

Massachusetts Water Supply Policy Statement 1996 Update

Massachusetts Water Resources Commission

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INTRODUCTION TO THE 1996 UPDATE

Massachusetts residents have long recognized the importance of water to public health, the environment, and economic well being of the state. Accordingly, Massachusetts' water policies, programs, laws, and regulations are aimed at ensuring both sufficient water quantity and quality to meet the water supply needs of the Commonwealth's citizens and businesses and to sustain environmental systems.

A significant change in the Commonwealth's approach to managing the state's water resources occurred in 1993 with the adoption of the Watershed Initiative, a strategy to implement integrated, watershed-based resource management by establishing collaborative efforts among individuals, groups, and agencies with local, regional, state and federal interests and responsibilities in each watershed. The watershed is the primary focus for coordinating and resolving resource management issues such as local or seasonal water supply shortages, streamflow levels, fisheries and wildlife habitat protection, wastewater assimilation, etc. The Commonwealth is committed to preventing and solving resource problems and achieving resource protection by targeting limited financial and personnel resources to achieve the greatest environmental benefits.

Water supply withdrawal permits are already a core component of the basin-wide assessment and permitting phases of the watershed approach, so that watershed management decisions can take into account water quantity and water quality issues simultaneously. In addition, the watershed approach has been rooted in early river basin assessment and planning efforts, water needs forecasts and surface water supply protection policy. This integrated approach has led to recent notable examples of how watershed protection can provide cost-effective pollution prevention in such cases as the Wachusett Reservoir Watershed. A major focus of the watershed initiative is to better integrate water supply issues into the basin approach. Bringing water supply issues into the mainstream of the watershed approach will build public awareness and support not only for the need to conserve water but the need to protect existing and potential water supplies that are so critical to public health.

Approximately 60 percent of Massachusetts residents get their water from surface water supplies. The remaining 40 percent get their water from groundwater, supplied through municipal departments, water districts and investor-owned companies. Nearly 400,000 citizens are served by their own wells. At present, Massachusetts has among the purest water supplies in the country, with more than 99 percent of public drinking water supplies meeting the quality standards set by the Federal Safe Drinking Water Act and state drinking water regulations. But the threats to both the quantity and quality of Massachusetts' drinking water are numerous.

Some Massachusetts communities do not have sufficient water in their present supplies to handle an extended dry period or future population and economic growth. A few communities have drawn water in excess of their Water Management Act registrations and are returning to the Water Resources Commission and the Department of Environmental Protection for increases in their long term water

needs forecasts and Water Management Act permit allocations. Several water suppliers have exceeded their permitted withdrawal volumes and are seeking permits for these higher withdrawals, which, in some cases may not be supportable by their current safe yields. Other communities have sought interbasin transfers of water where in-basin supplies are inadequate to support current or projected needs. Still others have lost water supplies to contamination, or face the threat of contamination, and may need additional supplies, either in-basin or out-of-basin.

These water supply shortages in some parts of the state speak to the fact that, while there may be sufficient water resources on a statewide basis to meet all our current and future needs, there is an imbalance between settlement and growth patterns and the availability and quality of water among Massachusetts' watersheds.

The 1996 update of the Massachusetts Water Supply Policy Statement urges: (1) coordinated action via the watershed approach to strengthen local capability to develop and implement water resource management programs; (2) recognition of the interconnection of ground water and surface waters in water supply planning and management; (3) local and regional integration of planning and management of water supplies and wastewater treatment; (4) aggressive implementation of water conservation measures by water users; (5) watershed protection to ensure that both ground water and surface water quality are protected and improved; (6) maximum use of local sources compatible with ecological systems, before seeking out-of-basin sources and to minimize the need for out-of-basin sources; and (7) the updating of local zoning and other bylaws to reflect the capacity of natural resources to provide for water supply and wastewater treatment.

These principles form the foundation of the Massachusetts Water Supply Policy and support the Commonwealth's "watershed approach"--or "ecosystem approach"--to environmental planning and decision making. It is this watershed approach to water resources management generally, and water supply management specifically, which will guarantee Massachusetts sufficient quantity and quality of water now and in the future.

I. WATER SUPPLY PHILOSOPHY

The 1994 update reflects the following water supply philosophy:

- ✍ The state's overall goal is to ensure that water is available in sufficient quantity and quality to meet Massachusetts' current and future needs.
- ✍ Water is a valuable resource for public and environmental health and the economic welfare of the Commonwealth. As such, the state needs to establish laws and policies, and provide guidance, leadership and support to provide for the needs of its citizens and protect the natural environment.
- ✍ It is in the public interest for the state to support and strengthen local and regional capabilities to manage public water supplies by working together to plan, construct, manage, conserve, and protect water supplies using the watershed as the foundation for such planning.
- ✍ The watershed is the planning unit for all aspects of water resources assessment, planning and management whose implementation is best served through a coordinated, watershed-based, public-private partnership.

II. POLICY COORDINATION

The Executive Office of Environmental Affairs and the Water Resources Commission are responsible for statewide water supply planning and policy formulation. The watershed initiative is the strategy that is being used to implement this responsibility. EOEA seeks to promote flexibility in the formulation and administration of water resources programs and encourages innovative programs and financing in support of state and local comprehensive long-range water supply planning, management, and protection activities. EOEA fully encourages informed public participation in water supply policy development and water supply planning and management. Therefore, it is policy of the Commonwealth:

1. That the Water Resources Commission shall:
 - (a) Coordinate, review and comment on programs relating to water supply planning and management of the agencies and departments in EOEA, as well as activities by other agencies which affect water resources, to ensure that all policies and regulations are consistent with the Commonwealth's water supply policies and goals;
 - (b) Review and comment on all policies and other water supply matters brought before the Commission, providing adequate notice for public participation and comment;
 - (c) Establish criteria and priorities for all cooperative programs with the federal government related to water supply, with any other state, or with any executive office, department, or division of the Commonwealth;

- (d) Direct the development and periodically update comprehensive, long-range water resource management plans for river basins, under 313 CMR 2.00, giving consideration to regional and statewide needs and coordination of wastewater management with water supply planning;
 - (e) Coordinate EOEAs and others, as appropriate, to develop compatible and complimentary management information systems and data processing capability for the collection, storage and retrieval of water supply data. The information shall be made available to other state agencies and the public and shall serve as a key component in developing educational programs and strategies to assist communities in improving their water supply system management;
 - (f) In coordination with other state, local, and regional agencies and professional groups, and through the Watershed Initiative, support public information and educational efforts which encourage broad public participation at both municipal and regional levels, with emphasis on encouragement of long-term, integrated water supply and wastewater planning and management by municipalities and by regional planning agencies, and support the provision of technical assistance and other guidance to communities;
 - (g) Upon request of the affected parties, mediate and/or provide guidance regarding inter-community and intra-state disputes relating to water related issues.
2. To support and encourage technology transfer among water suppliers by coordinating with professional organizations, other state agencies and local/regional water suppliers.
 3. To encourage water supply system operators to participate in continuing technical education programs and annual training.
 4. To support economic development in the Commonwealth that is consistent with this policy statement.

III. POLICY IMPLEMENTATION STRATEGIES

A. Regarding Water Supply Sources, it is the policy of the Commonwealth that:

1. The Commonwealth, water utility systems and those concerned with private supplies of water continue to give paramount consideration to public health and safety. High priority will be given to ensuring that water supplies are developed, protected, maintained, and rehabilitated to meet these requirements.

2. Water suppliers develop, protect, maintain, conserve, and promote efficient use of all water supply sources. Recognizing that some utilities have sources in more than one river basin, water suppliers will maximize the efficient use of water supply sources in their own river basin as a prerequisite to seeking water supplies in other basins; and will further develop or expand existing supply sources within their river basin where environmentally and economically feasible, prior to developing new sources.
3. Communities determine that sufficient and safe water supply is available prior to approval of new growth and development by consulting with other communities reliant on the same supply source, watershed associations, regional offices of DEP, and other entities with knowledge of regional water supply issues.
4. Water suppliers plan and manage local water supplies and watersheds to provide for the protection of natural systems and, when consistent with public health and safety, may allow multiple uses.
5. In developing new sources of supply, or when increasing withdrawals from existing sources of supply, water suppliers carefully evaluate and monitor ecological impacts and will manage such withdrawals in a manner that will maximize the protection of aquatic and wetland ecosystems. Water conservation and demand management will be implemented to minimize the need for new supplies or increased withdrawals, thus reducing the need for mitigation measures.
6. Water suppliers include in their planning and management an updated inventory of watershed land uses and other activities that may affect water quality and quantity; and the Commonwealth encourages suppliers to work cooperatively with each other and with local and regional land use planning agencies to protect existing and potential water supply sources.
7. Water suppliers and municipalities coordinate efforts to protect water supplies, focusing on water pollution control, the evaluation of wastewater needs, the construction of sewerage systems, and the upgrade of on-site sewage disposal systems, non-point source pollution control and storm water management.

B. Regarding Water Supply Systems, it is the policy of the Commonwealth that:

1. Organizations, communities or agencies implementing a project supported by state funding or requiring state permits or reviews that involves using public water supplies adopt and implement the 1992 Water Conservation Standards to the greatest feasible extent.
2. Water supply system managers and operators establish and implement regular system evaluations as part of a program of planning and setting priorities for infrastructure maintenance, rehabilitation, and capital improvement.

3. Water suppliers implement demand management programs consistent with the 1992 Water Conservation Standards to promote end use efficiency.
4. A local demand management program, consistent with the Water Conservation Standards, be in place prior to state approval of emergency water supplies and before any extension of the approval needed to meet a water shortage.
5. Public water suppliers cooperate in developing emergency contingency plans, and regional mutual aid programs with legal agreements for the installation of adequate interconnections between community water supply systems to ensure the health and safety of citizens and to protect water resources. The Commonwealth encourages communities to adopt bylaws authorizing enforcement of emergency supply declarations.
6. Consistent with public health and safety, water users and suppliers recycle and reuse industrial process water, to make appropriate equipment and process changes, and otherwise to reduce water use and to take advantage of new processes and technologies for the efficient use of water.
7. Water supply system operators maintain and collect accurate water use data which is disaggregated by user groups.
8. State agencies and authorities comply with the Clean State Initiative (Executive Order 350) and with the barrier beach protection requirements of Executive Order 181.
8. EOEAs provide support to water suppliers in furthering an integrated watershed approach that includes:
 - (a) Performing "sanitary surveys" and raw water quality analyses as part of the watershed assessment;
 - (b) Integrating the water supply water quality database into the basin assessment and building a groundwater quality component into the watershed plan;
 - (c) Getting local water suppliers involved in their watershed plans and doing basin-wide assessments for water use as well as water supply protection;
 - (d) Prioritizing which supplies need the most protection;
 - (e) Targeting compliance and enforcement activities to priority water supply areas;
 - (f) Looking at the long-term water demands and supply opportunities within a basin and developing basin-wide strategies to address those long-term needs;
 - (g) Balancing water supply infrastructure needs with other infrastructure needs (e.g. landfill closure, wastewater/storm water remediation, CSO controls, etc.) to help communities set financing priorities for multiple environmental infrastructure requirements.
 - (h) Refocusing cooperative programs with USGS to address specific basin or subbasin needs.

APPENDIX I.

BACKGROUND TO THE 1996 WATER SUPPLY POLICY STATEMENT

A. **The 1978 Statement**

In October 1975, the Executive Office of Environmental Affairs (EOEA) and the Water Resources Research Center of the University of Massachusetts/Amherst sponsored a series of seminar sessions on state water supply planning. The participants concluded that there was a need for a clearly stated set of water supply policies to provide the framework for intensive, yet flexible, project planning to meet projected water needs through the year 2020. The Executive Office of Environmental Affairs directed a study that produced a 300 page draft Environmental Impact Report, Massachusetts Water Supply Policy Study (January 1977). This EIR included background data, analysis and findings on the existing water supply situation and recommended policies, programs and actions. The findings and draft recommendations underwent an extensive review and refinement through the Massachusetts Environmental Policy Act (MEPA) process. The revised report was adopted by the Governor and the Massachusetts Water Resources Commission (WRC) in May, 1978 as the Massachusetts Water Supply Policy Statement.

B. **The 1984 Update**

In 1983, the Water Resources Commission established a Task Force to review and update these policies. The Task Force considered current state agency operational water supply procedures, new information on water supply issues, and practical experiences of local and state governments. After agency and public review the final update was adopted by the WRC in August 1984.

The Massachusetts Water Supply Policy Statement-1984 Update consists of an overview, supply management policies, demand management policies, administrative management policies and a conclusion. The supply management policies preserved primary responsibility at the local level while recognizing that state laws, policies and programs exercise a strong influence on local plans. The demand management policies provided for a statewide demand management program to increase public sensitivity to the importance of water while at the same time encouraging supplier and user efficiencies. The administrative management policies provided that state administrative responsibilities for water supply should be centralized with the Executive Office of Environmental Affairs' Water Resources Commission, responsible for coordinating and developing statewide water supply planning and policy issues.

APPENDIX II.

LAWS, REGULATIONS, POLICIES AND STANDARDS RELATED TO THE WATER SUPPLY POLICY

The following laws, regulations, policies and standards govern the planning and management of water resources and the operations of water suppliers in the Commonwealth. Other references provide background to water supply policy and planning in the state.

A. **The Water Resources Commission** develops and administers the following policies:

Interbasin Transfer Act, ch. 658 of 1983 amending MGL ch. 21; 313 CMR 4.00 and including:
"Massachusetts River Basin" map delineating 27 basins and the coastal basin. DEM Division of Water Resources, reprinted June 1992 by DFWELE.
"Guidelines for determining reasonable instream flow", WRC, Water Resources Planning Task Force, approved by WRC 4/13/87.
"Draft Interbasin Transfer Act Guidance: Performance Standards for Evaluation of Application for Approval," WRC, 11/98

Components of a minimum water conservation plan. WRC. February 1987.

A Rivers policy for the Commonwealth: A five-year action plan to protect Massachusetts rivers and watershed lands. EOE. June 1989

Water conservation standards for the Commonwealth of Massachusetts. WRC. October 1992. 2nd printing June 1994.

Various CZM Policies found at 301 CMR 20.05.

B. **DEP, Division of Water Supply** administers and enforces the following:

The Safe Drinking Water Act of 1974 (42 U.S.C. 300f *et seq.*) as amended in 1986, and associated federal regulations (40 CFR 141-144).

Source Water Assessment Program (SWAP), Section 1453 of the SDWA

MA Safe Drinking Water Act Assessment, MGL Chapter 21A, Section 18A,

Massachusetts General Laws Chapter 111, Sections 159 and 160 (Water Supply Laws)

The Water Management Act, MGL Chapter 21G, and associated regulations at 310 CMR 36.00

The Massachusetts Drinking Water Regulations, 310 CMR 22.00

310 CMR 23.00: Sanitary Protection of Waters Used by the Metropolitan District Commission for the Water Supply of Any Town or Water Company under the Authority of MGL C. 92, s. 17.

310 CMR 24.00: Aquifer Land Acquisition Program

310 CMR 27.00: Massachusetts Underground Water Source Protection (Underground Injection Control) Program

310 CMR 28.00: Water Supply Contamination Correction Program

The Division also requires that treatment facilities be operated operator licensed under the following set of regulations:

Operator Regulations - Board of Certification of Drinking Water Plant Operators (non-DEP/BRP/WS) 236 CMR 1-5 Regulations for Drinking Water Treatment Plant Operators

Guidelines and Policies for Public Water Systems, 11/93 addendum

C. **Other References**

Compilation and Summarization of the Massachusetts general laws, special laws, pertinent court decisions, etc. relation to water and water rights. 1970, WRC.

Guidelines and Policies for Public Water Systems. 1996, DEP Update

Massachusetts Water Supply Policy Study. Wallace, Floyd, Ellenzweig, Moore, Inc., Arthur D. Little, Inc., and Withington, Cross, Park & Groden. 1977

APPENDIX III.

AGENCY ROLES RELATED TO WATER SUPPLY POLICY IMPLEMENTATION

STATE

EOEA: Executive Office of Environmental Affairs

The Water Resources Commission is chaired by the Secretary of Environmental Affairs. Established in 1956 under MGL ch. 21, §8-15 to initiate, coordinate and oversee implementation of water resources policies; to develop river basin plans, to collect analyze and make accessible data; and to regulate inter-basin transfers of water and wastewater and to regulate class II ground water discharges. The WRC is composed of the Commissioners of each of the five EOEA agencies, the Secretary of EOCD, and six public members appointed by the Governor.

The WRC reviews and must approve all inter-basin transfers of water and wastewater, and all water needs forecasts used in applications for Water Management Act permit applications. The staff (see DEM) works with communities to improve water supply system efficiency and water conservation programs.

DEM: Department of Environmental Management Office of Water Resources staff serve as technical staff to the Water Resources Commission, administer Well Driller Registration program, maintain well drilling records, review applications for Inter-basin Transfer Permits and New Source Approval Permits, research and publish demand projections to assist in the review of Water Management Act permits. Analyze water quantity data and publicize in basin hydrology reports covering both surface and groundwater. The Division of Forests and Parks staff protects water sources through enforcement of MGL C. 132, sections 40-46, the Forest Cutting Practices Act. Best Management Practices are practiced and promoted on all forestry projects.

DEP: Department of Environmental Protection Within DEP, the Bureau of Resource Protection (BRP) is responsible for identifying critical inland and coastal water resources, devising strategies for protecting and preserving them, safeguarding public drinking water supplies and ensuring public access to the waterfront. BRP also administers grants and revolving loan programs that help the Commonwealth's cities, towns, municipal water or sewer districts and other regional entities improve their environmental infrastructure and improve protections of local supplies. Within BRP, Division of Watershed Management staff administers and enforces the following programs related to water supply:

1. New Source Approval: The procedures include:

- ~~☒~~ site exam to determine water quality and land uses in the area of proposed source
- ~~☒~~ pump test to determine available yield of source and draw-down on nearby sensitive environmental resources.
- ~~☒~~ completion of application under Water Management Act
- ~~☒~~ filing of Environmental Notification Form under MEPA

completion of other possible approvals such as Wetlands Protection Act, Inter-Basin Transfer, 401 Water Quality Certification by DEP, 404 approval by Army Corps of Engineers.

2. Water Management Act (MGL c.21G) authorizes the DEP to regulate (310 CMR 36.00) the quantity of water withdrawn from both surface and groundwater supplies, in order to ensure an adequate supply for current and future needs. Persons planning to withdraw an annual average of 100,000 gallons per day, or 9 million gallons in any three-month period must apply for a permit.

3. Source Water Assessment Program SWAP includes the following activities:

- ~~/s/~~ delineate protection areas for all ground and surface water sources
- ~~/s/~~ inventory land uses in these areas that may present potential threats to water quality;
- ~~/s/~~ determine the susceptibility of water supplies to contamination from these sources;
- ~~/s/~~ publicize results

MDC: Metropolitan District Commission The MDC's Division of Watershed Management manages and protects the drinking water supply watersheds for nearly 2.2 million residents of Massachusetts, primarily in Greater Boston. The source waters of this watershed system, which provides water to the MWRA for distribution, are the Quabbin Reservoir, Ware River, and Wachusett Reservoir and their contributing watersheds. The Division also manages and protects the Sudbury Reservoir System, which is Greater Boston's emergency back-up water supply.

MWRA: Massachusetts Water Resources Authority A Massachusetts public authority, the MWRA was established by an act of the Legislature in 1984 to provide wholesale water and sewer services to 2.5 million people and more than 5,500 large industrial users in 61 metropolitan Boston communities. The MWRA manages the supply routes, aqueducts and distribution reservoirs leading from Quabbin and Wachusett Reservoirs to the user communities in greater Boston. The Authority is responsible for implementing changes in the system necessary to meet requirements of amended Federal Safe Drinking Water Act.

MEPA: Massachusetts Environmental Policy Act. G.L. c.30, ss.61-62H. The current statute was enacted in 1977. The statute requires that all agencies of the Commonwealth determine the impact on the natural environment of all works, projects, or activities conducted by them and use all practicable means and measures to avoid or minimize the environmental harm that has been identified. It also provides the procedure--the Environmental Impact Report--by which that obligation will be satisfied and authorizes the Secretary of Environmental Affairs to oversee the review process. MEPA applies to projects directly undertaken by state agencies and to private projects for which state permits are sought or in which state funding or land transfer is involved
In the area of water supply, projects falling under MEPA and public review are increased water withdrawals and new public water supplies.

FEDERAL

United States Environmental Protection Agency (EPA)

Region 1, Drinking Water

Supply Program is responsible for reviewing implementation of changes in water supply facilities and procedures to meet the new Safe Drinking Water Act Amendments of 1996, ensuring the safety of public water supplies. The amendments include:

- ~~///~~ Enhanced water purification systems
- ~~///~~ Source water protection activities
- ~~///~~ Public right-to-know measures
- ~~///~~ Increased state flexibility in implementing regulations
- ~~///~~ Increased compliance relief and financial assistance to small systems

Other water supply-related programs include discharge (NPDES) permits, wellhead protection, combined sewage overflow (CSO) abatement, and Comprehensive Ground Water Protection.

The Drinking Water Program ensures that the drinking water delivered by public water systems in Massachusetts is fit and pure according to national and state standards. As USEPA'S Primacy Agent for the federal Safe Drinking Water Act in Massachusetts, the Program regulates water quality monitoring, new source approvals, water supply treatment, distribution protection, and reporting of water quality data. It also coordinates with DEP's Office of Watershed Management, the Water Resources Commission, and DEM's Division of Water Resources in regulating quantity of water used for drinking water supplies and in promoting water conservation.

The Program maintains an active community technical assistance program to assist public water suppliers, Boards of Health, and other local groups to develop drinking water source protection plans, write local water supply bylaws, and comply with state and federal water supply regulations. Other Program activities include approval of new water supply technologies, regulation of water vendors, source approval for bottled water (bottling regulated by MA Department of Public Health), and public education on drinking water issues.

The Drinking Water Program administers and enforces:

The Safe Drinking Water Act of 1974 (42 U.S.C. 300f et seq.) as amended in 1986, and associated federal regulations (40 CFR 141-144).

Massachusetts General Laws Chapter 111, Sections 159 and 160, and associated state regulations at 310 CMR 21.00-24.00, 27.00 and 28.00.

The Water Management Act, MGL C. 21G, and associated regulations at 310 CMR 36.00 (In coordination with MA DEP/BRP/Division of Watershed Management).