

## Chapter

# 7

# A Stormwater Utility for Madison

## Introduction

Preceding chapters of this report have included recommendations for improving water quality, and for improving watershed management, education, and citizen involvement. The successful implementation of these recommendations depends on consistent funding and a watershed-oriented institutional framework that provides coordinated management. Though various watershed management programs have been tried in the state of Wisconsin, they have their limitations. The Priority Watershed Program, administered by the WDNR, provides opportunities for comprehensive watershed management. However, the number of participating watersheds is limited, as is the duration of funding for any given watershed. Lake management districts can provide a long-term source of funding for lake management, but participation is limited to riparian landowners.

The city of Madison is currently considering a new mechanism for funding water quality improvement initiatives: a stormwater utility. If this consistent source of funding is coupled with well-coordinated watershed management and integrated citizen input, education, and outreach, then Madison will have a strong vehicle for protecting and improving its area lakes. This chapter provides an overview of the stormwater utility concept, gives examples of existing stormwater utilities and the types of programs they fund, and includes recommendations for a progressive, watershed-oriented stormwater utility for Madison.

# Background

**Stormwater utilities (SWUs) are methods of financing the capital and operating expenses needed for stormwater management.**

## What is a Stormwater Utility?

Stormwater utilities (SWUs) are methods of financing the capital and operating expenses needed for stormwater management. They have been described as “the most dependable and equitable approach available to local government to finance stormwater management” (Levin, 1997). In areas with decreasing public works budgets, they are becoming the primary funding mechanism for stormwater management programs. SWUs are similar to electric or water utilities, collecting fees based on the amount of service provided. SWU fees usually fund the planning and development, engineering, administration, operation and maintenance, enforcement, and capital improvements associated with stormwater management (John Ferris, personal communication).

SWU fees are usually proportional to the amount of stormwater runoff produced by a property. Therefore fees for individual homes with lawns are usually much less than for commercial lots with large parking areas. Fee structures are based on “equivalent residential units” (ERUs), which represent average impervious areas for all residential units in an area. Non-residential units are charged for the number of ERUs that equal their impervious area. For example, while a home would be charged for one ERU, a typical drug store with a parking lot might be charged for 15 ERUs (John Ferris, personal communication).

Common billing methods include adding the SWU fee to an existing utility bill or to property tax bills, or creating a new and separate billing system. SWU fees are usually the responsibility of the property owner, but in some cases responsibility lies with the resident. Streets, highways, rail corridors, public parks, and undeveloped lands are usually exempt from SWU fees. An exception is the Orlando, Florida, SWU, which charges all users a minimum base charge in addition to the ERU charge for managing the runoff contributed by the city’s streets. Most residential SWU fees are in the range of \$1 - \$5 a month, with 50% in the \$2 - \$4 range. Local governments can decide whether or not to provide credits for properties that reduce their stormwater impact (Levin, 1997).

## How Common are Stormwater Utilities?

Black & Veatch, an environmental engineering firm that helps municipalities establish SWUs, conducted a survey of 97 SWUs from 20 different states (Levin, 1997). The engineering firm Camp, Dresser, & McKee has worked on the development of over 80 utilities and has implemented more than 60 SWU programs nationwide. The number of utilities is continually growing as communities face the significant costs associated with stormwater management. More specifically, the growth is occurring in communities that are regulated under the EPA National Pollution Discharge Elimination System (NPDES), specifically under their stormwater permitting program. This includes all communities with a population greater than 100,000, as well as many smaller communities. Reasons for SWU formation include legal requirements to implement stormwater management plans, and the need to address flood control, water pollution, property damage, streambank erosion, and habitat destruction issues (Levin, 1997).

### What Do Stormwater Utilities Do?

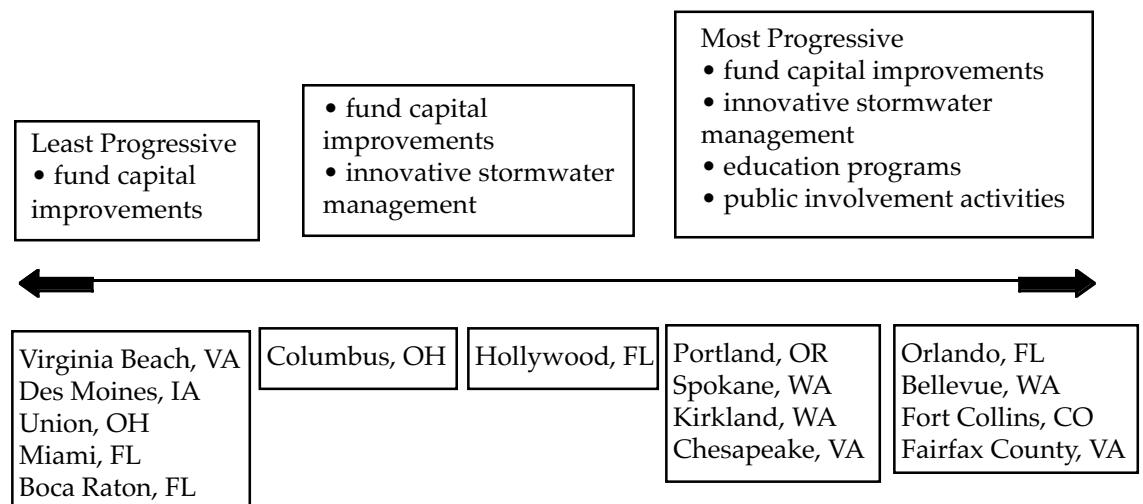
Consistently, existing stormwater utilities fund and implement the programs needed to achieve mandated stormwater quality standards. However, as **Table 7-1** indicates, SWUs are taking on a range of programs and activities. There is much variation among utilities in terms of what management practices they use to achieve stormwater runoff standards, and whether they define additional programs, such as education and community involvement, as part of their functions.

**Table 7-1**  
Activities commonly financed by SWUs (modified from Levin, 1997).

Stormwater Program/Activity	% of SWUs
Street sweeping	85
Public education	80
Erosion/sediment control	78
Stormwater quality management	71
Household toxin collection	67
Illegal discharge detection	59
Storm drain stenciling	58
Commercial/industrial regulation	45

**Figure 7-1** is a schematic continuum of some utilities across the country. We categorized programs as “least progressive” if their only function was to fund the capital improvement projects needed to achieve mandated stormwater quality standards. Slightly more progressive utilities, such as Hollywood, Florida, focus on achieving stormwater quality standards, but also incorporate more innovative management practices such as naturescaping and natural infiltration. The “most progressive” utilities combine innovative management practices with comprehensive education programs. Components of the Orlando, Florida, and the Bellevue, Washington, SWUs are discussed below, and a full description of the functions of all of the utilities represented in **Figure 7-1** can be found in *Appendix 6*.

**Figure 7-1**  
Continuum of SWUs based on the programs and activities they support.



In addition to complying with applicable regulations, the Orlando, Florida, SWU also lists lake management, education, and outreach among its responsibilities. Its SWU Bureau ensures compliance with the city SWU code, collects and maintains the data necessary to monitor lake quality, inspects private stormwater retention/detention facilities, and is involved with the enforcement of municipal codes dealing with illegal discharge of polluting substances to surface water and groundwater. The SWU Bureau also acts as a liaison to citizens by providing them access to lake water quality data, answering inquiries and complaints, and conducting public awareness and education programs. It supports the Florida LAKEWATCH program, a citizen participation program that trains volunteers to collect samples on a monthly basis. The SWU Bureau purchases needed sampling equipment, trains volunteers, and assists with the storage and transport of the samples to the lab. Further, the SWU Bureau has an active public awareness program to help inform residents of how to reduce pollutant loadings. The program includes writing articles for neighborhood association newsletters, giving presentations at neighborhood meetings and schools, presenting displays at weekend activities, and working with volunteer groups to post “No dumping, drains to lake” signs.

The Bellevue, Washington, SWU provides assistance for residents who want to enhance streams near their homes and conducts educational programs such as “Stream Teams” and “Business Partners for Clean Water.” The SWU in Fort Collins, Colorado, co-sponsors youth education programs with the Northern Colorado Conservancy District, has a team of three speakers who visit elementary schools, and provides outdoor demonstrations and educational publications.

Fairfax County, Virginia, recommended that its SWU should retrain all county officials and administrators who have stormwater management responsibilities; fund non-profit initiatives to reforest, restore, conserve, and protect upstream reaches and buffer areas; promote the protection and expansion of public parkland and private conservation greenspace; and increase vegetation and forest restoration around stormwater facilities. Fairfax County also holds a general conference and public workshop about progressive on-site stormwater practices as alternatives to conventional engineering solutions.

### **How are Stormwater Utilities Structured?**

Most stormwater utilities are operated by or within a municipality’s department of public works. Sometimes the department of finance is involved with the billing (Levin, 1997). Only a handful of utilities currently have boards that serve either in an advisory or a decision-making role. The list below provides some examples of SWU administrative structure, and discusses the makeup of existing boards.

- ◆ **Ft. Collins, Colorado:** Under the direction of the City Council, a utilities general manager reports to the city manager. A citizen advisory board, the Water Board, advises the City Council on issues affecting the utility. The Water Board consists of 11 volunteer members broadly concerned with water, wastewater, and stormwater policy issues. Diverse backgrounds and interests characterize the board members, who currently include

representatives from construction, engineering, economics, political science, law, business, and consumer and environmental concerns.  
<http://www.ci.fort-collins.co.us/utilities/water/stormwater/index.html>

- ◆ **Orlando, Florida:** The SWU Bureau is part of the city Public Works Department. There are nine members of the bureau: the bureau chief, an administrative assistant, two engineering assistants, three environmental specialists, a construction inspector, and a lake enhancement coordinator.  
<http://cityinter.ci.orlando.fl.us/departments/>
- ◆ **Spokane County, Washington:** The SWU is housed within the county Public Works Department. The Board of County Commissioners established the SWU after extensive public participation and education, as part of the development and planning process. Public participation was made possible through the creation of the Citizens Committee on Stormwater Management.  
<http://web.spokanecounty.org/utilities/stormwtr/index.htm>
- ◆ **Lebanon, Indiana:** The Stormwater Management Board is part of the Lebanon Utilities Board. It consists of three members, each of whom are appointed by the mayor to 3-year terms.  
<http://www.lebanon-utilities.com/storm.htm>
- ◆ **Columbus, Ohio:** The Stormwater Management Section of the Division of Sewerage and Drainage (DOSD) of the Department of Public Works runs the SWU. SWU staff work closely with the DOSD Sewer Systems Engineering Section.  
<http://utilities.ci.columbus.oh.us/sewrpt.html>
- ◆ **Kirkland, Washington:** Kirkland has not yet implemented its stormwater utility, but its Department of Public Works plans to hire a stormwater engineer and expand its maintenance and operation staff to handle the increased workload.  
<http://www.ci.kirkland.wa.us/about/>
- ◆ **Union, Ohio:** The SWU is part of the city Water and Sewer Department and was established by the City Council.  
<http://www.union.oh.us/watersew.htm>
- ◆ **Hollywood, Florida; Bellevue, Washington; Boca Raton, Florida; Cocoa, Florida; and Chesapeake, Virginia:** The SWUs for each of these cities are part of the Department of Public Works or the Department of Public Utilities.  
<http://www.hollywoodfl.org/pub-util/hlwd-pub.htm>  
<http://www.ci.bellevue.wa.us>  
<http://www.ci.boca-raton.fl.us/utility/storm.htm>  
<http://www.chesapeake.va.us/services/depart/>

### Stormwater Utility Trends and Lessons

The main goals of the Black & Veatch survey (see page 108) were to identify current trends in SWUs and to assimilate the lessons that established utilities have learned. **Table 7-2** summarizes the trends identified by the survey.

The three important lessons highlighted by the survey analysis are as follows:

1. Comprehensive planning is critical. Before SWU fees are established, there is a need to identify where funds will go and what level of service will be provided. Goals of the SWU and the steps needed to achieve these should be clearly defined.
2. Public involvement is essential both before and after the implementation of a SWU. To gain public acceptance and support, it is important to identify the problems the SWU intends to address, and make those issues relevant to the community. Most utilities view public involvement as important to financing and rate determination, policy definition, service level recommendation, and as litigation protection.
3. User fees alone are not adequate to address all stormwater management needs, and should therefore be coupled with other funding methods. These methods include setting up general funds with money from a government agency, or via assessments for structural improvements (John Ferris, personal communication). Camp, Dresser, & McKee further stresses that the most critical element in any comprehensive stormwater management program is the ability to generate sufficient funds to meet water quality and infrastructure needs.

**Table 7-2**  
Trends in SWUs (modified from Levin, 1997).

Trend in SWU	% of SWUs
Meets most, or at least most urgent, needs	82
Covers both capital costs, and operation and maintenance costs	81
Billed on a monthly basis	74
Property owner is responsible for user fee payment	65
View public information/education to be essential to success	61
View public information/education to be unnecessary	1
Devote >2% of operating budget to public education	57
Charge between \$2 and \$4 a month	57
Credits given if private detention/retention practices exist	57
Use impervious cover as basis for user fees	55
Is less than 5 years old	55
Water is shut off and/or property put in lien for non-payment of user fees	54
User fee included in water or other utility bill	35
Revised user fees in the last year (89% of these revisions were fee increases)	35
User fees were legally challenged (user fees were sustained in 60% of these challenges)	16
Major runoff problems created by unusually heavy rain and/or floods	11
Revenues adequate for all needs	11

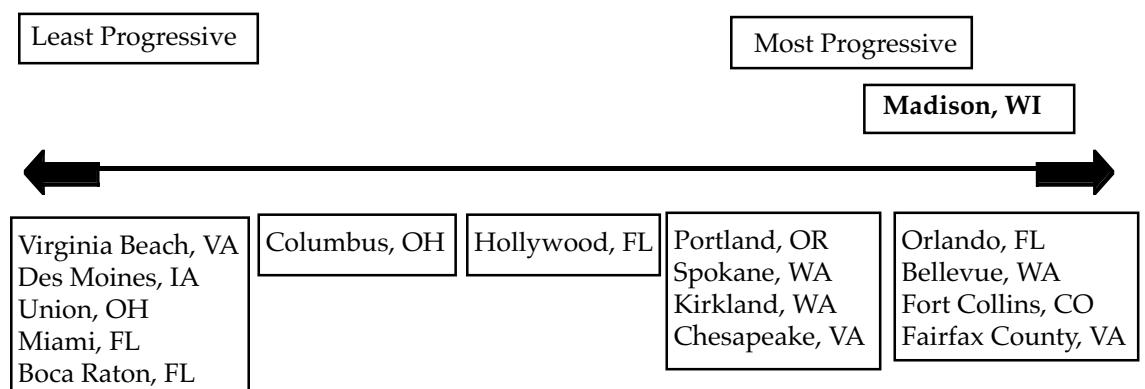
# A Stormwater Utility for Madison

**A Madison SWU should improve upon existing practices, and promote innovative strategies for managing stormwater.**

The city of Madison is currently considering the development of a SWU as a means to raise the funds needed to protect the area’s water resources. Like many other cities, the utility plans are also being influenced by the additional sampling and monitoring requirements stipulated in their Wisconsin Pollution Discharge and Elimination System (WPDES) permit, which implements recent EPA regulations. Madison has had a WPDES stormwater permit since 1995 and will renew it in 2000. The city of Madison Engineering Division estimates the cost of meeting the new requirements to be as much as \$100,000 a year.

Because the structure and function of Madison’s SWU have not yet been defined, a unique opportunity exists to design and implement a progressive watershed management program. A Madison SWU should improve upon existing practices, and promote innovative strategies for managing stormwater. For example, in the Lake Wingra watershed, a SWU would provide the money and coordination needed to properly maintain detention ponds and establish a more aggressive street sweeping program, as recommended in *Chapter 4*. As discussed on page 109, the most progressive SWUs go beyond simply complying with current stormwater permits: Madison could surpass many other SWUs (**Figure 7-2**). In addition to coordinating education and public involvement, Madison’s SWU could include individual incentives for reducing quantity and improving quality of runoff, offer a small grants program to fund local watershed research and projects, coordinate data gathering and accessibility, and establish a structure for significant community input and involvement. In supporting such initiatives, Madison’s SWU would increase public participation opportunities and fill a current watershed-level management gap (see page 82).

**Figure 7-2**  
Potential continuum of stormwater utilities.



**Incentives can be given to property owners whose management practices reduce the amount and improve the quality of runoff from their property.**

### **Incentives for Progressive Stormwater Management Practices**

Many communities have incorporated fee reduction incentives for non-residential areas into their SWU plans. Although it is important that SWU fees be charged to treat the runoff that will inevitably be produced, incentives are a crucial part of any progressive stormwater management program. Incentives can be given to property owners whose management practices reduce the amount and improve the quality of runoff from their property (see page 49). For example, owners whose practices increase the infiltration of precipitation into the soil on their property can effectively treat stormwater runoff at its source. We recommend that Madison encourage these types of practices through incorporating incentives into its SWU fee structure. Further, to encourage maximum lake protection, these incentives should not only be offered to non-residential areas, but to residential areas as well.

#### **Non-Residential Incentives**

Most commonly, fee reductions are given to larger properties such as apartment complexes, schools, and businesses. For example, businesses in Orlando, Florida, qualify for a fee reduction if they are in compliance with the Orlando Urban Stormwater Management Manual. A business with 15 ERUs would have its annual fee reduced from \$990 to \$574.20 for incorporating outlined practices. In Chesapeake, Virginia, a privately-owned and operated business may reduce its stormwater utility fees by up to 40% through the use of a stormwater management facility such as a detention pond. Reductions of 20% are given for meeting the required standards for pollutants or for reducing runoff to predevelopment levels.

In most cities, the property owner must demonstrate that implemented practices are reducing the quantity and/or improving the quality of stormwater runoff. In order to qualify for a fee reduction, an application must be completed and signed by a qualified individual such as an engineer or land surveyor. While site inspections by a SWU inspector will still occur, this eliminates the need for the utility to verify each application.

#### **Residential Incentives**

It is more difficult to offer a SWU fee reduction to single family homes simply because there are so many. However, for the same reason, it is imperative that incentives are given at this level. Residential lots produce a significant percentage of urban runoff, yet are completely unregulated. Practices implemented at the residential level have the potential to dramatically improve the quality of stormwater and decrease the volume of runoff entering the lakes. Reducing the SWU fee for properties that have incorporated detention or infiltration-enhancing practices encourages homeowners to use innovative techniques. Outreach activities could be used to teach these practices to homeowners, and the participation in one of these approved activities could qualify the homeowner for a small fee reduction.

One example of an infiltration-enhancing practice that homeowners can construct is a rain garden (see page 50). In addition, since the fee reduction might not offset the short-term cost of implementing some of the conventional management practices, less expensive stormwater management practices would also qualify for fee reductions. For example, slight modifications in

**Reducing the SWU fee for properties that have incorporated detention or infiltration-enhancing practices encourages homeowners to use innovative techniques.**

downspout placement can greatly increase infiltration and could therefore be encouraged with SWU fee reductions.

Fee reductions for residential properties could be administered similar to non-residential properties. An application including questions about the use of runoff-reducing techniques, such as directing downspouts towards a pervious surface, installing rain gardens and/or detention ponds, and using cisterns for collecting rainwater, could be completed and sent to the SWU. A problem with this method is the expense of checking the accuracy of the application. A single inspector could not check all the homes in the city, and hiring multiple inspectors may not fit within the budget of the SWU. Requiring individual homeowners to hire either a stormwater engineer or other qualified individual to inspect and sign-off on their property may be asking too much of the homeowner. With an average monthly charge of five dollars, even a substantial fee reduction may not be worth the trouble. One possible solution to these problems is to have random inspections of homes paying reduced fees. It could be feasible to use the non-residential inspector to randomly inspect residential properties.

### **Small Grants Program**

A small grants program could provide another way to support community involvement and enhance communication between the SWU administration and citizen groups such as the Friends of Lake Wingra (FOLW). Under this program, some of the funds generated by the SWU could be awarded to citizen organizations that propose projects related to water quality, aquatic habitat improvement, or public education and involvement.

Providing funding for citizen organizations is already a set precedent in Madison communities. The WDNR has a Lake Planning Grant program that has provided funds to local watershed organizations. Also, the US Community Development Block Grant (CDBG) program, created in 1974, helps cities and states meet the needs of their low- and moderate-income residents by providing better housing and a suitable living environment, and by expanding economic opportunities. Examples of CDBG grant recipients in Madison include neighborhood centers, community gardens, and affordable housing projects.

Watershed management grants have also been given to local organizations in other parts of the country. For example, the Rouge River Watershed project in Michigan has distributed more than 40 grants, totaling \$5 million. Local communities have used these grants to demonstrate innovative ways to control stormwater and non-point source pollution, encouraging approaches such as streambank stabilization and erosion controls, source controls, detention basin enhancements, grassy swales on highways to collect runoff, and wetland creation and restoration.

### **Information Gathering and Accessibility**

As discussed in *Chapter 2 – Synthesis of Technical Research*, *Chapter 4 – Lake and Watershed Management*, and *Chapter 5 – Stakeholders*, not only is additional long-term monitoring and research needed, but existing data and research needs to be more accessible. Long-term monitoring of spring flows, for example, could

be achieved if the SWU would support a volunteer citizen-monitoring program similar to Orlando's LAKEWATCH program (page 109). Further, the SWU could serve as a data clearinghouse. A water resources management professional should be employed for gathering and maintaining the data sets available for each watershed in their jurisdiction. These data sets should be made readily available for watershed management efforts and research.

### **Recommended Structure for a Madison Stormwater Utility**

A Madison SWU would most likely be housed within the engineering section of the city Department of Public Works (see page 117). As discussed on page 112, public involvement is critical before, during, and after the implementation of a SWU. There are several options for incorporating public input, including direct representation on a governing board, representation through a watershed coordinator who serves as a liaison between the governing body and the community, implementation of a watershed council, or some combination of these (Griffin, 1999).

**We recommend a Madison SWU be guided by a board with a strong citizen voice, which enables and encourages citizens to better participate in the management of their watersheds.**

We recommend a Madison SWU be guided by a board with a strong citizen voice, which enables and encourages citizens to better participate in the management of their watersheds. Active citizen participation will also help the SWU be flexible and responsive to community interests. To further ensure the involvement of the watershed community, a watershed coordinator should serve as a liaison between the SWU board and watershed stakeholders, and promote outreach and education programs.

### **Stormwater Utility Board**

Existing SWU boards vary in terms of their goals, effectiveness, leadership, stakeholder composition, involvement in "real" decision making, types of participation allowed, financing, efficiency, and decision-making procedures (Griffin, 1999). The above components will need to be considered when defining the membership and function of a Madison SWU board.

**Ideally, a multi-interest board would bring the needed diversity to the decision-making process, and limit biases of particular projects over others.**

The Madison Metropolitan Sewerage District (MMSD) board provides a local model of how diverse interests can be represented. The MMSD board has five members appointed by the county executive and approved by the County Board. The appointed board members must reside within the district served by the MMSD. The board votes only on policy issues, and on decisions and responsibilities that are required by state statutes. They are not involved with day-to-day "in-house" issues. The board members include a retired UW-Extension professor of governmental affairs, a city of Fitchburg planner (also on the Regional Planning Commission), a retired UW-Madison professor of civil and environmental engineering, a Sierra Club legislative issues representative, and an attorney (also the County Board supervisor).

#### *Stormwater Utility Board Membership*

Based on the composition of similar utility boards, including the MMSD board, we suggest that the Madison SWU board consist of approximately 10 appointed individuals. They should all reside within the watershed boundaries of the managed area, and each subwatershed should have weighted representation, perhaps by population. Individuals with expertise in stormwater management, shallow-lakes management, outreach, planning, and law would be particularly helpful as board members. Community representa-

tives from watershed organizations, business associations, lake user groups, and neighborhood associations should also be appointed to the board. Some of the individuals with expertise in water resources may work for government agencies; they should only be allowed to serve on the board as private citizens, not as representatives of the agencies they work for. Ideally, a multi-interest board would bring the needed diversity to the decision-making process, and limit biases of particular projects over others.

#### *Stormwater Utility Board Function*

While SWU staff would run the day-to-day operations of the SWU, the board would guide direction by making funding and policy decisions. As exemplified by other SWUs across the country, generated revenues can be used for much more than engineering approaches to treating stormwater. Once the administrative and operating costs were determined, the board would decide how the remaining funds would be used (e.g. outreach and education programs). Further, the board could advise the SWU staff on the level of community support for in-lake and watershed management practices.

#### **Watershed Coordinator**

While we are suggesting that there be significant community representation on the SWU board, there is still the need for a liaison between the SWU and the public. A watershed coordinator would identify the interests of watershed residents and bring them to the SWU board for their consideration. The coordinator would also be responsible for the planning and implementation of education and outreach programs. A key component of education programs could be demonstrating practices that would qualify individuals for the residential fee-reduction incentives discussed above.

For effective management, several coordinators, for example one for each of the major watersheds that Madison incorporates, may be needed for the Madison SWU. In order to be knowledgeable about different stakeholders, management practices, and watershed features, coordinators must work at a small enough scale for meaningful interaction with the watershed community.

## **Political Process of Stormwater Utility Implementation**

While the city of Madison is currently exploring the possibility of implementing a SWU, the exact nature of the legislation and infrastructure needed has not been determined. Dane County has also considered a revenue-generating utility for stormwater management, but there are no immediate plans to develop one. For more details on the current status of municipal, county, and state stormwater plans and how they affect the Lake Wingra watershed, see *Chapter 3 – A Brief History of Management*.

The development of the SWU plan will most likely follow these steps:

1. The city of Madison Engineering Division of the Department of Public Works is currently developing a fee structure based on impervious area

calculations for the entire city. According to this plan, non-residential property owners would be charged a fee based on the amount of impervious area on their property. Residential property owners would be charged a standard ERU fee (see page 108); there may be multiple residential categories for different housing densities. The city Engineering Division plans to complete this assessment by the spring of 2000.

2. When the Department of Public Works completes its assessment and recommendations, it will notify the city of Madison Common Council, who will begin circulation and discussion of the proposed SWU plan. Individual alderpersons often sponsor plans, but in this case the Council as a whole will probably sponsor it.
3. The Common Council will probably spend very little time on the plan at this time, but will send it to various groups for public review, including the Board of Estimates, the Council on the Environment, and the Department of Public Works.
4. There will most likely be an additional period of public hearings because the proposed legislation would involve instituting citywide fees. A citywide referendum is not currently planned, however, and would not be required to pass SWU legislation.
5. After the hearings, Public Works will again present the SWU plan to the Common Council, including any changes based on the hearings. The Council will vote on whether or not to implement the SWU. Wisc. Stat. Sec. 66.072, which authorizes municipalities to form SWU districts, stipulates that a three-fourths vote of all members of Madison's Common Council is required to establish the district (Prey *et al.*, 1995).
6. The Madison SWU could take one of the following structures:
  - a) Report to the Public Service Commission, which requires a SWU board of directors. Both the Madison Water Utility and the Madison Metropolitan Sewerage District report to this commission.
  - b) Report to the city Common Council through Public Works. The Madison Sanitary Utility reports to the Council. A board is neither prohibited nor required.
  - c) Report to the city Common Council through Public Works and have a board of directors and/or an advisory committee.

The city of Madison is currently working on developing the fee structures, and by December 2000 plans to move to the assessment and recommendation phase (step 2). Presentations of SWU recommendations have been made to the Council on the Environment by both the city Engineering Division and members of the 1999 WRM Workshop.

As of August 1999, the city had not determined which management structure would be the most appropriate. Greg Freis of the city Engineering Division felt that reporting to the Common Council instead of the Public Service Commission would keep the utility closer to the public voice, as citizens have direct access to alderpersons. While the idea of reporting to a board has not been considered by the Engineering Division, no objections were voiced during recent conversations with their staff (August 1999).

**We recommend that a Madison SWU report to the city Common Council, have a board of directors, and empower the public by having an advisory board with citizen representation.**

We recommend that a Madison SWU report to the city Common Council, have a board of directors, and empower the public by having an advisory board with citizen representation.

## Conclusion

If the city of Madison designed a SWU to incorporate the components discussed in this chapter, it would have an excellent watershed-based management tool. **Box 7-1** contains a summary of management recommendations for the Lake Wingra watershed that were mentioned throughout this document. All of these could be addressed and implemented through the funding, coordination, and programming of a stormwater utility.

As outlined in *Chapter 4 – Lake and Watershed Management*, there is a need for improving upon standard stormwater management practices such as detention ponds and street sweeping. A Madison SWU could coordinate detention pond inspections and maintenance, and provide the needed funding to promote more comprehensive street sweeping programs. There are also significant opportunities for improving stormwater quality and quantity through more innovative and less expensive management practices. A SWU fee-reduction incentive program would promote these practices such as rain gardens and ‘disconnecting’ residential roof downspouts.

### ► Box 7-1

#### Management recommendations for the Lake Wingra watershed.

##### *Stormwater Management Practices*

- ◆ Stormwater treatment pond maintenance
- ◆ Wetland protection
- ◆ Street sweeping program expansion
- ◆ Diffuse infiltration implementation
- ◆ Innovative management practices

##### *Research*

- ◆ Comprehensive long-term monitoring
- ◆ In-lake restoration and management
- ◆ Further research areas
- ◆ Impact of groundwater pumping on water levels, springs, and fens
- ◆ Habitat restoration
- ◆ Wetland protection

##### *Stakeholder Coordination*

- ◆ Implement watershed-level management
- ◆ Improve communication between watershed stakeholders
- ◆ Increase public participation opportunities
- ◆ Improve data accessibility, communication, and coordination

##### *Education and Outreach*

- ◆ Incorporate into every program

The synthesis of technical research conducted in the Lake Wingra watershed highlighted several areas where additional monitoring and further research would be beneficial. A SWU and/or a watershed coordinator would provide the needed support to sustain a volunteer monitoring program. Volunteer monitoring would be less expensive, and would provide an excellent way to educate and involve the community. A small grants program supported by a SWU could prioritize funding for proposals involving research and restoration of identified key areas – that is, wetland, shoreland, and habitat restoration.

There is presently a diverse array of management agencies involved in the Lake Wingra watershed (see *Chapter 5 – Stakeholders*). A Madison SWU could serve as the entity performing and coordinating watershed-level management. A SWU board would ensure that the utility would not conflict with the current management structure. The board could work closely with several agencies, in particular the Dane County Lakes and Watersheds Commission and the WDNR Non-Point Program. The proposed Madison SWU could fund projects involving many agencies outside of the city Department of Public Works, therefore coordination of many agencies will be imperative. The overall goal of a SWU would be to achieve integrated watershed management, and to succeed in protecting the area lakes.

Both *Chapter 5* and *Chapter 6 (Stakeholders and Outreach Recommendations)* respectively) of this document highlight the need for increased public participation opportunities. In addition to providing a consistent source of funds for outreach and education programs, Madison’s utility could go further to empower citizens by giving them decision-making authority as board members. Further, watershed coordinators can ensure that public interests are taken into account. Much of this document on the Lake Wingra watershed – the synthesis of technical research, the stakeholder analysis, and the outreach strategy – would assist a watershed coordinator, and serve as models for the other Madison watersheds.

**We challenge Madison to deal with stormwater in a progressive and forward-thinking manner through the implementation of its own SWU.**

Funding is a major roadblock to many of our recommended solutions, but is an issue a SWU would address. There are, however, many things that can be accomplished even without increased stormwater management budgets. These include improving communication among resource managers, incorporating citizen input into management decisions, and soliciting the volunteer support of local watershed organizations to educate individuals on how they can protect our lakes against stormwater runoff.

In summary, the concepts presented throughout this document, while focused on the Lake Wingra watershed, have the ultimate goal of protecting and enhancing the Madison lakes. We recommend innovative approaches for dealing with the main issue facing these water bodies – stormwater runoff. Effective management of stormwater runoff and other forms of non-point source pollution requires a coordinated approach, and the involvement of all those living and working within that watershed.

We encourage resource regulators and managers to accept the challenges involved with holistic approaches to resource management. We challenge Madison to deal with stormwater in a progressive and forward-thinking manner through the implementation of its own stormwater utility.