities comprising 96% of the Menomonee River basin. The purpose of the interviews was: to understand the challenges, successes and commitments to water quality in each municipality; to learn under what circumstances municipalities would be willing to join forces to achieve regional water quality goals; and to develop ideas for outreach and education to build support for working together across the watershed.

General Conclusions:

Water quality concerns are overshadowed by flooding and drinking water supply concerns. Flood control was the top concern for most of the municipalities in the basin, requiring significant investment in infrastructure improvements. A few of the municipalities are also grappling with improvements to their potable water system.

The executive branch in each municipality is generally more knowledgeable about stormwater control requirements and issues. Unless water quality concerns are raised by their district constituents or they take a personal interest in water quality issues, elected alders and trustees are less likely to have a strong working knowledge of stormwater pollution issues.

Animosity toward MMSD is still prevalent. In every municipality, the “sewer wars” were raised at least once. While some alders and trustees expressed concerns about MMSD, staff and executives did not raise personal concerns but indicated distrust was still common among citizens.

In the upper watershed, municipalities are meeting NR 151 standards. The more rural municipalities in the upper Menomonee watershed are either close to or have achieved a reduction in total suspended solids of 40% as required by NR 151.

The farther up the watershed, the more conservative the view of using tax revenue for projects outside municipal boundaries. In every municipality in the watershed, interviewees emphasized that everyone wants clean water, but spending tax revenue outside municipal boundaries to benefit regional water quality would be a hard sell.

Key Issues for Moving Forward:

The closer a municipality is to meeting NR 151 standards, the less their motivation for participating in a regional water quality project. Development of a watershed approach should include alternative means for municipal participation: for example, prorate financial obligation to level of compliance with DNR rules, or allow for facilitating land based conservation efforts in lieu of financial commitment in headwater municipalities.

Watershed projects must directly benefit each participating municipality. Viability of a watershed approach would depend upon providing a clear, demonstrable, cost-effective benefit to any participating municipality, and ensuring that participating municipalities would not be asked to do more later.

Public education will be key to helping citizens and elected officials understand the benefits of watershed projects, but the message was clear that benefits must be tangible, visible and local, and provide a one-to-one benefit for the money spent.

A multi-pronged educational approach will be critical to gaining support for a watershed approach.

- Outreach to staff of municipalities not yet involved in SWWT should be a first step.
- As the final decision-makers for use of municipal revenue, a focused educational effort should be geared to alders and trustees.
- Education of local citizens should focus on helping to increase the visibility and sense of ownership of waterways in each community, informing people of their impact on water quality and empowering them to do something about it, providing simple explanations and graphics about the relationship of runoff to overflows in terms of water quality, and providing clear examples of potential, cost-effective watershed projects.
- There may not be a way to overcome lingering anger over the operation of the sewage system, but as long as MMSD plays a significant role in a watershed effort, a distinction must be made between SWWT and MMSD — if SWWT looks like a front for MMSD, there will be resistance to participation.
- Look for ways to exchange ideas and innovations across municipal boundaries. Wauwatosa's experience with rain garden subsidies, for example, or the cost-benefit and return on investment for a particular strategy learned by one municipality could be useful for others in the watershed. This could be facilitated by SWWT.

Project Purpose

As the Southeastern Wisconsin Watersheds Trust seeks to achieve healthy and sustainable water resources through a watershed-wide approach, understanding the interest and commitment of municipalities throughout the watershed is critical. To provide insight into the prospects for and necessary steps to realize a watershed-wide collaborative effort, the River Alliance of Wisconsin conducted a series of interviews with elected officials, staff and citizens in the Menomonee River basin. Focusing on the Menomonee as a representative sample for the six river basins within the Greater Milwaukee watershed, the intent of the interviews was threefold: to understand each municipality's challenges, successes and commitments to improve water quality; to learn under what circumstances municipalities would be willing to join forces and contribute financially to achieve regional water quality goals; and to inform development of an outreach and education effort to build support for working together across the watershed. The interviews also served as an outreach tool, providing the opportunity to introduce and invite participation to those who are not currently SWWT members.

Background

Two issues provided context for the interviews. First, the Water Quality Initiative (WQI), a joint effort of the Southeastern Wisconsin Regional Planning Commission (SEWRPC), Milwaukee Metropolitan Sewerage District (MMSD) and the Wisconsin Department of Natural Resources (DNR), considered and analyzed all sources of pollution impacting water quality in the watershed. SEWRPC's 2008 Regional Water Quality Management Plan incorporated the WQI findings, and concluded that non-point pollution is the largest source of phosphorus, total suspended solids and bacteria entering the waterways in all six basins. Second, DNR is in the process of updating NR 151, the rule that establishes non-point pollution reduction standards for municipalities with separate stormwater systems. The current rule required a reduction in total suspended solids in stormwater runoff of 20% from uncontrolled conditions by 2008, and includes an upcoming deadline of 2013 to increase reductions in total suspended solids to 40%. DNR prescribes the model to calculate sediment pollution quantity, and assigns credits to a variety of Best Management Practices that factor into the model. Most municipalities around the state are well aware and expressing great concern about the costs of meeting the NR 151 standards, especially for total suspended solids, and question recent changes in the amount of credit granted for some of the Best Management Practices. This combination of a growing awareness of the significance of polluted runoff, and the difficulty and costs of controlling it, was the backdrop for most of the interview questions.

The Menomonee River begins in the rural portions of Germantown and Mequon and ends in downtown Milwaukee. The basin includes portions of seven cities, seven villages and three towns in four counties, covering approximately 136 square miles with a broad range of land uses representative of all six basins in the Greater Milwaukee watershed. While the Milwaukee River basin to the north and east of the Menomonee has a much larger agricultural area, the upper portions of the Menomonee are largely rural in nature with large tracts of

undeveloped land and low-density development. None the less, the WQI found that the greatest contributor of total suspended solids, fecal contaminants, phosphorus, nitrogen and Biological Oxygen Demand is polluted runoff from urban areas within the Menomonee basin.

Pollutant	Urban:Rural Ratio of Contribution
Total Suspended Solids	8:1
Fecals	36:1
Phosphorus	7.25:1
Nitrogen	2:1
Biological Oxygen Demand	5.6:1

Source: Regional Water Quality Management Plan, Technical Report 39

Methodology

Of the municipalities in the basin, interviews were conducted within the nine that comprise 96% of the total basin area: the cities of Mequon, Brookfield, West Allis, Greenfield, Wauwatosa and Milwaukee, and the villages of Germantown, Menomonee Falls and Elm Grove. Interviews were also conducted with Milwaukee County staff, as the county owns and manages substantial acreage along the river within several of the incorporated municipalities. All the municipalities in which interviews were conducted, including Milwaukee County, are subject to the standards of NR 151 and operate under a Wisconsin Pollutant Discharge Elimination System permit issued by DNR.

The interview process was not intended to provide a statistically valid poll of the views of each municipality, but to document a range of thoughts and opinions and draw out commonalities. In each municipality, the staff most familiar with runoff issues, the standards of NR 151, and the progress being made to comply were interviewed. Suggestions were sought from staff for which elected officials to interview, with the goal of interviewing the mayor or village president for each municipality and two to three members of the legislative branch. Of the city alders or village trustees, the goal was to speak with at least one member of each municipality’s public works committee, and at least one who likely had limited experience with polluted runoff issues. The intent here was not to put anyone on the spot or test technical knowledge, but to gather ideas for outreach and education to elected officials who are part of the decision-making process even if water quality issues are not foremost on their agenda.

To get a sense of whether citizen views were the same or different from their local government officials, and to inform outreach and education efforts to the public, another goal was to interview at least one citizen with some level of interest in polluted runoff issues in each municipality. Municipal staff provided names of citizens who were involved in runoff issues, often as members of citizen boards, local conservation organizations or property owners with runoff problems. Citizens were suggested and agreed to be interviewed in six of the ten municipalities.

Interviews were conducted over a three month period from late February to early May 2009. In total, forty in-person interviews spanning ten municipalities were conducted. The complete list of interviewees, their role and associated municipality is attached. In many instances, arranging each interview proved to be a useful outreach tool in itself as many of the elected officials and some of the staff were unfamiliar with the SWWT. On the other hand, this unfamiliarity created a significant impediment for arranging interviews. Most calls to set up a meeting required a lengthy explanation of the SWWT, an assurance that the interviews would be confidential (i.e. no direct attribution of comments), and that the questions were seeking opinions more than testing knowledge of runoff issues.

In almost every instance that an elected official was reached directly by telephone, an interview was granted. A short, written description of the SWWT and an explanation of the focus on runoff concerns in the Menomonee basin was prepared and offered by email as an introduction, but did not always result in a reply. Further, some elected officials with limited experience in runoff issues insisted they could not be useful to the project and declined to be interviewed. More than sixty individuals were contacted and forty agreed to participate.

For the sake of consistency, a series of questions was developed and asked of each interviewee. With the expectation that most elected officials and citizens would not have the same level of expertise as staff on the details of state runoff rules, questions about compliance with NR 151 were modified as needed. The complete list of questions and follow-up prompts follows. It should be noted, however, that not every question was always asked of each participant. Most of the interviews were conversational in format, and the interviewees frequently made points that touched upon some of the questions before they were asked. For the most part, interviews were completed in the allotted half hour, although several ran to over an hour depending upon the interest level of the interviewee.

Interview Questions

- 1) What is the most pressing water issue your community faces?
 - Most significant water *pollution* issue?
 - What issues of concern are raised by constituents?
 - Are resources being spent on these issues, or others instead?

- 2) For staff: What is your progress towards achieving the standards of NR 151?
 - Do you have a stormwater utility to raise funds?
 - What aspects have been most difficult to achieve and why?

For Electeds and Citizens: In terms of water quality issues, the biggest contributor of pollution to rivers and Lake Michigan is stormwater runoff. How well do you feel your municipality is doing to control stormwater runoff?

- Is there a stormwater utility to raise funds?

- 3) For staff: If you were not confined to compliance with NR 151, what are your solutions for reducing polluted runoff?

For Electeds and Citizens: The state sets requirements, based on the Federal Clean Water Act, for municipalities to control stormwater runoff. Many municipalities are concerned because remedies are very costly, and there is some concern that there might be better ways to clean up the water. If the municipality could decide on its own how to control runoff, what should it be doing?

- 4) If your municipality could join forces with others or work cooperatively on projects that could benefit you but are outside your municipal boundaries, would you? If it was an alternative to working toward your permit requirements individually?
- 5) What do you see as barriers, politically and technically, to joining forces with other municipalities?
- 6) Would you be willing to do more to improve water quality in our region, if asked?

Summary of Information Gathered For Each Municipality

For each municipality, a brief description of their location within the Menomonee basin and any information provided by staff about their compliance with NR 151 and recent stormwater control efforts is presented. A summary of views about municipal priorities related to water issues, stormwater control trials and tribulations, and the opportunities and challenges to working across municipal boundaries follows. Specific suggestions for multi-jurisdictional programs or projects and public education, if offered, are also noted. Our tour starts in Germantown, at the headwaters of the Menomonee.

Village of Germantown

The headwaters of the Menomonee River are comprised of multiple wetlands in the Village of Germantown (Washington County). At 34.4 square miles, Germantown is one of the largest villages in the state, with most of its nearly 20,000 residents and urbanized land area located in the southeast quarter of the village. 29.4 square miles of the total village area is within the Menomonee River basin. Other than the relatively small urbanized portion, most of the village is comprised of large tracts of sparsely developed land. The northeast portion of the rural area is fairly wet, while the northwest portion of the rural area has shallow bedrock. The predominant agricultural use in the rural areas is crop production, with very little dairy.

Stormwater Control Efforts

Germantown has had stormwater control ordinances in place since the 1980s requiring construction of retention/detention ponds, many of which now are in need of maintenance and cleaning. Staff indicate the village is close or has met the required 40% TSS reduction, and will be in overall compliance with their stormwater permit after a few of the older ponds are

maintained. Most of the village, other than the main streets in the urbanized area, is served by open ditches, which slow down and infiltrate stormwater fairly successfully. The village does not have a stormwater utility and there is no intention to create one in the near future, although funding for maintenance of the stormwater system has been an issue.

Community Priorities

Citizen concerns about water issues as raised to staff and elected officials are primarily related to flooding and surface drainage. The village has responded by requiring new development to control stormwater to the 100-year storm, and is focused on cleaning existing ponds to increase detention capacity. Village priorities for expenditures related to water issues have been maintaining low infiltration and inflow into the sanitary system (as a relatively new urban community, the sanitary system is fairly tight) and maintaining a high quality potable water system in the urbanized area. Their goal is to increase street sweeping and maintenance of the existing storm water ponds, but are doing what they can with the resources available.

As much of Germantown has an open ditch system to convey stormwater, standing water in ditches or overflowing ditches during storms are a primary source of complaints. While the ditch system is a key component in Germantown's ability to meet its stormwater requirements, citizens "don't like to see water in their yard, and the bigger the ditch, the more the complaints." There is some public pressure to convert to stormwater pipes, although the village has no plans to do so at this time.

Regional Cooperation

Property tax rates are a big concern among residents, and MMSD's property value-based rate structure is unpopular. The interviewees also felt citizens have not forgotten the "sewer wars," and have lingering concerns about the Milwaukee County-centric membership of the MMSD Commission and MMSD's decision to build the deep tunnel: "Germantown doesn't like subsidizing other municipalities," and, "Anyone suggesting going outside the village with money will be burned at the stake."

MMSD has made land purchases in the rural portion of Germantown through its Greenseams Program. While there is recognition of the importance and benefits of protecting the headwaters of the Menomonee River, citizens have expressed concerns about the loss of tax base with these purchases, and the limits on recreational opportunities on these lands.

While all interviewees clearly value the river running through their community, improving water quality is not a significant priority, as they believe it is in good shape now, they have a well-maintained sanitary system, and are substantially in compliance with NR 151.

Potential Projects

Multi-jurisdictional activities that may be of interest to the village would offer cost-effective ways to avoid duplication of services. As noted above, funds have not been readily available for maintenance of stormwater facilities. One suggestion was to jointly fund a stormwater facility cleaning system to clean out stormwater inlet structures and pipes. The equipment is costly, but if purchased jointly or a new business was subsidized to conduct the work, each municipality could have their facilities cleaned on a regular cycle.

Cooperative projects that generate economic development could also be of interest to the village. For example, if the upper stretches of the Menomonee River were enhanced as a trout stream and could then be promoted as a tourist attraction, Germantown may be interested in participating.

City of Mequon

Wetlands in the southwest region of the City of Mequon (Ozaukee County) form the headwaters of the Little Menomonee River. The Little Menomonee flows south through Milwaukee until it joins with the main stem of the Menomonee just north of the Wauwatosa border. The City of Mequon is 47 square miles in size with a population of 23,800, with most of its urbanized area in the Milwaukee River basin. The western 11.6 square miles of the city are within the Menomonee basin and are comprised primarily of rural and agricultural land. Significant active farming continues in the area, predominantly crop production with little dairy.

Stormwater Control Efforts

As with Germantown, most of Mequon's developed areas are served by drainage ditches instead of storm sewers. New development is required to install detention/retention ponds, and the city is proactive in protecting open spaces, re-establishing wetlands and forests, encouraging low impact development and enforcing standards. When Mequon first received their stormwater permit, TSS reduction was approximately 33%. Even with their ongoing stormwater control programs, existing ditch system and stringent development requirements, staff question the ability of the city to achieve the final 6-7% reduction without adjustments in how DNR credits control activities in their model, especially for public education. A few years ago the city attempted to create a stormwater utility that assessed agricultural land as well as urban land. The inclusion of agricultural lands in the proposed assessment was likely a significant factor in the failure of the effort.

Community Priorities

Again similar to Germantown, citizen concerns are focused on stormwater quantity, not quality. Many of the bigger flooding concerns are in the Milwaukee basin, but localized surface and farmland drainage is a cause of complaints in the Menomonee basin. A common complaint is drainage from farm fields with old, broken drain tiles leading to runoff and flooding of new developments.

Regional Cooperation

Mequon has one of the lowest property tax rates of any city in Wisconsin, and residents aim to keep it that way. All interviewees mentioned, using a variety of terms, that Mequon is extremely frugal. Given that water quality is fairly good, some doubted the city would put any funds into water quality improvements in the absence of state requirements to do so. There is also a sense that many citizens do not understand or believe that stormwater runoff is as significant a contributor of pollution to the rivers as Combined Sewer Overflows in Milwaukee, and animosity toward MMSD is still prevalent. One interviewee noted that the Milwaukee Journal Sentinel's coverage of wet weather overflows from the MMSD system, with repeated

printing of a photo of a muddy plume in Lake Michigan, has exacerbated misunderstanding of the breadth of water quality issues in the region. There is also a lack of understanding about how MMSD rate revenue is spent, and how those expenditures benefit Mequon.

The Little Menomonee River is a predominant feature in the 1700 acre Mequon Nature Preserve, located just north of the southern border of the city, but is not readily accessible or noticeable north to its headwaters. Mequon residents are much more attuned to the Milwaukee River and, as described by one interviewee, many do not realize the Little Menomonee is not just a drainage ditch. This also leads citizens to question why their sewer rates are paying for projects in the Menomonee basin.

Because there is still plenty of undeveloped land in the headwaters of the Little Menomonee, there is recognition that a watershed approach focusing funds on stream buffers and expanding MMSD's ability to purchase lands with strategic impact could be a great value for Mequon, as long they were credited toward compliance with NR 151. In any case, given the community's concerns about how their taxes and fees are spent, participation in regional water quality efforts would hinge upon a clear demonstration that the city was getting its fair share, a one-to-one benefit for the money spent.

Village of Menomonee Falls

The Menomonee River flows south along the eastern border of the Village of Menomonee Falls, Waukesha County. The eastern 18 square miles of the 33 square mile village are within the Menomonee basin, and Lilly Creek and the poetically named Butler Ditch are main tributaries flowing through the village. With a population of nearly 33,000, most urban development is located in the northeast region of the village straddling the river. There are substantial wetlands and rural areas to the west and south of the urban area.

Stormwater Control Efforts

Older development in the village is commonly served by ditches instead of stormwater pipes. The village began working on controlling pollution in stormwater before NR 151 was approved, requiring controls for new development. Local developers are on board and are now designing stormwater controls as amenities. Conservation subdivisions have not been embraced, however, as the maintenance of narrower roads with ditches can be more costly than curb and gutters. The village has met their 2008 TSS reduction standard at 21%, and will update their stormwater plan in 2010 to determine what actions must be taken to meet the 40% reduction requirement. Menomonee Falls has a stormwater utility to help fund control projects, but staff are concerned that changes in the credit attributed to street sweeping and in the computer model used to calculate sediment pollution quantity will make it very difficult to meet the 40% reduction standard.

Community Priorities

As their neighbors to the north, Menomonee Falls residents have not raised concerns about water quality, and the river is becoming more and more of a focal point for recreation and fishing. Flooding is a far greater concern, including standing water in yards and ditches, and

sewer back-ups during big storms. Since the big flood of 1997, the village has done considerable work to upgrade their sanitary sewer system. Drinking water supply is also high on the list of concerns for residents. The eastern portion of the village is supplied with Lake Michigan water, but the more rural western portion is primarily served by private wells. Residents there are concerned about the impacts to their wells from a new well in the Village of Lannon, a municipal island surrounded by the Village of Menomonee Falls.

The village is working to raise awareness of the need to improve water quality, holding river clean-up events and popularizing rain barrels, and supports a multi-jurisdictional effort to provide education and outreach as required by their stormwater permit. One of the public perceptions that must be overcome is that drainage ditches are part of the stormwater system, and provide better pollution control than closed systems.

Regional Cooperation

Given the general view that Menomonee River water quality is acceptable, it is unlikely the village would prioritize funding for water quality projects if not required to do so. None the less, staff attribute NR 151 for a better understanding of how their sanitary and stormwater systems work, and improvements to their sewer system through elimination of illicit discharges.

Also as their neighbors to the north, Menomonee Falls residents still remember the “sewer wars,” and “enough people still see them as a reason not to work together.” There is recognition that current MMSD management is looking to work as a partner with municipalities in its service area, but that might not be enough for some of the sewer war veterans to embrace participation in regional efforts.

City of Brookfield

At 27 square miles in area with a population of nearly 40,000, the City of Brookfield in Waukesha County is traversed by Underwood Creek, a major tributary to the Menomonee River. The eastern 13.5 square miles of the city is within the Menomonee basin, and includes the majority of the city’s commercial and residential development. The city is approximately 95% developed, with older, smaller-lot residential development in the southeast and typically lower densities to the north and west.

Stormwater Control Efforts

Most residential areas, both new and old, are served by open ditches. The city has an erosion control ordinance in place. It provides education as part of the permit process and tasks building inspectors to enforce. The city also emphasizes public education and outreach about stormwater issues, providing assistance with rain gardens and developing educational materials that often serve as templates for other municipalities. Brookfield has met their stormwater permit goals for the year and has achieved 37% TSS reduction, but is concerned they may not be able to achieve the additional 3% reduction to meet NR 151 requirements. As with other municipalities, Brookfield was counting on more focused street sweeping to help them meet the reduction standard, but reduced credit for street sweeping activities in the reduction calculations makes it less likely. The city does not have a stormwater utility, but

general revenue has provided sufficient funding for multiple stormwater projects thus far. As the city is nearly completely developed, the bigger concern is available land for stormwater ponds should they be needed to achieve NR 151 standards.

Community Priorities

Again, flooding control is of far greater concern among Brookfield residents than water quality issues. As there are no industrial or wastewater discharges into Underwood Creek, and because the creek is not a focus for recreation, most citizens are probably not aware of water pollution issues. The city has invested significantly in control of stormwater volumes, especially since the big 1998 flood, including reducing sanitary sewer overflows, basement back-ups and localized flooding. Brookfield worked with MMSD to buy out several homes in an ideal area for a stormwater retention/detention facility, and constructed the facility to slow flows and reduce flooding impacts across their border in the Village of Elm Grove. While flow control has been the biggest priority, the city works to incorporate water quality improvement measures into all stormwater projects.

A second big concern for Brookfield is a secure drinking water source. It is city policy to provide high-quality municipal water to all residents. The city provides service to about 75% of its residents now, and is investigating a new well. If Elm Grove decides to purchase Lake Michigan water from Milwaukee, Brookfield would like to see their pipes sized sufficiently to potentially provide pass-through supply in the future.

Regional Cooperation

Brookfield has demonstrated its willingness to work across municipal boundaries for mutual benefit. According to staff and elected officials, the city may be willing to do so again as long as there is clear value. In addition to contributing to the greater good of the region, financial participation in water quality improvement projects outside municipal boundaries would need to show statistically valid, visible environmental improvements, be practical in scale and complexity, be fair for all participants, give credit to the city for its participation, and be shown to be the most prudent overall way of doing business. Pollution trading was mentioned as a potential means. Starting out with smaller, lower cost, easier to implement projects was suggested as a way to gain acceptance before proposing big, multimillion dollar projects.

While the animosity expressed about MMSD from the northern part of the Menomonee basin did not surface in Brookfield, there were several questions raised about the overall fairness of a watershed approach. For municipalities such as Brookfield that are close to or already achieving their stormwater permit requirements, what's in it for them? What is the real or at least perceived value for the community? How can a program be structured that accounts for those communities that have planned and invested and those that haven't? Another concern is certainty – if municipalities participate in a watershed program as an alternative to individually meeting NR 151 standards, what is the guarantee that requirements won't change and they will be required to do more?

Potential Projects

Interesting ideas that came up during interviews include:

- Brookfield advertises the value of water based on public expenditures for the water supply – help citizens understand the value of clean water
- Amend the plumbing code to allow sump pumps to be disconnected from the stormwater system
- Provide incentives to citizens to do the right thing – help create planting plans for rain gardens, sell rain garden plants at low cost
- Place greater emphasis on infiltration over moving more water faster; allow rain garden plants in ditches

Village of Elm Grove

The Village of Elm Grove (Waukesha County) is the smallest community in the Menomonee watershed with a population of 6200 and an area of 3.3 square miles. It is surrounded to the north, west and south by the City of Brookfield; the City of Wauwatosa forms its eastern boundary. Underwood Creek bisects the village and runs through its business core, flowing beneath the parking lot that serves the shopping area. Outside of the business area, the village is characterized by large-lot residential development. The residential area is built out, and reconstruction is the only form of development occurring.

Stormwater Control Efforts

The village is served by open ditches to transport stormwater, and three detention facilities. Their stormwater control ordinance includes a limit on impervious surfaces, and educational programs have heightened citizen understanding of stormwater pollution. Elm Grove staff reported that people call when they see a silt fence down or improperly installed or when Underwood Creek runs brown, and that DNR is responsive when complaints are raised to them.

A stormwater utility was formed specifically to pay for the most recent of the three detention ponds. This \$13 million project, half of which was funded by the village's Tax Increment Financing district, was highly controversial but, after the floods of 2008, heartily embraced. The project entailed enlarging an existing pond in a manicured park adjacent to the Village Hall. Citizens were concerned about changes to the park, which now has a nine acre pond surrounded by natural vegetation and dry detention. After a nearly two-year process with more than twenty workshops to solicit community input, the work was completed in 2007. The village business area had been under water after a big flood in 1998, which also caused power outages that lead to sewer back-ups in 50% of basements across the village. In the 2008 floods, the village was high and dry. Also, as the native plants began to bloom and ground-nesting birds appeared, the citizens most concerned about the changes in appearance of the park have come around to the notion of a more natural shoreline around the new pond.

Community Priorities

As with the other municipalities in the Menomonee watershed, most stormwater investment has been focused on flood control, with water quality improvement as the secondary benefit. One view expressed was that the NR 151 standards didn't force the village to do anything they hadn't already initiated, and they are on track to achieve the 2013 TSS standard. None the

less, village staff echoed other municipalities that the changes in credit granted for street sweeping and changes to the model used to calculate sediment pollution quantity have been “maddening,” and also noted that TSS may not be the best measure for pollution reduction for places like Elm Grove which doesn’t have any industrial land. Providing credit for the filtering of stormwater that occurs in the open ditch system was suggested as a desirable change in the calculation of TSS reduction.

With their greatest concerns with flooding alleviated, Elm Grove is now focused on water supply. The village is currently served exclusively by individual and community wells, some extremely shallow, and water quality is poor. Iron and hydrogen sulfide corrode water fixtures and cause clothes to come out of the washer tinted orange. The business area needs a reliable source for fire suppression. There has been long-term resistance to developing a municipal supply, but as older residents turn over properties to younger families and the poor supply has begun to hinder economic development, demand for a better supply has been building. The village is into their fourth year of developing a public water supply plan and seeking community input, and implementation of their plan will be their next water priority.

Regional Cooperation

Viewpoints were mixed about the viability of regional cooperation on stormwater control. The village has experienced direct benefits from the new retention/detention facility constructed by the City of Brookfield just outside the village boundary, but there is still some animosity toward Brookfield as their sewage flows through the village. In the past, Brookfield approached Elm Grove about shared projects, but were turned down. Staff work well together across the Brookfield/Elm Grove boundary, but “regional cooperation ebbs and flows depending on the times and the change-over of elected officials.”

The timing is also difficult for Elm Grove to consider financial involvement in regional stormwater projects given their recent major investment in their new stormwater control facility and upcoming water supply efforts. All interviewees spoke to the importance of public education in order to reach the “siren level” necessary to gain support for spending funds on projects outside the village. Creating a better understanding that everyone contributes to the problem and providing suggestions for what citizens can do about it – rain gardens, on-site erosion control – should be part of an educational effort, as well as providing easy-to-understand information about how end-of-pipe regulations are reaching a point of diminishing returns. Potential regional projects must demonstrate quantifiable results and direct benefits to the village before taxpayers would be willing to participate, and the village must be part of the process in deciding on priority projects: “I’m going to decide on the projects and you’re going to pay for it just won’t fly.”

Several of the lessons learned through the process leading to construction of Elm Grove’s new stormwater facility could help build support for shared stormwater control projects. First, educational efforts must reconnect people to their river, especially in more urbanized areas where people often aren’t aware it exists. Local signage should be used to identify rivers and events planned to encourage interaction – fishing tournaments, clean-ups. Many people are more attuned to the aesthetic value of a waterway instead of water quality, so focus on how projects will improve aesthetics. Involve citizens in the planning of specific projects and

demonstrate how their input is put to use. In the Elm Grove project, grade school kids were asked to participate, and one suggested using the diggings for the expanded pond to build a sledding hill. It happened, along with frequent access points to the new pond, which had been one of the concerns about the natural shoreline plantings.

City of Greenfield

The City of Greenfield in Milwaukee County has a population of 35,500, and 2.9 square miles of its 11.6 square mile area is within the Menomonee watershed. The city is predominantly built out, criss-crossed by freeways which generate considerable stormwater runoff, and traversed by Honey Creek flowing north to West Allis.

Stormwater Control Efforts

Greenfield has been conducting street sweeping and leaf collection, but has not yet invested in capital stormwater projects. The Stormwater Steering Committee, formed to advise the city's Board of Public Works, has recommended formation of a stormwater utility, but the board has not yet passed on the recommendation. Most stormwater utilities only charge fees for private impervious surfaces; the proposed utility attributes associated road areas to private parcels to account for road runoff. The 2008 storm resulted in standing water in yards and sewer back-ups, which may generate more public support for a utility.

The city is at 16% TSS reduction, and as with other developed urban municipalities, doubts they will be able to achieve the 40% reduction requirement. One suggestion for revising the calculation for TSS reduction is to credit municipalities that contribute financially to MMSD's operation of the deep tunnel system. As the deep tunnel provides storage of combined sewage so that it can make its way through the treatment plant, some believe treatment of stormwater in the combined system should be credited toward TSS reductions; Greenfield further believes contributing municipalities should also receive that credit.

Retention/detention ponds are recognized as the best bang for the buck for stormwater quantity and quality control, but: "Do you want a \$25 million Target that brings in jobs and revenue, or use that last bit of developable land for settling ponds?" "How do you take a century's worth of infrastructure geared to moving water away and retrofit it?" Overall city priorities for expenditure of tax money are, in this order: police and fire; roads; state-mandated municipal services such as election and health services; and quality of life issues such as libraries and parks. Without the stormwater utility, it is difficult to find additional funds for stormwater projects and their ongoing maintenance.

Community Priorities

In terms of water quality, citizens are most concerned about basement back-ups, beach closures and overflows into Lake Michigan. As with most older communities, inflow and infiltration of lateral sewer lines contributes to basement back-ups. The public portion of the sewer system is in fairly good shape, but requiring replacement of private lines without public assistance is difficult and controversial. Many citizens believe Lake Michigan is polluted because of MMSD, and can't understand why that is when they pay so much for sewer

service. There is still animosity towards MMSD about how rates are set, and concern that “MMSD equals Milwaukee; it is not a true regional government.”

Regional Cooperation

The interviewees saw value in working cooperatively to improve water quality, but expressed concerns about the structure of a watershed approach. The accountability of “a new MMSD or MATC” is a concern for citizens, who fear “new monolithic organizations.” A strong public education program, creating a strong link to drinking water quality, would be necessary to win support. A suggested campaign slogan: All drains lead to our drinking water.

City of West Allis

With a population of 60,300, the City of West Allis (Milwaukee County) has 6.8 square miles of its 11.4 square mile total area within the Menomonee watershed. Honey Creek flows north across the city and under State Fair Park, joining with the Menomonee River in Wauwatosa. West Allis is completely developed, with no land readily available for new stormwater ponds.

Stormwater Control Efforts

As an older, completely developed community, West Allis is struggling to achieve the NR 151 standards. The city has one of the first stormwater utilities in the state and has been working on street sweeping, catch basin cleaning and other techniques to reduce TSS. However, even with a steady source of revenue, it is unlikely the city will meet the 40% TSS reduction standard due to the lack of available land for retention/detention facilities. As with other municipalities, changes to the crediting of street sweeping has also affected TSS reduction calculations; the city is currently at only 4-5% reduction. West Allis is also requiring more landscaping for new development: “The days of paving over an entire lot for an auto dealer are done,” and touting stormwater controls as benefits to the aesthetics of new development.

Community Concerns

Flooding is the greatest water concern to residents of West Allis, with big back-ups common where Honey Creek flows under State Fair Park. Leaky sanitary lateral sewer pipes contribute significant inflow and infiltration into the sanitary system, resulting in sanitary sewer overflows during storms. Financial priorities for the city are infrastructure improvements to correct these situations. New storm sewers and catch basins are typically installed as part of road improvement projects.

Citizens are aware of Honey Creek as it is featured in several parks within the city, but water quality issues are most apparent and of greatest concern in lagoons along the creek. “Nobody expects a crystal clear stream, but it should be clean enough for wildlife and fish.” The benefits of clean water, especially in such a heavily urbanized area, may not be of great interest to citizens, but the benefits to recreational aspects of a clean stream and lagoons may have more of a draw for many.

Regional Cooperation

While there is recognition that most municipalities would not be proactive about water quality improvements without consistently-applied statewide requirements, West Allis knows it can not meet the NR 151 standards under current circumstances. For the city, "Taking a watershed perspective is hard for people to understand, but the only way to go." Farms were mentioned as the greatest water quality issue (although this is more the case in the Milwaukee watershed than the Menomonee), but the concept of investing in upstream projects with real downstream benefits as a trade-off for meeting NR 151 standards individually had appeal to the interviewees in West Allis. All agreed this concept could also be found acceptable to taxpayers with a strong educational program, and especially if an argument could be made that the state is forcing the issue, and it will save money in the long run. A good cost-benefit analysis will be necessary for any shared projects.

City of Wauwatosa

Wauwatosa in Milwaukee County is traversed from its northwest corner to its southeast corner by the mainstem of the Menomonee River, and two of the primary tributaries, Underwood Creek and Honey Creek, join the mainstem within the city. The 13.2 square mile city is entirely within the Menomonee watershed, and has a population of 44,800. Wauwatosa is completely developed, but the river and creeks are almost entirely within park land.

Stormwater Control Efforts

The city has undertaken a variety of activities to reduce pollutants in stormwater runoff, and while they have met the 20% TSS reduction by 2008 requirement, are not sure they will be able to achieve the 40% reduction by 2013. Wauwatosa has a stormwater utility, and is using the revenue to replace storm sewers, inspect outfalls, monitor and seek remedies for bacteria at outfalls, add catchment basins when rebuilding streets, contract with Milwaukee for street sweeping, and encouraging rain gardens with a \$5/square foot reimbursement for up to 500 square feet of rain garden installation. A goal is to install cost-effective, small settling ponds before outfalls where possible, and they are looking into the effectiveness of adding sand filters to remove TSS and phosphorus. The city also has a big-box ordinance, requiring reuse of existing commercial buildings, and providing incentives for green development and underground vaults for stormwater control. Staff also look for opportunities to provide education about water quality issues through issues brought before the Wauwatosa Common Council, and as council meetings are televised, gear presentations to provide public education as well.

Despite these efforts, the lack of available land for larger retention/detention facilities will make it difficult for Wauwatosa to meet NR 151 standards. The park land bordering the waterways in the city is important for filtering and infiltration of stormwater, but is also a tempting target for stormwater facilities. Wauwatosa is engaged in two major projects with MMSD and Milwaukee County that will provide significant flood control and secondary water quality improvements at Hart Park in the Wauwatosa Village and the Milwaukee County Grounds.

In addition to the lack of available land for ponds, the city shares the concerns expressed by many of the other municipalities regarding DNR's model for calculating sediment pollution quality. For example, credit is given for intense street sweeping to remove sand spread during the winter, but credit is not given for lighter dust sweeping in summer. The model also doesn't provide sufficient credit, in the view of Wauwatosa staff, for multiple tracks of treatment: catchment basins, for example, are not credited if street sweeping is also conducted. There was general agreement among Wauwatosa interviewees that having state standards, and pressure from DNR to meet the standards, is crucial to getting local funds directed to activities that improve water quality, but also general agreement that the specifics of implementation were too inflexible and difficult to adapt to built urban areas.

Community Priorities

Flooding and basement back-ups once again top the list of citizen concerns. As a result, Wauwatosa has directed city funding to flood control projects and improvements to the sanitary sewer system. In the past, Wauwatosa dealt with sewer line issues discovered during road rebuilding, but is now taking a systemwide approach to look for and control wet weather flow. They are televising the sewer system to look for hot spots of inflow and infiltration, and are focusing on a few neighborhoods with long-term back-up issues.

Regional Cooperation

As with the other municipalities in the watershed, participation in water quality improvement projects outside city boundaries "would have to clearly show a benefit to the city, and will vary dramatically depending on what motivates the decision making – spending less money or clean water." Wauwatosa has good working relationships with Milwaukee, Brookfield, Elm Grove and West Allis, but expenditure of city tax revenue on regional projects will take support by taxpayers, and "convincing the public to spend money on things they can't see is very difficult." Fairness is the key – will the return to the city be worth the money spent?

Many of the municipalities in the Menomonee watershed share responsibility for the education and outreach element of their municipal stormwater permits, but joint efforts to develop educational programs have not progressed significantly, likely due to shifting priorities and reduced municipal staffing. A regional education and outreach program, which could then be reinforced by each municipality, was suggested as an important role for an entity such as SWWT. Other interviewees saw value in a separate entity such as SWWT for education and for coordinating a regional effort, but warned against "putting it in DNR's hands" or having MMSD lead. The reasons given provide insight into the type of education needed. Interviewees stated that most citizens don't understand how they contribute to water quality impacts, and "want the culprits to pay for it," and "MMSD already does all the regional stuff, so why would we pay more?"

Potential Projects

While none of the interviewees had suggestions for specific shared projects, incorporating green design in municipal ordinances was recommended as one proactive way to reduce stormwater pollution: pre-filtering of runoff, installation of cisterns, pervious concrete, filtering beds and bioswales can be easily incorporated into new development and have big impact on runoff quantity and quality.

City of Milwaukee

The City of Milwaukee in Milwaukee County has a population of 602,000, and 31.6 square miles of its total 96.9 square mile area comprise the bottom of the Menomonee watershed. The city has been fully and intensively developed for many years, and has a long history of heavy industrial uses in the lower Menomonee River Valley.

Stormwater Control Efforts

As with the other urbanized municipalities in the watershed, Milwaukee lacks available land for stormwater retention/detention ponds. The city estimates that the cost to make land available and to implement necessary Best Management Practices to meet the 40% TSS reduction approaches \$60 million - \$1.5 million for every percent reduction. The city spends substantial resources annually on a range of activities including street sweeping, installing biofiltration along streets and constructing ponds when feasible, but there are doubts these measures are cost-effective. Staff also expressed doubts that TSS reduction is the best way of measuring pollution control. Milwaukee has been installing filters in manholes, which is not credited toward TSS reduction, and due to heightened concerns about bacterial contamination after the cryptosporidium outbreak in 1993, has been using UV treatment to remove bacteria and pathogens. Milwaukee does have a stormwater utility, but its terms legally restrict the Department of Public Works to charge fees only for what it spends.

Unlike the other municipalities in the watershed, Milwaukee has the added complication of dealing with a large area of combined sewers. Stormwater entering the sanitary system is of course the primary cause of overflows from the MMSD system and was a driver for construction of the deep tunnel. But some interviewees suggested that because in smaller storms stormwater is stored and eventually treated before discharge, it should be credited toward stormwater pollution reductions. The city is looking proactively at areas where sewer separation would be useful, and considering an approach where the “first flush” of stormwater carrying accumulated pollutants would be sent to the combined system for treatment, and subsequent stormwater sent to the stormwater system.

Some interviewees see the need for a comprehensive stormwater management plan for the city, including a policy statement about desired outcomes, Best Management Practices for sustainable development, goals for groundwater recharge and infiltration, and guidelines for sending the first flush of stormwater to the sanitary system. A well-thought out plan would also facilitate creative stormwater control measures that mesh with planned municipal facilities for brownfield and redevelopment sites.

Community Priorities

The greatest water concern of citizens in Milwaukee are basement back-ups, both combined sewer and sanitary sewer overflows, and water access (clean beaches). The city has dedicated significant resources to control of infiltration and inflow into the sanitary system, including manhole rehabilitation, but the biggest problem is old lateral lines. Decrepit laterals are most common in areas of older, often lower-income neighborhoods where property owners

can least afford replacement. The city has been discussing whether and how to use public funds to replace these private lateral lines, but such a proposal will be highly controversial. One view is that as leaky laterals are a significant contributor to a public problem, “The public should help to fix it and a judgment on the cost-benefit of doing so is easy.” On the other hand, it’s difficult to convince taxpayers that even if they aren’t having back-ups in their basements, they are contributing to the problem and need to contribute to the solution. If the city takes on replacement of private lines, it will set a precedent, and will require careful planning to make sure funds are spent most effectively.

Another water concern for the city is clean, sustainable potable water. After the crypto scare, the city has made substantial investments in drinking water treatment, and operating costs are high. Sale of treated Lake Michigan water to the suburban areas is of interest to elected officials as a revenue source, and making sure the water supply is clean, and perceived to be clean, is very important. Reductions in overflows and education about the impact of overflows on water quality are directly tied to regional confidence in the quality of drinking water supplies.

Regional Cooperation

There was general agreement among interviewees in Milwaukee that a watershed approach -- incorporating investment in upstream projects as long as they make sense based on science instead of just focusing on end-of-the-pipe solutions -- is vital to improving water quality in the watershed. There were varying views, however, on how to gain public support for this concept. Flooding, basement back-ups and overflows are visible and induce visceral reactions. Interviewees noted that people in Milwaukee are used to their rivers being less than pristine, and take for granted that the water they drink will be safe. They only demand change when there is a disaster, such as the crypto issue. There was also recognition that each municipality has its own local priorities, and convincing them to participate may be more difficult than winning support among Milwaukee residents for a new approach.

One suggestion for a public education effort is to couch water quality issues in terms of economic and investment opportunity, both for water sales and to encourage new development. Another suggestion is to develop a focused educational effort for elected officials, as a concerted public education program just might not work for such a complicated, misunderstood issue.

Potential Projects

A few interviewees mentioned the value of MMSD’s Greenseams program, preserving lands and preventing runoff in the upper parts of the watershed, and also emphasized the importance of limiting sprawl in those municipalities with substantial undeveloped lands. One interviewee suggested that perhaps MMSD should have overall stormwater control authority for the entire watershed to mandate low impact development, the open ditches that work so well in some of the municipalities higher in the watershed, and other sustainable development techniques that reduce stormwater runoff. As one interviewee mentioned, “How do you convince a downstream municipality to spend money and take responsibility if Menomonee Falls won’t give up their big boxes?”

Milwaukee County

Milwaukee County plays a unique role in stormwater management. The county must meet NR 151 standards for the lands they directly own and manage, which includes parks, beaches, roadways, county buildings and Timmerman Airport. They have met the 20% reduction requirement, and are working towards the 40% reduction by 2013. Control of construction erosion and stormwater is regulated by the municipality in which the county land is located, and in those municipalities with stormwater utilities, fees are assessed for county owned properties. This has been a source of debate when the property assessed is park land ostensibly providing stormwater filtering and infiltration benefits for that municipality. Milwaukee waives their stormwater fees for county park land, but has also been eyeing county park land for potential retention/detention facilities.

River corridors are frequently used for sewer lines and other utilities, and most of the corridors within Milwaukee County park land are no exception. The county does, however, have the ability to preclude public projects such as roads and utilities if that project could impact the park. As a driver of property values, the county takes protection of park land seriously. The county also has adopted a Greenprint Resolution, committing to design and operate park facilities in the most environmentally sound manner possible.

The county developed their Land and Water Resource Management Plan to set goals and objectives for county lands. The plan prioritizes streambank stabilization, enhancement of wetlands, protection of Lake Michigan bluffs, and reductions in TSS and nutrients in stormwater runoff. The overall desire is to improve the recreation value of all waters associated with the county: rivers, ponds, lagoons and the Lake Michigan shoreline. Citizens view geese and siltation, especially at lagoons and beaches, as primary water quality issues, and are concerned about beach closures due to high bacterial counts.

Milwaukee County conducted an extensive project to reduce pollution in stormwater outfalls at Bradford Beach, installing rain gardens at outfalls to collect pollutants before they reached the beach. The project was a great success, and the county is now looking to do the same at McKinley Beach.

County interviewees did not raise issues with the NR 151 standards, but expressed concern about the lack of information and research about bacteria in stormwater. Citizens don't understand the bacteria counts and what they mean for beach safety, and the tools aren't there to provide the right level of information about reasons for beach closings: Is it birds at the beach or cows upstream, and which is most important to address?

Common Themes

Water quality concerns are overshadowed by flooding and drinking water supply concerns. As one interviewee stated: "As long as the tap flows and the toilet flushes, most people don't think about water." And another: "People take for granted they will have access to clean water, and infrastructure issues get lost by policy makers until there is a crisis." The

crises that have driven significant expenditures by the Menomonee watershed municipalities have been floods and related stormwater impacts, such as standing water and basement back-ups. For some, their next big investment will be for improvements to their potable water system.

Individuals' attitudes about and relationships to their waterway also dictates their level of concern about water quality. In the upper part of the watershed where the Menomonee River and its tributaries are fairly small and not very accessible, many citizens may not even be aware they exist. As the headwaters are located in undeveloped areas, the water is considered to be fairly clean. In parts of Brookfield and Wauwatosa, it's difficult to inspire concern for Underwood Creek as it has a concrete streambed and appears for all practical purposes to be nothing more than a drainage ditch. To many in the upper watershed, there is disbelief that stormwater runoff upstream could possibly be worse than sewage overflows downstream.

The executive branch in each municipality is generally more knowledgeable about stormwater control requirements and issues. Naturally, the municipal staff responsible for implementing stormwater control programs are well versed in the requirements of their DNR municipal stormwater permit, their progress toward meeting permit requirements and compliance with the NR 151 standards. In most instances, the executives for each municipality were also very aware of the upcoming deadline for 40% TSS reduction, and the implications to their budget planning. Knowledge of stormwater pollution issues was much more varied among members of the legislative branches. Alders or trustees that serve on public works committees were usually aware that controls for pollutants as well as stormwater volumes are a responsibility of their municipality, but others had limited understanding of stormwater issues. In a few instances, there seemed to be confusion about the differences between the stormwater and sanitary sewer systems, as well as stormwater utility fees versus sewer fees.

This is a common dynamic, as municipal executives are typically more involved in day to day operations, in closer contact with staff, often work in a full time capacity and for consecutive terms, and tend to participate in regional forums. In the City of Milwaukee alders are full time and staffed, and those Milwaukee alders interviewed were very knowledgeable about stormwater pollution and causes, obstacles to effective control and the political lay of the land surrounding water quality issues. Alders and trustees in all the other municipalities in the Menomonee watershed are part time, frequently serve for just a two-year term or two, and focus most closely on the issues in their district. Unless water quality concerns are raised by their district constituents or they take a personal interest in water quality issues, legislators are less likely to have a strong working knowledge of stormwater pollution.

Animosity toward MMSD is still prevalent. In every municipality, the "sewer wars" were raised at least once. Staff and executives interviewed never expressed personal concerns with MMSD operations or rates, and in many instances, complimented the current management and commented that anger at MMSD is unjustified. They often mentioned, however, that citizens still resent MMSD for building the deep tunnel and imposing the current rate structure, and blame MMSD for polluting Lake Michigan: "MMSD is a dirty word," "MMSD

equals Milwaukee — they aren't regional." Among alders and trustees, several interviewees voiced views that the tunnel is a failure, was built just so the suburbs could pay for it, that sewer separation should have been pursued instead, that the rate structure should be revised to charge per lineal foot of property frontage or volume of flow instead of being based on property values, and that the composition of the MMSD board should be changed to better represent suburban interests.

In the upper watershed, municipalities are meeting NR 151 standards. The more rural municipalities in the upper Menomonee watershed are either close to or have achieved the required 40% TSS reduction. Less pavement and open ditches give these communities a leg up, and progressive erosion and stormwater control ordinances and development standards are taking them over the top.

The farther up the watershed, the more conservative the view of using tax revenue for projects outside municipal boundaries. In every municipality in the watershed, interviewees emphasized that everyone wants clean water, but spending tax revenue outside municipal boundaries to benefit regional water quality would be a hard sell. These concerns were more prevalent in the upper watershed, perhaps because the less urbanized municipalities have a lower tax base. Concerns over increased taxes are on everyone's mind, but were mentioned much more frequently by interviewees in the upper watershed.

Prospects for Full Participation in a Watershed Approach

The closer a municipality is to meeting NR 151 standards, the less their motivation for participating in a regional water quality project. Municipalities in the upper Menomonee River basin, including Germantown, Mequon, Brookfield and Elm Grove, are close to or have achieved NR 151 standards. While a few of these municipalities are concerned about how to achieve that last increment of pollution reduction, and all saw value in an increased effort to provide stream buffers and conserve lands in the headwaters, contributing financially to a regional effort will not have the same return as for the more urbanized municipalities.

Development of a watershed approach should include alternative means for municipal participation: for example, prorated financial obligation to level of compliance with DNR rules, or allow for facilitating land based conservation efforts in lieu of financial commitment in headwater municipalities.

Watershed projects must directly benefit each participating municipality. Without exception, interviewees in every municipality stated that they would need to get "their fair share" for participation to be palatable to taxpayers. Viability of a watershed approach would depend upon providing a clear, demonstrable, cost-effective benefit to any participating municipality, and ensuring that participating municipalities would not be asked to do more later. A common concern is that if a watershed permit or some other means for committing to a regional watershed effort were executed, a change in state rules could force municipalities to take actions above and beyond the watershed effort later.

Public education will be key to helping citizens and elected officials understand the benefits of watershed projects, but the message was clear that benefits must be tangible, visible and local, and provide a one-to-one benefit for the money spent. Given that flood control is the top priority issue water issue for most citizens throughout the watershed, a focus on projects that help alleviate downstream flooding while improving water quality would be one important way to provide clear, local benefits.

Observers say citizens relate better to aesthetics and overall integrity of a water body, not just the quality of its water. Public education efforts should focus on the “whole package,” not just water quality.

A multi-pronged educational approach will be critical to gaining support for a watershed approach.

- Outreach to staff of municipalities not yet involved in SWWT should be a first step. Elected officials depend upon staff for information and recommendations, and are integral to setting the stage for involvement by each municipality.
- As the final decision-makers for use of municipal revenue, a focused educational effort should be geared to alders and trustees. Outreach must recognize frequent turnover in legislative positions, and a more limited knowledge of regional stormwater issues than the municipal executives.
- Education of local citizens should focus on helping to increase the visibility and sense of ownership of waterways in each community, informing people of their impact on water quality and empowering them to do something about it, providing simple explanations and graphics about the relationship of runoff to overflows in terms of water quality (“The public doesn’t buy that stormwater is worse than sewage dumping, even if scientific studies claim it.”), and providing clear examples of potential, cost-effective watershed projects. Also, as suggested by some interviewees, SWWT may be the best forum to produce educational materials about stormwater control that can then be tailored by municipalities to meet their DNR stormwater permit requirements.
- Another critical educational component regards MMSD. As noted by several interviewees, clear and simple information about how MMSD functions in each municipality is also needed, especially how rate revenue generated is used to benefit each individual municipality. There may not be a way to overcome lingering anger over the operation of the sewage system, but as long as MMSD plays a significant role in a watershed effort, a distinction must be made between SWWT and MMSD — if SWWT looks like a front for MMSD, there will be resistance to participation.
- Exchanging ideas and innovations across municipal boundaries makes good sense. Wauwatosa’s experience with rain garden subsidies, for example, or the cost-benefit and return on investment for a particular strategy learned by one municipality could be useful for others in the watershed. This too could be facilitated by SWWT.

Interview Participants

Abendroth, Dan	Alder, City of Mequon
Acquino, Martin	Engineer in Charge, Department of Public Works, City of Milwaukee
Bauman, Robert	Alder, City of Milwaukee
Bell, Jeanette	Former Mayor. City of West Allis
Blackburn, Scott	Alder, City of Brookfield
Bolton, Curt	City Engineer, Engineering Division, City of Greenfield
Bray, Laura	Executive Director, Menomonee Valley Partners, Inc.
Caven, Theresa	Project Engineer, Department of Public Works, City of Brookfield
De Angelis, David	Village Manager, Village of Elm Grove
Detzer, Timothy	Environmental Engineer, Department of Transportation and Public Works, Milwaukee County
Devine, Dan	Mayor, City of West Allis
Dunkelberg, Claus	Water Industry Specialist, Milwaukee 7
Ericsson, Jerry	Citizen, City of Brookfield
Estness, Theresa	Former Mayor, City of Wauwatosa
Flaherty, Michael	Director of Public Works, Village of Elm Grove
Graff, Shawn	Executive Director, Ozaukee-Washington Land Trust
Griefenhagen, Nancy	Engineering Technician, Department of Engineering, Village of Menomonee Falls
Grisa, Thomas	Director of Public Works, City of Brookfield
Hunter, Betty	Plan Commission Member, Village of Elm Grove

Jay, Jacqueline	Alder, City of Wauwatosa
Kappel, William	Director of Public Works, City of Wauwatosa
Keegan, James	Chief of Planning, Policy and Development, Department of Parks, Recreation and Culture, Milwaukee County
Keith, Steve	Sustainability and Environmental Engineer, Department of Transportation and Public Works, Milwaukee County
Kempinski, Thomas	Village President, Village of Germantown
Lewis, Michael	City Engineer, Department of Engineering, City of West Allis
Lloyd, Mark	Assistant City Engineer, Department of Engineering, City of Mequon
Ludwig, Daniel	Director of Public Works, Village of Germantown
Maki, Michael	Stormwater Engineer, Department of Public Works, City of Wauwatosa
Murphy, Michael	Alder, City of Milwaukee
Neitzke, Michael	Mayor, City of Greenfield
Nettesheim, Jeffrey	Director of Utilities, Village of Menomonee Falls
Nuernberg, Christine	Mayor, City of Mequon
Organ, Jill	Alder, City of Wauwatosa
Owen, Rick	Alder, City of Brookfield
Palmer, Neil	Village President Village of Elm Grove
Poglitsch, Pam	Citizen, City of Brookfield
Polenske, Jeff	City Engineer, Department of Public Works, City of Milwaukee
Speaker, Jeff	Mayor, City of Brookfield
Wirth, John	Alder, City of Mequon
Zabel, Art	Trustee, Village of Germantown

