

---

# OHIO'S WATER OHIO'S FUTURE

1994 FINAL REPORT

GOVERNOR'S BLUE RIBBON TASK FORCE  
ON WATER RESOURCES  
PLANNING AND DEVELOPMENT



STATE OF OHIO  
GEORGE V. VOINOVICH, GOVERNOR

---

---

**GOVERNOR'S BLUE RIBBON TASK FORCE ON  
WATER RESOURCES PLANNING AND DEVELOPMENT**

**STEERING COMMITTEE**

**Donald Anderson, Chairman**  
**Steering Committee**  
Ohio Department of Natural Resources

**Carla Cefaratti, Chair**  
**Water-Based Transportation**  
Ohio Department of Transportation

**Phil DeVore, Chair**  
**Water Resources and Economic Development**  
Ohio Department of Development

**Scott Golden, Chair**  
**Water Resources Planning and Technical Assistance**  
Ohio Department of Health

**Steve Grossman, Chair**  
**Water Infrastructure Financing**  
Ohio Water Development Authority

**Shelby Hutchins**  
**Public Member**

**Gary Martin, Chair**  
**Water Resources Information Collection,  
Analysis and Dissemination**  
Ohio Environmental Protection Agency

**Jim Morris, Chair**  
**Water-Based Recreation**  
Ohio Department of Natural Resources

---

---

## TASK FORCE MEMBERSHIP

**Fred Abraham**  
Ducks Unlimited

**Linda Aller**  
Bennett & Williams

**David Baker**  
Heidelberg College

**W. Laurence Bicking**  
Ohio Public Works Commission

**Thomas J. Birch**  
ERM Midwest

**John Bossler**  
The Ohio State University

**Jeffrey Busch**  
Ohio Lake Erie Office

**Brad Cole**  
County Commissioners  
Association of Ohio

**William Costello**  
Ohio Manufacturing Association

**Gary Daugherty**  
O.M. Scott & Sons Co.

**Ken Delap, Sr.**  
Sieco, Inc. Engineers

**John Doutt**  
City of Columbus

**Clarence Durban**  
Ohio Federation of Soil and  
Water Conservation Districts

**Herb Eagon**  
Eagon and Associates

**Scott Elliot**  
Marietta Industrial Enterprises

**Larry Feazell**  
Ohio River Basin Commission

**Sherman Gee**  
U.S. Army Corps of Engineers

**Robin Greene**  
The Nature Conservancy

**Dusty Hall**  
City of Dayton

**James Hanson**  
Attorney at Law

**Steven Hindall**  
U.S. Geological Survey

**John M. Hoopingarner**  
Muskingum Watershed Conservancy  
District

**Kent Kroonemeyer**  
U.S. Fish and Wildlife Service

**Nora Lake**  
Miami Valley Regional Planning

**John Loftus**  
Toledo-Lucas County  
Port Authority

**Michael Long**  
Solid Waste Management Authority  
of Central Ohio

**Karen Mancl**  
Ohio Cooperative Extension Service

**Wayne Maresch**  
Soil Conservation Service

**Charles McFarland**  
Ohio Association of Rural Water  
and Wastewater Systems

**Colonel John Morris**  
U.S. Army Corps of Engineers

**Richard Noland**  
Burgess & Niple, Ltd.

**Erwin Odeal**  
Northeast Ohio Regional  
Sewer District

**Michael Pagano**  
Center for Public Management  
and Regional Affairs

**Michael Pompili**  
Columbus Health Department

---

# TASK FORCE MEMBERSHIP

**Elizabeth Reeb**  
Muskingum River Advisory Council

**Michael Renz**  
EPSYS Corporation

**Jeff Reutter**  
Ohio Sea Grant

**James Rozelle**  
Miami Conservancy District

**George Ryan**  
Lake Carriers Association

**Don Schmidt**  
Ohio Parks and Recreation Association

**Norm Schultz**  
Boating Association of Ohio

**Ann Shafor**  
Miami Valley Regional Planning

**Gary Sheely**  
City of Lima

**Dick Smith**  
Miami University

**Robert Stiefel**  
The Ohio State University

**Paul Stubbins**  
Seasongood & Mayer

**Neal Tostenson**  
Ohio Mining and Reclamation Association

**Alan Vicory**  
Ohio River Valley Water Sanitation Commission

## STAFF COORDINATOR:

**Jaye Kremer**  
Ohio Department of Natural Resources

---

---

# TABLE OF CONTENTS

## ACKNOWLEDGEMENTS

EXECUTIVE SUMMARY	i
INTRODUCTION	1
GOAL #1 - WATER RESOURCES PLANNING	2
GOAL #2 - WATER RESOURCES INFORMATION	7
GOAL #3 - ECONOMIC DEVELOPMENT	11
GOAL #4 - WATER INFRASTRUCTURE FINANCING	17
GOAL #5 - RECREATION AND THE NATURAL ENVIRONMENT	23
ENDNOTE	30

---

---

# EXECUTIVE SUMMARY

## FINAL REPORT

### GOVERNOR'S BLUE RIBBON TASK FORCE ON WATER RESOURCES PLANNING AND DEVELOPMENT

Ohio enjoys abundant water resources. The state receives an average of 74 billion gallons of precipitation a day—38 inches per year. Almost two-thirds of our boundaries are water. There are over 44,000 miles of streams and more than 60,000 lakes and ponds within the state. An average of 194 billion gallons of surface water per day is available for our use.

The amount of ground water beneath Ohio is greater than all the surface water in the state's lakes and rivers. An average of 50 new water wells are drilled in Ohio each day for domestic, municipal, industrial, and agricultural supplies as well as for monitoring ground water at regulated facilities.

The tonnage of shipping on the Ohio River navigation system is almost double that of the Panama Canal and triple that of the St. Lawrence Seaway. Ohio's share of this shipping commerce amounts to 50 million tons annually. Additionally, about 67 million tons of commodities are handled annually at Ohio's Lake Erie ports, accounting for nearly a third of the water transportation on the Great Lakes.

It is easy to conceive that given the abundance of water in Ohio, water resources management would be relatively problem free. Unfortunately, this is not true. Ohio's fundamental water problem is one of distribution. We seldom receive steady, predictable amounts of precipitation. Floods and droughts create significant water management problems. Often the solution to one dilemma results in the creation of a different set of problems with a competing need. For example, we need to develop our water resources to assure adequate water supplies during drought periods, and at the same time preserve aquatic habitats and instream recreational activities. While we need to protect the quality of ground and surface waters, we also must encourage industrial and commercial development.

The Governor's Blue Ribbon Task Force on Water Resources Planning and Development was convened to evaluate the organizational, technical, financial and planning infrastructure for water in the state and propose the actions necessary to optimize the state's water resources. The Task Force set out to ensure that Ohio's water resources are used to maintain and improve the environment, protect public

---

health and safety, and promote economic development and recreation. After a year of compiling information and conducting workgroup meetings, the Task Force formulated the following blueprint intended to lay the foundation for strengthening Ohio's water resource delivery system.

The report is organized around the following five goal areas: water resources planning, water resources information, economic development, water infrastructure financing, and recreation and the natural environment. Each goal is measured by where Ohio stands today, followed by specific recommendations for future action.

While there may be costs associated with some of the recommendations summarized below, it was not within the purview of the Blue Ribbon Task Force to perform cost analyses. However, it is suggested that this charge be given to the Implementation Committee, as described in Goal #1, Recommendation #1.

## **Summary of Recommendations**

### **WATER RESOURCES PLANNING**

#### **1. GOAL: Coordinate planning and technical assistance activities in an efficient, comprehensive manner to provide for the most beneficial use of water resources**

- Create a state policy and planning coordinating entity.
- Develop a comprehensive state water resources management plan.
- Strengthen technical assistance efforts.
- Educate the public on the fundamental importance of water.

### **WATER RESOURCES INFORMATION**

#### **2. GOAL: Develop and implement a strategy to coordinate water data collection, analysis, and dissemination efforts to support water resources development, planning, management and regulatory decision making**

- Identify the needs and uses for water data throughout the state.
- Formalize cooperation and collaboration among the many state, federal, local and private entities that collect and/or use water data.
- Develop and establish a state water data network through expansion, implementation, and funding of a coordinated water information system.
- Create a centralized mechanism for citizens, organizations and agencies to have easy access to state agency personnel in order to get answers to water related questions.
- Enhance existing water resource data collection efforts.

## **ECONOMIC DEVELOPMENT**

### **3. GOAL: Retain, expand and attract industry and commerce by promoting the availability of ample water at a reasonable cost and encouraging the maintenance and development of water supply sources and navigation infrastructure**

- Create an economic development plan emphasizing water resources.
- Develop an industrial incentive plan for meeting water quality objectives.
- Determine whether Ohio is on a “level playing field” with other states in terms of enforcement of environmental regulations.
- Encourage the use of waterborne transportation.
- Encourage maintenance dredging activities for Ohio ports.
- Adopt a more active position in water resources management and enforcement.

## **WATER INFRASTRUCTURE FINANCING**

### **4. GOAL: Optimize the financial resources available to meet future water related infrastructure needs**

- Develop funding sources for local governments and industries lacking financial debt capacity.
- Develop criteria for allocating grants and/or subsidized loans to local governments.
- Encourage the establishment/expansion of water resource systems to address the needs of residential systems and non-viable water resource systems.
- Reauthorize the issuance of General Obligation Bonds to fund water resource projects of the Ohio Public Works Commission.
- Encourage the development and implementation of local and regional water resource and infrastructure plans by requiring them as prerequisites for state and federal infrastructure financing assistance.
- Encourage new approaches that will help small communities meet new environmental standards.
- Provide state funds to match future state revolving fund capitalization grants.

## **RECREATION AND THE NATURAL ENVIRONMENT**

### **5. GOAL: Ensure that the current and future needs of recreation and the natural environment are considered in all state water resources planning and development activities**

- Acquire and develop parcels of land that provide public access to water-based recreation.
- Develop an educational program to inform the public of the opportunities water-based recreation offers.
- Designate one method of determining streamflow needs that is accepted by federal, state and local agencies.

- 
- Maintain, rehabilitate, upgrade, and develop facilities to support the present and future demand for water-based recreation.
  - Fully implement the Ohio Nonpoint Source Management Program.
  - Encourage land uses which support the benefits of natural drainage systems.



---

## INTRODUCTION

Ohio's water resources have always been the central support of life and commerce in the state. Nearly all of Ohio's major cities were developed as a result of their proximity to water resources. Flat, fertile floodplains facilitated early agricultural development. The power of flowing water — hydraulic power to drive machines — helped usher in early industrial development.

Today, economic development and growth remain highly dependent on adequate water resources of appropriate quantity and quality. Ohio's location and abundant water supply have assured the state of a commanding industrial position in the United States. Ohio's ability to provide adequate water resources will play a key role in our economic future as other areas of the country experience increasing water supply problems. Issues dominating the water policy agenda in Ohio are not those of supply, but rather of availability, management, organization, quality and pollution control.

In January of 1993, the Governor convened a Blue Ribbon Task Force on Water Resources Planning and Development. The Governor's Task Force was comprised of over 50 members from local governments, private interest groups, consultants, universities and citizens. Staff from state and federal agencies were assigned as resource people. The task force was headed by a steering committee and was organized into six workgroups.

The mission of the Governor's Task Force was to evaluate the organizational, technical, financial and planning infrastructure for water in the state and propose the actions necessary to optimize the state's water resources.

There are literally dozens of water management organizations in Ohio whose efforts are largely independent of one another. The absence of a comprehensive state water policy has resulted in duplications of effort, missed partnerships, wasted resources, and fragmented responsibilities. The time has come to enact change.

If Ohio is going to remain a key economic player, and protect its water resources, it must move to a more holistic approach in water resources management. The Governor's Task Force has set forth herein a policy framework for the foreseeable future with special attention toward what may be achieved in the next four years. It is hoped that the goals and recommendations contained in this report create a shared vision, stimulate action and prompt new, coordinated solutions to improving Ohio's effectiveness as guardian of our most precious natural resource - water.

# GOAL #1

## WATER RESOURCES PLANNING

COORDINATE PLANNING AND TECHNICAL ASSISTANCE ACTIVITIES IN AN EFFICIENT, COMPREHENSIVE MANNER TO PROVIDE FOR THE MOST BENEFICIAL USE OF WATER RESOURCES

### RECOMMENDATIONS

- **CREATE A STATE POLICY AND PLANNING COORDINATING ENTITY**
- **DEVELOP A COMPREHENSIVE STATE WATER RESOURCES MANAGEMENT PLAN**
- **STRENGTHEN TECHNICAL ASSISTANCE EFFORTS**
- **EDUCATE THE PUBLIC ON THE FUNDAMENTAL IMPORTANCE OF WATER**

### WHERE OHIO STANDS

Water resources in Ohio are renewable and are currently found in abundance. However, they are not unlimited and are subject to change over time. Whether such changes are beneficial or detrimental can be a function of the planning efforts undertaken on behalf of the resources.

State-wide water resources planning began in the 1950's with the authorization of the Ohio Department of Natural Resources (ODNR) Division of Water to conduct watershed basin inventories. These inventories characterized the availability of both surface and subsurface waters, the major users in each basin, and made recommendations regarding potential sites for surface or ground water development for communities. This effort was replaced in the 1960's with the creation of the Ohio Water Commission, which was given authority to develop comprehensive water plans for the state. Five regional comprehensive water plans covering water supply, water quality, flood control, water transportation and recreation, were developed for the state and funded with bond issue monies.

With the creation of the Ohio Environmental Protection Agency (OEPA) in 1972, the authority for comprehensive water planning was transferred from ODNR and the Ohio Water Commission to OEPA, and the Ohio Water Commission was abolished. Under a special agreement with OEPA, the final three regional water plans were published in the late 1970's by ODNR.

Water resources planning has been implemented by the OEPA and by regional planning agencies across the state, however, such plans have primarily dealt with water quality issues. Water quality planning is generally required by and funded by the federal government under the Clean Water Act. Very little has been done by the state to analyze the water quantity issues and integrate the quantity and quality issues together. Given the federal mandates and directed federal funding, neither the OEPA

---

nor the ODNR has the resources to conduct comprehensive water resources planning as was done by the Ohio Water Commission.

Currently, there are a number of agencies at all public sector levels that are conducting water planning activities. There are also similar activities being conducted in the private sector. Such planning, however, is disjointed and primarily reflects the priorities and biases of its own institutional environment.

Other states have developed state water supply plans, containing both technical and policy documents, giving them an economic advantage in terms of having good data and establishing the ground rules for resource development. Ohio has not kept up with this effort and is behind other states.

Most of the water resources planning and management programs in Ohio have resulted from droughts and other pressing political issues, resulting in fragmentation of water management authorities and widespread lack of integration in program implementation. The fragmented nature of the present bureaucracy contributes measurably to the problem. It is apparent that the existing "system" in Ohio suffers from a number of fundamental problems that must be solved in order to allow the state to adequately plan the most beneficial uses of its water resources.

## **WHAT OHIO NEEDS TO DO**

### **1. CREATE A STATE POLICY AND PLANNING COORDINATING ENTITY**

The importance and significance of the availability of water, for consumption, economic development, recreation and all other uses demands a drastic and unique approach to managing this precious resource. Central to the task force recommendations, is that Ohio adopt a new management approach, requiring more coordination of water policy and planning at the state level.

The task force recommends that the coordination function be developed in two phases:

#### **Phase I:**

It is recommended that an Executive Assistant position be established, during Phase I, that is accountable to and has the full support of the Governor. The Executive Assistant would be responsible for initiating a process of statewide comprehensive planning by coordinating existing functions.

It is recognized that no one person has the resources, authority or knowledge to do the entire job alone; it must be a shared and coordinated responsibility within the entire water community. It is expected that the Governor's Executive Assistant would work in cooperation with the Environmental Protection Agency, the Department of Natural Resources, the Department of Development, the Department of Health, and other agencies with an interest in, or responsibility for, the development, management, or protection of water resources in Ohio, to accomplish the first phase of comprehensive water resources planning. It is recommended that the Ohio Water

---

Development Authority be asked to provide administrative support to this position.

It is further recommended that the Governor establish an Implementation Committee, during Phase 1, the purpose of which would be to develop a strategy for implementing the following mission:

**OHIO MUST DEVELOP A SUSTAINED VISION TO ADDRESS WATER RESOURCES PLANNING AND DEVELOPMENT. AN AUTHORITY EMPOWERED TO DEVELOP AND IMPLEMENT A COMPREHENSIVE DYNAMIC WATER POLICY MUST BE CREATED AND FUNDED. IT WILL BE THE RESPONSIBILITY OF THIS ORGANIZATION TO FORMULATE LOCAL PARTNERSHIPS, EDUCATE THE PUBLIC, RESOLVE DISPUTES AND OFFER SCIENTIFIC EXPERTISE IN THE AREA OF WATER RESOURCES MANAGEMENT.**

Members of the Implementation Committee should reflect a balance of interests, and include representation from the General Assembly, local governments, state agencies and other individuals identified by the Governor, along with the Executive Assistant. It is recommended that the Ohio Water Development Authority be asked to provide administrative support to this committee. The Executive Assistant and the Implementation Committee would be replaced by whatever authority is created to carry out this mission.

#### **Phase 2:**

Phase 2 would involve full implementation of the mission stated above. It is hoped the yet-to-be-identified "Authority" will serve as a forum for developing a single voice for Ohio. Ohio's state agencies and its local governments will then be able to come together to discuss issues such as the impact of environmental regulations and water resources development. This "Authority" will also seek to influence federal and state legislation affecting water resources management.

## **2. DEVELOP A COMPREHENSIVE STATE WATER RESOURCES MANAGEMENT PLAN**

It is essential that a central, coordinating entity oversee the development of a comprehensive water resources management plan for the state. Currently there are a number of water related strategies that are being developed to address specific subsets of water resources (i.e., drought management, wetlands, ground water, streams, coastal zones, nonpoint source pollution). Each of these strategies has its own goals, objectives, and priorities dependent on the perceived needs of the groups formulating each strategy. These specific strategies need to be integrated into a cohesive water management plan to avoid conflicts, fragmentation, or duplication of efforts and to maximize the benefits received from the resources.

A comprehensive management plan should identify water priorities across agency boundaries, have clear goals and objectives, and be proactive and dynamic. Quantity, quality, surface water, ground water, water chemistry and water biota all have to be analyzed as parts of a dynamic system, the hydrologic cycle and its ecosystem.

---

This management plan should examine not only current water related issues but should be flexible enough to examine newly arising issues such as the effects on water resources by global climate changes, water conservation and environmental regulations.

The management plan also must contain a compliance mechanism to assign responsibility for implementation of the plan. State agencies, primarily the Ohio Department of Natural Resources (ODNR), Ohio Environmental Protection Agency (OEPA), Ohio Public Works Commission (OPWC), Ohio Department of Transportation (ODOT), Ohio Department of Development (ODOD), Ohio Department of Health (ODH) and Ohio Water Development Authority (OWDA) should be required to come together to ensure that a shared vision for the state is achieved.

It is important that state water planning efforts not be limited to state boundaries but take into consideration efforts at both the regional and national levels. Once the state has developed a comprehensive water resources plan and is moving towards implementation of that plan, the state should lead an effort to coordinate water resources management on an interstate basis.

Partnerships among all groups should be increased and strengthened in an effort to balance local/state/federal environmental goals and interests. Such efforts would assist in minimizing duplication of effort on common water problems faced by the various states while allowing for the protection and best utilization of the nation's water resources.

### **3. STRENGTHEN TECHNICAL ASSISTANCE EFFORTS**

Water resources technical assistance activities can be grouped into two categories: (1) support of plan formulation or (2) support of program and project implementation. Much of the technical assistance that is currently being provided is in reaction to a specific problem or incident and, therefore, is not proactive in function. Existing water resource technical assistance is also oversubscribed. When technical assistance can be provided, it is often at the expense of other important organizational functions such as planning or staff development.

The adequacy and continuity of staff for implementing technical assistance activities is a continual concern as is providing staff with the appropriate tools to perform their functions. Sufficient funding for full-time employees, equipment, or contracting authority should be provided to sustain current technical assistance programs as well as for increasing such services as the needs and objectives of the overall management plan require.

In addition, individuals providing technical assistance need to have opportunities for their own professional development in such areas as effective communication techniques, evaluative methodologies and the interpretation of evaluation results as well as the subject area(s) for which the individual is providing the technical assistance.

---

#### **4. EDUCATE THE PUBLIC ON THE FUNDAMENTAL IMPORTANCE OF WATER**

Solutions to environmental problems are more complex than ever before, although the relative risks associated with these problems may not be so obvious and are confusing to the general public. Environmental educators must work to change the perception that water simply runs from faucets and is available without cost. Leadership should come from the state to educate the general public with respect to what water resources are, the economic benefits these resources provide, and what needs to be done to ensure an adequate, safe supply of water. Lacking such an understanding, the public will not be receptive to initiatives related to water resources projects such as paying higher user fees.

Historically, environmental education programs have been constrained by lack of funding, however, as the value of our water resources becomes more evident, it is imperative that these programs become agency priorities.

## GOAL #2

### WATER RESOURCES INFORMATION

DEVELOP AND IMPLEMENT A STRATEGY TO COORDINATE WATER DATA COLLECTION, ANALYSIS, AND DISSEMINATION EFFORTS TO SUPPORT WATER RESOURCES DEVELOPMENT, PLANNING, MANAGEMENT AND REGULATORY DECISION MAKING

#### RECOMMENDATIONS

- IDENTIFY THE NEEDS AND USES FOR WATER DATA THROUGHOUT THE STATE
- FORMALIZE COOPERATION AND COLLABORATION AMONG THE MANY ENTITIES THAT COLLECT AND/OR USE WATER DATA
- DEVELOP AND ESTABLISH A STATE WATER DATA NETWORK
- CREATE A CENTRALIZED MECHANISM FOR EASY INFORMATION ACCESS
- ENHANCE EXISTING WATER RESOURCES DATA COLLECTION EFFORTS

#### WHERE OHIO STANDS

Water resources data is currently being collected in Ohio by organizations including, the Ohio Department of Natural Resources, the Ohio Environmental Protection Agency, the Ohio Department of Health, the U.S. Geological Survey, various colleges and universities including Heidelberg College, Wright State University, The Ohio State University, Ohio University, the University of Cincinnati, and by various private organizations. Regulatory requirements dictate that local water, wastewater and industrial entities also collect data. These data collection efforts are often carried out independently and coordination among entities has been inconsistent. The type of data being collected varies widely as does the formats in which it is stored and processed.

Cost-effective decision making, whether related to pollution control, ground water protection, economic development, etc., relies on the existence and accessibility of basic ground and surface water quantity and quality information, including information on the whole ecology of Ohio's surface waters.

Accurate, adequate and accessible water data has long been recognized as a critical need by individuals working with water resources in Ohio. The current methods of data storage, management and dissemination are not "user friendly" in that data may be inaccurate, or not computerized or in the wrong format. The present system for determining the availability of water supplies and wastewater treatment capacities in areas being considered for development is slow, cumbersome and costly.

---

Many of the water resources management decisions made in Ohio require sufficient data to assess long-term trends. Ohio presently lacks a coordinated strategy for the collection of background data to assess long-term trends. Although there are extensive data collection activities in some agencies, those activities are often project driven and may serve limited purposes.

Data analysis capabilities are widely varied, and in many cases are confined to providing a tabulation of the data instead of actual scientific analysis and interpretation. Agencies often perform selective analyses to fulfill regulatory or programmatic functions, for example, attempting to answer questions such as are the fish safe to eat, is the water safe to drink, and is the lake or river safe to swim in. Limited resources of staff, time, computer equipment, and available data result in data analysis being performed primarily by request on a cost recovery basis.

The dissemination of data varies substantially depending on the format of the data and the relative accessibility of the data. Data are primarily disseminated through periodic publications or by manually researching agency files. Ohio's basic infrastructure for collecting, analyzing, and disseminating water data to support water decisions is inadequate and deteriorating.

To coordinate water information, Ohio must have an explicit and dynamic water resources strategy. A major component of the coordination effort should involve the creation of a state water data network to facilitate data access and integration, and to support development, planning, resources management, and regulatory decision making in Ohio. Fortunately several initiatives such as the Ohio Natural Resource Cooperative Committee and the Ohio Geographically Referenced Information Program, have been started with the goal of fostering coordination in the collection and sharing of water information among federal, state, and local agencies to address these issues.

## **WHAT OHIO NEEDS TO DO**

### **1. Identify the needs and uses for water data throughout the state**

Ohio must conduct a broad-based water information needs assessment to identify the users and uses of water data. This assessment should identify specific water data needs as well as important uses of the data, including:

- Relative risk assessment
- Point and nonpoint source pollution control
- Drought and flood analysis
- Economic development
- Recreation
- Ground water protection and management
- Watershed and ecosystem protection
- Maintenance of biological diversity
- Resource uses
- Water transportation

---

**2. Formalize cooperation and collaboration among the many state, federal, local and private entities that collect and/or use water data.**

**This strategy will:**

- Optimize the collection of data and promote multiple uses of water data
- Improve data quality and enhance the integration and analysis of water data
- Ensure the timely and appropriate dissemination to the users of water data
- Set forth minimum standards for collection, analysis reporting, and dissemination of water data

A strategy is needed for long-term data collection versus project driven data collection programs that serve limited purposes. As agencies expand their data collection efforts, a coordinated long-range data collection strategy would help to reduce redundancy in data collection and help to identify some existing data collection gaps.

**3. Develop and establish a state water data network through expansion, implementation, and funding of a coordinated water information system**

This network must:

- Provide a “road map” for finding water data
- Promote computerization of water data
- Ease data access and use in development, planning, management and regulatory decisions

Improving the integration of water data will be eased by increased computing, data transmission, and data storage power, that will allow interconnections among previously isolated water resources agencies and personnel. Geographic Information Systems (GIS), tools to integrate water data and other spatial data through georeferencing, should be fundamental to this effort. One important function of GIS systems is that they could provide water information in visual forms (e.g., maps) that are easily recognized and interpreted by the public. GIS systems could also serve as a powerful tool for analyzing water resource issues and making decisions. Such technology must be employed to develop a statewide water data network.

This effort also needs to be compatible with existing federal and state standards and networks as well as part of the Ohio Geographically Referenced Information Program and the Ohio Water Information System.

In the short-term it is crucial to develop a strategy and a mechanism to coordinate water data collection, analysis, and dissemination efforts, using existing institutional structures and private sector partners where possible.

**4. Create a centralized mechanism for citizens, organizations and agencies to have easy access to state agency personnel in order to get answers to water related questions**

With water related programs being found in many state agencies, inquiries from

---

individuals often get passed among the various agencies without an answer ever being provided to the questioner. This is due to the fragmentation of water programs and the lack of understanding by the public as to what agencies do in relationship to their water program responsibilities.

The state should establish a water hot line (800 number) to address water related questions and to provide quick and concise referrals to the correct agency (or person) who can answer the inquiry. This could also include the availability of a computer bulletin board for water information.

The establishment of a water hot line would not only allow staff personnel to track the numbers and types of inquiries, but help determine the technical assistance programs that are most useful.

In conjunction with the hot line, a directory of public and private sector technical assistance providers should be developed so that state agencies and the staff operating the hot line would be able to correctly and quickly refer inquiries to the correct person/agency to answer the inquiry. This directory could be manual, or computerized or a combination.

#### **5. Enhance existing water resources data collection efforts**

Integral to federal, state and local water resources programs are the networks of continuous-record data collection stations; that is, stations at which water data are collected every day of the year. Records from these networks are the foundation for many water resources management and planning activities and the basis for early warning of many potential water problems.

The network of stream-flow gauging stations, which provides data that is used to develop information for floods, low flows, and surface water use for water supply and recreation, declined by 35% from 1980 to 1992. The suspended sediment network, crucial to determine the impacts from nonpoint source pollution and the primary means to measure improvements from the implementation of best management practices, declined from eleven stations in 1980 to three stations in 1992. The network of water quality monitors declined by 87% from 1980 to 1992. As stations are dropped from the network because of financial limitations, the usefulness of the data is diminished.

Public health and safety, and ultimately economic development are directly affected by incomplete and inadequate information about ground water quality. The severe lack of ambient ground water quality data will make it difficult for regulatory agencies to set accurate permit standards and cleanup requirements. Often stricter standards that could cost more to enforce and comply to will be used in the absence of good background information. Moreover, application of adequate data can optimize the amount of investment required for water resource capital projects.

Repeated occurrences of flood disasters are symptomatic of gaps in water data collection. Flood hazard areas along many smaller streams in Ohio have yet to be officially identified and many known flood hazard areas have inadequate detail recorded about them.

---

Water shortage emergencies occasioned by drought are magnified by our lack of ability to predict them. These recurrent crises are partly the result of inadequate water data, limited analysis of data, and education about the nature of drought in Ohio. Curtailments of public water supply caused by drought have very negative effects on industry and communities in Ohio that could be avoided with proper planning and management of water resources.

## GOAL #3

### ECONOMIC DEVELOPMENT

RETAIN, EXPAND AND ATTRACT INDUSTRY AND COMMERCE BY PROMOTING THE AVAILABILITY OF AMPLE WATER AT A REASONABLE COST AND ENCOURAGING THE MAINTENANCE AND DEVELOPMENT OF WATER SUPPLY SOURCES AND NAVIGATION INFRASTRUCTURE

#### RECOMMENDATIONS

- CREATE AN ECONOMIC DEVELOPMENT PLAN EMPHASIZING WATER RESOURCES
- DEVELOP AN INDUSTRIAL INCENTIVE PLAN FOR MEETING WATER QUALITY OBJECTIVES
- DETERMINE WHETHER OHIO IS ON A "LEVEL PLAYING FIELD" WITH OTHER STATES IN TERMS OF ENFORCEMENT OF ENVIRONMENTAL REGULATIONS
- ENCOURAGE THE USE OF WATERBORNE TRANSPORTATION
- ENCOURAGE MAINTENANCE DREDGING ACTIVITIES FOR OHIO PORTS
- ADOPT A MORE ACTIVE POSITION IN WATER RESOURCES MANAGEMENT AND ENFORCEMENT

#### WHERE OHIO STANDS

The relationship between water and economic development is so fundamental that it is often overlooked in Ohio. Economic development of nearly any sort is possible only with adequate water resources of appropriate quantity and quality. Economic development demands the ability to develop the resource or purchase water at a competitive price, and be able to develop water and wastewater facilities within a reasonable timeframe. Domestic consumption, industrial processes, power generation, agriculture, wastewater disposal, transportation, commercial fishing and recreation are all water dependent.

Modern water treatment technology has allowed Ohioans to use water more efficiently through cleaning and recycling. Additionally, the science of hydrogeology and the utilization of ground water has allowed Ohioans to develop communities in areas far from surface water sources.

Ohio's dependence on its water resources has steadily increased with development within the state, for example:

- Water-based transportation is a vital part of the state's commerce system.
- Over 120 million tons of cargo are handled on the Ohio River and Lake Erie ports each year.

- Water is a key element in the generation of power in Ohio. The state's power generating facilities use over 9 billion gallons per day.
- Tourism. Ohio's second leading economic sector, has a critical dependence on water quality, quantity and public access to water bodies for active and passive leisure purposes.
- Agriculture in Ohio is dependent upon water for row crops, livestock production, and transportation of bulk products to market.
- Storm water run-off and treated wastewaters are carried away in Ohio's water systems. In 1992, 1.7 billion gallons per day of treated wastewaters were discharged from Ohio's municipalities.
- The average withdrawal per day per person from the public water supply system is about 154 gallons.
- The popularity of water-based activities in Ohio is evident in the number of licensed anglers and registered watercraft. In 1992, Ohio's 382,000+ registered watercraft ranked the state eighth nationally and the 1.1 million fishing licenses sold in Ohio ranked Ohio sixth in the United States.
- Industry uses billions of gallons of water resources daily in its cooling and process operations.

Water is a fundamental element of our economic system. The key to economic development is the ability to make quicker decisions and to be competitive when evaluating sites. In today's competitive market, not only will the water infrastructure need to be in place to support economic growth and development but so too will be our water resources information strategy.

When evaluating potential locations for new facilities, the ability to discharge industrial wastewaters to publicly owned treatment facilities is generally a higher priority to industrial organizations than the availability of potable water. This is due to the cost and liability associated with treating industrial wastewaters on-site and discharging them to surface waters. A number of communities have built wastewater treatment plants with high capacities in anticipation of future industrial development. However, governmental regulations continue to make it difficult to employ water related infrastructure to attract and secure new industrial development. Industry typically does not support permits or permit fees. Permit fees in the past have not been exorbitant, but are starting to rise dramatically to cover government programs and overhead.

The ideal situation for industry is usually to have no governmental involvement, but it is essential to have government involved so guidelines to protect the public good and the environment are clearly defined. In today's business climate, incentives for industry are an effective governmental tool. Incentives allow industry to determine with its own resources how to improve processes and methods so that water resources are conserved, water pollution is prevented and water quality is maintained at a high level. Incentives offer a more positive approach than the threat of penalties.

Local communities wishing to attract industrial development will increasingly be:

- Maintaining existing systems to be operable up to capacity
- Upgrading and expanding existing systems to meet new demands
- Developing and constructing new facilities when needed

---

- Meeting the regulatory requirements of the Clean Water Act and the Safe Drinking Water Act as enforced by the Ohio EPA

### **Waterborne Transportation**

The Great Lakes and Ohio River - two of the greatest freshwater resources of the United States - provide the state of Ohio with a transportation system that has driven economic growth for almost two centuries. Water-based transportation is a low cost, energy efficient, and environmentally sound method of transporting freight. Size is the key to efficiency of water transportation. For instance, a 15 barge tow on the inland waterways carries the equivalent of 225 rail cars, or 870 truck loads. In terms of accidents, fatalities, and injuries, water transportation is much safer than the railroads or trucks.

The large, self-propelled vessels working the Great Lakes offer similar economic and environmental benefits. Each 60,000-ton iron ore cargo load delivered by a 1,000-foot-long U.S. flag "laker" represents the equivalent of six, 100-car unit trains. A Great Lakes Commission study recently compared the environmental consequences of shifting from water transportation to railroads and trucks. The study concluded that a shift from water to rail and truck would consume anywhere from 43% to 70% more fuel than waterborne transportation.

As part of the nation's 25,000-mile system of inland and intercoastal waterways, the Ohio River is the preferred mode of shipping large quantities of raw material for utilities and heavy industry. Each year, ports and terminals on the river ship or receive more than 50 million tons of commerce. More than two-thirds of this traffic is made up of bulk forms of energy: coal, crude oil, and petroleum products. Grain, steel products, and non-metallic minerals are the other main commodities shipped on the Ohio River.

Ohio's northern border is formed largely by Lake Erie, part of the Great Lakes-St. Lawrence Seaway system. Ohio has nine deep-water cargo ports on Lake Erie that help facilitate interstate and international trade. The cargo ports — Toledo, Marblehead, Sandusky, Huron, Lorain, Cleveland, Fairport Harbor, Ashtabula, and Conneaut — are as diverse as the cargoes they handle. Smaller ports in the Port Clinton-Sandusky area serve ferries carrying passengers around the thriving tourist area of the Lake Erie islands.

Cargoes of iron ore, limestone, and coal make up the majority of commerce handled by U.S. and Canadian-flagged lake carriers, with coal being the single largest commodity shipped from Ohio ports. Iron ore mostly extracted from mines in Minnesota and Michigan, is delivered to the ports of Toledo, Lorain, Cleveland, Ashtabula, and Conneaut. Limestone — a key raw material for construction and steel industries — is handled in some form by every Ohio port. The ports of Toledo, Sandusky, Ashtabula, and Conneaut are the export points for all of the Appalachian coal shipped on the lakes to domestic and international markets.

Ohio's share of international trade through the St. Lawrence Seaway is mostly handled by the public docks of the Cleveland-Cuyahoga and Toledo-Lucas County Port Authorities. Cleveland's business is dominated by steel products moving to and

---

from area industries. Steel is also important to the Port of Toledo, which also handles grain being exported to Europe, Russia, and Africa, and a wide range of general cargo such as newsprint, ferro-alloys, and liquid asphalt.

Although most Ohioans do not think of Ohio as a state with a thriving port industry, more than 70 million tons of cargo pass through our Lake Erie ports each year. The low cost of water transportation gives Ohio's industries a competitive advantage over landlocked states. As a result, industries can flourish and provide employment for thousands of citizens.

## **WHAT OHIO NEEDS TO DO**

Competition for new industries and development will become increasingly intense. More emphasis must be placed on economic growth through retention and expansion of existing commercial enterprises in Ohio.

Waterborne transportation in Ohio has been and will continue to be an integral part of the state's economic foundation. The supercompetitive nature of the 1980's and 1990's has produced a U.S. flag self-unloading fleet on the Great Lakes that is without equal in the world. Nonetheless, the continued efficiency of waterborne commerce will require several initiatives by federal, state, and local governments.

As the value of the state's water assets increases, protection of these resources will become proportionately more important. Degradation of water resources will stifle economic growth and lower the quality of life enjoyed by Ohioans. However, protection must be provided in a manner that does not impair the state's economic well-being. New treatment and processing technologies that ensure high water quality and economically-feasible rates will need to be developed.

Ohio must develop a strategy which will enhance its ability to compete against the surrounding states and against states who enjoy the advantages of federal subsidies due to their lack of water resources.

With this in mind, the following recommendations are made:

### **1. CREATE AN ECONOMIC DEVELOPMENT PLAN EMPHASIZING WATER RESOURCES**

An economic development promotion package for the State of Ohio must be created, which has water resources as its central selling point. Water is not only a critical requisite for development, but it also provides the quality of life assets that many industries look for in their site selection decisions. Detailed water quality and quantity data should become part of the Department of Development's promotion package. As other regions of the United States experience water problems, Ohio must be ready to capitalize on its water advantage.

---

## **2. DEVELOP AN INDUSTRIAL INCENTIVE PLAN FOR MEETING WATER QUALITY OBJECTIVES**

An incentive plan for industry should be developed as a means of meeting water quality regulations. Industry can be motivated by profit and loss as well as by regulation. A first option for industry as part of an incentive plan could be the implementation of measures to reduce or prevent water pollution which, if accomplished within a set time frame, would result in tax credits. If the set time frame was not met, then the existing regulatory process would apply. Such an incentive system would begin to recognize that industry and the officers of corporations might be motivated to act sooner on water quality improvements if some financial incentives were available.

## **3. DETERMINE WHETHER OHIO IS ON A “LEVEL PLAYING FIELD” WITH OTHER STATES IN TERMS OF ENFORCEMENT OF ENVIRONMENTAL REGULATIONS**

The State of Ohio needs to evaluate the competition among states in the region in terms of environmental enforcement/protection/ management efforts and determine whether a “level playing field” for environmental regulation and enforcement exists and is desirable among states. The State of Ohio needs to work with the other states and within Ohio to resolve disincentives for economic development in Ohio while still protecting the resource to the degree desirable by the state and meeting the goals of the Clean Water Act.

## **4. ENCOURAGE THE USE OF WATERBORNE TRANSPORTATION**

There must be increased awareness by public officials about the economic and environmental benefits of waterborne commerce. As part of the existing Ship Ohio campaign, the Governor has directed state agencies to import state-purchased commodities through Ohio ports when it is cost-effective to do so. As a second phase of the Ship Ohio campaign, the state should encourage Ohio businesses to ship through Ohio ports.

## **5. ENCOURAGE MAINTENANCE DREDGING ACTIVITIES FOR OHIO PORTS**

The primary infrastructure development issue for the Great Lakes maritime industry is the maintenance of commercial harbors and connecting channels to allow for deep-draft navigation. In the short-term, inadequate maintenance dredging forces a reduction in the amount of tonnage carried per voyage, thus reducing the great benefits of waterborne transport. In the long-term, a lack of maintenance dredging can shut down a port entirely. All levels of government must play an active role in harbor maintenance, and long-term maintenance plans need to be developed for each harbor.

---

## **6. ADOPT A MORE ACTIVE POSITION IN WATER RESOURCES MANAGEMENT AND ENFORCEMENT**

Ohio should make a fundamental shift from its current emphasis on compliance to that of providing support services and leadership to its customers. Twenty years ago Ohio EPA was established primarily as a regulatory agency. On the other hand, the ODNR has remained one of primarily resource management. The roles of protection and management need to be promoted, merged and coordinated. Economic development needs compliance assistance, not regulatory disincentives.

In order to improve the way it conducts business, the State of Ohio is in the first steps of implementing basic quality training for employees, under the name of Quality Services Through Partnership (QSTP). Such quality service programs need to be fully implemented throughout state government with special focus on training employees at lower levels of the organization.

## GOAL #4

### WATER INFRASTRUCTURE FINANCING

OPTIMIZE THE FINANCIAL RESOURCES AVAILABLE TO MEET  
FUTURE WATER RELATED INFRASTRUCTURE NEEDS

#### RECOMMENDATIONS

- DEVELOP FUNDING SOURCES FOR LOCAL GOVERNMENTS AND INDUSTRIES LACKING FINANCIAL DEBT CAPACITY
- DEVELOP CRITERIA FOR ALLOCATING GRANTS AND/OR SUBSIDIZED LOANS TO LOCAL GOVERNMENTS
- ENCOURAGE THE ESTABLISHMENT/EXPANSION OF WATER RESOURCE SYSTEMS TO ADDRESS THE NEEDS OF RESIDENTIAL SYSTEMS AND NON-VIABLE WATER RESOURCE SYSTEMS
- REAUTHORIZE THE ISSUANCE OF GENERAL OBLIGATION BONDS TO FUND WATER RESOURCE PROJECTS OF THE OHIO PUBLIC WORKS COMMISSION
- ENCOURAGE THE DEVELOPMENT AND IMPLEMENTATION OF LOCAL AND REGIONAL WATER RESOURCE AND INFRASTRUCTURE PLANS
- ENCOURAGE NEW APPROACHES THAT WILL HELP SMALL COMMUNITIES MEET NEW ENVIRONMENTAL STANDARDS
- PROVIDE STATE FUNDS TO MATCH FUTURE STATE REVOLVING FUND CAPITALIZATION GRANTS

#### WHERE OHIO STANDS

Communities and commercial operations are serviced by a vast network of reservoirs, wells, underground pipelines, mains, sewers, wires and conduits—what is referred to as the water infrastructure. The water infrastructure is critical to providing drinking water systems, ground water protection, stormwater management (including urban drainage), sewage and water pollution control projects, water quality projects, dam safety, structural flood control, non-structural flood control, shoreline protection, streambank protection and wetland projects.

Annually, Ohio spends about \$210 million to build drinking water systems and approximately \$300 million to build publicly owned sewage and water pollution control and stormwater projects. This half billion dollar business is key to the creation and retention of many jobs in Ohio as well as the competitiveness of the state and the region.

Sources for funding water resource systems come from federal, state, and local governments as well as private investment. Ultimately, however, the costs are paid for by individuals and/or businesses through user fees, assessments or taxes. The more local the collection of revenues are, the more sensitive the leadership of the collecting entity is going to be towards increasing revenues. As a result, each community has its own funding limitations (as defined by the socio-political-economic circumstances of the community) for water resource system projects.

Local bond issuance and obtaining loans to finance the construction of drinking water systems accounts for the largest source of revenue for local governments, not-for-profits and investor owned water utilities. These funding options are available as long as the entity is able to show it has the capacity to repay its debt obligations. The last four years have seen a significant increase in state funding for such projects, coupled with a decrease in federal funds. While the increase in state funds have more than offset the loss of federal funds, the major onus continues to fall on local governments.

The last four years, however, have seen a dramatic decline in grants and federal funding for publicly owned sewage and water pollution control projects and stormwater management projects. While this decline has been somewhat offset by increases in state funds in the form of grants and subsidized loans, the loss of the Federal USEPA Construction Grants Program places the financial burden directly on the local tax base, significantly impacting small communities.

Federal funding for drinking water systems, construction of stormwater management facilities and sewage and water pollution control projects is uncertain. A proposal has been made to significantly increase the Federal Fiscal Year (FFY) 1994 funding for RDA/FmHA's Water and Waste Disposal Loan and Grant Program. While the authorization of the State Revolving Fund (SRF) (known in Ohio as the Water Pollution Control Loan Fund [WPCLF]) expires in FFY 94, the Clinton Administration has proposed that the program continue from FFY 94 to FFY 97, but at levels less than FFY 93. In addition, a new federal drinking water SRF has been proposed at a cost of \$3.6 billion for FFY 94 to FFY 98.

The annual loan volume capacity of the WPCLF will depend on the outcome of the SRF funding issue on the national level and the amount of state funds invested in the WPCLF. While an initial \$22.5 million investment of General Revenue Funds was made by the state into the WPCLF, subsequent state dollars to enable federal dollars to be invested in the WPCLF (at a rate of five federal dollars for every state dollar) have come from the money that the local governments have repaid on their loans, thus lessening for the future the WPCLF's annual loan capacity.

State funding will be available for the immediate future through the Ohio Public Works Commission Grant and Loan Program. Bond issuance authority for the Public Works Commission allows awards to be made through 1996.

Many varied estimates exist for future funding needs in Ohio for water infrastructure. By any estimating technique currently available, the need for future financial resources will be substantial. The amount of capital investment required to meet Ohio's future water related needs for water resource systems is seen as a function of the factors discussed below:

---

- New as well as existing legislative and regulatory actions directed from both the federal and state levels often require an ongoing or an increased level in capital expenditures by owners (public and private) of water resource systems. Implementation of the proposed Great Lakes Initiative will require an additional increase to such expenditures.

- Ohio's population is migrating from central cities to new suburban developments. If the needs of these population shifts are to be adequately addressed, new water resource systems have to be built and others expanded. Capital expenditures of this nature cannot be entirely financed with the existing revenue stream.

- Federal regulation sets priorities for local governments in the way funds will be expended and the timing of addressing environmental problems. Comprehensive environmental regulations tend to specify that each water resource system increasingly invest in new technology, generally leaving little room for local discretion.

- The larger a system's population base, the lower the cost per user, hence, there is less need to subsidize capital investment funds.

- An existing water resource system needs to obtain sufficient revenues from its revenue/rate structure to properly operate and maintain its system. When revenues/rates are established to provide monies in excess of operation and maintenance costs, reserve funds are created. These reserves provide for small capital projects or for debt service payments if borrowing is required. Currently, rate structures sufficient to meet capital reserve requirements are difficult to establish.

The need for future financial resources is further compounded by the requirements for local governments, not-for-profits and investor owned water utilities to comply with other environmental mandates in areas such as solid waste, hazardous waste and clean air.

## **WHAT OHIO NEEDS TO DO**

### **1. DEVELOP FUNDING SOURCES FOR LOCAL GOVERNMENTS AND INDUSTRIES LACKING FINANCIAL DEBT CAPACITY**

The greater the per capita capital investment (as a percentage of the income level of the population base) required for system improvements and/or expansion, the greater the need for obtaining a loan or securing subsidized loans and/or grants from a higher governmental unit. Furthermore, if the system's population base is less affluent, it will be more difficult to obtain sufficient revenues for operation, maintenance, expansion and/or improvement. The greater the economic disparity among users of a water or waste water system, the greater the political pressure will become to create variable rate fee structures within the system based upon ability to pay.

For some communities, especially small communities, having low interest loans is not enough financial assistance to develop the facilities to meet water protection goals. Funding sources should be provided to local governments that require a grant and/or a subsidized loan (through a below market interest rate or a form of credit

enhancement) because a majority (or significant number) of its residents are economically depressed and/or the residents as a whole do not have the financial capacity to address improvements to its water management projects.

A new type of loan program to industries needs to be considered. Sometimes an industry wishes to expand but a water resource system cannot afford the improvements that would be required. Low interest loans such as those that are available to local governments should be available to industries to improve such things as pretreatment of industrial effluent in lieu of improvements at the wastewater treatment plant and construction of water resource facilities for industrial or commercial purposes.

## **2. DEVELOP CRITERIA FOR ALLOCATING GRANTS AND/OR SUBSIDIZED LOANS TO LOCAL GOVERNMENTS**

Whenever a grant and/or subsidized loan is provided by state government to a local government for a water resource project, criteria guiding allocation of funds should be developed to include, but not limited to the following:

- Subsidized debt should not exceed the useful life of the facility
- Only cost-efficient alternatives are funded
- Fully funded enterprise funds are established
- Renewal accounting and maintenance funds are established
- Sufficient rates are established to enable a reserve fund to grow over time
- Economic burden of the users is considered
- All users pay their fair share of the system's cost
- Well maintained systems are rewarded
- Meters are (or will be) used by all users of the system; and

A local government requesting such funding should submit a capital improvement plan and be able to use a common application recognized by all state agencies.

## **3. ENCOURAGE THE ESTABLISHMENT/EXPANSION OF WATER RESOURCE SYSTEMS TO ADDRESS THE NEEDS OF RESIDENTIAL SYSTEMS AND NON-VIABLE WATER RESOURCE SYSTEMS**

The state should encourage water resource systems, which do not have the financial or technical wherewithal to afford or efficiently manage their water resource needs, to either join established systems or to help create water and sewer districts as enabled by Section 6119 of the Revised Code.

The policy of the state should also encourage large public or investor-owned private water systems to acquire small water resource systems that do not have the financial or technical wherewithal to afford or efficiently manage their water resource needs. Water supply and wastewater disposal services should be provided for the benefit of the region or watershed, and not used as a tool for furthering local political goals.

Technically, the water and wastewater systems of individual residents could be

---

converted to public ownership through fee simple transfer or easement, enabling their future management and funding by a public entity with the authority to assess, seek grants and assume debt.

Under this scenario, the need to replace existing private residential systems with expensive traditional centralized systems could be abated through their operation, maintenance and repair or replacement by the 6119 district. At the same time, the accountability will remain with the previous "private" beneficiary. With meager or non-existent fiscal resources, the incentive for the private systems to join established systems should be substantial.

#### **4. REAUTHORIZE THE ISSUANCE OF GENERAL OBLIGATION BONDS TO FUND WATER RESOURCE PROJECTS OF THE OHIO PUBLIC WORKS COMMISSION**

Grant monies and low interest loans from OPWC to local governments for water resource projects have served to meet the needs of some local governments that lack financial resources. By reauthorizing the bonds for this program (and allowing the citizens of the state to vote on a referendum to issue additional general obligation bonds), water resource projects can be funded beyond 1996.

#### **5. ENCOURAGE THE DEVELOPMENT AND IMPLEMENTATION OF LOCAL AND REGIONAL WATER RESOURCE AND INFRASTRUCTURE PLANS BY REQUIRING THEM AS PREREQUISITES FOR STATE AND FEDERAL INFRASTRUCTURE FINANCING ASSISTANCE**

As they provide assistance for the extension of water utilities or other infrastructure improvements, funding agencies often find themselves faced with the task of resolving issues which are in fact local land use or political concerns. Often the agencies' funding requirements are manipulated by applicants to further interests which are unrelated to infrastructure assistance. This can result in delays, inefficient use of funding, and less effective projects.

Many of these difficulties could be avoided if local and regional authorities more fully used their capabilities to make land use and development decisions. This in turn would enable local and regional water resource planning to be conducted with a better knowledge of proposed development so that the most effective options could be adopted. Once these resource plans have been completed, funding agencies would have a context to evaluate infrastructure projects against. This would help avoid local conflicts over non-infrastructure issues.

Management of water resources on a regional, watershed basis would foster more effective and efficient use and development of the resources, and result in greater potential for stimulating economic development while protecting environmental values. A revived program of regional water development planning by the State of Ohio would: (1) provide coordination for and identify gaps in planning by local and regional authorities (2) assess community and private water use and formulate a regional water development program from a state perspective, thereby encouraging the organized and efficient development of the state's water resources and (3)

---

provide an important tool for state funding agencies to use in adopting the most effective water development options.

**6. ENCOURAGE NEW APPROACHES THAT WILL HELP SMALL COMMUNITIES MEET NEW ENVIRONMENTAL STANDARDS**

Communities, especially small communities, may not be able to afford the traditional technology for their water and wastewater systems necessary to meet water standards at a reasonable price for the region. "Local/State/Federal partnerships should be encouraged to promote such themes as alternative treatment technologies, pollution prevention, increased use of innovative treatment facilities, prudent use of floodplain management and non-structural planning approaches.

**7. PROVIDE STATE FUNDS TO MATCH FUTURE STATE REVOLVING FUND CAPITALIZATION GRANTS**

The loan capacity for the WPCLF and the proposed National Drinking Water SRF would be increased if the state match was provided by funds from the state (e.g., General Revenue Fund or alternate revenue stream) rather than borrowing from the WPCLF through leveraging to provide the state match.

## GOAL #5

### RECREATION AND THE NATURAL ENVIRONMENT

ENSURE THAT THE CURRENT AND FUTURE NEEDS OF RECREATION AND THE NATURAL ENVIRONMENT ARE CONSIDERED IN ALL STATE WATER RESOURCES PLANNING AND DEVELOPMENT ACTIVITIES

#### RECOMMENDATIONS

- ACQUIRE AND DEVELOP PARCELS OF LAND THAT PROVIDE PUBLIC ACCESS TO WATER-BASED RECREATION
- DEVELOP AN EDUCATIONAL PROGRAM TO INFORM THE PUBLIC OF THE OPPORTUNITIES WATER-BASED RECREATION OFFERS
- DESIGNATE ONE METHOD OF DETERMINING STREAM-FLOW NEEDS THAT IS ACCEPTED BY FEDERAL, STATE AND LOCAL AGENCIES
- MAINTAIN, REHABILITATE, UPGRADE AND DEVELOP FACILITIES TO SUPPORT THE PRESENT AND FUTURE DEMAND FOR WATER-BASED RECREATION
- FULLY IMPLEMENT THE OHIO NONPOINT SOURCE MANAGEMENT PROGRAM
- ENCOURAGE LAND USES WHICH SUPPORT THE BENEFITS OF NATURAL DRAINAGE SYSTEMS

#### WHERE OHIO STANDS

Ohio is a water rich state, and outdoor recreation in Ohio takes full advantage of the many water resources available here. Water enhances the lives of those who fish, boat, swim, camp, hike, hunt, or simply enjoy scenic views. The state is nearly surrounded by Lake Erie and the Ohio River, which offer 713 miles of shoreline access to water recreation. The enjoyment of water is the focal point for much of Ohio's outdoor recreation activities. Many festivals and special events are planned around waterway views. Water also drives much of Ohio's tourist industry and a thousand smaller "hidden" economies supporting the water related recreation industry.

The character of Ohio's 61,532 miles of rivers and streams has changed greatly over the last two centuries, due primarily to human activities. Farming often eliminated the crucial buffer zone of trees along the streams. Many streams have been straightened and enlarged to allow water to flow faster. Some streams have flood control, water supply and recreation reservoirs built on them. Still others have been cut into segments by low head dams, which present life-threatening hazards to recreationists and severely degrade the aquatic environment. Urbanization also eliminates critical buffer zones of trees along streams, with the extreme being

---

enclosing streams in pipes. In addition, urbanization has brought an increase in impervious surfaces, causing toxic pollution, bacteria, flooding and stream erosion.

In recent years, significant improvements have been made by government and industry in controlling discharges from point sources like sewage treatment and manufacturing plants. Nonpoint source pollution, on the other hand, is one of the most complex environmental problems facing Ohio today. An exact and concise definition of nonpoint source pollution is nearly impossible. Agriculture, construction site and urban stormwater runoff, hydrological/habitat modification, silviculture practices, mining and oil field waste, and land disposal activities are examples of nonpoint sources that are reducing the value of the state's water resources as natural and recreational resources.

Many land use practices have resulted in extensive soil erosion. Many of our sediment-laden streams feed into lakes which are experiencing rapid siltation and the resulting decrease in storage capacity. Excess nutrients reaching the lakes increase aquatic plant growth, which deters contact use.

Today, sediment is the primary "pollutant" affecting our streams and lakes. Sediment has long-term adverse impacts upon water resources by permanently changing highly productive rock, gravel, and sand substrates to unproductive, silty-bottom environments. In addition, it costs Ohioans millions of dollars annually to filter sediment from drinking water supplies and dredge from lake beds and navigation and drainage channels.

Recognized for their value as natural drainage systems, wetlands filter out water impurities, retain flood waters, serve as ground water recharge areas and control shoreline erosion. Wetlands contribute to many recreational opportunities by providing safe haven for rare and endangered plants, wildlife habitat for one-third of the nation's endangered species, nesting, resting, and feeding areas for waterfowl, fish spawning grounds and nursery areas.

Out of Ohio's 26 million land acres, 5-8 million acres were wetlands at the time of settlement. Since then, Ohio has lost about 90% of its wetland resources. With the notable exceptions of a few large tracts of marsh in northern Ohio, most of Ohio's remaining wetlands are scattered wooded tracts. These wooded tracts are usually privately owned and are increasingly threatened by development.

Lake Erie has made a remarkable comeback from its severe impairment in the 1960's. Today, it boasts a booming recreational walleye fishery. The full impact of the recent accidental introduction of zebra mussels, spiny water fleas and other aquatic organisms, in the Lake's eco-system is still unknown.

## **WHAT OHIO NEEDS TO DO**

### **1. ACQUIRE AND DEVELOP PARCELS OF LAND THAT PROVIDE PUBLIC ACCESS FOR WATER-BASED RECREATION**

Providing public access to waterways for recreation is of growing concern. Not only are additional facilities needed, but many older facilities are in need of extensive

---

renovation/rehabilitation. Recreation providers must balance their available capital resources with the growing demand for shoreline and stream-side access to each water resource, especially on peak visitation days.

Recreation providers should acquire, where possible, opportunities using easements and agreements with landowners to provide access to Ohio's rivers and streams. Additionally, the state should emphasize and support the development of public water-access facilities for fishing and canoeing in areas of bridge construction activity.

Recreation providers are challenged to develop diverse, accessible, multi-use facilities that provide opportunities to the widest range of user groups while minimizing conflict between uses. Water-based recreation development needs to be balanced with a variety of competing uses, including wetlands preservation, water sales and withdrawals, navigation and flood control, wastewater assimilation, and hydroelectric power generation.

The activities that depend on water or are enhanced by water are economically important to the state. Protecting these resources while continuing to provide public access will be a complex task and must remain a high priority in Ohio.

## **2. DEVELOP AN EDUCATIONAL PROGRAM TO INFORM THE PUBLIC OF THE OPPORTUNITIES WATER-BASED RECREATION OFFERS**

Ohio needs to create a more informed public, a public that will be able to take advantage of the opportunities water-based recreation offers. Some specific actions for achieving this recommendation are:

- An integrated program of improved literature about Ohio's water resources should be developed cooperatively by the main water resource agencies. The materials should cover the relationship between recreational uses of water and other uses, the availability of recreational resources, and how to more safely and legally engage in swimming, fishing and boating.
- Encourage the Ohio Department of Education to develop K-12 lesson plans to instill in young people an appreciation of water as an environmental and recreational resource, the role of water in our state and country's history, and a proper appreciation for safe recreational practices.
- Develop outreach programs focused on those who currently do not use water-based recreation due to lack of access or lack of information about opportunities.

## **3. DESIGNATE ONE METHOD OF DETERMINING STREAMFLOW NEEDS THAT IS ACCEPTED BY FEDERAL, STATE AND LOCAL AGENCIES**

Water quantity management in Ohio has been primarily concerned with flood control, navigation and assuring adequate quantities of water for offstream domestic,

industrial, commercial, and agricultural supplies. Current trends include flood damage reduction through limiting development in flood zones, restoring existing channel capacity through logjam removal and mitigating environmental impacts when streams are straightened or enlarged.

A basic problem in utilizing streams and rivers for water supply is that, while offstream users require a relatively constant quantity of water, the flows of rivers and streams fluctuates from day to day, season to season, and year to year. During low flow periods, most or all of the streamflow may be withdrawn for offstream uses, resulting in degradation of aquatic habitat and loss of the watercourse for recreational use. There is a growing realization that these instream uses need to be protected, and that preserving instream flows needs to be considered in the planning, design, and operation of water withdrawal facilities for offstream water supplies.

Ohio needs to implement an effective means of insuring adequate streamflows to maintain healthy aquatic populations and insure instream recreational uses balanced with offstream water uses. Actions that should be taken to achieve this recommendation are:

- Establish a process to resolve conflicts where competing interests occur in regard to streamflows.
- Make streamflow needs an integral component of watershed and regional planning.
- Identify river and stream areas where low streamflows are a problem, then develop and implement measures to protect those areas.
- Identify those river and stream areas that have high value aquatic resources or high value recreational uses where existing streamflow conditions need to be retained, then develop and implement measures to protect those areas.
- Utilize all applicable existing authorities, and develop new authorities as needed, to protect and provide for streamflows.

#### **4. MAINTAIN, REHABILITATE, UPGRADE, AND DEVELOP FACILITIES TO SUPPORT THE PRESENT AND FUTURE DEMAND FOR WATER-BASED RECREATION**

The infrastructure developed to support water-based recreation activities continues to age while additional demands are placed on the services they provide. The result is a growing requirement to maintain, renovate/rehabilitate, upgrade, and develop facilities to support the present and future demand for water-based recreation.

The Ohio Parks and Natural Resources Fund will initially fund up to \$160 million of ODNR improvements. ODNR estimates its capital needs through the year 2000 to equal \$699 million.

---

In order to meet its revenue shortfall, the state must continually strive for new, non-traditional cost cutting measures and innovative funding mechanisms such as:

- Encouraging recreation providers to contract with the private sector, use volunteers and establish user fees where applicable.
- Instituting a "Challenge Grant" program allowing private corporations to contribute towards the development of needed facilities at park projects.

## **5. FULLY IMPLEMENT THE OHIO NONPOINT SOURCE MANAGEMENT PROGRAM**

By focusing all efforts on controlling highly visible pollutants, the environment is sometimes destroyed by ignoring the less visible, chronic effects of nonpoint source pollution. The remaining factor extensively limiting attainment of Ohio's water quality goals is pollution which comes from runoff of parking lots, farm fields, highways and construction sites. This landscape generated/dispersed pollution is primarily stormwater runoff and does not respond to the "catch and treat" system which was used effectively in the past twenty years to deal with municipal and industrial water pollution sources via treatment plants.

It is more cost effective and less expensive to protect water at the source than to treat it before consumption. Nonpoint source pollution control relies upon a "prevent" system. It depends upon landuser awareness of how their actions contribute to pollution and on "best management practices" to control surface erosion and stormwater runoff. Until surface runoff from developed areas, construction sites and agricultural areas is controlled, Ohio's water quality will remain impaired.

Perhaps the biggest hurdle to complete implementation of the program is that Ohio has relied too heavily on the federal government for its funding, resulting in the state being driven by changing federal priorities and timeframes. If full implementation of the program is to be realized, the state must assume more responsibility and establish a new, dedicated state nonpoint source fund.

It is interesting to note that results of a statewide voter survey conducted in the fall of 1993 by the Tarrance Group, indicated that 70% of Ohio voters believe that providing support for farmers to reduce pollution runoff is an important goal for Ohio.

## **6. ENCOURAGE LAND USES WHICH SUPPORT THE BENEFITS OF NATURAL DRAINAGE SYSTEMS**

Capital investment costs increase in proportion to encroachment on natural drainage systems. The integrity of the natural drainage system can be preserved with land use planning. Without comprehensive planning, individual land use decisions lead to development within the floodplain, filling of flood storage and loss of "public resource values" associated with riparian corridors. Land use decisions made without the benefits of riparian corridor and floodplain planning creates a demand for costly mitigative infrastructure at public cost.

---

To this end, the Task Force recommends the following actions:

- Provide a state income tax credit for landowners who make a long-term commitment to providing a managed riparian corridor.
- Provide a state income tax credit for property owners who own wetlands or restore functional wetlands on their property.
- Encourage consistent interpretation of federal floodplain regulations by local governments.
- Join in partnership with private interests and create a statewide riparian greenways program. Independent riparian greenways and land trusts need statewide support, encouragement and vision.

---

## ENDNOTE

After a year of study, the Governor's Blue Ribbon Task Force on Water Resources Planning and Development has issued this final report. This report represents a careful assessment of the present status of Ohio's water resources management system and a consensus of what must be done differently and better in the future.

These recommendations are not intended to be a quick fix. Rather, they are prescribed to remedy the long-term nature of the problems that plague water resources management.

Recognizing the need to move forward, the Blue Ribbon Task Force has suggested that a well-informed Implementation Committee, led by an Executive Assistant accountable to the Governor, be charged with carrying out all recommendations as thoroughly, efficiently and quickly as possible.

Clearly, proactive water resources planning leads to a clean environment and the economic well-being of the state. The citizens of Ohio will be the ultimate beneficiaries if the recommendations contained herein are accepted and acted upon.

## STAFF RESOURCE PERSONNEL

**Richard Bartz**  
ODNR-Division of Water

**Lenny Black**  
ODNR-Division of Water

**Dave Cashell**  
ODNR-Division of Water

**Jim Cogan**  
U.S. Deptment of Agriculture

**Colleen Crook**  
OEPA-Division of Water Quality  
Planning and Assessment

**William Daehler**  
ODNR-Office of Real Estate and  
Land Management

**Sherre Debo**  
ODNR-Division of Watercraft

**Jill Deibel**  
ODNR-Division of Soil & Water  
Conservation

**Chuck Divelbiss**  
ODNR-Division of Natural Areas  
and Preserves

**Allen Elberfeld**  
U.S. Army Corps of Engineers-  
Huntington District

**Margo Fulmer**  
ODNR-Division of Water

**Robert F. Hickey**  
U.S. Department of Commerce

**Terry Jacobs**  
Ohio Department of Development

**Stu Lewis**  
ODNR-Division of Natural Areas  
and Preserves

**Tom Linkous**  
ODOT-Bureau of Environmental  
Services

**Bob Lucas**  
ODNR-Office of Chief Engineer

**Elayne Macarthy**  
Governor's Office of Appalachia

**Steve Mack**  
Ohio Water Development Authority

**John Magill**  
Ohio Department of Development

**John Marshall**  
ODNR-Division of Wildlife

**George Mills**  
ODNR-Division of Water

**Rebecca Petty**  
ODNR-Division of Water

**Ed Rankin**  
OEPA-Ecological Assessment Section

**Raman Ravisankar**  
Ohio Public Utilities Commission

**Joel Reed**  
ODNR-Office of Chief Engineer

**Bob Rothwell**  
OEPA-Division of  
Water Pollution Control

**John Sadzewicz**  
OEPA-Division of Drinking  
and Ground Waters

**Michael Schiefer**  
ODNR-Division of Water

**Gregory Smith**  
OEPA-Environmental  
& Financial Assistance

**Donald Stewart**  
Medina County Health Department

**Dave Stites**  
ODNR-Division of Parks and Recreation

**Barb Wooldridge**  
OEPA-Water Quality Planning  
& Assessment