One Region * One Future * Growing Southeastern Wisconsin

Regional Report

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Clean Water, Healthy Future

Asset Management for Regional Prosperity

Clean and abundant water is a strategic asset -- central to the Milwaukee area's history and its future, and to the region's quality of life and global competitiveness. Unlike counties and villages, however, water knows no boundaries, making management of this asset extremely complex. Early in 2005, the Public Policy Forum assembled a panel of leaders with various backgrounds from across southeastern Wisconsin in an effort to reach a consensus on this difficult problem. This is the water advisory panel's consensus:

- We face urgent **problems**, like dropping water tables and declining quality.
- Jurisdictional overlaps, policy gaps, and lack of data hamper **solutions**.
- Leaders must think **strategically** and **regionally** about water resources.

Recommendations

The advisory panel calls on state legislators to adopt a goal of achieving integrated water resource management and to request the Joint Legislative Council convene a study committee to address the panel's policy options:

1. *Vision and goals* - We need an integrated water strategy recognizing the relationship between surface waters and groundwater. It must address quality and quantity, link to other types of planning and be grounded in scientific data, ultimately leading to a "no-net loss" concept of replenishing the water we use.
2. *Science-based solutions* - There is no one-size-fits-all answer to complex water issues. Many options are available to help communities manage the region's water resources in an integrated fashion.
3. *Regional water management models* - Integrated management options:
   - Regional Water Resource Commission - Cooperative council of water managers appointed by municipalities/counties to create and implement plans.
   - Compact among Local Governments - Contract that specifies goals, actions to be performed, and funding mechanism.
   - Wisconsin Department of Natural Resources - State provides guidelines for local governments, which adopt plans and options to meet objectives.
   - Regional Water Resource Authority - Appointed body with professional staff to plan, set priorities, and implement and enforce policies.
4. *Policy and law* - To achieve the regional vision and goals and implement polices, programs, and governance models, it will be necessary to clarify certain laws, change others and create new state water laws as needed.

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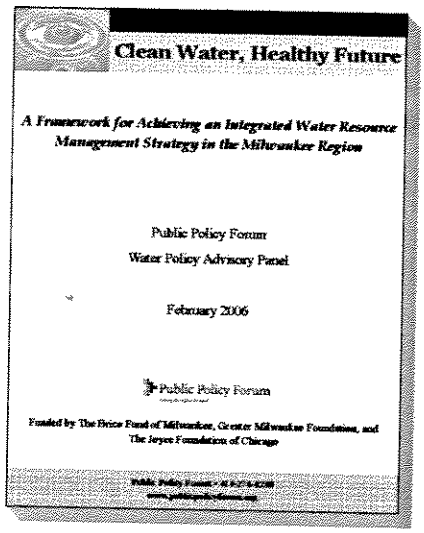


For the complete report (pictured above), visit www.publicpolicyforum.org.

The report is organized into findings and recommendations. Findings are based on dozens of reports and presentations by scientists and technical experts; focus groups of regional stakeholders; conferences on water resources, including one sponsored by the Public Policy Forum; and a comprehensive survey of citizens residing in the region. Recommendations resulted from the Water Policy Advisory Panel's deliberations over 12 months.

Core Concepts

Key to the report are ideas that emerged from answering two questions: What do we mean by region? What are the boundaries of our region's water?

Our Region – Unlike counties and states, water knows no political boundaries. Thus, we define our region in political and hydrological terms. In political terms, southeastern Wisconsin consists of seven counties (Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington and Waukesha). In hydrological terms, the region includes watersheds and aquifers in the Lake Michigan and Mississippi River basins.

Integrated Water Resource Management – Water is water whether it is underground or in a pond, polluted or clean, or in a pipe in Milwaukee or a well in Waukesha. This report acknowledges that water sources are linked and that quantity and quality concerns are two sides of the same coin. As a result, we focus on the concept of *integrated water resource management*. This means implementing a comprehensive strategy and principles, and recognizing the interdependence of surface water, groundwater and water-dependent natural resources. Integrated water resource management is designed to achieve and measure the community-supported positive environmental, social and economic benefits of clean and plentiful water for this and succeeding generations.

Introduction

There is an emerging global fresh water crisis, and water knows no boundaries. Fresh water flows across political, state and national boundaries; between surfaces of the earth and beneath the ground.

In a global context, water is emerging as the natural resource that is likely to define the 21st century in ways similar to the ways oil shaped the 20th century. According to the World Health Organization, there are 330 million cubic miles of water on earth. Of that, an estimated 3.5% is fresh water. A small fraction of the world's water—an estimated 0.34%—is readily available for human consumption. The remainder of fresh water is stored in glaciers beneath the ground, in plants, or elsewhere.

Today, about 30 countries experience water shortages. Annually, roughly five million people die worldwide because of contaminated water. Over the past century, roughly half of the world's wetlands have vanished. In China, economic success is out of balance with its natural systems; 80% of China's rivers cannot sustain fish.

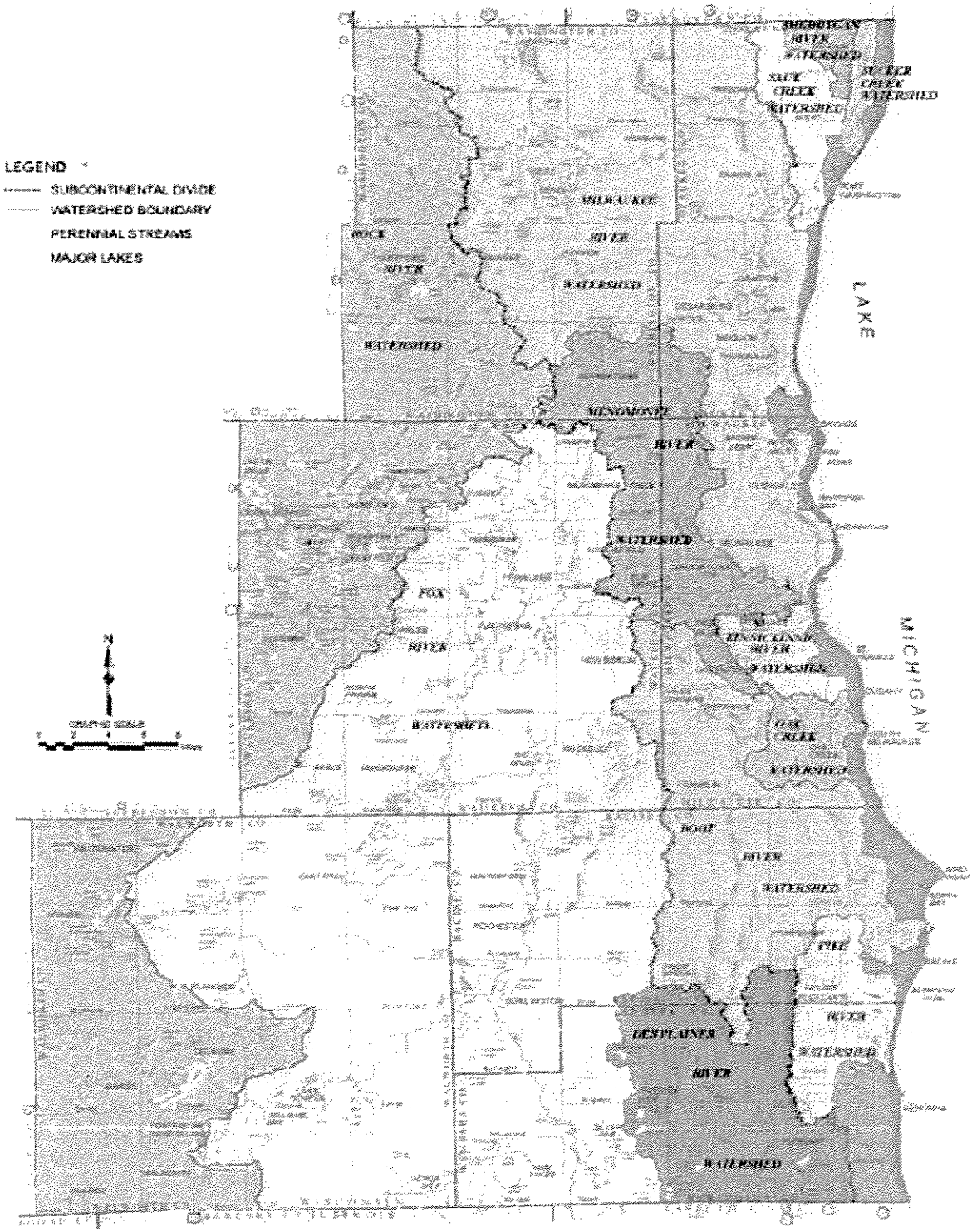
There is considerable scientific evidence that global water conditions will worsen. There are two fundamental causes for this: climate change and population growth. The earth is gradually getting warmer. The average global surface temperature is projected to be between 1.4 and 5.8°C higher by the end of the next century. Anticipated consequences include lower agricultural productivity worldwide and greater water scarcity.

The earth's population, which has tripled to six billion since 1922, is projected to reach nine billion in 2048. United Nations scientists predict that water scarcity will affect three billion people worldwide by 2025 and as many as five billion by 2050. The UN Economic and Social Council regards water shortage as the major environmental and human health crisis of the 21st century.

Clean and abundant fresh water is one of southeastern Wisconsin's prime assets. The asset is not only Lake Michigan, but all surface and groundwater sources.

The Great Lakes are the earth's largest system of fresh surface water. They contain 20% of all fresh water on the surface of the earth. Lake Michigan is the largest freshwater lake in U.S. territory, and the 5th largest in the world. It is 307 miles long, 118 miles wide, 923 feet deep, and contains nearly 1,180 cubic miles of water, enough to cover the U.S. to a depth of 1.5 feet.

MAP 1: Surface drainage and water in southeastern Wisconsin



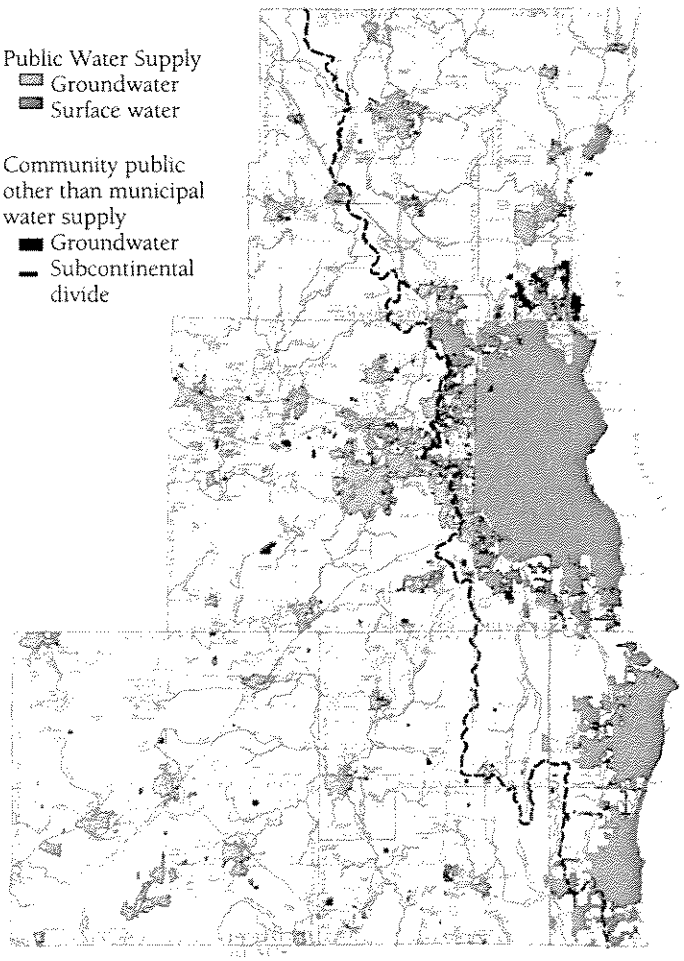
Source: SEWRPC

One Region

Fifteen million people drink Lake Michigan water, triple the number in 1900. About 1.2 million of those live in southeastern Wisconsin. The region's population could grow to 2.5 million by 2035 under the highest estimates. In addition, industry has historically used and continues to use large quantities of Lake Michigan water.

Despite the vastness of Lake Michigan, about 40% of the residents of southeastern Wisconsin—and about two-thirds of the region's land—do not tap into Lake Michigan water. That is primarily because they reside west of the sub-continental divide separating the Great Lakes basin from the Mississippi River basin. The basin divide running so close to the lake itself puts southeastern Wisconsin and Chicago in a unique situation among large US metropolitan areas; many residents reside within commuting distance of the lake, but are not supplied with lake water. Significant legal proscriptions against transferring water from one basin to another prevent all communities in our region from utilizing this resource.

MAP 2: Areas served by public and private supply systems in southeastern Wisconsin: 2000



Source: Wisconsin Department of Natural Resources and SEWRPC

Fortunately, a natural abundance of groundwater also exists in our region, allowing communities outside the Lake Michigan basin to grow and thrive. According to the Wisconsin Department of Natural Resources (DNR), in 1995 southeastern Wisconsin had 78 municipal community water systems and 244 privately owned community water-supply systems. Nearly 70% of the municipal water systems and all of the privately-owned community systems were supplied by groundwater. Public water supplies in Walworth, Washington, Waukesha, and Ozaukee counties are almost all supplied by groundwater.

Every day, the region's businesses and two million residents use about 305 million gallons of water. If it were the price of gasoline, the water would cost $250 billion a year. Of our region's total volume of water, about 60% comes from nine plants that draw water from Lake Michigan, 20% from 50 utility systems that pump groundwater from wells, and 20% from private groundwater wells. This water is the lifeblood of our region's economy and quality of life.

The drinking water of Kenosha, Racine, Oak Creek and Milwaukee is widely regarded among the highest quality in the nation. Although many parts of southeastern Wisconsin are experiencing problems with water shortages and contamination, there also is evidence of improvement in surface water quality of the region's rivers, streams, and near-shore waters of Lake Michigan.

Southeastern Wisconsin has a history as a world leader in balancing the demands of its human and natural systems. Today that leadership is needed to build on past successes in managing water.

Doing so requires a forward-looking shared vision for what we want our region to become, and a strategy to make it happen. The strategy needs to be *regional*—because our competition consists of regions around the world from Boston to Bangalore, from Seattle to Shanghai. And the strategy needs to be *holistic*—because quality of life and economic prosperity go hand in hand.

Land uses governed by water policies and environmental preservation historically have been, and remain, key to our prosperity as a region. Balanced and planned growth can set our region apart from many other regions elsewhere in the country and the world, as fresh water increasingly gains prominence as a precious commodity. Farsighted water policy gives a region long-term competitive advantage.

Key Findings

The findings are presented below and in greater detail in our full report available at www.publicpolicyforum.org. In summary, the findings are:

1. Water is a key regional asset, central to industry, agriculture, and quality of life.
2. Our region is facing immediate problems, such as dropping water tables and deteriorating water quality. Unless we change how we manage the asset, the problems will worsen.
3. Leaders must think strategically and regionally about managing the asset in the long term.
4. Jurisdictional overlaps, policy gaps, and lack of sound scientific data for decision-making hamper efforts to solve water problems within existing governmental and private institutions.
5. There are multiple ways to change how we manage the asset.
6. The public favors regional measures to protect and improve water resources and ensure we have fishable and swimable surface waters.
7. Strategic and integrated water resource management would strengthen the region.

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1. Water is a key regional asset, central to industry, agriculture, and quality of life.

Because water is an integral part of the region's economic prosperity and quality of life, effective regional water resource management is fundamental to our region's economic prosperity.

Our region is well-positioned to provide groundbreaking leadership in the emerging global water crisis and to be a worldwide center for freshwater science and technology.

Increasingly, the region shows promise as a center of freshwater science and technology, and for new ventures that could emerge from freshwater science. The Great Lakes WATER Institute plays a lead role in developing freshwater science and has received Department of Defense funds for water security research and development.

Academic entities, as well as private corporations, have the capability of filling needs for better inventory of data about water, improved understanding of water resource processes, new monitoring technologies, methods to quantify the value of water and water management specialists. Freshwater science and technology are in their development stages. Southeastern Wisconsin can and is leading this development. For example, the research of Dr. Sandra McLellan of the University of Wisconsin—Milwaukee is groundbreaking in understanding the link between bacteria transport and beach closings.

Business leaders also are beginning to see freshwater stewardship as a key to economic development.

The region also has an opportunity to grow in a balanced way. Unlike many regions, southeastern Wisconsin is a work in progress in the sense that the region remains mostly undeveloped. Despite rapid and sometimes unplanned growth in recent decades, nearly half of the region remains farmland. The region can organize future conversion of farmland and open space in ways that both respect and protect the region's natural systems and honor the choices of farmers and other property owners.

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2. Our region is facing immediate problems, such as dropping water tables and deteriorating water quality. Unless we change how we manage the asset, the problems will worsen.

Emerging water supply and water quality problems are increasingly pitting landowners against landowners and communities against communities. These are occurring in two categories:

- Water depletion: Increasing numbers of communities in southeastern Wisconsin are experiencing conflicts over water supply as groundwater tables continue to drop.
- Poor water quality: Portions of the region are experiencing increasing concerns about water quality. The solution is to integrate water policy so that quantity and quality are managed *together.*

The status quo with respect to water resource management is not acceptable because it likely will lead to serious problems that other regions have experienced. Examples include:

- Continuing nonpoint source pollution and sewer overflows, depletion of groundwater, and contamination of surface water.
- Potential loss of industrial base and housing values in water-constrained areas.
- Potential public health problems.

One Region,

- Wasteful and expensive use of existing capital infrastructure.
- Ecosystem breakdown.
- Legal and political combat over the access and use of water.

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3. Leaders must think strategically and regionally about managing the asset in the long term.

A legacy of abundant water and the presence of Lake Michigan have led to complacency and the assumption that water is unlimited, even though parts of our region are experiencing scarcity in the face of abundance.

Southeastern Wisconsin has not developed a vision of water resource management that provides clear guidance and goals for long-term policies and programs.

Although water resources are linked to our regional economy and quality of life, water policy is not adequately tied to comprehensive economic and community planning.

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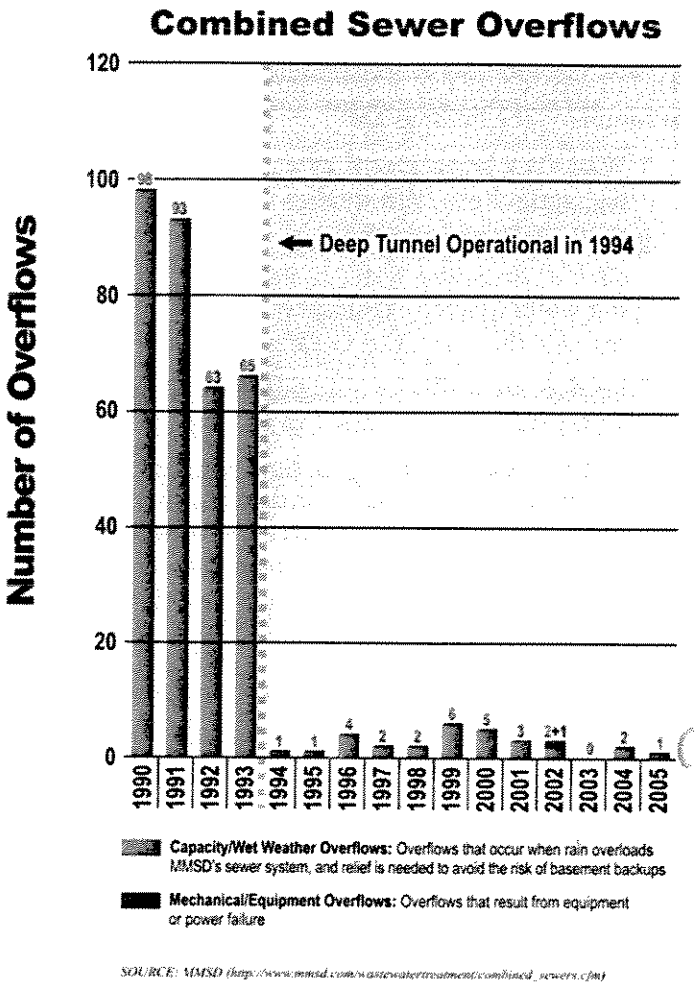
4. Jurisdictional overlaps, policy gaps, and lack of a sound scientific database for decision-making hamper efforts to solve water problems within existing governmental and private institutions.

- There are important gaps in water resource policies, laws, and programs.
- Southeastern Wisconsin lacks coherent and consistent water conservation policy and programs.
- Water resource management is difficult and complex because we have 254 taxing authorities in our region, resulting in limited coordination.
- Regional collaboration that has the potential to integrate and streamline water resource decision-making has been limited.
- State law with respect to groundwater is underdeveloped and, in the absence of updating, likely to lead to seemingly endless litigation over water rights.
- Water geography is not the same as geopolitical boundaries.
- A rigid federal regulatory structure governing surface water quality has hampered priority-setting. Limited resources are best spent where science tells us we will obtain the best results.



SOURCE: MMSD (http://www.mmsd.com/wastewatertreatment/combined_sewers.cfm)

- Our region is not promoting responsible use of groundwater because of a lack of agreement on the rules governing groundwater.
- Because of the lack of strategic thinking about water, appropriate data about our sources and uses of water are underdeveloped. Policymakers and the general public need and demand better information and education about water resources in our region.

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5. There are multiple ways to change how we manage the asset. Among the methods the panel identified are:

- Integrated water resource management, either through cooperation among existing jurisdictions and authorities; a new watershed-based authority; or expanded enforcement powers by state agencies.

- A market-driven approach, which does not typically allow for public input and may or may not result in scientifically sound policies.
- An administrative model with required public participation in policymaking, such as administrative appeals processes, public hearings, public comment periods, and sunshine or transparency requirements. These requirements do not guarantee all stakeholders will be heard or that science will inform decision-making.
- Other models that include aspects of integrated water resource management, but are not fully integrated, including reliance on legislative oversight and/or reliance on courts to resolve disputes on a case-by-case basis.

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6. The general public favors regional measures to protect and improve water resources and ensure we have fishable and swimable surface waters.

For this project, we conducted a systematic survey of 600 adults in southeastern Wisconsin (Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington and Waukesha counties). Participants were selected at random and interviewed by telephone in July and August 2005. For a survey of this size, the sampling margin of error is four percentage points. (See www.publicpolicyforum.org for the full survey.)

The key findings:

- 94% agree we should do more to protect our water.
- 55% disagree that threats of water shortages are exaggerated (44% agree).
- 98% say we need to do whatever it takes to make our lakes, rivers and streams fishable and swimable.
- 67% say a regional agency is needed to ensure that cities and towns are following regional guidelines for development.
- A small majority (52%) disagrees we worry too much about environment and not enough about jobs and the economy (47% agree).
- Citizens are evenly divided on whether people who own land should have the right to use its water however they want.
- 72% favor creation of a watershed district to oversee water resources for the entire region.

7. A strategic and integrated water resource management approach would strengthen the region.

Our region's decision-making processes may not lead to the best water resource management decisions because the administrative infrastructure for decision-making is not integrated; we have overlapping regulatory authorities and management and planning agencies, such as the DNR, MMSD, EPA, SEWRPC, counties, municipalities and the federal government.

Public money spent to ensure healthy and sustainable water resources is not always allocated in a manner that maximizes efficiency and impact. Protecting and improving our water resources in an era of increasingly limited natural resources and financial means requires a more efficient management of our resources.

Our current water governance structure is neither integrated nor adaptive. An integrated and adaptive governing structure includes coordinated efforts among independent agencies and policymakers and results in policies that can evolve as science advances.

Regardless of how the region chooses to manage its water resources, there will be difficult political challenges.

A regional strategy to manage our water resources in an integrated fashion would strengthen our region's competitiveness and quality of life.

Because water issues differ across the region, there is no one-size-fits-all solution to our water management problems; rather, an array of options is needed to manage water resources in context with local and regional needs.

There are models of creative water resource management in and near southeastern Wisconsin that could be replicated elsewhere in the region.

NOTE: A complete explanation of the findings can be found on the Forum Web site at: www.publicpolicyforum.org.

One Region

Recommendations

1. Vision and goals

The citizens and leaders of southeastern Wisconsin need to be fully committed to protecting and restoring the region's world class water resources to sustain a vibrant economy, a high quality of life and enhanced natural ecosystems for this and succeeding generations.

To achieve this vision, the region's citizens and leaders need to be guided by a set of principles and goals that include:

- Acknowledgement that water resources of the region are finite and the natural systems that contribute to their replenishment and quality must be protected.
- Achieving fishable and swimable waters for the entire region.
- Development and implementation of an integrated water resource management strategy that recognizes the relationship between surface waters, groundwater and water-dependent natural resources.
- Regional management strategy with a structure that addresses water quality and quantity issues on the basis of natural or hydrologic boundaries, such as watersheds or groundwater aquifers.
- Direct linkage of the integrated water resource management strategy with other regional and community plans, including population, land use trends, economic development, transportation, housing and recreation development.
- Timely and integrated data collection on water quantity and quality to establish trendlines, and a method for coordinating various relevant scientific studies regarding water issues.
- As scientific data permit, movement toward a long-term goal of a "no-net loss" concept; that is, ensuring that the water we use is replenished.

2. Menu of science-based options to help communities achieve the region's vision and goals

A variety of options is available to communities that will help them achieve the region's vision and goals and manage the water resources in an integrated fashion. These choices must be available to assist communities in achieving water resource management goals for the region because there is no one-size-fits-all solution to complex water issues.

These options include:

- Measures all communities should be required to embrace, choosing from a menu of best practices for each:
  - Education of citizens and policymakers about water resource issues;
  - Education of local media to counter myths, incorrect data;
  - Water conservation;
  - Construction site erosion controls;
  - Protection of groundwater recharge areas, open space, wetlands and prime farm lands;
  - Point source pollution controls;
  - Control of separate sewer and combined sewer overflows;
  - Nonpoint pollution control in rural & urban areas;
  - Storm water runoff controls;
  - Flooding controls;
  - Invasive species controls.
- Other possible actions available to communities:
  - Green design;
  - Gray water reuse/recycling;
  - Discharging wastewater effluent to infiltration beds;
  - Siting of shallow aquifer well fields based on speed of aquifer recharge;
  - Maximizing treatment facility capacity by using aquifer storage and recovery;
  - Lake Michigan water diversion with water returned after treatment to required water quality standards to Lake Michigan basin;
  - Lake Michigan diversion with wastewater returned to a designated wastewater treatment system, such as the MMSD treatment system;
  - Maximizing groundwater recharge through the use of storm water utility ordinances;
  - Use of cost/ price structures that create incentives for water resources management and conservation.

3. Regional water management models

Effectively managing water resources in the regional interest has never happened, as scores of governments (federal, state, regional, county and municipal) currently make water resource management decisions in southeastern Wisconsin. The solution is creating a mechanism to integrate water policy and management. This could be accomplished through cooperative agreements among the governments, state legislation, creation of a regional water resource management entity, or a combination of these.

Whatever the governance method, we found consensus among stakeholders that a water resource management goal must be established. The long-term goal suggested by our advisory panel is "no net loss" of ground or surface waters in the region, as well as fishable and swimable water quality. "No net loss" is defined as keeping the water levels of lakes and aquifers within historic variations. What is to be avoided is a general downward trend in water levels. Debate over an appropriate statewide goal is anticipated to be among the policies and regulations included in the state's implementation plan for the Great Lakes – St. Lawrence River Basin Compact (commonly called Annex 2001). Now is an opportune time for policymakers to come to consensus on a goal, while acknowledging that science is not yet able to tell us the most efficient and effective way to achieve that goal.

Lack of scientific evidence as to the best methods cannot be considered a reason not to establish a "no net loss" objective. Many public policies are adopted before science has caught up. For example, education policymakers are committed to closing the academic achievement gap between white and minority students; however, there is no consensus as to the best way to accomplish this. As a result, numerous types of education reform are at work across the state and nation. This willingness to experiment is required in water management policy as well.

To achieve the no net loss/fishable and swimable goal, governments must practice efficient, equitable and sustainable water resource management. To do so, it will be necessary to organize decision making along both natural resource and political boundaries—similar to what is being done under MMSD's 2020 Facilities Plan and SEWRPC's Regional Water Quality Management Plan Update. Because both natural and human systems are involved, our region needs "adaptive" governance to generate policy through coordinated efforts among independent governments and agencies.

Adaptive water resource governance must be *representative* because of the competing and sometimes conflicting constituencies involved; *nimble* in light of rapidly evolving water science; and *responsive*, considering the long-term consequences of squandering our natural resources. Also, an adaptive governance structure should provide the necessary incentives and resources to achieve its goals.

We have identified four collaborative models for achieving adaptive water resource governance. These models are not mutually exclusive; elements of each can be utilized in conjunction with other models. All four models depend on local units of government—municipalities and counties—and their water resource agencies to make independent decisions based on regional objectives that focus on all or parts of 10 or more southeastern Wisconsin counties, following natural watershed and groundwater recharge boundaries. All models require local officials to be educated on water issues and water science, but rely on the technical expertise of scientists and engineers. All models strive to achieve the goals by allowing local governments to utilize, at their option, the most appropriate water management method(s).

Model 1. Regional Water Resource Commission

A cooperative coordinating council of water resource managers appointed by each municipality and county in the region that meets semi-monthly or quarterly to create and implement regional water resource plans. The meetings allow local officials to inform one another of current efforts and future plans, as well as facilitate collaborative efforts among the represented governments. This model relies on the commissioners to work together informally and keep their elected officials informed to achieve regional goals. Enforcement of the regional objectives could be coordinated by existing enforcement agencies or an independent staff established by the commission.

Pros
- Similar to regional structure for recycling
- Commissioners could sit on more than one council if their jurisdiction is part of more than one watershed
- Regional council improves integration
- Municipalities may designate a county to represent their interests on the council
- Funded within local government budgets

Cons
- Municipalities may perceive loss of control
- Local governments may not have technical expertise on staff to serve as commissioners
- Regional plans require compromise and may not meet all local demands

One Region

Model 2. Compact among Local Governments

This model depends on binding legal authority to ensure that the parties perform as they have agreed. A compact specifies the goals the parties agree on, the actions they are to perform in furtherance of those goals, and the funding mechanism for those actions. The compact must be ratified by every government bound to its provisions. In addition to local governments, the bound parties may include stakeholder groups. Nonperformance would incur penalties established under the compact.

Pros - Compact results from a meeting of the minds of local officials and stakeholders

- Negotiations include complete representation

- Financial incentives and/or cost sharing can be built into financing mechanism

Cons - Lone holdout during negotiations could derail entire process

- Requires good-faith negotiating despite uncertainty of current water science

- Amendments to the compact reopen negotiations and may not be timely

Model 3. Wisconsin Dept. of Natural Resources

The state agency uses its authority, enhanced by state legislation, to provide guidelines for local governments to achieve integrated water resource management strategies. Local governments shall adopt local plans and choose among models and options to comply with regional and state objectives. The DNR currently enforces the "no net loss" principle over time and uses the authority of the state to prevent environmental degradation, but an integrated management scheme would require their duties be more comprehensive. DNR policies that are not currently linked would be integrated for a holistic approach to natural resource management.

Pros - Infrastructure of agency already in place

- Local plans provide flexibility, while regional objectives provide integration

- Plans could be revisited as science advances

- Potentially funded by the state

Cons - Likely resistance to expansion of DNR powers

- Municipalities may fight a state decision that triggers the requirement to create a local plan

Model 4. Regional Water Resource Management Authority

An appointed planning and enforcement body governs a professional staff that plans for water resources in the region, sets regional priorities to prevent environmental degradation, implements policies through rulemaking, and enforces municipal compliance. The most politically viable model would not levy new taxes (and would therefore be dependent upon the state or region for funding) but it would have enforcement powers.

Pros - Opportunity to establish representative regional infrastructure

- Funding comes potentially from local governments according to formula established by either the state or the governments themselves

Cons - If authority is limited to watershed boundaries, then this would require more than one authority in southeastern Wisconsin

- Municipalities may fear loss of local control

Yet to be determined in each of the four models are the particulars of representation, enforcement, and financing. For example, shall the representation of local communities in a particular governance model be determined by population or some other method? Perhaps each community gets one seat on the governing board, or perhaps those communities with more land area get more seats. In addition, to what extent do these governing bodies have the ability to enforce their decisions? Shall they be able to levy fines, institute moratoriums on new wells, etc? Finally, how will these governing models be financed? The governing body could be a regional taxing authority, or could be state-funded, or could be funded by the represented local governments themselves.

The discussion, up until this point, has focused on the big picture of developing a new form of integrated and adaptive governance. The details of design and the nuances of implementation will require consensus regarding the general model to be utilized.

4. Policy and law

To achieve the regional vision and goals and implement polices and programs to carry them out, it will be necessary to clarify certain laws, change others and create new state water laws as needed.

An effective relationship between policy and law is essential to implementing integrated water resource management in the region. Sound science, collaboration, and comprehensive planning, although critical, by themselves

will not ensure sustainable use and protection of water resources. State laws and administrative codes must require implementation of plans that define environmentally sound, cost effective facilities, programs, and best management practices. This can be accomplished by requiring that proposed water resource actions requiring regulatory approvals and/or state funding be in compliance with the approved plans. This approach has been effectively used by the state of Wisconsin for over 30 years in the management of point source pollution.

Additional legal analysis needs to occur with probable legislative action needed in the following areas:

- Water conservation measures.
- Water supply and diversion issues.
- Clarification and expanded application of reasonable use and public trust doctrines to groundwater of the state.
- The circumstances under which reuse and recycling of water to accomplish water balancing objectives are desirable and permissible.
- The extent to which mandated water quality activities can be reordered to give greater priority to nonpoint measures that would have greater impact on improvements to the region's water quality.
- Methods of identifying and defining water-constrained areas using watershed or sub-watershed boundaries to the maximum extent feasible.
- Gaps in the authority of the DNR or local governments to effectively provide oversight to ensure integrated water resource management in our region.
- Development and implementation of regulations that are driven by documented results and measured improvements toward achieving water resource goals. This encourages prioritizing use of scarce financial resources to actions that result in the greatest return in water resource management.

Next Steps

To achieve the Water Policy Advisory Panel's goals and recommendations, the state of Wisconsin must act. While this report is focused on southeastern Wisconsin, all the waters of Wisconsin require integrated management. The state will need to provide the necessary legal framework and support for addressing the advisory panel's substantive recommendations.

Fortunately, now is an opportune time for action. Over the next year, the Wisconsin legislature is likely to craft legislation to implement the Great Lakes-St. Lawrence River Basin Water Resource Compact. This legislation is expected to include a number of water regulatory and management provisions as well as requirements to strengthen the scientific basis for water resource management decisions. The legislation could serve as the vehicle through which the state and region adopt an explicit goal of achieving integrated water resource management as defined by this report.

To facilitate state-level goal setting, the Joint Legislative Council is encouraged to establish a committee to address those recommendations of this report that require additional analysis, including:

- Completing a review of the current administrative rules and legislation relating to water resources, identifying gaps and inconsistencies and recommending changes, additions, and improvements.
- Integrating the various water resource-related plans and studies currently underway in southeastern Wisconsin and coordinating with the ongoing work of the Groundwater Advisory Committee established under 2003 Wisconsin Act 310.
- Developing a science-based approach to managing water resources at a regional level.
- Developing an integrated water resource management structure at a watershed or groundwater recharge area level, and proposing potential financing mechanisms and enforcement authority.
- Developing a single state-level point of responsibility to promote integrated water resource management and to coordinate current and future studies and land use (Smart Growth) plans.

The work of the legislative council committee might also inform the rulemaking process that will take place after the enactment of the Great Lakes-St. Lawrence River Basin Water Resource Compact enabling legislation.

An alternative to establishing a legislative council committee to address the Water Policy Advisory Panel's recommendations would be to expand the role of the Groundwater Advisory Committee, currently slated to report to the legislature by the end of 2006.

In addition, the Water Advisory Panel plans to work with groups of local elected officials and the public to raise awareness about water quality and quantity issues in the region and to present the findings and recommendations of this report to municipal and county boards.

One Region

It's time to think strategically about water, one of our most valuable assets. Unlike counties and villages, this endangered asset has no boundaries. We gathered regional leaders together to address how to manage this asset. This report is their consensus.

The Public Policy Forum is facilitating creation of an action plan for regional cooperation in southeastern Wisconsin. The Forum is encouraging the region to think and act in ways that promote its long-term economic and social health. The Forum continues to seek partners in its effort. If you would like to provide leadership please contact:

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Acting regionally on issues that are regional in nature is in our economic and social long-term interest. For more information about the Public Policy Forum and its work, please go to our web site:

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