

Article 4-B:

- **Water Withdrawal Reporting Program:** This program provides a sliding scale reporting structure for entities that withdraw large quantities of water from the state's rivers, lakes, and aquifers.
- **Water Use Standards:** Article 4-B mandates that DEP develop water use rules to help maintain instream flows, lake and pond levels, aquatic habitat suitability, and other uses. DEP must also develop criteria for identifying watersheds throughout the state that are most susceptible to overuse. These rules will be presented to the State Legislature in 2005.
- **Support for Regional Approaches:** The legislation mandates that DEP support regional approaches to water use, through continuation of ongoing regional planning efforts and identification of other regions that would benefit from regional approaches.

Frequency of Revision

Article 4-B and the statewide SWAP are both ongoing programs, and it is unclear if or when they will be revised. DEP issues an annual report on water withdrawals throughout the state.

Stakeholder Involvement

DEP provides summaries of its objectives through its website (Maine DEP, 2005 - 2). The SWAP program was formulated with assistance from the SWAP Citizens and Technical Advisory Committee (See 'Agencies and NGOs' above) and public meetings.

Regional Components

Article 4-B mandates that DEP support regional approaches to water use, through continuation of ongoing regional planning efforts and identification of other regions that would benefit. DEP adopted a philosophy that water resources can be effectively managed at the watershed level.

Assessment and Appraisal

It is not clear how impacts will be assessed.

Plan Implementation Strategy

Article 4-B requires that water use rules be provisionally adopted and presented to the Maine legislature in 2005. The reporting program is ongoing and will continue. The SWAP was initiated in 1998 with the Citizens and Technical Advisory Committee, and is ongoing.

Outcomes Assessment Process

DEP issues annual reports on water use throughout the state. Information on risks and susceptibility of overuse and contamination will be collected and disseminated by DEP and the Department of Human Services.

References

Maine Department of Environmental Protection (DEP), Bureau of Land and Water Quality. "Sustainable Water Use Policy." <http://www.maine.gov/dep/blwq/docmonitoring/wateruse/policy.htm>. (March 2005 - 1).

Maine Department of Environmental Protection (DEP), Bureau of Land and Water Quality. <http://www.maine.gov/dep/blwq>. (March 2005 - 2).

Maine Department of Human Services (DHS) Drinking Water Program. "Maine Public Drinking Water Source Water Assessment Program." <http://www.maine.gov/dhhs/eng/water/SWAPdoc2-25.htm>. (March 2005).

Maryland

Water Resources Planning Vision and Goals

The State of Maryland is charged with developing a statewide water resource program focusing on conservation and development of the state's waters on a watershed or aquifer basis.

Agencies and NGOs Involved in the Planning Process

The Maryland Department of Natural Resources has primary responsibility for implementing water resources policy. The Maryland Department of the Environment is also involved in the planning process.

On March 7, 2003, Governor Robert J. Erlich issued Executive Order 01.01.2003.08, which created the Advisory Committee on the Management and Protection of the State's Water Resources. The goal of this committee is to "evaluate the sustained ability of the State to meet its projected water needs." The committee is composed of stakeholders from the local, regional, and federal government as well as representatives from academia, agriculture, and private water utilities and businesses (ACSWR, 2004).

Planning Features and Process

It has been noted that regional water resource plans are needed but are not yet developed. In the interim, water and sewer plans are being created by local and county governments and are generally coordinated in a community-wide effort. Before new development occurs, the State Department of the Environment and County Health Directors must receive proof of adequate water supply. Drought management plans have been created for a few communities in Maryland (ACSWR, 2004).

Frequency of Revision

No plan updates have taken place since the planning process was initiated in 2002.

Stakeholder Involvement

Stakeholders are involved via the Governor's committee. No comprehensive public outreach program exists, but the need for it is identified as a strategic goal.

Regional Components

Compliance with State and regional plans is a requirement of the Maryland water resources planning process but primarily pertains to water and sewer planning at the local level. Source protection and watershed assessment are identified as needs but have not been considered statewide.

Assessment and Appraisal

An assessment and appraisal process is to be developed. The specifics of this process are not available at this time.

Plan Implementation Strategy

A plan implementation strategy is structured as a number of recommendations. They consist of the following:

- Continue the comprehensive evaluation of watersheds and aquifers that are significant sources of water supply. The Advisory Committee should be continued to provide further guidance.
- Restore funding for existing observation wells and stream gages deleted from FY2005 budget. Expand monitoring networks if funding becomes available.
- Improve coordination between Maryland and Virginia regarding water allocations from the Potomac River.
- Support water and sewer planning at the State and local government levels.

- Implement a comprehensive outreach program to educate Maryland citizens and create partnerships for stewardship of the State's water resources.
- Exempt withdrawals below a minimum threshold in the appropriation permit law.
- Review law, regulation, funding resources, and state laboratory capacity relative to comprehensive management of the State's water resources.

Ground, surface, and water quality and quantity issues are treated somewhat interdependently but also separately. Water supply is the paramount issue in Maryland. Water quality is usually considered as it relates to water supply. Interdependence has been noted as an issue that should be addressed (ACSWR, 2004).

Outcomes Assessment Process

Abundant research is underway and some efforts are coordinated as part of the planning process. For example, Monocacy River Watershed and Southern Maryland Pilot Studies were used to provide water supply data.

References

Advisory Committee on the Management and Protection of the State's Water Resources (ACSWR). "Final Report," [http://www.mde.state.md.us/assets/document/Water%20Res %20Committe%20Report-28%20May%202004-Rv%2018%20Aug-sec.pdf](http://www.mde.state.md.us/assets/document/Water%20Res%20Committe%20Report-28%20May%202004-Rv%2018%20Aug-sec.pdf). (May 28, 2004).

Massachusetts

Water Resources Planning Vision and Goals

In 2002, the Massachusetts Executive Office of Environmental Affairs (EOEA) convened a Water Policy Task Force to draft a strategic water policy for the state. The Task Force issued a document entitled "Massachusetts Water Policy" in 2004 (EOEA, 2004), summarizing its recommendations for statewide policy and establishing a foundation for local, regional, and statewide water planning. This policy is aimed at building upon previous statewide policies on water resource management, including the Water Management Act, the Interbasin Transfer Act, and others.

The Task Force identified water quantity, water quality, and habitat as the three most significant management challenges for the state's water resources. The recommendations listed in the published policy document include efforts to encourage the use of consistent performance standards, improve regulatory procedures, increase the flexibility with which water providers can manage their sources, and encourage the use of improved scientific methods.

Within this context, the policy “seeks to advance the following environmental principles”:

- Avoid interbasin water transfers – “keep water local.”
- Address issues on a watershed scale instead of only local scales.
- Protect and improve water quality.
- Protect and restore fish and wildlife habitat.
- Encourage “smart growth” with sustainable water resource management

Agencies and NGOs Involved in the Planning Process

Representatives of numerous state and federal agencies (USEPA, USGS, Massachusetts Department of Environmental Protection, Massachusetts Department of Conservation and Recreation, Massachusetts Water Resources Authority, Massachusetts Department of Fish and Game, Massachusetts Audubon Society), local governments and commissions, citizens environmental groups, regional watershed organizations, and business interests served on the Water Policy Task Force and assisted in the development of the Massachusetts Water Policy document.

These agencies and organizations, along with universities, the Massachusetts Department of Public Health, a Low-Impact Development Task Force, and numerous others, have been tasked with the implementation of 10 recommended policy initiatives and their associated actions.

Planning Features and Process

The planning framework outlined in the Massachusetts Water Policy includes 10 recommended policy initiatives, along with associated actions, and two data collection efforts. Member organizations of the Water Policy Task Force, along with numerous other agencies and non-profit organizations, have been assigned responsibility for each initiative, and a schedule for implementing each recommendation has been established, extending from 2005 through 2008. Highlights of these initiatives are outlined below:

- Develop a Stress Framework (using consistent statewide measures that account for improving water use efficiency and revised conservation standards)
- Help communities meet water needs with watershed-based plans (including ecosystem impact analysis, and the completion of statewide guidance plan for Integrated Water Resources Management).
- Encourage the use of enterprise accounts for infrastructure improvements.
- Increase recycling of treated wastewater for recharge and non-potable use.
- Promote stormwater recharge with guidance on BMPs and Low-Impact Development (LID) methods.

- Promote effective and efficient water supply management with a state policy on source development and the optimization of water withdrawals.
- Protect and restore critical land and water resources via grant and education programs.
- Promote sustainable development through state revolving funds (SFR) programs.
- Provide single point of contact for guidance to municipalities on permitting, development strategies with reduced adverse environmental impact, and resource protection.
- Promote effective planning with the state highway department (Mass Highways), focused on habitat protection and road/water crossing.
- Data Collection (a): Statewide inventory of flow (for regulatory use), water assets, water budgets for each major basin and subbasin, and refinement of “stress levels” using this data.
- Data Collection (b): Statewide inventory of data on target fish communities, and the development of a methodology for establishing restoration objectives/targets.

Frequency of Revision

It is not clear that the policy will be revised on a regular basis. The current plan specifies an implementation schedule that extends through 2008.

Stakeholder Involvement

Dozens of stakeholders, from state and federal agencies to local governments and regional environmental groups, were involved in the formulation of the 2004 Massachusetts Water Policy. These groups, along with numerous additional stakeholders have been assigned responsibility to act upon the recommendations in the policy.

Initiative #7 involves the protection of critical land and water resources. One of the actions assigned to the Department of Fish and Game is to “advance an education and outreach effort to landowners and local decision-makers.” Initiative #8 also assigns responsibility to EOEa and the Department of Environmental Protection to provide technical assistance and do educational outreach to stakeholders on the subject of sustainable development.

Regional Components

Massachusetts is advocating the use of watershed analysis, even for local source assessment. Its protocol to interact with regional watershed organizations supports this mentality. More specifically, the Department of Environmental Protection has been tasked with the completion of statewide Integrated Water Resources Management Plan (IWRMP).

Assessment and Appraisal

No clear plan for evaluating the effectiveness of the policy recommendations is apparent. However, the process of formulating the recommendations was facilitated by EOEA.

Plan Implementation Strategy

Member organizations of the Water Policy Council, along with numerous other designated organizations throughout the state, have been assigned responsibility for specific actions associated with each of the 10 policy initiatives and 2 data collection tasks. Each activity has a scheduled completion date between 2005 and 2008. In general, the implementation of the policy recommendations requires that the state assume the role of providing direction, technical assistance, incentives, tools, and a broader, consistent, and more structured framework in which local and regional water suppliers can carry out their planning efforts.

Outcomes Assessment Process

No specific plans are outlined for assessing the outcomes of the recommended initiatives. However, a number of the initiatives include the development of more consistent and scientifically based measures and indicators, the adoption of which could create built-in assessment tools through future decades.

References

Massachusetts Executive Office of Environmental Affairs (EOEA). "Massachusetts Water Policy." <http://www.mass.gov/envir/> (March 2004).

Michigan

Water Resources Planning Vision and Goals

The state of Michigan does not have a consolidated water resources planning process. Much of the planning throughout the state is regional, and includes a number of groups focused on Great Lakes management. A wide variety of programs are administered by state agencies to protect and preserve water resources throughout the state.

Agencies and NGOs Involved in the Planning Process

The Michigan Department of Natural Resources (DNR) and the Michigan Department of Environmental Quality (DEQ) both administer programs aimed at protecting and preserving water resources throughout the state (DNR, 2005 – 1).

Planning Features and Process

The Michigan DNR administers three key water resource protection / preservation programs (DNR, 2005 – 1):

- **Dams and Dam Removal:** DNR provides an inventory of dams removed throughout the state as well as guidance for dam owners on decision-making and funding for dam removal.
- **Inland Lake Maps:** DNR helps promote public awareness with 2,700 online maps of inland lakes.
- **Natural Rivers:** This DNR program is aimed at sustaining the “use and enjoyment” of natural rivers by balancing “reasonable development” with preservation (DNR, 2005 – 2).

The Michigan DEQ administers or participates in numerous statewide programs aimed at protecting water resources:

- **Great Lakes:** DEQ is involved in numerous monitoring and reporting programs for the Great Lakes (DEQ, 2005 – 1).
- **Inland Lakes and Streams:** DEQ is involved in reducing impacts to natural flow, controlling nuisance aquatic plants, and regulating certain recreational activities, such as boating (DEQ, 2005 – 2).
- **Surface Water:** DEQ regulates pollution discharges (including the ongoing development of a water quality trading program), stormwater, septage, nonpoint source pollution, etc (DEQ, 2005 – 3).
- **Water Management:** DEQ regulates activities that may degrade inland lakes, streams, wetlands, groundwater, and the Great Lakes (DEQ, 2005 – 4).

Frequency of Revision

Not Applicable.

Stakeholder Involvement

There does not appear to be a unified or consistent basis for stakeholder involvement in these programs, but opportunities for collaboration with local governments and planning agencies are a central theme in many of the programs.

Regional Components

One of DEQ’s key programs is the Nonpoint Source Program, aimed at reducing nonpoint source pollution throughout the state. DEQ assists local government and planning groups in the reduction of nonpoint pollution on a watershed basis. DEQ

funds projects to develop watershed management plans or to augment existing plans with efforts to reduce nonpoint source pollution.

Assessment and Appraisal

Not applicable.

Plan Implementation Strategy

Not applicable – the planning process is not consolidated.

Outcomes Assessment Process

Both DNR and DEQ are involved in numerous water quality monitoring programs that help assess the impacts of programs, regulations, and legislation.

References

Michigan Department of Natural Resources (DNR). “Michigan’s Water.” http://www.michigan.gov/dnr/0,1607,7-153-30301_31431---,00.html. (March 2005 - 1).

Michigan Department of Natural Resources (DNR). “Natural Rivers Program.” http://www.michigan.gov/dnr/0,1607,7-153-30301_31431_31442-9582300.html. (March 2005 - 2).

Michigan Department of Environmental Quality (DEQ). “Great Lakes Programs.” http://www.michigan.gov/deq/1,1607,7-135-3313_367700.html. (March 2005 - 1).

Michigan Department of Environmental Quality (DEQ). “Inland Lakes and Streams Programs.” http://www.michigan.gov/deq/0,1607,7-135-3313_368100.html. (March 2005 - 2).

Michigan Department of Environmental Quality (DEQ). “Surface Water Programs.” http://www.michigan.gov/deq/0,1607,7-135-3313_368200.html. (March 2005 - 3).

Michigan Department of Environmental Quality (DEQ). “Water Management Programs.” http://www.michigan.gov/deq/0,1607,7-135-3313_368400.html. (March 2005 - 4).

Minnesota

Water Resources Planning Vision and Goals

Minnesota's strategy for protecting its water resources focuses on the adoption and implementation of local water management plans that are based on local priorities (MEQB, August 15, 2005). A variable planning process is used to safeguard Minnesota's water resources for the present and future, given limitations on water supplies and water system interconnections (MEQB, March 1, 2005).

Agencies and NGOs Involved in the Planning Process

The Minnesota Environmental Quality Board (MEQB) is charged with coordinating state water policy. Given that water resource problems often transcend agency and political boundaries, a number of state agencies are commonly engaged in managing the state's water resources. The final decisions on water management are made by the MEQB.

Planning Features and Process

A Water Management Unification Initiative, focusing on major river basins, is designed to make Minnesota's water management more understandable and responsive to its citizens concerns. The approach sets common objectives for water resources and recommends targets for results desired by 2010. Accountability is improved by providing direction for water priorities, policies and budgets. Economic, environmental and community connections that will enhance the sustainability of Minnesota's water resources will be identified (MEQB, March 10, 2005).

Frequency of Revision

The Water Resources Committee of the MEQB develops a statewide framework consisting of 10-year water-related goals, objectives, and outcomes that are adapted to each major river basin. This framework is the core of Minnesota Water Plan 2000, which serves as the basis for establishing administrative water priorities, policies and budgets (MEQB, March 10, 2005).

Stakeholder Involvement

A team is designated for each river basin consisting of a core group of state agency personnel plus personnel from other agencies choosing to participate. The teams provide regional leadership and gather public input to carry out the initiative. The task force recommends the process for team selection, leadership and assignments to the Water Resource Committee (MEQB, March 10, 2005). See also the following section.